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HOME OFFICE EFFECTS ON THE MOTIVATION OF ICT COMPANIES' EMPLOYEES*

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Abstract. Restricted measures for social isolation taken as precautions in the fight against pandemic due to the COVID-19 virus, have changed dramatically the normal business and professional life. Companies in all sectors have to be adaptive and flexible in order to survive in this complex and hardly unpredictable business environment. At first glance ICT sector is not so severely and visibly affected by the COVID-19 economic crisis. Due to numerous reasons companies from the sector have so far shown an enviable level of flexibility and adaptability to the rapid changes in business environment conditions. As a response to the anti-epidemiological requirements, most often used tool from ICT companies is to transform working processes from office to home, following the line of social isolation. In this regard the major objective of the current article is to reveal the specifics of home office work in ICT companies and its impact on the employees' motivation in terms of their perceptions and level of commitment to the achievement of companies' goals. For this purpose we used questionnaire survey among employees working in different job positions in ICT companies in Bulgaria (n=158). Our findings reveal that majority of employees (almost 80% of responders) have positive attitude to the home office as a working measure in social isolation conditions. On the other hand, home office does not significantly impact on the level of employees' motivation and their engagement to the achievement of the company's goals. Based on analysis of collected data, we propose divers measures for improving the employees satisfaction and motivation in specific context of home office work during stress crisis situation, such the pandemic is.

Keywords: IT companies; IT management Home office; employees' motivation

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1. Introduction

Professional and personal life have been totally affected last few months by the different measures taken as precaution in order to reduce and slow the spread of infection of COVID-19 virus on a global scale. Companies in all economic sectors strive to survive in changing environment, where traditional economic logic and principles are dominated by the rules dedicated to protect human health. Social isolation directive imposes new agenda in working process of companies where only the most innovate, adaptive and flexible could be considered as some sort of successful in this difficult for all players situation.

At a first glance, companies in ICT sector are not so severe affected by the coronavirus crisis especially in comparison with other sectors such as tourism, transport, construction etc. Thanks to the technical progress from one side and the specifics of the business itself from the other, companies from ICT sector show good level of adaptability working in new and rapid change sever conditions. In this specific environment where the economic logic gives way to the fight for human health and life, the most used by ICT companies measure is to convert working process from traditional business office to home office. This transformation allows at the same time keeping the normal functioning of the working process (executed in real time but at distance) and on the other – to observe the anti-pandemic measures for social isolation.

In this regard the logical question that arises is how work in home could affect the level of satisfaction, motivation and overall commitment of employee to the achievement of the company's goal. Is there a connection between physical place of work and level of sharing common organizational values? Could home office influence on the level of creativity and quality of teamwork? Is it possible only with technological support to overcome the limitation of being isolated and on a totally different place from colleagues?

Following this same line of exploration, the main objective of the current survey is to reveal the specifics of home office work in ICT companies in Bulgaria and its impact on the employees' motivation in terms of their perceptions and level of commitment to the achievement of companies' goals. For this purpose we used questionnaire survey among employees working in different job positions in ICT companies operating in Bulgaria (n=158). Our findings reveal that that majority of employees (almost 80% of responders) have positive attitude to the home office as a working measure in social isolation conditions. On the other hand, home office does not significantly impact on the level of employees' motivation and their engagement to the achievement of the company's goals. Based on analysis of collected data, we propose divers measures for improving the employees satisfaction and motivation in specific context of home office work during stress crisis situation, such the pandemic is.

Here we have to point out that according to our own observation, the major part of ICT sector, In order to be precise we have to consider also the complexity of today's situation – we do not have such precedent in a recent history – to be in a pandemic with all the ensuing consequences. Therefore all collected data of the current survey and obtained results on the attitudes and perception of employees in Bulgarian IT companies have to be analyzed in special attention with the specific context of pandemic. The major contribution of study is namely to explore and analyze the attitudes and perceptions of employees in IT companies in Bulgaria to home office in terms of their motivation and commitment to the company's goal in the specific context of pandemic.

2. Literature Review

Companies in ICT sector are object of many researches exploring different aspects of their business activities and methods for innovations and development during last few decades. This tendency is easily explicable due to the fact that ICT is among the fastest developing sectors of economy, based on the technical progress and achievements in innovations. Therefore the scientific interest covering divers dimensions of this development is logical and understandable.

For instance we have researches dedicated to pure managerial topics on the ICT companies. Good example in this line is a study for project strategy alignment. Author explores 144 enterprises operating in this specific sector on national level and after a comprehensive analysis claims the following: ICT companies should focus on gaining alignment of project strategies with business strategies over the course of projects. An early identification of misalignments between project strategy and business strategy will be crucial in putting in place essential strategies and fallback plans for successful implementation. If ICT companies have little or no control over the alignment process of projects, they cannot ensure the success of the projects (Soltani, 2020). Another study is focused on the future outsourcing projects in ICT, presenting specially developed mathematical model. Scholars claim: ...a quantified model was designed to evaluate the security level of ICT outsourcing. Moreover, a method to evaluate the security level of ICT outsourcing was developed to allow companies to evaluate their own security levels. Using the model and evaluation method to evaluate the security level of ICT outsourcing, companies are expected to evaluate the security level of each inspection item and use them as a security countermeasure method (Moon et al., 2018). Hidalgo and Herrera focus on the innovation management and more precisely in knowledge-intensive business services (KIBs) in ICT sector. They consider: The results obtained indicate that the generation of added value in ICT services requires the implementation of co-creation processes in which different actors are involved. In this context, customers, partners, and suppliers play an important role, while this is not the case with universities (Hidalgo, Herrera, 2020).

There are also a number of recent researches focusing on the the motivational potential of the factors that will make the workers more engaged in the work tasks in the high-tech enterprises. The analysis of the results gives to the team of authors the opportunity to highlight the factors with the greatest motivational potential for the - highly qualified specialists with higher engineering education. The first five most significant motivational factors are „Opportunity for development and self-realization”, „Interesting and challenging tasks”, „Opportunity for initiative and expression”, „Ability to upgrade the qualification” and „Labor remuneration” (Mihova, Chukalov, Ferdov, 2019).

Other researches focus on the impact that ICT sector has on the overall economy development and its power to act as a driver. Vu, Hanafizadeh and Bohlin present a study on the scientific literature analysis on the role and importance of ICT namely as a driver to economic growth. They admit: Changes driven by the ICT revolution are expected to increase in the decades to come. Further, the growth effects of ICT are becoming an increasingly popular topic for published research (Vu, Hanafizadeh, Bohlin, 2020). Interesting study is presented by a Spanish scientific team, exploring the role of ICT sector on the economic growth based in the context of European union countries, which are also and the members states of the Organisation for Economic Co-operation and Development (OECD). Scholars claim: The main conclusion of our work is that ICT drives economic growth within the framework of developed European economies. At a more specific level, issues such as broadband connectivity and the use of the Internet are of particular importance, the latter valued not only by the number of users but also by the type of use (Fernandez-Portillo, Almodovar-Gonzalez, Hernandez-Mogollon, 2020). Edquist and Henrekson explore the importance and contribution of ICT and R&D in the context of the Swedish national economy. They study a nearly 20-year period examining the information for almost 50 different industries in order to define the real impact of ICT sector on the development of national economy. They come to

the following interesting finding: When ICT capital is divided into hardware and software, only software is significantly associated with value added. To our knowledge this distinction has not been made in any previous study at the industry level. One possible explanation could be that all industries invest in hardware, but only the ones that successfully invest in and implement software enjoy positive effects from ICT (Edquist, Henrekson; 2017). Interesting dependence is revealed by a study, exploring through the international cross-country analysis the interaction between ICT diffusion, financial development and economic growth. Scholars claim: ICT diffusion can improve economic growth in high-income countries, but the effect is ambiguous in middle & low-income countries. In middle & low-income countries, only mobile growth can raise economic growth, whereas increasing Internet and secure Internet sever cannot (Cheng, Chien, Lee, 2020). Čorejová and Madudová present the trends in growing influence of ICT sector. They conclude: The absence of ability to respond to global environment has changed to responding to the global environment and there has been formatting new sector structures with strengthening the scale-up effect of ICT. This scale-up effect pressures on competitiveness and sustainability in all sectors (Čorejová and Madudová, 2019).

There are also a number of recent researches focusing on the different aspects of ICT impact in other specters of economy and society development – for instance Tranos and Ioannides (2020) – in connection to cities and agglomeration development, Kiisler, Solakivi, Hilmola (2020) – supply chain in Estonia etc.

There are relatively few researches concerning the special focus of our current study, which is home office and its influence on the motivation of employees. In this line we have to point out the work of Hill, Ferris and Martinson, who present a comprehensive comparative analysis on the three different work of venues: traditional, virtual and home office and their influence on the employees. Scholars claim: In summary, the results of this study indicate that telework offers the potential for enabling employees to better balance work and family life while at the same time enhancing business performance. The present study finds little evidence that telework has any negative business ramifications at all (Hill, Ferris, Martinson, 2003). The balance between work and family is a subject of another broad scientific discussion; here we could mention the following conclusion, made by scholars: ...balance does play a significant role in of the mediated relationships between support and satisfaction. However, these relationships are not fully mediated as predicted; rather, coworker support has a direct relationship with job satisfaction and partner support has a direct relationship with both job incumbent marital satisfaction and partner family satisfaction (Ferguson et al., 2012). The most of activities of employees in the micro ICT companies have a strong entrepreneurial orientation. Many studies show that the motives "take advantage of my creative needs" and "realizing my dreams" have a leading role in carrying out entrepreneurial activity (Dimitrov at al, 2019a) and how they are distributed between genders (Dimitrov, Dimitrova, 2019c). In addition to environmental factors, entrepreneurial activities are also influenced by behavioral factors. Research in the Bulgarian context shows that close relatives, friends and family have a very strong influence on the motivation for entrepreneurial activity (Dimitrov at al, 2019b). The internal locus of control describes the tendency of individuals to believe that they control the events in their lives instead of attributing them to external circumstances (Dimitrov, Dimitrova, 2019d). It is interesting to know how home office work has influenced the change in motivation factors and the motivation of companies' employees according their behavioural locus of control. Strategic management in the human resources field is the focus of Stoyanova, which explores in depth this specific (Stoyanova, 2019). The same author, together with a team of researchers explores characteristics of personnel development in the industrial companies (Stoyanova et al., 2019).

Soft skills of employees in the specific context of micro ICT companies are focus of the special research. Authors conclude: the most important soft skills to be developed in the ICT micro-companies in partner regions are: communication, problem solving, teamwork, learning mindset, creativity, leadership, strategic thinking, customer service, innovation, and risk management (Szilárd, Benedek, Ionel-Cioca, 2018).

Almost at the same line, concerning level of usage ICT and its impact on the employees is explored by another scientific study. Authors use term such as technostress and admit: Our findings indicate that both technostress creators and inhibitors influence employee use of ICT (Fuglseth, Sørø, 2014).

Researching the work in the digital environment, Temelkova introduces the concept of digital leadership and defines it as a leading to higher added value for the organizational system, as well as to integrated comprehensive use of information and communication technologies, a toolset and human resources in a digital environment in view of achieving the strategic orientation targets of a certain business system through team interaction between people working with connected in a network computers and/or mobile devices, achieved on the basis of applying a particular leadership style in a virtual environment (Temelkova, 2018). According to her, work in a digital environment is based on ten principles: principle of technological innovation, leadership principle, team spirit principle, principle of learning along the entire working process cycle, quality principle, principle of resource provision, speed principle, stability principle, adaptability principle and efficiency principle (Temelkova, 2019).

In a more recent context related to the pandemic situation, there are already a number of researches focusing on the different use of ICT technologies and their reflection to the employees. Special study is dedicated to the technological spatial intrusion that could be transformed on the employee accessibility and their visibility (Chandra et al., 2020). Brooks presents the specifics in dress code expectation in case of working from home. Scholar claims: the spread of the coronavirus has meant that the workplace will be forever redefined under a “new normal,” where one of those new realities is that most teams will continue to work remotely (Brooks, 2020).

3. Methodology of the study

3.1. Study Area

Employees in ICT companies and their perceptions are in the focus of the study, attitudes and assessment on the effects of home office. The idea of the study is dictated as a result from one side by the pandemic situation of COVID-19 and measures taken as precautions in fight against the spread of disease. On the other hand, companies in ICT operate in high tech level sector and technological progress allows executing transition of business processes from office to home without any big inconveniences from all players – customers, employees, managers and ICT sector as a whole. Something more – our initial observation was that especially in Bulgaria in ICT companies there is no big change in the type of work during the period between the two big waves of COVID-19 (March-May 2020 and December 2020 with the starting of the Second wave and respective restrictive measures taken on the national level) in which the home office was the preferred method of work for the major part of the companies.

Based on all mentioned above our hypothesis are as follows:

Hypothesis 1: Majority of employees in ICT companies have positive attitude towards home office as a working measure in a pandemic situation.

Hypothesis 2: Home office does not significantly impact on the level of employees` motivation and their engagement to the achievement of the company`s goals.

3.2. Data collection techniques

Data was collected through a special questionnaire developed for the purposes of the current study. It includes 27 questions in total, based on the Google forms platform.

The questionnaire was divided into 3 general parts:

1. questions, collecting personal information of employees – gender; age; years of experience in ICT sector; years of specific experience in the current ICT company; job position/ role at the company.
2. questions, collecting information for organisation – type of the company; size of the company; property/ owners of the company
3. questions, collecting information on the self-assessment of employees on the different aspects of home office.

Specific questions for home office were two types – open (the responders were asked to create their own content) and closed (the responders were asked to choose among predefined alternative answers). In addition, we have two questions based on the 7-points Likert scale for overall assessment of home office benefits – both on individual and organizational level. The questions are as follows:

- Do you have experience in home office type of work?
- What is your general opinion about the home office?
- In your opinion does home office increase your free time?
- Please explain how home office increases / decreases your free time
- In your opinion does home office increase your creativity?
- Please explain how home office increases / decreases your creativity
- In your opinion does home office increase your commitment to the company's goals?
- Please explain how home office increases / decreases the level of commitment of employees to the company's goals
- How does working in home office affect teamwork?
- What is (are) the reason(s) for the home office's influence on the teamwork?
- How does working in a home office affect the relationships between colleagues?
- Does your company encourage you to work at home?
- Do you feel motivated to work at home?
- How do you evaluate your personal benefits from home office (using 7-points scale)
- How do you evaluate the benefits from home office for the company (using 7-points scale)
- In your opinion what are the benefits for your company from home office?
- Which software platforms you use for coordination with colleagues working in home office?
- What would increase the efficiency of home office work (open type of question)?
- Your proposals in improving the home office work (open type of question)?

Questionnaire was sent to more than 110 companies ICT operating in Bulgaria and employees were asked to respond on a voluntary basis. As a result for the period of three months (September-November 2020) we received 158 responses. The presented below analysis is based namely to those responses.

4. Summarized survey results and comments

4.1. Personal status of responders.

According to data collected from survey, 63,8% of responders are males and 36,2% are females (fig. 1).

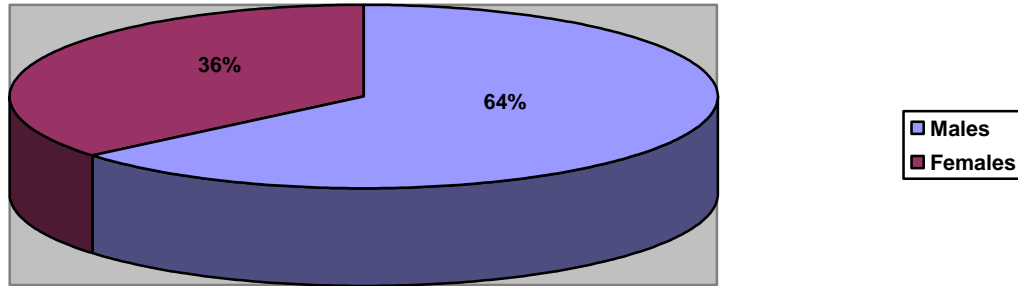


Fig. 1. Gender of responders

This profile of responders is logical having in mind the specifics of ICT business and the required technical education for different job positions in company in this sector.

In terms of age, the profile of responders is presented on fig. 2

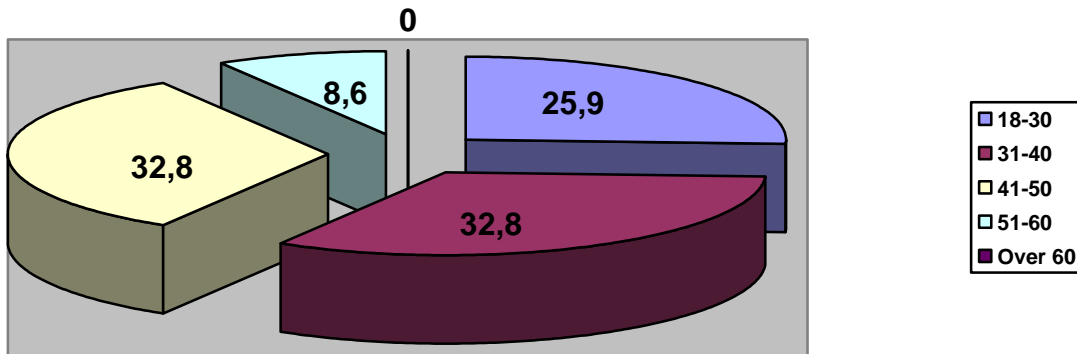


Fig. 2. Age of responders (in %)

As it can be seen from fig. 2, we have two groups of responders (aging 31-40 and 41-50) with the same share of representatives in our survey. On the other hand, the group of 18-30 years old has share of 25,9%, while the group between 51-60 years old has 8,6%. We have not received answers from people over 60 years.

Experience of the responders in ICT sector is summarized and presented on fig. 3. The major group in terms of experience among our responders is the group from 1 to 5 years of experience in ICT sector with a share of 29,3%, followed by the group claiming over 15 years of experience – 27,6%. Third place is for responders with 10-15 years of experience in ICT sector with 22,4% share.

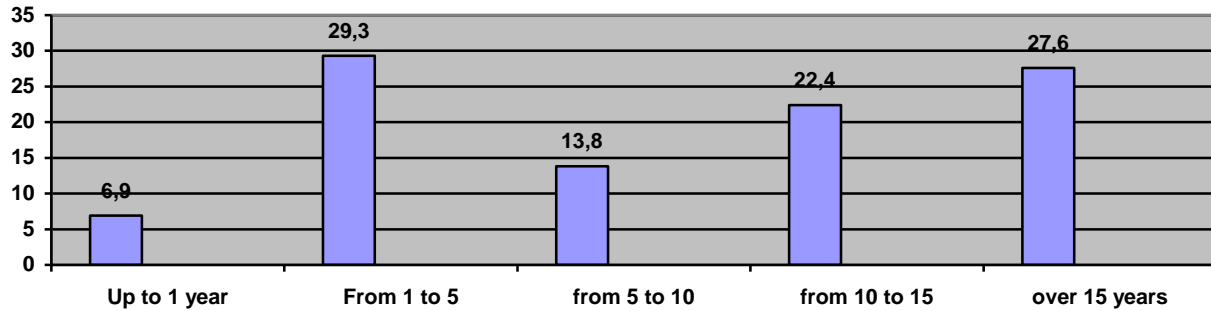


Fig. 3. Years of experience of responders in ICT sectors (in %)

On the other hand, it is also interesting to understand the specific experience of our responders in the current ICT company. The information will allow us to reveal in some degree the ability of company to attract and motivate the employees. Here the situation is totally different from the previous figure. The half of our responders (50%) declare from 1 to 5 years of experience in the current company. The second group is formed by employees with experience in the company up to one year (20,7%), followed by those with 5-10 years of experience. The share of the last two groups is almost equal – 5,1% of those with experience between 10-15 years and 5,2% - the employees over 15 years of experience at the same company (see fig. 4).

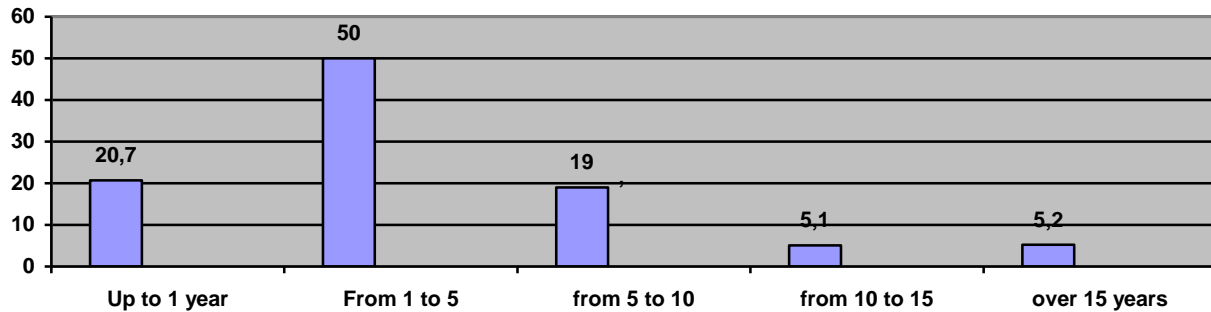


Fig. 4. Years of specific experience of responders in the current company (in %)

The next question is related to the major role (job position) of employee in the company. Results are presented on fig. 5.

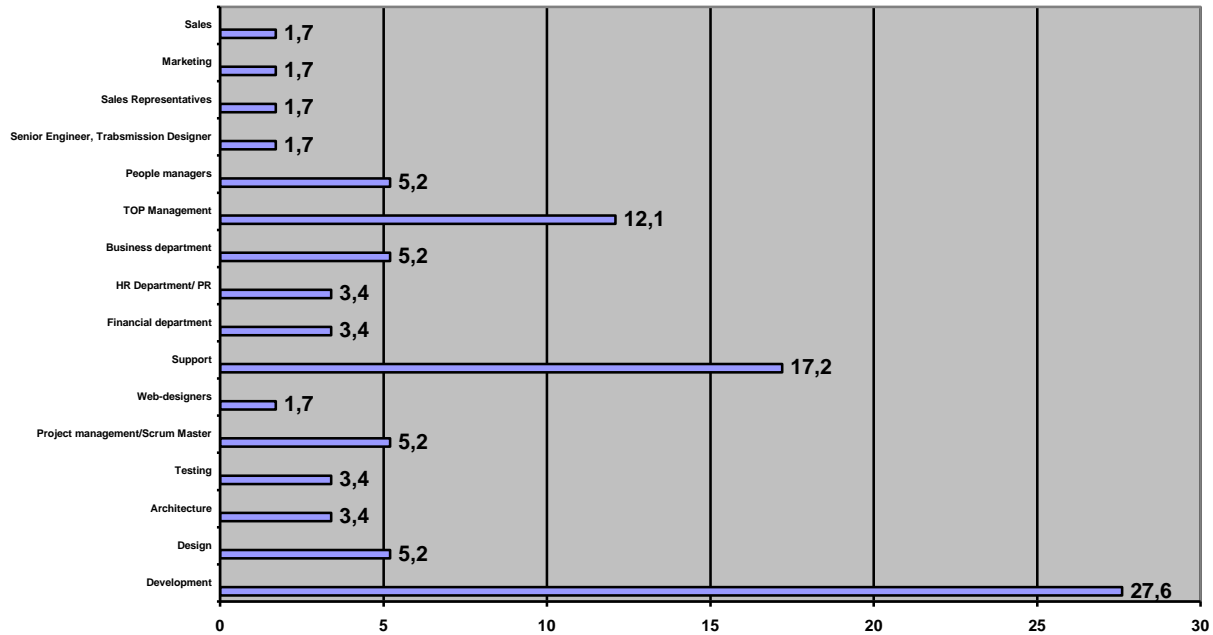


Fig. 5. Major role of responders in the ICT company (in %)

The major part of our responders forms the group of Development (27,6%), followed by Support (17,2%). On third place is the group formed by the Top managers (share of 12,1), followed by four groups with equal share of 5,2% - Design, Project Management/ Scrum Master; representatives of Business Department and People managers. Therefore the majority of our responders are people who are directly responsible for specific ICT activities in the companies and formed so called main core of the company in ICT business.

4.2. Company's profile

The type of the company in terms of offered services is presented on fig. 6. As it can be seen from the figure, the majority of our responders claim working of software companies (62,1%), followed by those in companies, offering more than one services to their clients (19%). Third group is for representatives of telecommunication companies (15,5%). The smallest group is of representatives of hardware companies.

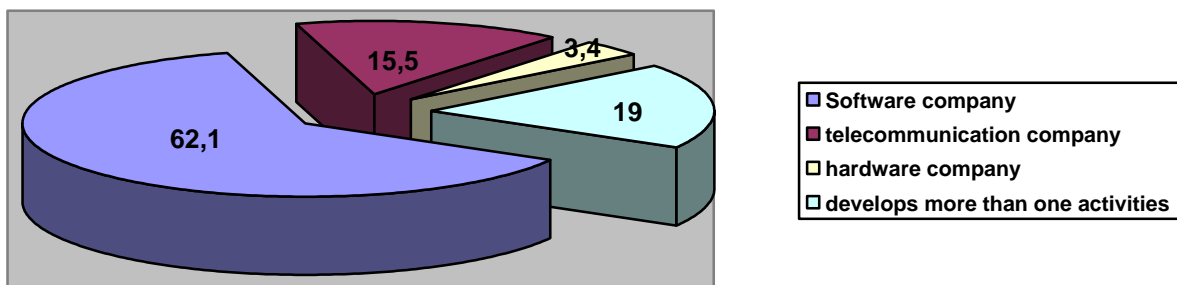


Fig. 6. Profile of ICT companies according to the offered services (in %)

In terms of size, the data is graphically presented on fig. 7. Major part of our responders claim working in big company (31%), which means more than 250 employees. Second group is formed by responders, working in middle-sized enterprises (29,3%) – with number of employees from 51 to 250, followed by the representatives of micro enterprises (with share of 25,9) – up to 10 employees of the company. The last group (13,8%) is from representatives of small enterprises (with number of employees from 11 to 50).

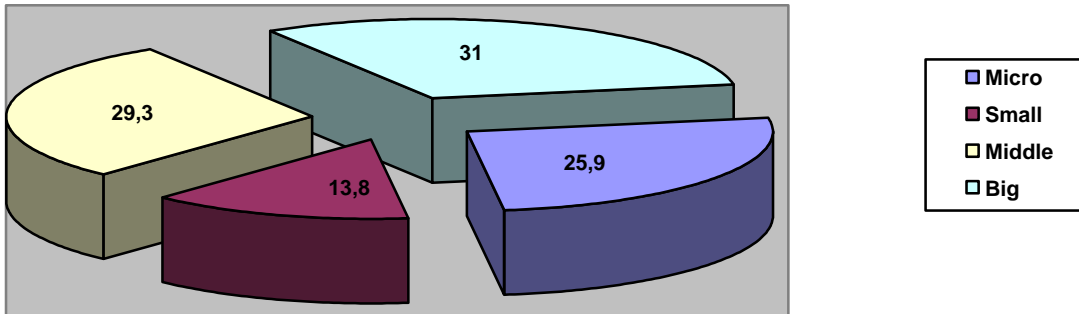


Fig. 7. Profile of ICT companies according to their size by the number of employees (in %)

The type of the companies in terms of properties is presented on the fig. 8. The majority of our responders (almost 40%) claims working in Bulgarian branch of a big international company (which have already enough experience in distance communication), followed by employees of Bulgarian companies (36,2%), third place is for the representatives of company with foreign owners (22,4%).

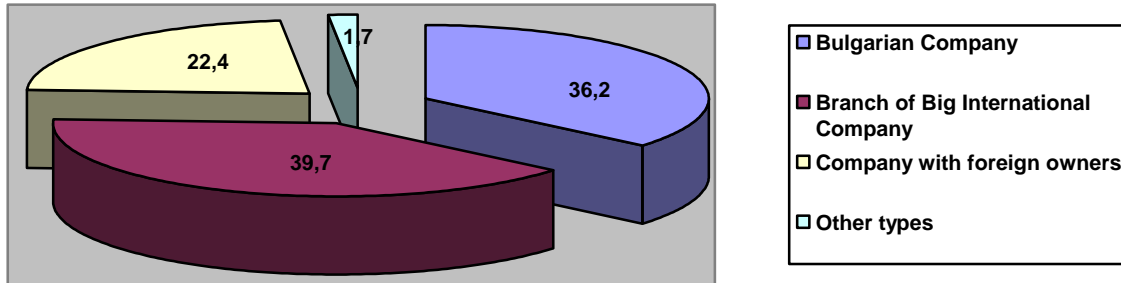


Fig. 8. Profile of ICT companies in terms of properties (in %)

4.3. Employees` self-assessment on the home office effects

We started collection of information on the specific personal experience in home office by the following question: Do you have experience in home office type of work? Responders were asked to choose between different predefined alternatives. The share of responses is presented on table 1. Almost 52% from our responders claim that fully work at home, followed by the employees (15,5%) who declare that approximately 80% of work implemented at home. On the totally opposite side are 13,8% of employees in ICT companies who admit that rarely work in a home office. Here the impressive result is 0% of people with no experience in home office. Therefore all responders are experienced and are capable to assess the effects of home office on their motivation and work.

Table 1. Specific personal experience in home office

Alternative	Share of responses
Yes, I fully work at home office	51,7 %
Yes, I do approximately 80% of work at home. We meet at the office only to coordinate some super specific tasks and activities.	15,5 %
Yes, I do about half of the work at home	12,1 %
Sometimes I work at home, but most of the time I am at the office	6,9 %
I rarely work in a home office	13,8 %
No. I have no experience working in a home office	0 %

The next question collects information on the general opinion of responders to home office (fig. 9). The major part of responders (41,4%) claims that they have strongly positive opinion to home office, followed by the group of employees who declares also positive attitude in general to home office (37,9). Therefore we have a significant approval - almost 80% (79,3%) in total of employees who admit positive assessment versus 10,3% neutral or undecided yet employees and other 10,3% (in total) of responders who claim negative opinion.

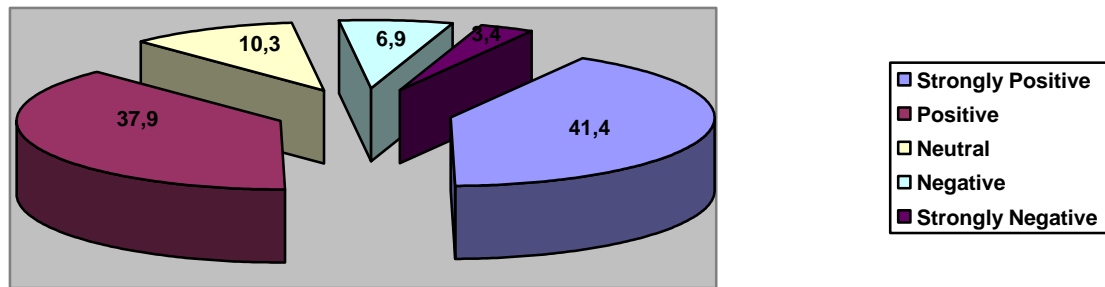


Fig. 9. General assessment of employees to home office (in %)

The relation between home office and free time of employees is the subject of the next question: In your opinion does home office increase your free time? Here the responders were asked to selected on of the following alternatives:

- yes, home office significantly increases my free time – chosen by 27,6% of responders;
- yes, my daily free time increased between 1-2 hours – chosen by 25,9% of responders;
- home office did not affect my free time – chosen by 31% of responders;
- no, my daily free time decreased between 1-2 hours – chosen by 5,2% of responders;
- no, my daily free time significantly decreased – I am constantly in some sort of working activities – chosen by 10,3% of responders.

In a summary to this question we have to point out that more than half of responders (53,5%) claim that home office increases their free time. Here we have also to consider the significant share of responders (31%) who admit that there is no change of their free time. On the other hand, there is 15,5% share of employees who admit that their free time decreases as a result of home office. This could be considered as an alarming result that has a potential to form in a future a negative trend to overall opinion of home office. On the table 2 there is a comprehensive information on the relation between home office and free time. Responders had a possibility of multiple choices.

Table 2. Interactions between home office and free time

N	Alternative responses to question Please explain how home office increases / decreases your free time	Share of responses
1.	Reduce travel time from home to office	87,9%
2.	Allows tasks to be completed in a more planned and organized manner, which gives me more free time	29,3%
3.	Being in home office I have to spent more time coordinating which leads to reducing my free time	17,2%
4.	Being in home office thanks to the software we use allows me improving my coordination	8,6%
5.	Being in home office I find myself more creative which allows me to save time	20,7%
6.	Being in home office I can organize my time when I am more creative to complete specific working tasks	44,8%
7.	Being in home office it happens to do several time specific tasks due to the poor coordination	10,3%
8.	Being in home office allows me to be more inspired and relaxed	19%
9.	Being in home office I feel difficulties to concentrate, which leads to wasting of time and to work more hours as compensation of my lower level of effectiveness	27,6%
10.	My job specification requests continuous communication with the team and being in home office takes me longer than in direct communication in traditional office	24,1%
11.	There is no direct contact between all team participants where some activities have to be done several times due to poor communication	37,9%
12.	I don't like permanent control, therefore in home office I am more efficient	20,7%
13.	None of the above	0%

Reducing travel time to work is recognized by the significant part of responders (almost 90%). Another preferred alternative is the possibility of more effective planning on an individual level (almost 45% from responders). As some of the weaknesses we could point out lack of direct contact and communication (almost 38%) and the lack of effective coordination (10,3%).

Next question is dedicated to the relation between home office and creativity and is the following: In your opinion does home office increase your creativity? Here the responders were asked to selected on of the following alternatives:

- Yes, definitely I am much more creative – chosen by 13,8% of responders
- Yes, I am more creative – chosen by 27,6% of responders
- I have no opinion – chosen by 3,4% of responders
- No, home office does not affect on my creativity – chosen by 48,3% of responders
- No, my creativity decreases – chosen by 5,2% f responders
- No, my creativity significantly decreases – chosen by 1,7% of responders

Here the majority of responders claim that home office does not affect their creativity (48,3%). On the other hand, employees who admit that home office impacts positively on the level of creativity form another 41%, which is significantly larger than the share of people with negative effects (almost 7% in total). The next question explains in details the relation in the line home office – creativity (table 3). Responders had a possibility of multiple choices.

Table 3. Interactions between home office and employee's creativity

N	Alternative responses to question Please explain how home office increases / decreases your creativity	Share of responses
1.	The atmosphere at home predisposes me to work more effectively	39,7%
2.	The atmosphere at home distracts me	22,4%
3.	I don't like formal permanent control, which doesn't exist in home office	27,6%
4.	I need permanent control to concentrate	6,9%
5.	I need direct meetings with colleagues who inspire me	39,7%
6.	I can work during the time when I am most creative at the day	37,9%
7.	I don't get tired / nervous from the traffic from home to work	46,6%
8.	None of the above	12,1%

The biggest share of people claim that their creativity is improved due to the lack of negative emotions on the traffic from home to work (almost 50%), followed by the employees who find the home atmosphere as precondition to be more creative (almost 40%). On the other hand, the same share is the group of people claiming that they need direct meetings with colleagues in order to be inspired.

The next question is the following: In your opinion does home office increase your commitment to the company’s goals? The answers are presented graphically on the fig. 10.

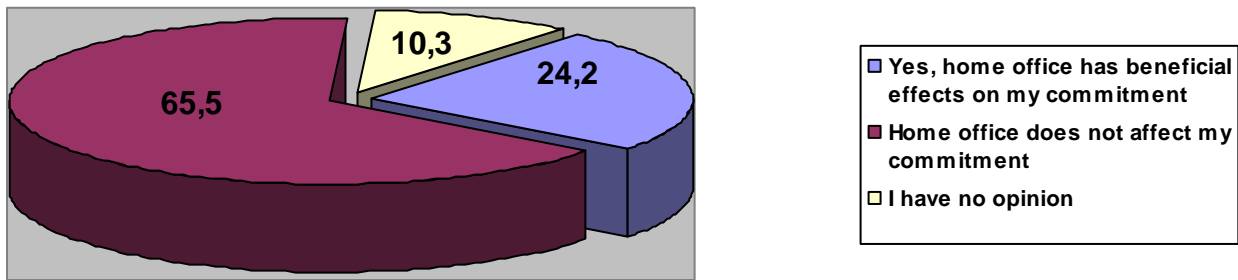


Fig. 10. Relation between home office and commitment of employees to the company’s goals (in %)

The results are more than eloquent – the majority part of employees in ICT companies, responders to our survey claim that home office does not affect their commitment to the achievement the company’s goals. Therefore employees are able to work in the same efforts, quality, motivation and inspiration at home as well as at traditional office. The next question reveals in details the relation between home office and engagement to the company’s goals (table 4).

Table 4. Interactions between home office and employee’s engagement to the company’s goals

N	Alternative responses to question Please explain how home office increases / decreases the level of commitment of employees to the company’s goals	Share of responses
1.	The company pays bonuses for home office working	3,4%
2.	The company shows concern and responsibility to employees in crisis situation such as pandemic	51,7%
3.	The company develops another, more complex level of working professional relationships	19%
4.	The company shows adaptability and flexibility to the complex business environment	69%
5.	The relationship between employee and company is reduced	13,8%
6.	The level of personal and group communication is reduced	34,5%
7.	Different types of teambuilding are reduced	50%
8.	Interactions between employees from different units of the company are reduced	36,2%

Here the strengths and weaknesses of the home office are visible – from one side employees admit that this is one of the reasonable and possible way to work in a complex situation, but on the other – social contacts between colleagues, direct personal communication and different types of teambuilding are strongly limited and reduced.

The next question is dedicated to relation between home office and teamwork: How does working in home office affect teamwork? Again responders were asked to choose between the following alternatives:

- Strongly positive, the team relationship are drastically improved – selected by 5,2% of responders
- Positive, the team relationship are improved – selected by 17,2% of responders
- Neutral, the team relationship are with the same level of effectiveness – selected by 37,9% of responders
- Negative, we have some difficulties on team level due to the home office – selected by 31% of responders
- Strongly negative, we have serious difficulties on team level due to the home office – selected by 3,4% of responders
- I have no opinion – selected by 5,2% of responders

Here we have to point out the relatively high level of responders (31%) claiming that home office have negative effect on the teamwork. Answers to the next question in fact reveal the roots of this specific weakness (table 5). Responders had a possibility of multiple choices.

Table 5. Interactions between home office and teamwork

N	Alternative responses to question What is (are) the reason(s) for the home office’s influence on the teamwork?	Share of responses
1.	The contact between colleagues is only virtual through technical solutions of communication	62,1%
2.	Through technical solutions clear deadlines could be set which allows strong coordination between team members	22,4%
3.	Different technical solutions allows team members to have contact (both audio and video), therefore there is no need of direct traditional communication	36,2%
4.	Technical solutions allow effective teamwork	36,2%
5.	Technical solutions destroy the creative atmosphere of the real office	8,6%
6.	The active dialogue regime is not on the same level as in the real communication of the traditional office	25,9%
7.	Home office stimulates predominately individual work, not teamwork	34,5%
8.	It is difficult to make non-standard decisions that require vital discussion and opinion of the whole team	31%
9.	Home office does not affect teamwork	1,7%

34,5% of responders believe that home office is more convenient for individual work; another 31% claim that it is difficult for making unorthodox decisions. Therefore communication difficulties due to the lack of direct traditional form of communication could be summarized as major problem for teamwork in context of home office.

Next question is: How does working in a home office affect the relationships between colleagues? Responders were asked to choose between different alternatives as follows:

- Relationships between colleagues are changing in a very positive manner – selected by 6,9% of responders
- Relationships between colleagues are changing in a positive manner – selected by 10,3% of responders
- Relationships between colleagues are the same – selected by 60,3% of responders
- Relationships between colleagues are changing in a negative manner – selected by 20,7% of responders
- Relationships between colleagues are changing in a very negative manner – selected by 1,7% of responders

The majority of responders claim that home office does not affect the relationship between colleagues and other 17,2% in total have positive attitude to the interaction in the line home office-relationship. This result once again indicates from neutral to negative assessment of employees in ICT companies to home office.

Next question explores the practice of the ICT companies to encourage employees for home office. Results are graphically presented on fig. 11. The major part of responders admit that their company has such practice, while approximately 41% from responders claim that organisation has neutral position to home office. The share of people who declare that company does not encourage employees to home office remains really low (3,4%).

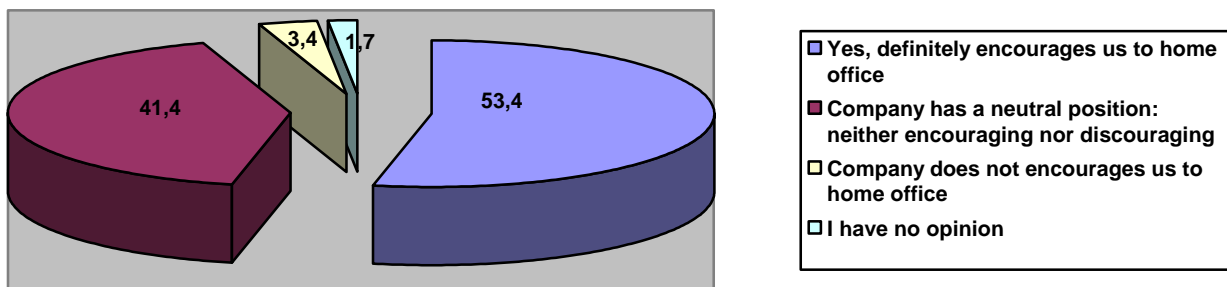


Fig. 11. Company’s practice to encourage employees for home office (in %)

Motivation in working at home is the topic of the next question. We received the following results of the question “Do you feel motivated to work at home?”

- 31% of responders claim definitively positive motivation
- 17,2% of responders claim positive motivation
- 37,9% of responders claim that there is no change on the level of their motivation
- 12,1% of responders claim that they feel unmotivated
- 1,7% of responders claim that they definitely feel unmotivated and preferred working at traditional office.

Next two questions assess through the 7-points scale the personal and organizational benefits from home office (fig. 12).

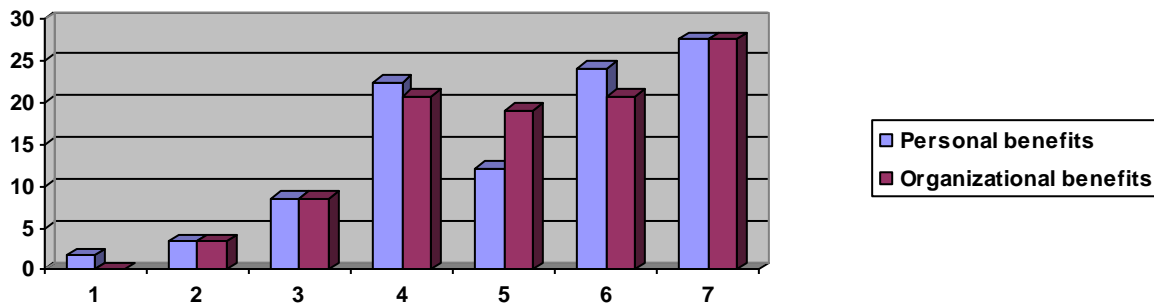


Fig. 12. Personal and organizational benefits from home office (in %)

As it can be seen the employees assess almost equally your individual benefits and organizational benefits from home office. The average score of individual benefits for employees in home office is 5,22, while the average score of organizational benefits is assessed to 5,27. The difference between these two scores is negligible and we could conclude that the employees have positive attitude to home office both for themselves and for the companies.

Among the benefits of the company from home office the responders identify the following:

- Increasing the employees motivation (29,3%)
- Increasing the employees creativity (29,3%)
- Costs reduction (77,6%)
- The only way to work in serious situation such as pandemic is (77,6%)
- Increasing the attractiveness of work (55,2%)
- Other benefits (17,2%)
- I don't consider that the company has any benefits (5,2%)

Obviously the significant part of responders (almost 78%) is convinced and accepts home office as on of the working solution in complex and serious situation of pandemic. Other responders find home office as additional extra to increase the attractiveness of job (for instance less direct managerial control, improved options for individual planning of working tasks etc).

Responders were also asked to describe the software platforms that use for coordination. Several platforms are the most often used as a tool for coordination: MS Teams, Google Hangouts, Google Meet, Slack, Skype, WebEx, Zoom, Redmine, Jira, Trelo, AnyDesk, Softone, Azure, Email, Viber. Employees admit that they use all workable solutions in order to facilitate maximum communication both among team members and with the customers.

Finally we have two open types of questions, collecting proposals for improvement home office. The most interesting are presented on table 6.

Table 6. Proposals for improvement effects from home office

Proposals		
N	For improvement positive effects from home office	General proposal for improvements
1.	Additional technical equipment	Active communication at all levels
2.	Open and honest communication with employees	Periodic online team meetings
3.	Home office allowance (costs for Internet)	Reduced working time in Friday
4.	Better planning	Sports activities
5.	Improve control based on individual results	Variety of working tasks
6.	Hybrid type of work (home and office work)	Opportunities for life long learning and career development
7.	Couching	Off site meetings
8.	Better coordination with clear deadlines	Flexible offices (in different configuration)

As a summary of all mentioned above, several main conclusions could be made:

- The attitude of the employees in ICT sector to home office is positive. They find this measure as one of the workable and reasonable solutions for work almost in the same quality as traditional work.
- Major part of employees in ICT sector declares that there is no direct connection to the home office and their engagement to the company’s goal. Therefore we could conclude that home office does not affect directly the level of employees’ engagement to the company’s goals – we did not find reliable evidences on this statement.
- Major part of employees in ICT sector admits that home office does not change their level of creativity.
- Majority of employees in ICT claims that home office has neutral to negative impact on the teamwork. Reasons in this regard could be found in the type of indirect communication and some difficulties in coordination, planning and decision making process.
- Home office affects from neutral to negative the relationship between colleagues in ICT companies.
- The average score of assessment personal benefits of employees from home office is 5,22 (from 7-points scale). Almost with the same average score responders assess the benefits of organisation from home office – 5,27. Some of employees find working at home as even more attractive than traditional office work in terms of lower level of control and increase possibility of good individual planning of work, tailored by specific habits of employee.

As a result we could resume that our first working hypothesis is fully confirmed empirically. As the second hypothesis is concerned “Home office does not significantly impact on the level of employees’ motivation and their engagement to the achievement of the company’s goals” we have partially conformed (the results approved the lack of direct connection between home office and the level of employee’s engagement to the company’s goals) and partially rejected – employees in ICT companies declare from neutral to positive change in their motivation to work).

Conclusions

Pandemic situation imposes new agenda in our professional and personal life. We could try to cope with this new situation in a best possible way. For companies in ICT sector home office is one of the workable solutions that allow keeping working process almost at the same quality and speed. Our findings reveal that employees in ICT companies in Bulgaria have positive attitude to home office (especially in terms of individual working planning, increasing free time and attractiveness of job positions). They assess strongly positively the benefits of home office both in personal and organizational level. Employees claim that home office increases their motivation and creativity. On the other hand we did not find reliable evidences on the direct connection between home office and employees commitment to the company’s goals. For ICT employees’ home office has neutral to negative effects on teamwork and relationships between colleagues mainly due to the difficulties connected to the lack of efficient direct communication as well as some trouble with planning and coordination activities.

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