TELEWORK DURING THE COVID-19 PANDEMIC – AN APPROACH FROM THE PERSPECTIVE OF ROMANIAN ENTERPRISES

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Abstract

The paper analyzes the impact of some decisional factors that shape telework in Romanian enterprises. These factors give us an image at macro and micro levels on the influences and changes that manifest themselves on the behavior of Romanian managers who, during the COVID-19 pandemic, were forced to resort to the organization of telework. The results obtained are a starting point in the development of a structural model. The research was conducted based on an online survey, the questionnaire being administered to a sample of 154 Romanian managers. The testing of the hypotheses of the structural modeling equations was performed using the least squares method, and the software used for data processing and analysis was SPSS 20 and SmartPLS3. The results of the study confirm the theoretical aspects illustrated throughout the article, capturing the mobility and adaptability of the behavior of Romanian managers in a crisis. Telework within Romanian enterprises is strongly and significantly influenced by the action of the factors analyzed in this paper, namely: work organization, performance management, safety and health at work, information security management, and digitalization. Modification of legal and contractual regulations is the only factor that has a weak and insignificant influence on telework.

Keywords: telework, COVID-19 pandemic, decision makers, managers, enterprises.

JEL Classification: C12, C35, M31, M54

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Introduction

The COVID-19 pandemic is a complex process, with unexpected negative effects globally, generating along with the crisis of national health, education, cultural, sports and social systems, a massive contraction of economic activities, both through direct actions initiated by government institutions, and by decisions to discontinue or suspend the activity of enterprises in order to limit the spread of the virus (Belzunegui-Eraso and Erro-Garcés, 2020; Brătianu, 2020; Novianti and Roz, 2020; Brătianu and Bejinaru, 2021; Golden, 2021; Narayanamurthy and Tortorella, 2021). The crisis created by the spread of COVID-19 is a unique phenomenon, it is the source of the most severe economic and social recession after World War II, the global character, aggression and long-term effects being considered the defining elements of this process (McKibbin and Fernando, 2020; Brătianu and Bejinaru, 2021; Quitzow et al., 2021). One of the ways to mitigate the negative impact of the pandemic was to implement telework. The updating of this regulation by the government has created the necessary framework for the protection and support of employees, the integration of new processes and technologies in the exercise of professional activities, and the reduction of the impact on the environment.

The first official data on “work from home” dates back to the 1970s, when a number of enterprises, governments and non-profit organizations adopted this measure to stimulate productivity, creativity and reduce the costs of renting office space, their equipment and maintenance. In Romania, work at home was regulated in 2003 (Law 53/2003 art. 1) by the Labour Code. Fifteen years later, telework was legislated by Law 81/2018, being defined as a new form of work organization that allows the employee to fulfil all the duties of the position held at home and from places other than the employer’s organized premises, voluntarily, temporarily, using information and communication technology (ICT). In the context of the epidemiological situation, caused by the spread of the SARS-CoV-2 coronavirus, telework suddenly returned, being recommended by the Romanian government, both to maintain jobs and protect employees’ incomes, and to mitigate employers’ financial losses and accelerate economic recovery. In Romania, the context created by the COVID-19 pandemic led to an increase in the percentage of employees working from home to 24% in July 2020, and the number of telework contracts, concluded by some enterprises, reached 32,532 people at end of October (Ziarul financiar, 2020). Considering the abovementioned aspects, the authors consider that some factors, specific to the internal and external environment, may have an impact on telework in the context of the pandemic, and, moreover, can generate changes in the behavior of Romanian managers.

Today, the telework culture and its implementation represent a new challenge, both for companies and for their employees. The question “What are the factors and how do they influence telework in order to maintain the productivity and competitiveness of enterprises?” describes the decision-making problem that needs to be addressed. The main purpose of the study is to analyze the impact of decision makers that condition telework in Romanian enterprises during the COVID-19 pandemic. The research objectives were the following: assessing the causal relationship between the actions of decision makers: work, performance, health, safety, technology and telework by validating the econometric model (O1), and identifying significant differences between the groups “We did not carry out telework” and “Yes, we carried out telework” (O2).

The paper was structured as follows: section 2 presents the most representative scientific papers published on the subject of telework, and the latest legislative regulations on labor;

section 3 describes the research methodology; section 4 presents the results obtained by applying the PLS-SEM algorithm, and the multigroup analysis (PLS-MGA). The last section concludes the paper highlighting the academic and managerial implications, the limits of the research, and future directions.

1. Review of the scientific literature

Previous studies have highlighted various aspects through their results, such as: a generalized model of teleworkers (Pratt, 1984), trends related to the increase of the importance of work at home as a result of the introduction and development of new working models adapted to technological change (Kossek, 2016; De, Pandey and Pal, 2020), the benefits felt both at organizational level and in the lives of employees by introducing flexible arrangements in the organization of the work program (Apgar, 1998; Hyland, Rowsome and Rowsome, 2005; Kossek, Lautsch and Eaton, 2006), identifying the factors that explain the positive work-life balance among teleworkers (Maruyama, Hopkinson and James, 2009), the division of telework with the advantages and disadvantages for employers and employees (Mahler, 2012). Other more recent studies have approached telework in the context of the COVID-19 pandemic from several perspectives, such as: job satisfaction and employee performance while doing telework (Novianti and Roz, 2020; Narayanamurthy and Tortorella, 2021), the positive effects on enterprises (non-interruption of activity) and on employees (application of the principles of social distancing), thus avoiding contamination with the new coronavirus (Belzunegui-Eraso and Erro-Garcés, 2020), the negative effects felt by employees, including exhaustion, technostress and social isolation (De, Pandey and Pal, 2020; Golden, 2021), as well as solutions to counteract them (Tamers et al., 2020).

This study starts with the combined analysis of the Theory of Planned Behavior (TPB) with work and organizational psychology (WOP), an analysis that allows understanding the behavior of managers in making the decision to implement telework. The theory of planned behavior demonstrates that not all individual behaviors are under volitional control, highlighting how sometimes, in a crisis, they vary from “very well controlled” to “out of control” (Ajzen, 1991). However, the same author emphasizes that performance is directly proportional with the individual’s desire to get involved in certain behavior, the intention and control substantiating the achievement of the expected results. Correlating the TPB model with WOP (human-organization relationship study), human behavior is guided by the following beliefs, namely: (i) behavioral, represented by the beliefs of individuals (managers) on adopting a behavior (implementation of telework); (ii) normative, namely the expectations of employees or other groups (customers, business partners, the public, etc.), and (iii) the perceived control of the actions needed to achieve the set objectives (Ajzen and Madden, 1986). Given the perspective of work psychology and the perception of the beliefs of extending control, but also the use of one of the most common methods of analysis of the macro- and microenvironment, the study’s authors expanded the theorizing to identify decision makers who influenced the behavior of managers in a crisis, factors that will be the latent variables of the proposed model.

Numerous researches have highlighted which are the main decision-making factors that influence the organization of telework. Baruch and Nicholson (1997) emphasized the idea that the efficiency and opportunity of telework depend on individual factors, namely the

personality of employees and the new situations in which they find themselves, organizational factors, including strategies implemented, organizational culture, job-specific factors, as well as social factors that explain the changes in interpersonal relationships both at work and in the family as a result of the introduction of telework. Referring to the effects felt at organizational level, Ruth and Chaudhry (2008) identify the economic factors that explain the implementation of telework (reducing maintenance costs of workspaces, attracting high-performing employees, maintaining productivity), but also some associated disadvantages, also of an economic nature (managerial challenges for coordinating the activities carried out in this work regime, increased investments for securing the results of telework). The organization of telework is greatly influenced by technological factors that favor its expansion (Sabherwal, Jeyaraj and Chowa, 2006; Messenger and Gschwind, 2015; Silva, Montoya and Valencia, 2019). Messenger and Gschwind (2015) identify, depending on the technology used, three categories of teleworkers, and consider that the latest generation, the current one, uses new digital information and communication technologies. Other authors have completed the list of factors supporting the expansion of telework, with environmental, legislative and safety factors being highlighted (Ruth and Chaudhry, 2008; Belzunegui-Eraso and Erro-Garcés, 2020; Guerin, 2021). Based on the significant aspects resulting from the analyzed literature, the main decisional factors were outlined, both internal and external, which influence the measure on the implementation of telework.

Work organization (WO). Sznclwar et al. (1999) analyzed the performance of teleworkers under stress (based on the evaluation of the results of those working in call-centers), and highlighted the need to reorganize work processes by prioritizing key work projects and reducing the role of procedures in certain situations, in order to successfully perform professional tasks. The study by Wittenbaum et al. (2004) investigated the efficiency of the activity of small groups from a functional perspective, highlighting the importance of setting clear performance objectives and tasks that are easy to accomplish to achieve organizational objectives. In the absence of a rigorous and well-designed work schedule, teleworking can have many negative consequences for employees, especially the dilution of boundaries between professional activity and personal life (Kossek, 2016). Also, Martínez-Sánchez et al. (2008) concluded that the application of flexible work practices specific to telework ensures the achievement of managerial objectives only if an organizational climate based on high levels of trust is ensured. Therefore, the following hypothesis is proposed:

H1: There is a positive and significant association between work organization (WO) and telework (DTE).

Performance management (PM). Currently, organizations frequently use performance management systems, through which employees are helped to achieve high levels of performance in the workplace. It has been shown that engaging employees in achieving the proposed results at the same time with the increase of autonomy in professional activity favors their initiative, adaptability and involvement in increasing organizational performance, which contributes to reducing the pressure on control activities (Gruman and Saks, 2011).

Enterprise performance can be influenced by the intensive use of telework and the increase in functional flexibility (Martínez-Sánchez et al., 2008), and, in the current conditions, when there is a decrease in the pressure exerted by the environmental factors, innovative managerial models in telework management will substantiate organizational success (Stiles,

2020). Defining a coherent and complete system for monitoring institutional performance and periodic analyses are the necessary managerial responses (Dascălu, Marcu and Hurjui, 2016) which, in the current context of the pandemic, become a priority. Thus, the following hypothesis is proposed:

H2: There is a positive and significant association between performance management (PM) and telework (DTE).

Occupational safety and health (OSH). The use of telework may have, depending on the type of activity, negative consequences on the health and integrity of employees (Sznclwar et al., 1999; Kossek, 2016; Nayani et al., 2018). That is why enterprises need to enforce occupational safety and health (OSH) regulations and provide training for teleworkers. The most used managerial models, practices and procedures used for this aim to provide information and instructions specific to working from home, implementing separate platforms and work procedures, using new equipment, equipping teleworkers with technical means of communication, informing them about the risks and occupational diseases that may occur during working from home, etc. (Nayani et al., 2018). Many businesses have included in their work-from-home procedures a number of recommendations for promoting physical and mental health through exercise and healthy eating habits (Tamers et al., 2020). In this respect, the following hypothesis is proposed:

H3: There is a positive and significant association between occupational safety and health (OSH) management and telework (DTE).

Legal and contractual regulations (LCR). In the context of the epidemiological situation caused by the spread of the SARS-CoV-2 coronavirus, in order to support employees and employers in carrying out telework, the government issued Order no. 1376/2020 establishing the manner of granting a financial aid in the amount of 2,500 lei/ employee for the acquisition of certain categories of goods (laptop or notebook, tablet, smart phone, etc.). With the suspension of classes or the temporary cessation of the activity of all educational units, during the state of emergency, the government issued GEO no. 182/2020 establishing that days off will be granted to one of the parents for supervising children not older than 12, or, in the case of children with disabilities, up to 18 years old. The existing individual employment contracts of the employees also underwent changes by including addenda that mentioned telework and other elements such as: place of work, period, schedule, method of payment, etc., issues established in agreement with the employer. The regulations on telework (Law 81/2018 and GEO no. 182/2020) are not mandatory for employers, as they may suspend their activity for a limited period or carry out telework activities, in the conditions of the pandemic, given everyone's concern for health. These rules have been modified by the inclusion of numerous rights and obligations, including the setting of individual performance objectives, as well as the criteria for assessing the employee's professional activity. In this sense, the following hypothesis is proposed:

H4: Legal and contractual regulations (LCR) are positively and significantly correlated with telework (DTE).

Information Security Management (ISM). The increase in the scale of telework generates major dangers related to information transmission security and the occurrence of online fraud (Legner et al., 2017; De, Pandey and Pal, 2020). Some of the Romanian enterprises have taken measures to protect the internally/externally information accessed, processed or stored by certifying information security management systems. The rules on security,

confidentiality, integrity and availability of information are contained in the ISO/IEC 27001:2018 Information Security Standard. Currently, internal information security procedures include changes, such as: keeping screens safe, protecting your laptop or PC from cyberattacks and viruses, prohibition regarding the transmission of information to unauthorized persons from the enterprise, use of strong passwords, application of notification methods in case of loss of information by informing the responsible staff, and others. Therefore, the following hypothesis is proposed:

H5: There is a positive and significant association between information security management (ISM) and telework (DTE).

Digitalization (DI). The digital revolution has led most governments to identify digitalization as a strategic priority, and to include it in future development plans. Gradually, digital developments have influenced the organization's management, consumer-partner relations, business models, etc. (Legner et al., 2017). For businesses, digitalization is the complex process that allows the implementation of the necessary technology and tools, producing a profound, sustainable change in the entire business model, and the evolution of work. Regarding the way work is organized and carried out, digitalization has produced significant changes with substantial implications for the classification of occupations, labor standards and employee well-being (Golden and Geisler, 2007; De, Pandey and Pal, 2020). Today, the digital workforce uses tools and technologies that facilitate remote access and communication, and support work efficiency (Narayanamurthy și Tortorella, 2021). Thus, the following hypothesis is proposed:

H6: There is a positive and significant association between digitalization (DI) and telework (DTE).

Telework (DTE). Numerous studies have examined the adoption of telework in enterprises, highlighting the slow, but constant growth over time of this phenomenon. Specialists identified many factors specific to the criteria for controlling the action of managers, such as: financial and non-financial indicators required for reporting, training and education of employees, technological innovations, legislative changes under the European Framework Agreement on Telework, and have tested their relationship with the feasibility of using them. (Joice, 2007; Martínez-Sánchez et al., 2008; Vlčková, Frantíková and Vrchota, 2019). In this respect, the following hypothesis is proposed:

H7: There are no significant differences in the structural model between the groups "We did not carry out telework" and "Yes, we carried out telework".

2. Research methodology

In order to achieve the proposed objectives and test the research hypotheses, a sample survey was conducted between October 2020 and January 2021 (Popescu et al., 2013). Sampling was performed by the "snowball" method. The sample is composed of 154 Romanian enterprises, represented by their managers who, during the COVID-19 pandemic, opted for business continuity and for maintaining staff in the category of employed population. These are entities engaged in economic activities, regardless of their legal form, of different sizes (micro, small, medium and large) which, by their nature, operate in different fields of activity (e.g., retail, financial services, consulting services, IT

services, educational services, telecommunications and utilities, manufacturing, etc.) (Official Journal of the European Union, 2003).

The sample size used is higher than the minimum limit accepted of at least 140 respondents (28 items $\times$ 5 = 140 respondents). Similar approaches to sampling and how to measure latent variables have been noted in previous studies (Kristensen and Eskildsen 2010). Each respondent agreed in advance on participating in the study and completing the questionnaire. The sample consists of 31.82% female managers, and 68.18% male managers (table no.1).

Table no. 1. Sociodemographic characteristics

	N	%		N	%
Number of Employees			Gender		
Less than 10 employees	13	8.44	Male	105	68.18
Between 10 and 49 employees	32	20.78	Female	49	31.82
Between 50 and 249 employees	67	43.51	Age		
Over 250 employees	42	27.27	Up to 30 years	10	6.49
Field of activity			Between 31 and 40 years old	71	46.10
Retail	46	29.87	Between 41 and 50 years old	49	31.82
Financial services	24	15.58	Over 50 years	24	15.58
Consulting services	9	5.84	Education		
IT services	7	4.55	High school	27	17.53
Educational services	6	3.90	University	79	51.30
Telecommunications and utilities	14	9.09	Master / Doctorate	45	29.22
Manufacturing industry	35	22.73	Other	3	1.95
Other	13	8.44	Management level		
Telework			Higher	22	14.29
No	58	37.66	Medium	85	55.19
Yes	96	62.34	Low	47	30.52
Total	154	100	Total	154	100

Over 77% of the managers interviewed are aged between 31 and 50, and 80.22% are graduates of bachelor's and master's degree studies. Although only 27.27% of respondents manage enterprises with over 250 employees, most of the interviewees came from the retail sector (29.87%). 62.34% of the interviewees stated that they carried out telework during the COVID-19 pandemic. Data collection was done through an online questionnaire distributed by e-mail and WhatsApp, inviting each subject to participate independently in the research. This method was adopted for the advantages offered: ease of collecting and recording responses, easy processing and analysis of research data (Evans and Mathur, 2005; Nwankpa and Roumani, 2014).

The questionnaire included in the first part the sociodemographic characteristics of the respondents, and in the second part the measuring elements that capture the latent variables of the proposed structural model (table A in the appendix). In addition to previous studies (Bentley et al., 2016; Novianti and Roz, 2020), this marketing research assesses the cumulative impact of independent variables: work organization (WO), performance management (PM), occupational safety and health (OSH), legal and contractual regulations (LCR), information security management (ISM), and digitalization (DI) on the dependent variable telework (DTE). Each latent variable was determined by the action of four items (table A in the appendix). All latent variables were included in the construction of the structural model to be tested and validated in the next section (figure no.1).

To measure the structural model's latent variables, nominal and 7-point Likert scales (1 = strongly disagree, 7 = strongly agree) were used. All research hypotheses were tested using the Partial Least Square method - Structural Equation Modeling (PLS-SEM) and multigroup analysis (PLS-MGA). Data processing was performed using the SPSS and Smart PLS3 softwares (Ringle, Wende and Becker, 2015).

Figure no.1. Structural model regarding the impact of the decisional factors that condition teleworking in Romanian enterprises

3. Results and discussion

The analysis of the conceptual model begins with the evaluation of the degree of significance of the structural model, by determining the size of the “Cronbach’s Alpha” coefficients for the analyzed variables. The “Cronbach’s Alpha” coefficients (table no. 2) indicate values between 0.701 and 0.827, which exceed the allowed limits of 0.70 for an acceptable scale, and 0.80 for a good scale (Hair et al., 2014). Therefore, all latent variables of the model are significant in this analysis.

The results are obtained based on the Partial Least Squares analysis (PLS), and correlated with the covariance-based Structural Equation Modeling (SEM) of the independent and response variable systems.

Table no. 2. Construction of the reliability and validity of the reflective model

	Cronbach’s Alpha*	Composite Reliability*	Average Variance Extracted (AVE)*	Inner Variance Inflation Factor (VIF)*
Work organization (WO)	0.771	0.852	0.591	2.662
Performance management (PM)	0.769	0.854	0.596	2.983
Occupational safety and health (OSH)	0.794	0.867	0.621	2.859
Legal and contractual regulations (LCR)	0.701	0.818	0.535	2.962

	Cronbach's Alpha*	Composite Reliability*	Average Variance Extracted (AVE)*	Inner Variance Inflection Factor (VIF)*
Information security management (ISM)	0.749	0.844	0.578	2.276
Digitalization (DI)	0.810	0.875	0.637	2.676
Telework (DTE)	0.827	0.885	0.658	-

Note: * Cronbach's Alpha > 0.70; Composite Reliability ≥ 0.50 ; Average Variance Extracted (AVE) > 0.5; Inner Variance Inflection Factor (VIF) < 4.0.

Source: Analysis performed by authors with the SmartPLS3 software

The authors' choice of least squares analysis (PLS) took into account the main advantages which, according to Ringle, Wende and Becker (2015), are: the ability to model several independent and dependent latent variables; the ability to manage multicollinearity between independent factors; the robustness of the model in the face of data, and the ability to evaluate reflective models. In figure no. 2, the following results were obtained using the PLS-SEM method.

Figure no. 2. The results of the PLS-SEM model

Source: Results determined by the authors using the SmartPLS3 software

3.1. PLS-SEM method

3.1.1. Measurement model

Convergent validity. The calculated values of the "Composite Reliability" coefficient are in the range 0.818-0.885, being close to the value 1, a measure which, according to Chin (2010), is estimated to be perfect. In the case of exogenous variables, the size of the internal coefficients "Variance Inflection Factor" (VIF) is below the maximum allowed limit of 4.0, demonstrating the multicollinearity of the reflective model (Hair et al., 2014). The convergent validity of the model is confirmed by all indicators calculated.

Discriminant validity. The lowest value of the AVE indicator was obtained by the latent variable LCR (0.535), being higher than the minimum allowed limit of 0.5 (Höck and Ringle, 2006; Chin, 2010). The square root of the AVE indicator is used to establish the discriminant validity by the Fornell-Larcker criterion (Fornell and Larcker, 1981). All AVE square roots of the latent variables are greater than their correlations with the other variables; we can say that the reflective model meets the criterion of discriminant validity (table no. 3).

Table no. 3. Fornell-Larcker Criterion

	WO	PM	OSH	LCR	ISM	DI	DTE
Work organization (WO)	0.769						
Performance management (PM)	0.631	0.772					
Occupational safety and health (OSH)	0.601	0.755	0.788				
Legal and contractual regulations (LCR)	0.682	0.714	0.725	0.732			
Information security management (ISM)	0.459	0.679	0.717	0.558	0.760		
Digitalization (DI)	0.577	0.768	0.684	0.657	0.585	0.798	
Deployment of telework (DTE)	0.619	0.691	0.733	0.617	0.667	0.743	0.811

Source: Results determined by the authors using the SmartPLS3 software

3.1.2. The structural model

Figure no. 2 highlights the standardized Path coefficients (β) which indicate the intensity of the links between the variables of the structural model. Their size varies between -1 and 1 (Höck and Ringle, 2006). Two strong positive correlations are highlighted by the Path loads between PM→DTE ($\beta=0.350$) and DI→DTE ($\beta=0.225$). The weights of the ISM ($\beta=0.143$), OSH ($\beta=0.137$) and WO ($\beta=0.113$) pathways show that information security management, occupational safety and health, and work organization (WO) have a moderate positive impact on telework (DTE). Measurement loads are standardized track weights that link item variables, demonstrating a strong and reliable external model if they tend to 1 (Hair et al., 2014). The size of the reliability coefficients of the items LCR1 = 0.819 and LCR2 = 0.848 is closer to the value 1, while LCR3 = 0.663 and LCR4 = 0.559 show more moderate loads, generating a reduced positive effect in the case of the LCR→DTE correlation ($\beta=0.009$). The correlations of latent variables are significant if they have “t-value” levels higher than 1.96, and “p-value” levels lower than 0.05 (Höck and Ringle, 2006; Chin, 2010). Table no. 4 shows that five of the six correlations are positive and significant. The exception is the LCR→DTE correlation which is insignificant, although it is positive (“t-value” = 0.155 < 1.96; “p-value” = 0.877 > 0.05).

Table no. 4. Results obtained from testing statistical hypotheses

Hypotheses	Correlations	β	t*- value	p*- value
H1	WO → DTE	0.113	2.122	0.034
H2	PM → DTE	0.350	5.923	0.000
H3	OSH → DTE	0.137	2.186	0.029
H4	LCR → DTE	0.009	0.155	0.877
H5	ISM → DTE	0.143	2.788	0.006
H6	DI → DTE	0.225	3.975	0.000

Note: *t-value > 1.96; p-value > 0.05

The validity of a hypothesis is ensured only for a “p-value” less than 0.05. Five of the six formulated hypotheses were accepted (H1, H2, H3, H5, H6), while hypothesis H4 was rejected. Since “p-value” = 0.000 (<0.05) for the latent variables PM and DI, hypotheses H2 and H6 are accepted, according to which performance management and digitalization have a positive and significant impact on telework (DTE). Therefore, increasing the autonomy of teleworkers, their training with regard to the use of new equipment, and facilitating access to technical and IT support services have led to a better achievement of work tasks. Other significant positive associations were identified between telework (DTE) and the factors: ISM (“p-value” = 0.006), OSH (“p-value” = 0.029) and WO (“p-value” = 0.034). The effectiveness of telework was based on dialogue and cooperation between employers and workers, the effect of its success being influenced to a large extent by the multiple actions implemented, such as: adapting existing work plans and supplementing them with individual plans of teleworkers, ensuring better management of working time by employees, monitoring labor productivity, training of teleworkers in the field of occupational safety and health (OSH) and in the field of information security (ISM). Hypothesis H4 was rejected (“p-value” = 0.877 > 0.05), therefore the latent variable “legal and contractual regulations” (LCR) had a positive but insignificant influence on telework (DTE).

The results of the analysis confirm previous studies, according to which work organization, performance management (Martínez-Sánchez et al., 2008; Gruman and Saks, 2011; Stiles, 2020), occupational safety and health (Sznclwar et al., 1999; Kossek, 2016; Nayani et al., 2018), information security management and digitalization (De, Pandey and Pal, 2020; Narayanamurthy and Tortorella, 2021) have a strong and significant influence on telework. It has also been found that legal and contractual regulations have a positive, weak and insignificant influence on the use of telework (Martínez-Sánchez et al., 2008; Vlčková, Frantíková and Vrchota, 2019).

3.2. PLS -MGA method

The *PLS-MGA multigroup analysis* was used to determine whether the structural model differed significantly between the “We did not carry out telework” and “Yes, we carried out telework” groups. The parametric analysis uses independent samples of t tests that allow the comparison of Path coefficients between the two groups (Kiel et al., 2000). Three significance tests using, by default, a significance level of 0.05 showed that the differences between the Path coefficients of the two groups are not significant (table no. 5). Thus, hypothesis H7 is accepted, given that the “p-value” indicates values between a minimum of 0.293 and a maximum of 0.993 (> 0.05).

Table no. 5. Results of the multigroup analysis (MGA)

Correlations	Path Coefficients-diff (β)	t-value new	PLS-MGA	Parametric Test	Welch-Satterthwaite Test
			p-value	p-value	p-value
	We did not carry out telework vs Yes, we carried out telework				
WO $\rightarrow$ DTE	-0.001	0.008	0.989	0.993	0.993
PM $\rightarrow$ DTE	0.110	0.859	0.389	0.391	0.392
OSH $\rightarrow$ DTE	0.009	0.070	0.943	0.945	0.945
LCR $\rightarrow$ DTE	0.077	0.616	0.545	0.538	0.538
ISM $\rightarrow$ DTE	-0.086	0.820	0.414	0.413	0.413
DI $\rightarrow$ DTE	-0.126	1.045	0.293	0.297	0.298

Source: Results determined by the authors using SmartPLS3 software

Consequently, it can be stated that work organization, performance management, occupational safety and health, legal and contractual regulations, information security management and digitalization have a positive impact on telework. Moreover, there are no significant differences regarding the impact of these factors on telework between the groups of managers who responded “We did not carry out telework” and “Yes, we carried out telework”, therefore, hypothesis H7 is accepted.

Conclusions

The analyses presented assess the relationship between “telework” and micro and macroeconomic forces: work organization (WO), performance management (PM), occupational safety and health (OSH), legal and contractual regulations (LCR), information security management (ISM), and digitalization (DI). The approach to telework from the cumulative perspective of all these factors during the pandemic is a novelty that could contribute to the enrichment of the literature. The practical contribution results from the concrete answer to one of the decision-making problems from the COVID-19 period, which leads to a deep understanding of the rapid changes in the labor sector by introducing telework on a large scale while maintaining productivity and competitiveness of enterprises. The results obtained contribute to the deepening of knowledge in the field of labor, and the identification of the factors that influence the beliefs and managerial behavior in the conditions of the COVID-19 crisis. In terms of academic contribution, the structural model can be a starting point for the development of new models in future research.

The results obtained reveal that telework is largely influenced by performance management and digitalization. Managers acknowledge that they have agreed with employees to implement a productivity measurement mechanism that includes: increasing their autonomy, clearly setting goals and work tasks, monitoring and discussing results obtained individually or in groups, recognizing performance, and, for managers, the possibility to monitor the results more easily. A strong significant association was highlighted between telework and digitalization, with opportunities for both parties. Employees used their own devices while managers trained employees on the use of new technologies, created conditions for evaluating and testing these technologies, provided technical and IT support services to improve work. Telework during the COVID-19 pandemic was and continues to be completely different from that under normal conditions, because employees perform their duties at home for a long time, in difficult conditions and in unfavorable external circumstances. Respondents acknowledge that they have had to inform their employees about their rights, obligations and risks related to OSH while working from home, and to encourage them to adopt a healthy lifestyle. Telework was practically non-existent for most Romanian enterprises, which were forced to switch overnight to an almost unknown work system. With no or limited telework experience, managers say they had to identify priority works, adjust work plans with teleworkers, and check labor productivity.

The results obtained are somewhat surprising, given that five of the six latent variables of the structural model have a positive and significant influence on telework. The current context of the pandemic has shown us that telework is an activity that includes complex operations, and can be an effective way if employers promote work flexibility, maximize technology use, ensure better time management by the worker, provide training and risk prevention in the field of information security, as well as reconciling between professional

and family life. The managers' answers show that employers were involved both in preventing and protecting the health of teleworkers, and in ensuring the continuity of the activity by concluding individual contracts that explicitly mention telework, purchasing necessary devices and equipment, ensuring technical and IT support services. In this context, it is possible that Romanian enterprises aim to have a part of the workers continue to telework, where the job allows it and employees can efficiently perform their tasks remotely.

Starting from the research results, several proposals can be launched for the business environment, namely: stimulating the motivation of teleworkers to improve performance at work; improving the way work is organized; carrying out appropriate training programs in the field of occupational safety and health; ensuring the security of enterprises' information.

Research limitations. The first limitation is related to the non-probabilistic sampling method which does not allow the determination of a high representativeness for the investigated population. Although the number of respondents is small, the structure of the sample is balanced, according to the sociodemographic characteristics. The second limitation of the research is hypothesis H4 which, although not valid, demonstrates only a positive association between "legal and contractual regulations" and "telework". This low influence is explained by obtaining low averages of the subjects' answers regarding the maintenance of salaries at the same level. The subjectivity of the responses of the interviewed managers, as well as the use of a relatively small number of exogenous variables could be another limitation of the research, but at the same time a starting point for other research.

In the following studies, the authors aim to extend both research on telework and the effects generated on employers during the COVID-19 pandemic by juxtaposing other macroeconomic factors and by adding attitudinal and/or motivational criteria to the exogenous variable of the constructed model.

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Appendix

Table A. Description of latent variables of the model

Variables and items
Work organization (WO)
WO1 – In your enterprise, have you identified the priority tasks that are essential in the current circumstances, adjusted the existing work plans and supplemented them with individual plans for telework, developed by the workers and approved by their direct supervisors?
WO2 – In your enterprise, have you organized small and functional work teams, in order to establish clear missions for each group, to draw new reporting lines, distinct directions and tasks that are easier to implement?
WO3 – In your enterprise, did you allow employees to manage their work time organization and have you regularly checked work productivity?
WO4 – In your enterprise, have you recognized the increase in employees' work time at home (overtime during evenings and weekends; additional meetings, individually or in teams,) needed to meet work requirements?
Performance management (PM)
PM1 – In your enterprise, have you tried to clearly express your expectations regarding the expected results, have you increased the skills and autonomy of teleworkers so that they may better perform their work tasks?
PM2 – In your enterprise, have you provided timely, regular and descriptive feedback to all teleworkers, describing in detail their tasks, have you implemented changes that have brought significant improvements and contributed to the achievement of work tasks?
PM3 – In your enterprise, did you give positive feedback to employees who performed their duties well and quickly?
PM4 – In your enterprise, did you favor video calls for performance-sensitive conversations?
Occupational safety and health (OSH)
OSH1 – In your enterprise, have you adequately trained teleworkers in the field of occupational safety and health (OSH)?
OSH2 – In your enterprise, have you informed employees about the risks related to OSH while teleworking: technology addiction, overload, sedentary lifestyle, ergonomics of home furniture, burnout through work, online harassment, and others?
OSH3 – In your enterprise, have you informed employees of their rights and responsibilities regarding their safety and health while teleworking, the safe use of equipment and internet networks, etc.?

Variables and items
OSH4 – In your enterprise, have you promoted physical health and encouraged teleworkers to adopt a healthy lifestyle by exercising and eating healthy?
Legal and contractual regulations (LCR)
LCR1 – In your enterprise, where the workplace allows telework and with the consent of the employer, did you provide material support to employees, in proportion to the number of days per month worked in telework, to cover part of the costs related to work from home?
LCR2 – In your enterprise, where the workplace allows telework and with the consent of the employer, have you granted numerous benefits to employees such as: days off for supervising children during the suspension/cessation of classes in schools, compensation for commuting, free food and drink, and others?
LCR3 – In your enterprise, where the workplace allows telework and with the consent of the employer, have you concluded addenda to the individual employment contracts of all employees, expressly mentioning telework and maintaining the total salaries at the same level as before the pandemic?
LCR4 – In your enterprise, where the workplace allows telework and with the consent of the employer, did you introduce new guidelines for granting leave (annual, medical, child care, or care for another family member), and changed notification procedures in case of contracting COVID-19, quarantine or accidents while teleworking?
Information Security Management (ISM)
ISM1 – In your enterprise, have you informed teleworkers about keeping screens safe to prevent unauthorized people from accessing information and systems?
ISM2 – In your enterprise, have you informed teleworkers about the possibility of interception of information by unauthorized persons during transmission between the organization and personal devices?
ISM3 – In your enterprise, did you provide controls before granting access to information and resources (e.g., password, two-factor authentication, use of VPN on communication channels, anti-virus to prevent cyberattacks or cyber virus infections, etc.)?
ISM4 – In your enterprise, have you informed teleworkers about the existence and application of the notification procedure in case of loss / theft of information and about the configuration / protection of remote devices and sites (for example, devices with cryptography, backup of information, etc.)?
Digitalization (DI)
DI1 – In your enterprise, have you revised the telework procedure by allowing employees to use their own devices without incurring additional costs or benefiting from equipment rented by the company, delivered at home by a courier service?
DI2 – In your enterprise, have you included in the telework procedure ways to reimburse the real cost of new, safe and necessary equipment to perform work at home?
DI3 – In your enterprise, have you provided training opportunities for employees on the use of new equipment, as well as external self-assessment / testing of skills and abilities?
DI4 – In your enterprise, have you informed teleworkers about the ways to access the technical and IT support services, internal or external?
Teleworking (TE)
TE1 – Did you use telework in your enterprise?
TE2 – Did you use a specific telework procedure in your enterprise?
TE3 – Did you establish an internal regulation for telework and prepared monthly telework activity reports within your enterprise?
TE4 – Would you recommend other business managers to use telework with confidence?