

Ion POPA, PhD (corresponding author)

ion.popa@man.ase.ro
Bucharest University of Economic Studies, Romania
Academy of Romanian Scientists, Romania

Simona Cătălina ȘTEFAN, PhD

simona.stefan@man.ase.ro
Bucharest University of Economic Studies, Romania

Ana Alexandra OLARIU, PhD

anaalexandra.olariu@man.ase.ro
Bucharest University of Economic Studies, Romania

Andreea BREAZU, PhD Candidate

andreea.breazu@man.ase.ro
Bucharest University of Economic Studies, Romania

Marian Mihai CIOC, PhD

mihaiocioc@man.ase.ro
Bucharest University of Economic Studies, Romania

Predictors of Employees' Work Performance in Online and On-Site Conditions: A Combined use of PLS-SEM and NCA

Abstract. *Organisations are currently facing several problems, some of which are driven by the consequences of the COVID-19 pandemic, which has changed the way employees perform their duties. Because human resources are critical to the growth of each organisation, it is important that they find the most effective strategies to improve their employees' work performance. This study aims to assess the extent to which information resources, work conditions, and employee competencies influence the work performance of their employees. Additionally, research focuses on how the relationships between these variables manifest themselves depending on whether employees performed their duties online or on-site. To collect data for this study, a survey was used, and the data was analysed using a combined PLS-SEM technique and necessary conditions analysis (NCA). The sample consisted of 347 respondents who worked online or on-site in Romanian companies. The main findings highlighted that regardless of whether employees worked online or on site, both the employees' competencies and organisational informational resources positively and significantly influenced employees' work performances, while work conditions had no significant effect. Furthermore, the findings revealed that for employees who work online, the organisation's informational resources and work conditions are a meaningful and significant necessary condition for work performance. Theoretically, the findings of this study could add to the body of current literature. From a practical standpoint, the main implications arise from the fact that the findings of this research can be of great use to decision makers in organisations that can discover the effects of considered factors on the work performances of their own employees and identify which are the variables they should focus on when they want to achieve a certain level of*

DOI: 10.24818/18423264/58.1.24.17

© 2024 The Authors. Published by Editura ASE. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

the employees' work performances, depending on how they carry out their work (generally online or on-site).

Keywords: *employees' work performance, NCA, online work; on-site work, predictors, PLS-SEM.*

JEL Classification: C1, C3, D23, J24, J28.

1. Introduction

In today's digital age, many organisations have shifted towards online work arrangements, allowing employees to work remotely from anywhere in the world. Although this provides greater flexibility and work-life balance for employees, it also presents new challenges in terms of managing and evaluating work performance.

Furthermore, the COVID-19 pandemic has forced many organisations to adopt remote work arrangements, creating new challenges in maintaining employee work performance under both online and on-site conditions. Although some studies have identified factors that affect employees' work performance in traditional on-site work environments (Brayfield and Crockett, 1955; Shaheen et al., 2013), or teleworking conditions (Nemțeanu, Dabija and Stanca, 2021), there is a lack of research to compare the effects of employees' work performance predictors in online and on-site conditions. As such, it is important to understand the factors that predict work performance in both online and on-site conditions. Furthermore, in addition to understanding how certain determinants influence the level of employee work performance, it would also be useful to determine whether there is a minimum level required of these predictors to achieve a certain level of employee work performance, since research in this direction is limited.

Therefore, these issues that have not yet been adequately explained in previous research have led to the following research questions, to which pertinent answers will be attempted through this research to fill these gaps.

RQ1. What are the predictors of employee work performance in online and on-site conditions?

RQ2. Is there a minimum required level of these predictors to get a certain level of employee work performance?

Therefore, this study investigates the predictors of employee work performance in online and on-site conditions by examining various factors that may influence work performance. The study will shed light on the complex relationship between organisational resources, working conditions, and employee competencies, and how these factors collectively contribute to the overall employee's work performance. Ultimately, the findings of this study will help organisations develop effective strategies for optimising resources and improving working conditions and employee competencies to increase employee performance for those who work on-site or from home.

To gain a deeper understanding of the predictors of employee work performance, this study began with a comprehensive review of the literature that helped develop research hypotheses. The next section presents the research methodology, followed by the results section. The paper continues with a discussion section, and the final section presents the conclusions, implications, limitations, and direction for further research.

2. Literature review

In today's knowledge-based economy, organisations' informational resources and employees' competencies play a crucial role in determining their performance. However, the relationship between these factors and employee performance is complex and is affected by a variety of factors, including work conditions.

There is a growing body of research suggesting that the availability and accessibility of organisational information resources can have a significant impact on employee job performance. Organisational information resources refer to training materials, databases, software tools, and communication channels such as email or messaging platforms. When employees have access to these resources, they can more easily acquire the knowledge and skills needed to perform their tasks effectively and communicate more effectively with peers and managers. Furthermore, when organisational information resources are limited or difficult to access, employees may struggle to perform their tasks effectively, which can negatively affect their job performance.

The research by Heslina and Syahrin (2021) examined the influence of information technology, human resource competency, and employee engagement on employee performance. Therefore, the study found that the use of information technology on the job can positively influence employee performance. This includes using technological tools to perform work tasks, such as software, communication tools, and information systems.

Other studies have looked at which workplace resources can improve employee performance, and organisational resources were positively associated with performance (Nielsen et al., 2017). Therefore, it has been found that the more employees use digital technologies and organisational informational resources, the easier it is for them to perform their work tasks and become productive.

Research has analysed whether there are influences between the communication channels that the organisation used and employee performance. The work of Sang (2016) noted that informal channels of communication, such as meetings and conversations between colleagues, were equally important in facilitating information exchange and building relationships between stakeholders. Furthermore, the paper highlights the importance of electronic communication channels, particularly in the context of the growing usage of technology in the workplace.

Rose et al. (2010) examine the relationship between organisational resources, competitive advantage, and employee performance and suggests the idea that

organisational resources are positively related to competitive advantage and employee performance, given that employees with access to a company's information and resources have the potential to become highly productive and efficient in performing their tasks. Over time, as people acquire knowledge and expertise, they can become a competitive advantage for the organisation.

Due to the COVID-19 pandemic, there was a substantial increase in the number of employees who worked from home. Consequently, their job performance was significantly affected by the resources provided by their organisations. Employees being able to successfully perform their tasks remotely by accessing company data and information and communicating remotely with colleagues and superiors.

After a thorough review of the scientific studies, the following research hypothesis can be formulated.

Hypothesis 1 (H1): *Organisational information resources influence employee work performance.*

Today, especially after the impact the pandemic period left on organisations, working conditions have undergone changes, placing greater attention on employees. We believe that there are a wide range of factors that influence the performance and satisfaction of employees in the workplace today; among these factors, we identified, safety, well-being, financial and work stability, work flexibility, the possibility of working from home, and infection protection measures can be considered labour resources. Carrying out activities in a friendly and ergonomically well-structured environment will positively influence the creativity and productivity of employees (Popa, Ș.C, 2022).

An emphasis on safety and well-being within the workplace not only shields employees from harm, but also fosters a feeling of security and confidence in the organisation. When employees feel secure in their work environment, they tend to be more engaged and productive. Comfort, confidence, and safety offered through working conditions have strong psychological implications for improving the perception of their activities (Popa, C.F., 2022). Also, when employees have a natural inclination to seek purpose and meaning in their work, it is crucial for organisations to provide a positive and welcoming work environment to retain them. Similarly, financial and work stability offers employees a feeling of security and certainty in their professional lives. Having assurance of job security and stable income can alleviate stress and anxiety, allowing employees to concentrate more effectively on their tasks.

Work flexibility and the ability to work from home are also important work resources that employees have become increasingly valued. These resources allow employees to balance their work and personal lives, contributing to their well-being and job satisfaction. Additionally, work flexibility and the ability to work remotely can also contribute to employees' productivity and efficiency (Holbeche and Springett, 2004).

On the other hand, working conditions that are detrimental to employee well-being, such as unsafe work environments, high levels of job insecurity, and insufficient support for work-life balance, can be considered normal things in certain fields of work. These demands can create stress, anxiety, and burnout, leading to decreased work performance (Adnan Bataineh, 2019). When employees face high levels of job demands without adequate support, they can become disengaged and less productive.

In the context of work conditions, companies should demonstrate thoughtfulness and strive to create a conducive environment that instils a sense of security, overall support, and well-being among their employees. Furthermore, fostering a socially interconnected, engaged, and rewarding workplace is crucial if employees aspire to improve employee performance. Thus, favourable work conditions lead employees to adopt a more positive attitude, which improves their performance, and discover that work conditions positively and significantly influence job performance. Considering the mentioned aspects, the following hypothesis was proposed:

Hypothesis 2 (H2): *Work conditions influence employees' work performance.*

In this paper, we focus on employee competencies in the context of remote work and on-site work, examining how these competencies impacted their productivity. Competencies generally refer to the knowledge, skills, and abilities that employees possess and use to perform their job duties. The more skills an employee has, the better they can perform their job roles and contribute to the success of their organisation. In addition, competence is the quality that enables a person to deliver excellent performance and refers to the ability of someone to complete tasks and get the desired results.

Organisations consider human capital to be their most valuable component, and those with higher human capital efficiency typically experience better financial performance. The main goals of the organisation in terms of human capital are to train and educate employees, as well as maximise their intangible capabilities in terms of knowledge, skills, and experience, to improve company value, and improve overall performance, as demonstrated by the study conducted by Hsiung and Wang (2012).

Kolibáčová (2014) examines the relationship between competencies and performance, and the findings showed that there was a positive and statistically significant relationship between competencies and performance. The study found that employees with higher competencies performed better on the job than those with lower competencies. Additionally, the study found that certain competencies, such as problem solving, decision-making, and communication skills, had a stronger influence on performance than others.

From the above, a final research hypothesis is proposed:

Hypothesis 3 (H3): *Employees' competencies influence employees' work performance.*

3. Research methodology

The purpose of this paper is to investigate to what extent the informational resources of organisations, the working conditions offered by them to the employees, and the competencies of the employees exert influences on the employees' work performances. A questionnaire was created as a research instrument to accomplish the purpose of the investigation. This survey was carried out between November 2020 and January 2021 to collect data. Google Forms was used to disseminate the survey online.

The questionnaire was addressed to individuals who worked online or on-site in private or public sector organisations in Romania. The only inclusion condition in the research population was that they were employed; if not, they were unable to complete the questionnaire. Furthermore, potential respondents were asked about their recent conditions and current job. After the questionnaire was distributed, 386 questionnaires were completed in total. 39 responses were deleted from the database because they came from non-employees. As a result, 347 valid responses were gathered in total. Consequently, a nonprobabilistic sample was used for this study, which included 347 Romanian employees. Most of the respondents were women (58.50%) and worked in a private sector organisation (67.44%). Additionally, 73.78% of the respondents said that during the COVID-19 pandemic they generally performed their work on site, while 26.22% said that they generally worked online.

The structured questionnaire used to collect the data contained four scales, each of which was assessed by items measured on a five-point scale. These items were elaborated following the analysis of the specialised literature relevant to the topic addressed and based on the experience of the authors. Thus, the four scales included in the questionnaire were the following:

- *Organisation Information Resources (IR)* – This construct sought to assess the extent to which organisations provide employees with access to information resources. In this construct, four items were included that aimed at employees' access to the information necessary to solve their tasks and to improve themselves in the specialised field, as well as equipping the organisation with technologies necessary for the transmission of information.
- *Working conditions (Work_C)* - This construct was composed of six items that analysed the extent to which, during the pandemic, organisations provided employees with conditions related to safety, well-being, financial and job stability, work flexibility, and the possibility to work from home, protective measures against infection.
- *Employees' competencies (Comp)* - This construct included seven items, adapted from previous studies (Gora et al., 2019; Faham et al., 2017; Ploum et al., 2018; Reickmann, 2012), referring to general or transversal competencies of employees, such as: "Specialised knowledge and competencies", "Organisational competencies", "Communication competencies", "Digital competencies specific to the workplace".

- *Employees' work performance* (Work_Perf) included five items adopted from the WHO Health and Work Performance Questionnaire (HPQ) (WHO, 2010) and aimed to assess how employees spend their time at work, as well as their experience regarding the workplace.

For preliminary data processing and descriptive statistics, SPSS statistical software was used. Furthermore, partial least squares structural equation modeling (PLS-SEM) and necessary condition analysis (NCA) with SmartPLS 4 (Ringle et al., 2022) were considered for the specification and evaluation of the measurement and structural model, testing research hypotheses, and performing bottleneck analysis. NCA is a tool for researchers to develop and test necessary but not sufficient conditions (Dul et al., 2020). According to Richter et al. (2020), the combined use of PLS-SEM and NCA allows researchers to explore and validate hypotheses by determining the must-have factors required for a result in accordance with the necessity logic and the should-have factors following the additive sufficiency logic. Based on the methodology for the combined use of PLS-SEM and NCA (Richter et al., 2020), the dataset required to run NCA is represented by the latent variable scores, generated after validation of the PLS-SEM measurement model. Therefore, in this study, NCA analysis was used to highlight combinations of minimum levels of information resources of organisations, working conditions, and employees' competencies necessary to obtain a certain level of employee work performance, depending on how they perform their work (generally online or on-site).

4. Results

The PLS-SEM model included four latent reflexive constructs, as well as the structural relations between the constructs to allow testing of the research hypotheses. More precisely, an endogenous construct related to employees' work performance (Work_Perf) and three exogenous constructs related to the informational resources provided by the organisation (IR), working conditions (Work_C), and employees' competencies (Comp) were included in the structural model.

The measurement model was evaluated, as recommended (Hair Jr et al., 2020), regarding internal consistency, convergent validity, and discriminant validity. Therefore, internal consistency was evaluated using the Cronbach Alpha coefficient and composite reliability, which had values above the recommended value of 0.70 (Hair et al., 2020). Convergent validity was analysed in terms of average variance extracted (AVE) and indicator factor loadings, the values obtained in the measurement model being more than 0.50 for AVE and more than 0.708 for indicator loadings, as recommended (Hair et al., 2020). As exceptions, there were two indicators that had indicator loadings below 0.708 (one related to the Work_C construct and another belonging to the Work_Perf construct), being removed from the model. Furthermore, discriminant validity was evaluated using HTMT for which values below the recommended value of 0.90 were obtained

(Hair et al., 2020). Based on these results, it can be concluded that the reliability and validity of the measurement model were supported.

The structural model was evaluated for collinearity, significance and relevance of the path coefficients and coefficients of determination (R^2). Collinearity was assessed by examining variance inflation factor (VIF) values. Thus, all VIF values were below the maximum value of 5, ruling out any potential collinearity problems between predictors (Sarstedt et al., 2017). The model is presented in Figure 1.

The structural model and its predictive value were analysed in terms of the R-squared coefficients (R^2). Therefore, based on Figure 1, it can be stated that $R^2 = 0.265$, which means that the variability of the employee's work performance that can be explained by information resources, work conditions, and employee competencies is 26.50%.

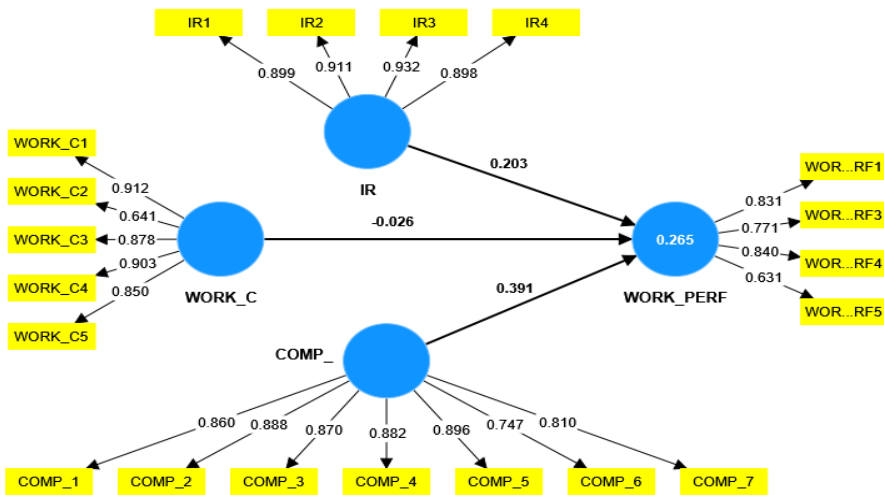


Figure 1. The structural model

Source: Calculation of the authors with SmartPLS (v4) (Ringle et al., 2022), based on the survey results.

To validate the research hypotheses (H1-H3), the direct effects between organisational information resources, work conditions, employees' competencies, and employees' work performance were examined. The results, together with the decision on the acceptance of each hypothesis, are presented in Table 1.

Table 1. Testing the research hypotheses

Hypothesis	Relationships	β	SE	t	Decision
H1	IR \rightarrow Work_Perf	0.203	0.080	2.543**	Supported
H2	Work_C \rightarrow Work_Perf	-0.026	0.065	0.394	Not supported
H3	Comp \rightarrow Work_Perf	0.391	0.069	5.685***	Supported

β – standardised path coefficient; SE - standard error; t - test value;

** - $p < 0.01$; *** - $p < 0.001$.

Source: authors with SmartPLS v4 (Ringle et al., 2022), based on the survey results.

The significant and positive path coefficients presented in Table 1 indicate a positive impact of the organisation's information resources and the employees' competencies on the performance of the employees' work performance ($\beta = 0.203$; $p < 0.01$, respectively $\beta = 0.391$; $p < 0.001$), which supports H1 and H3. Regarding the impact of working conditions on employee performance, the empirical results illustrated in Table 1 highlight that there is no support for H2 ($\beta = -0.026$; ns).

5. Discussions

Through this research, the aim was to analyse to what extent the informational resources of organisations, the working conditions offered by them to the employees, and the competencies of the employees exert influences on the employees' work performance. The results of the empirical research carried out underline the fact that the greatest influence on the performance of the employees' work is exerted by the competencies possessed by them. Specifically, the findings show that employee competencies have a positive and statistically significant effect on employee work performance, supporting hypothesis H3. Therefore, it is suggested that employees perform better at work when they have high levels of digital, organisational, and communication competencies, as well as specific knowledge. These results are in line with other studies. For example, Kolibáčová (2014) finds through their studies that competencies positively and significantly influence employee performance.

The findings further supported hypothesis H1 by the effect of organisational information resources on employee performance at work. According to the results, IR also has a positive, statistically significant effect on the work performance of the employees. Hence, the more access an organisation gives its employees to the information they need to perform their tasks, continuously improve themselves in the specialised field, or provide them with the technology needed to transfer information, the better their performance at work will be. These results support the idea of Ajami and Arab-Chadegani (2014), who discovered that organisational members would feel more capable and more likely to perform productively and profitably when managers provide them with more information. Furthermore, these findings are consistent with those of other studies, which showed that information access and information technology simplify complicated tasks and improve worker productivity, improve employee quality and efficiency, and boost internal and external collaboration and employee satisfactions.

At the same time, through this research, it can be emphasised that the working conditions offered by organisations during the COVID-19 pandemic had a negative influence on the work performances, but this influence is not significant from a statistical point of view, and hypothesis H2 is rejected. These results could be attributed to the fact that organisations to provide good working conditions for employees in the uncertain situations imposed by the COVID-19 pandemic.

Furthermore, given that the data used in this study were gathered during the time when Romania experienced the highest number of COVID-19 infections and that the COVID-19 pandemic caused numerous changes in the way employees worked, forcing them to work both on-site and online, it was wanted to extend the conclusions drawn from this study. Therefore, through this study, the aim was to analyse the above relationships according to the way in which they carried out their activities, respectively, in general online or on-site. Thus, Table 2 presents the specific results obtained.

Table 2. Determinants of work performance (Online vs. on-site conditions)

Relationships	Online work				On-site work			
	β	SE	t	95% BCCI	β	SE	t	95% BCI
IR → WorkPerf	0.296	0.170	1.746*	0.004, 0.558	0.202	0.094	2.151*	0.057, 0.363
Work_C → WorkPerf	0.041	0.141	0.294	-0.195, 0.261	-0.046	0.083	0.558	-0.189, 0.086
Comp → WorkPerf	0.283	0.174	1.623*	0.008, 0.574	0.408	0.073	5.590***	0.276, 0.520

β – Standardised path coefficient; SE - Standard error; t - t test value;

95% BCCI = bias-corrected confidence intervals; * - $p < 0.05$; *** - $p < 0.001$.

Source: authors with SmartPls 4 (Ringle et al., 2022), based on the survey results.

The results illustrated in Table 2 emphasise that the work performance of employees who worked online was positively and significantly influenced by the informational resources of the organisations and the competencies they possess, with the organisations' informational resources having a greater impact. However, in online conditions, information availability proved to have a greater influence on employee performance, while their competences were more valuable if they worked on-site.

The findings can also be expanded by highlighting the variables that organisations should focus on when they want to obtain a certain level of employee work performance, depending on how they perform their work (generally online or on-site). In this sense, the necessary condition analysis (NCA) with SmartPLS 4 (Ringle et al., 2022) was used. The results of this analysis are presented in Table 3.

Table 3. NCA Results – Effect size

Construct	Online work		On-site work	
	d	p	d	p
IR	0.320***	0.000	0.051	0.125
Work_C	0.272**	0.002	0.049	0.077
Comp	0.022	0.939	0.062	0.063

d - the necessity effect size; * - $p < 0.05$; ** - $p < 0.01$; *** - $p < 0.001$.

Source: authors with SmartPls (v4) (Ringle et al., 2022), based on the survey results.

The combined use of the PLS-SEM and NCA allowed the discussions to be expanded by formulating some relevant comments, which are presented below. Therefore, by analysing the results in Table 2, it can be highlighted that *the information resources (IR) of the organisations* positively and statistically significantly influence both the work performance of the employees who worked online ($\beta = 0.296$; $p < 0.05$), as well as on-site ($\beta = 0.202$; $p < 0.05$), being at the same time a meaningful and significant necessary condition to obtain the work performance when they perform their activities online ($d = 0.320$; $p < 0.001$), so as shown in Table 3. These results are in line with others that point out that without proper support from the employer or resources available to handle COVID-19 issues, work from home may become a burden that harms employees' well-being and, in turn, their performance, and that when organisations don't give employees enough resources, they cannot increase their productivity (Mun et al., 2022).

Regarding the *work conditions* offered by organisations to employees, it can be found in Table 2 that they do not significantly influence the work performance of employees who worked online ($\beta = 0.041$; $p > 0.05$) or on-site ($\beta = -0.046$; $p > 0.05$), but the NCA results presented in Table 3 highlight that work conditions are a meaningful and significant necessary condition for a certain level of work performance under online conditions ($d = 0.272$; $p < 0.01$). These results can be supported by other findings that point out that organisations that did not have adequate training to adequately respond to telework may have ineffectively managed employee work (Mun et al., 2022). Thus, it can be reinforced that organisations must provide suitable working conditions to increase the performance of employees, and especially those who work online.

Furthermore, investigating the effects of *the competencies of the employees* on their work performance, according to the results of Table 2, it is found that the competencies have a significant and positive effect on the work performance of both the employees who worked online ($\beta = 0.283$; $p < 0.05$) and those who worked on-site ($\beta = 0.408$; $p < 0.001$), but the NCA results in Table 3 indicate that these competencies are not a necessary condition when it is desired to obtain a certain level of work performance of the employees, regardless of whether they work online ($d = 0.022$; $p < 0.05$) or on site ($d = 0.062$; $p > 0.05$).

Each necessary condition to obtain a certain level of the employee's work performance can be assessed in detail with the bottleneck table presented in Table 4.

Table 4. Bottleneck table (percentages) for online vs. on-site work

	Online work			On-site work		
	IR	Work_C	Comp	IR	Work_C	Comp
0.00%	0.000	0.000	0.000	0.000	0.000	0.000
10.00%	1.000	1.000	0.000	0.000	0.000	0.000
20.00%	1.000	1.000	0.000	0.000	0.000	0.000
30.00%	1.000	1.000	0.000	0.000	0.000	0.000
40.00%	4.000	3.000	0.000	0.000	0.000	0.000
50.00%	4.000	3.000	0.000	0.000	0.000	0.000
60.00%	4.000	3.000	0.000	0.000	0.000	0.000
70.00%	7.000	3.000	0.000	0.000	0.000	0.000

	Online work			On-site work		
	IR	Work_C	Comp	IR	Work_C	Comp
80.00%	10.000	11.000	0.000	0.000	0.000	11.000
90.00%	35.000	13.000	0.000	27.000	16.000	11.000
100.00%	60.000	68.000	71.000	27.000	40.000	48.000

Source: authors with SmartPLS 4 (Ringle et al., 2022), based on the survey results.

For example, Table 4 highlights that, when employees work online, to reach the 50% level of employee work performance, two necessary conditions must be in place: Organisation's informational resources (IR) at no less than 4.00% and work conditions at no less than 3.00%, while when employees work on site, there are no conditions necessary to obtain the 50% level of employee's work performance.

On the other hand, when aiming to achieve 100% level of the employees' work performances, all three necessary conditions need to be in place, regardless of whether employees work online or on-site. More specifically, in the case of employees who work online, the following necessary conditions need to be in place: organisations' information resources (IR) at no less than 60.00%, work conditions at no less than 68.00% and employee competencies at no less than 71.00%, while when employees work on site, the following necessary conditions need to be in place: organisations' informational resources (IR) at no less than 27.00%, work conditions at no less than 40.00% and employees' competencies at no less than 48.00%. Furthermore, regardless of whether employees work online or offline, these findings also illustrate the fact that although all three necessary conditions need to be in place to obtain a maximum level (100%) of the employees' work performances, the level of necessary conditions is higher when employees carry out their activities online.

6. Conclusions

Today, organisations face multiple challenges, some of them determined by the COVID-19 pandemic that has brought changes to the way employees carry out their activities. In this context, it is crucial for businesses to identify the most efficient means of boosting their employees' work performance because human resources are crucial to an organisation's growth.

This study attempted to determine how much information resources, work conditions, and employee competencies affect employee's work performance. The study also examined how the relationships between these variables played out depending on whether the employees performed their tasks on-site or online.

The main results showed that, regardless of whether employees worked on site or online, both the employees' competencies and the organisations' informational resources positively and significantly influenced the employees' work performances, whereas the work conditions had no significant impact. Furthermore, the findings highlighted that the information resources and work conditions provided by the company are a significant and necessary condition for the performance of the the work of employees who work online.

The findings can provide insight to help prepare both organisations and employees for future challenges and highlight the interventions needed at the employee and organisational levels. Therefore, the results obtained through this research could theoretically contribute to the development of the existing literature on work performance. Theoretical contributions also arise from the fact that this study contributes to the existing body of knowledge on the use of NCA analysis by highlighting the minimum level required of different predictors to achieve a certain level of employee work performance. From a methodological perspective, the major implications of this study emerge from the use of triangulation, by combining PLS-SEM and NCA. Moreover, from a practical perspective, the main implications can be drawn from the fact that the findings of this research can provide new perspectives to decision-makers in organisations by highlighting the effects of the organisation's information resources, work conditions, and employee competencies on the work performance of their own employees. These findings may also be of considerable relevance to decision-makers, as they indicate the variables that need to be targeted to obtain a certain level of the employees' work performances, whether the work is completed on-site or online. At the same time, the results can also be useful to employees who work online or on-site because it shows them which variables to focus on when aiming to increase their work performance.

Additionally, some limitations must be addressed even though the findings of this study may have theoretical and practical implications. A limitation of this study can be represented by the fact that the work performance of employees can be measured by multiple aspects that can be difficult to evaluate and consider. Another limitation may be represented by the fact that the work performance of the employees may also be influenced by other factors that were not considered in this study. Furthermore, another limitation of the study may also arise from the period in which the research was carried out and the data collected, with the risk that individuals' perceptions may have changed over time. These limitations could serve as recommendations for further study.

Acknowledgements: *This paper partially resulted through the research developed through the doctoral and advanced post-doctoral research programs in the field of management within the Bucharest University of Economic Studies.*

References

- [1] Adnan Bataineh, K. (2019), Impact of work-life balance, happiness at work, on employee performance. *International Business Research*, 12(2), 99-112, DOI:10.5539/ibr.v12n2p99.
- [2] Ajami, S., Arab-Chadegani, R. (2014), The effects of applying information technology on job empowerment dimensions. *Journal of Education and Health Promotion*, 3, 84, DOI:10.4103/2277-9531.139250.
- [3] Brayfield, A.H., Crockett, W.H. (1955), *Employee attitudes and employee performance. Psychological Bulletin*, 52(5), 396-424, DOI:10.1037/h0045899.

- [4] Dul, J., van der Laan, E., Kuik, R. (2020), A statistical significance test for necessary condition analysis. *Organizational Research Methods*, 23(2), 385-395, DOI:10.1177/1094428118795272.
- [5] Faham, E., Rezvanfar, A., Mohammadi, S.H.M., Nohooji, M.R. (2017), Using system dynamics to develop education for sustainable development in higher education with the emphasis on the sustainability competencies of students. *Technological Forecasting and Social Change*, 123, 307-326, DOI:10.1016/j.techfore.2016.03.023.
- [6] Gora, A.A., Ștefan, S.C., Popa, Ș.C., Albu, C.F. (2019), Students' perspective on quality assurance in higher education in the context of sustainability: a PLS-SEM approach. *Sustainability*, 11(17), 4793, DOI:10.3390/su11174793.
- [7] Hair Jr, J.F., Howarda, M.C., Nitzl, C. (2020), Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101-110, DOI:10.1016/j.jbusres.2019.11.069.
- [8] Heslina, H., Syahrani, A. (2021), The influence of information technology, human resources competency and employee engagement on performance of employees. *Golden Ratio of Human Resource Management*, 1(1), 01-12, DOI:10.52970/grhrm.v1i1.100.
- [9] Holbeche, L., Springett, N. (2004), *In search of meaning in the workplace*. UK: Roffey Park Institute.
- [10] Hsiung, H.H., Wang, J.L. (2012), Value creation potential of intellectual capital in the digital content industry. *Investment Management and Financial Innovations*, 9(2), 81-90.
- [11] Kolibáčová, G. (2014), The relationship between competency and performance. *Acta Universitatis Agriculturae Et Silviculturae Mendelianae Brunensis*, 62(6), 1315-1327, DOI:10.11118/actaun201462061315.
- [12] Mun, S., Moon, Y., Kim, H., Kim, N. (2022), Current discussions on employees and organizations during the COVID-19 pandemic: a systematic literature review. *Frontiers in Psychology*, 13, 848778, DOI:10.3389/fpsyg.2022.848778.
- [13] Nemțeanu, M.S., Dabija, D.C., Stanca, L. (2021), The Influence of Teleworking on Performance and Employees' Counterproductive Behaviour. *Amfiteatru Economic*, 23(58), 601-619, DOI:10.24818/EA/2021/58/601.
- [14] Nielsen, K., Nielsen, M.B., Ogbonnaya, C., Käsälä, M., Saari, E., Isaksson, K. (2017), *Workplace resources to improve both employee well-being and performance: a systematic review and meta-analysis*. *Work & Stress*, 31(2), 101-120, DOI:10.1080/02678373.2017.1304463.
- [15] Ploum, L., Blok, V., Lans, T., Omta, O. (2018), Toward a validated competence framework for sustainable entrepreneurship. *Organization & Environment*, 31(2), 113-132, DOI:10.1177/1086026617697039.
- [16] Popa, C.F. (2022), Managers and leadership. *Pro Universitaria*, Bucharest, Romania.
- [17] Popa, Ș.C. (2022), Organizational culture. *Pro Universitaria*, Bucharest, Romania.

- [18] Reickmann, M. (2012), Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? *Futures*, 44(2), 127-135, DOI: 10.1016/j.futures.2011.09.005.
- [19] Richter, N.F., Schubring, S., Hauff, S., Ringle, C.M., Sarstedt, M. (2020), When predictors of outcomes are necessary: guidelines for the combined use of PLS-SEM and NCA. *Industrial Management & Data Systems*, 120(12), 2243-2267, DOI:10.1108/IMDS-11-2019-0638.
- [20] Ringle, C.M., Wende, S., Becker, J.-M. (2022), "*SmartPLS 4.*". *Oststeinbek: SmartPLS GmbH*. Retrieved from <http://www.smartpls.com>.
- [21] Rose, R.C., Abdullah, H., Ismad, A.I. (2010), A review on the relationship between organizational resources, competitive advantage and performance. *Journal of International Social Research*, 3(11), 487- 498.
- [22] Sang, J. (2016), Communication channels as implementation determinants of performance management framework in Kenya. *Journal of Education and Practice*, 7(17), 28-37, DOI:10.36478/sscience.2017.1541.1552.
- [23] Sarstedt, M., Ringle, C.M., Hair, J.F. (2017), Partial Least Squares Structural Equation Modeling. In *Handbook of Market Research*, 1-40. Cham, Germany.
- [24] Shaheen, A., Naqvi, S.M.H., Khan, M.A. (2013), Employees training and organizational performance: mediation by employees' performance. *Interdisciplinary Journal of Contemporary Research in Business*, 5(4), 490-503.
- [25] WHO. (2010), *World Health Organization Health and Work Performance Questionnaire (HPQ). HPQ Employee Version - Health at Work Survey*. Retrieved October 16th, 2020, from <https://www.hcp.med.harvard.edu/hpq/ftplib/HPQ%20Employee%20Version%2081810.pdf>.