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HOW COMPANIES OVERCOME CRISIS THROUGH THE SHARING OF INFORMATION AND TEAMWORK PERFORMANCE DURING THE COVID-19 PANDEMIC*

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Abstract. The goal of our research was to determine how crisis management competence affects employee performance of teams and the conditions in the acute stage of the crisis during the pandemic. We have used the mediator model to identify the relations. The study was carried out on a research sample of 122 companies after the outbreak of the COVID-19 pandemic in Slovakia (March - April 2020). The respondents in the research sample were managers at different company levels. The study tests the positive association between leadership

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in crisis and employee performance of teams, which is mediated through the sharing of information, team organization of work and cognitive diversity, supporting crisis management competency. The research results prove that employee performance of teams during the acute stage of the crisis may be positively affected through crisis management competences amplified by information sharing and team cooperation. The study contains knowledge important for managing company competitiveness, because it introduces demonstrable findings on the content of crisis management competences in relation to employee performance. The study results are internationally relevant and the content of the discussion applicable, because the pandemic has hit globally regardless the political or economical borders.

Keywords: crisis management; performance; teamwork; leadership; pandemic

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JEL Classifications: D23, H12, M12

1. Introduction

Companies and the entire business sector was hit by the COVID-19 crisis rapidly and unexpectedly. Social distancing has been the cause of fundamental change of the conditions of economic activity. Retail stores, restaurants, coffee shops, hotels, sports facilities, theatres and cinemas remained closed during the acute stage of the crisis without a prospect of future activity. The production sector limited its production activities, as it was necessary to tighten hygiene measures and change organization of work, which moved to the employees' homes to a great extent. Companies have strived to utilize the potential of the online environment in their work systems. COVID-19 has presented an acute need to utilize the possibilities of the online environment in the business sphere and to immediately react to the current needs of the customers and employees. To manage a crisis is to manage change, whereby the human factor plays a significant role in the management of changes, which is the determinant of success/failure in the implementation of decisions, communication strategies and the reach of leadership in crisis (Hutchins & Wang, 2008).

According to the PwC study (Global Crisis Survey 2019), 7 out of 10 managers have experienced managing a crisis in a company over the past 5 years. Therefore in general, it is not necessary to think about whether a crisis will happen, but when it will happen. In the case of Coronavirus it must be noted that it is a specific crisis caused by external conditions, for which many companies were not and could not have been prepared. For some time, COVID-19 changed not only organizations' work, operative management, but the overall mood, enthusiasm for work and access to everyday activities as well. Preparedness for any crisis seems to be for the foreseeable future a strategic competitive advantage for companies worldwide. Companies cannot avoid any type of crisis, however, they can face it and purposefully use all of the possibilities and the environment the crisis introduces.

Based on the study of Reeves et al. (2020) the most important areas for business to manage in Coronavirus crises are focused on communication and employee needs, but also on diversity and redundancy, which are helping to develop resilience. Argenti (2020) also points to communication as a crucial activity in coronavirus pandemic, according his opinion; the companies have to demisfity the situation for employee, and support and provide hope for the future. Focusing on communication, there is also another crucial element of effective communication during crisis, and it is transparency (Edmondson, 2020). Transparency helps to create a team culture based on trust, and in regard of effective teamwork, trust is key element that is developing team spirit and strong and clear relationship among team members. Based on research by Lencioni (2002) lack of the trust is one of crucial dysfunctions of a team.

Effective people management and use of optimum leadership tools seem to be the key for managing the crisis state. Crisis management creates pressure on using transformational leadership with a focus on charismatic

leadership (Johnson, 2020), however, with an emphasis on maintaining strength and unity of leadership tools (Jacobides, 2020). At the same time, it creates pressure on higher and top management, which should focus on transparent provision and immediate sharing of information, open communication and acceptance of non-conforming solutions (Gardner & Peterson, 2020). Many studies examine the content of quality leadership and point out the importance of cognitive diversity of the leadership and inclusion as a value of learning teams (Chow, 2018). They define the relation between cognitive diversity and performance as complex, affected by the structure, roles and interaction of the subsystems (Jiang & Zhang, 2014). Based on the published studies, we consider it important to examine cognitive diversity, the ability to share information and facilitation of team cooperation as key qualities of crisis management, where we assume positive association with team performance. Based on current knowledge and identification of gaps in the research of corporate management, we have formed the research design for the purposes of this study. The main aim of our research is to identify the impact of competent crisis management of business entities on employee performance in teams, which was necessary to manage the COVID-19 crisis in its acute stage. The first COVID-19 case was recorded in Slovakia at the beginning of March 2020. We collected the research data during March and April 2020. We have examined the mutual relation between the crisis management competences, responsible decision-making in a business crisis situation and employee performance, whereby we assume that the competences of crisis management are positively related to employee performance through information sharing, teamwork and cognitive diversity of work teams.

We have examined the mutual relations between these variables during the initial stage of the pandemic (March-April 2020), i.e. during its acute stage. We were therefore able to assume highly authentic respondent reactions. Given this fact, we consider the obtained information to be of high importance, since it was not affected by additional acquisition of knowledge from the field of crisis management, but it uncovered the actual skillset of the addressed corporate managers in the context of managing the crisis caused by the Covid-19 pandemic.

2. Theoretical background

The crisis caught corporate management by surprise during the initial stage of the 4.0 Industrial Revolution. Fundamental changes are happening in the ever-changing business world. The current global pandemic situation caused an enormous pressure on corporate management during the crisis. The question arises about how much the companies were prepared for this situation, if they were prepared at all? How were they capable of effectively handling it under the extreme conditions and with existing resources? What proven tools and techniques implemented during the current crisis management can they implement also during the latter, post-pandemic operation?

The research of corporate management assumes that the COVID-19 situation is not a one-off matter (Reeves, et al. 2020). Being prepared for change and new situations means that we understand and analyze the current situation and decisions, which were implemented, and management tools and techniques, which were used and implemented and worked effectively. The COVID-19 crisis also initiated changes in the labour market. The situation in the world of work 4.0 was the starting point. The research focused on the virtualization of the labour market demonstrates a decrease of the level of central control and higher level of flexibility (Haak-Saheem, 2020). Changes expected in the business models have a strong impact on work systems. One of the initial fears, expressed by the experts on the 4.0 sectors, is the shortage of qualified workers (Gilchrist, 2016; Shevyakova et al., 2020). Today, the main subject of discussions regarding changes in the field of employment is the question of adapting skills and competences of employees from work in the online environment. During the pandemic, communication platforms, remote access and intelligent work places were coming to the forefront. It is difficult to say whether the digital age creates opportunities especially for the qualified workers, but the need for greater specialization, flexibility and adaptability and the potential smaller breadth of expertise and skills will be very

different. However, in general, the virtual environment causes an increase of demands for employees in the form of responsibility in decision-making (Papula et al., 2019).

Several studies show that in the context of effective crisis management, especially during the acute stage of the crisis, major factors of its successful management include especially effective communication (Kim & Lim, 2020; Clementson 2020), use of suitable people management style (Richardson, 2019; Grant-Smith&Colley, 2018; Kapucu & Ustun, 2018), ability of adequate decision-making (Savi & Randma-Liiv, 2015), (Stanton, 2014), and the establishment of an effective crisis team and sharing of information within (Uitdewilligen & Waller, 2018; Lee et al., 2007). The joint effect of these factors is the precondition for the successful management of difficult conditions and preparation for new, often changed, post-crisis operation. The reaction to the crisis determines the way of recovery and the future of business performance (Bowers et al., 2017). These aspects (communication, teamwork, people management style, decision-making, information sharing) affect the work performance of teams. During the acute crisis stage, it can be assessed through the feeling of satisfaction, safety and conditions for work (Kash et al., 2018). During the stage, communication becomes a strategic element to maintain the reputation of the business (Flores et al., 2019). As the authors of this study argue, the commitment of the employees to the company is reinforced by communication taking place in the form of constant and honest dialogue. The author of the normative crisis communication emphasizes that true and relevant information is its foundation and that information overflow is harmful (Clementson, 2020). The expansion of the impact of social media represents a new era of crisis communication (Cheng, 2020). During the crisis, the companies used the dynamic environment, in which it was important to effectively work with information. During the crisis, the employees often encountered oversaturation of information, incomplete information, or the combination thereof, which led to reduced quality of decision-making and subsequently lower performance. Authors point out the critical increase of the volume of data for decision-making. Kostyuchenko et al. (2020) add that there is extreme uncertainty in companies linked to methodological inaccuracies in the application of models and concepts. Kim & Lim (2020) presented an important practical implication for crisis management, where they emphasized, the key ability of the leadership to activate and enforce positive behaviour of employees by reinforcing the voice of the employees. According Markman (2020) in today times of uncertainty and fast changing environment it is strategic to focused on making a better decision and slow down. Usually in uncertainty and under the anxiety people tend to make shor-sighted decisions, but, at the other hand, if companies and leaders are able to take a time to process data, understand information and choose an optimal variant, the suitable decision can be made.

A recently research also stated that during Coroana crisis, especially remote teams, were able improve conversations and have started to be more focused and less subjective, and the final impact was increasing productivity (Walsh, 2020).

Tourish (2020) objects that the COVID-19 pandemic is also a crisis of leadership theory and practice. He compared decision-making to gambling, where the leadership has weak knowledge unproven by research. The crisis situation we are currently facing often creates an environment especially for populist (Schneiker, 2020) and destructive leadership (Brandebo, 2020) and he also draws attention to the fact that the crisis managers are not always equipped to manage relations, which may have negative consequences from the long-term perspective.

There is a general agreement between the academic community and practicing experts that cooperation is necessary to manage complex risks and events, with which none of the stakeholders deal with all by themselves (Parker et al., 2020). The effective management of a crisis - defined as a situation or an event, which threatens the fundamental values and requires pressing measures related to the uncertainty - requires for the entities with decision-making power and the participating organizations to come together and contribute to the specific stages and activities, which represent crisis management, including preparation, mitigation, reaction, restoration and learning from it (Boin et al., 2017).

The performance of the crisis management team depends on the abilities of the members of this team, as well as on situational assessment, communication and team cooperation Coombs (2007) points out the fact that the

members of the crisis team have to have decision-making authority. Olaniran & Williams (2001) state that crisis management is a process of collective decision-making. Jehn & Techakesari (2014) state that human factors and team processes play the key role in the improvement of reaction speed, accuracy and effectiveness of team members.

Based on the knowledge published in the above-mentioned theoretical framework, we see a research gap in the content of competent crisis management in relation to employee performance in teams. The published studies often stated communication skills, leadership and decision-making as important skills. We have used these to create the initial variable called crisis management competences (CMC). All items, which are part of the CMC are presented in Table 1. We have situated the research in the acute stage of the Covid-19 pandemic crisis, in the environment of digital transformation of companies. We assume that the quality of crisis management is linked to the employee performance during the crisis, and therefore we test how this effect is realized in the new environment, in the conditions of social distancing and urgent need for a new balance. Based on the knowledge presented above, we assume that during the crisis, employee performance will be positively affected if crisis management includes people with different skillsets, knowledge and values. We further assume that the availability of information about the crisis and how the interpretation of this information positively affects the employees' attitudes to work and the consequences for the business. We further assume that employee performance positively affects the ability to cooperate at a certain level of autonomy. We have therefore tested the effect of teamwork. Based on these assumptions, we have compiled a mediator model to test if the crisis management competences (CMC) affect employee performance in teams during the acute stage of the crisis through information sharing, use of teamwork and cognitive diversity of the crisis management. The research results will help to identify important relations for the selection of people management tools during a crisis, and to better focus the effort to restore balance.

3. Research objective methodology and data

Based on the current knowledge and identification and definition of the gap in the research of corporate management during a pandemic crisis, we have formed the research design for the purposes of this study.

3.1 Research model

Research question: What is the impact of competent corporate crisis management on the management of the COVID-19 crisis in its acute stage?

Main research goal: Test the relations between the crisis corporate management competences (CMC) and employee performance (EP), measured during the acute stage of the crisis.

Partial research goals: Determine which elements of competent crisis management and to what extent they affect team performance measured through the feeling of satisfaction, safety and conditions for work.

We have formed the main research hypothesis as follows (Figure 1):

H: The dependency between the CMC and employee performance in teams (EP) is mediated through information sharing (IS), teamwork (TW) and cognitive diversity of crisis management (CD).

To test the main hypothesis, we have used seven partial hypotheses.

Hypothesis 1: CMC are positively linked to TP.

Hypothesis 2: CMC are positively linked to IS during a crisis.

Hypothesis 3: IS during a crisis is positively linked to TP.

Hypothesis 4: CMC are positively linked to the level of TW during a crisis.

Hypothesis 5: The level of TW during a crisis is positively linked with TP.

Hypothesis 6: CMC are positively linked to the level of CD of crisis management.

Hypothesis 7: The level of CD of the crisis management is positively linked to TP.

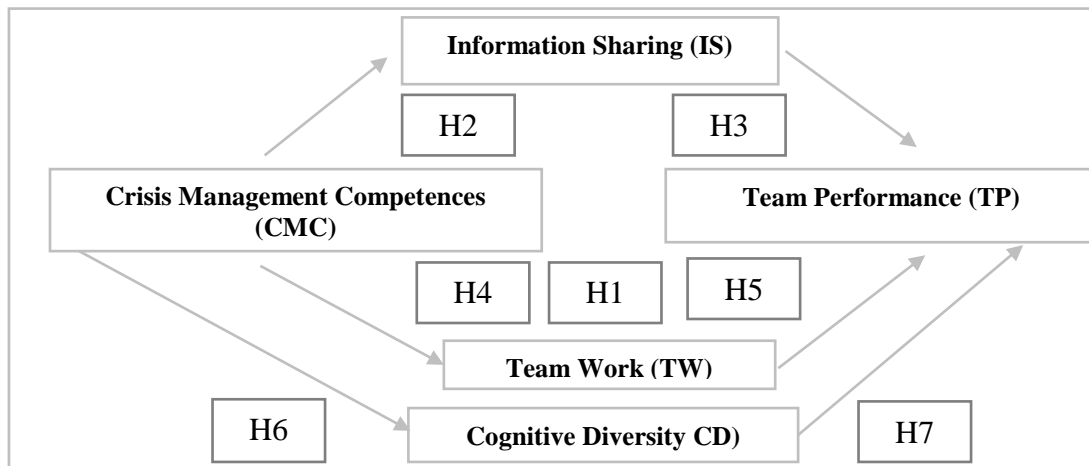


Figure 1. The Mediation Model and the Seven Tested Hypothesis.

Source: own research

We have used the SPSS 22 software package to analyze the data. The reliability of the defined sets of items for individual variables (CMC, TP, IS, TW, CD) was tested using Cronbach’s Alpha coefficient. The correlation analysis was used to test the relations between the sets of items, compiled to assess individual variables. Subsequently, the mediator model according to Baron and Kenny was used and Sobel’s test was used to test the mediator effect. Finally, the regression analysis was used to test the proposed hypotheses. Control variables were the size of the organization based on the number of employees, gender and age of the manager, his position in the management hierarchy and years of experience in a management position. We have used the ANOVA variance analysis to analyze multiple dependency. We have worked at a significance level of 5%.

3.2 Measures

We have used the mediator model to test the relations between the crisis management competences (CMC), team performance (TP) and mediating variables of information sharing (IS), team work (TW) and cognitive diversity (CD). We use mediation, because thanks to it we can examine the causal relations between the variables and engage other variables in the basic relation to examine processes, which occur between the identified variables, better and more deeply. CMC represent an independent explanatory variable. This variable is operationalized as a score based on the corporate crisis management rating received for 3 items - crisis communication, management style during a crisis and decision-making during a crisis. Every rated item consisted of partial items (Table 1). Overall, the CMC independent variable contains 26 items, which are scaled using the 5-point Likert-type scales (1=‘strongly disagree’ and 5=‘strongly agree’). After the reliability analysis, the Cronbach’s Alpha of the CMC was 0.979 (26 items).

The second variable, understood as a consequence, is the team performance (TP) dependent variable. According to the study of Kasha et al. (2018), items identifying team performance/efficiency depend on the environment and situation, in which the performance is measured. The crisis that entered the development of the value-framework

of people management is a crisis of health and safety first, and then a crisis of business with an impact on the business economic indicators. Humanity, trust, health, activity and transparency are activities that came to the foreground during the pandemic (Chetan Chaudhari, 2020). During the stage of acute crisis, it is not possible to measure team performance through quantitative indicators, since they are not yet available. The precondition for the effective operation and performance of a team during a crisis is the establishment of such conditions for its operation, which would lead in the subsequent crisis stage of process assessment and formulation of recommendations for the future to measurable results at a high level. The team performance variable is operationalized as a score assigned to individual items, representing satisfaction at work, feeling of safety and quality and safe working conditions. We have used the Safety Attitudes Questionnaire (SAQ), which was validated by many researchers, and which was developed specifically for the purpose of examining management opinions on the questions of teamwork, from the perspective of teamwork climate, job satisfaction, perceptions of management, safety climate, working conditions and stress recognition even in extraordinary situations, which the current pandemic no doubt is (McGuire et al., 2013). After the reliability analysis, the Cronbach's Alpha of TP was 0.944 (17 items).

The level of information sharing during a crisis (IS), team nature of work (TW) and the level of cognitive diversity of the work teams (CD) we identified as the mediating variables. An independent variable is the cause for the mediating variable, which is then a cause for the dependent variable (MacKinnon, 2008). Individual mediating variables are operationalized as a score acquired based on the assessment of items, we have extracted from the above-mentioned literature research (Table 2). After the reliability analysis, Cronbach's Alpha of mediator variables has proven the relevancy of individual items: IS: 0.932 (10 items), TW: 0.815 (9 items), CD: 0.84 (4 items).

The relation between the variables CMC, TP, IS, TW and CD may be affected also by external, so-called control variables. For control variables, we have subsequently tested their effect in the course of the basic examined / model relation.

We have used a questionnaire survey to collect data. The questionnaires were sent electronically to corporate managers in Slovakia. For the objective assessment of management skills of crisis managers during the stage of acute crisis, the questionnaires were sent and collected during the first months of the crisis (during March and April 2020), whereby the first Covid-19 case in Slovakia was confirmed on March 6, 2020. The research sample consisted of 122 companies. The respondents were managers at different levels with different amounts of management experience (team leaders, middle management, higher management). In terms of size of the companies, based on the number of employees, companies with more than 250 employees were the most numerous in the research sample (63.9%), followed by companies with 50 to 250 employees (19.7%), and small companies with less than 50 employees (16.4%). The questionnaire survey has been carried out throughout Slovakia. From the regional perspective, the research sample is the most telling about the situation in the Bratislava region (65.6%), while other regions were represented to a lesser degree. Based on the sector, the research sample consists primarily of companies operating in the tertiary sector (services, transportation, trade) (54.1%), followed by companies from the quaternary sector (education, research, technology) (29.5%), secondary sector (processing industry, construction) (13.1%), and the primary sector (mining, agriculture, energy) (3.3%). The structure of the respondents based on the basic demographical characteristics is shown in the table.

4. Results

We have determined the relations between the individual variables by creating a correlation matrix. For its creation we have created summary variables – CMC, TP, IS, TW and CD and we have determined the overall average score of the relevant items. The matrix also includes control variables. The descriptive statistics and the correlation matrix itself is presented in Table 1.

Table 1. Correlation Matrix.

	Mean	SD	N	CMC	TW	IS	CD	TP	Gender	Edu- cation	Age	Exper ience	Job
Competences	3.81	.92	122										
Teamwork	3.62	.71	122	.758**									
Information	3.79	.93	122	.844**	.663**								
Diversity	3.65	.86	122	.061	.268**	-.017							
Result	3.81	.77	122	.779**	.728**	.843**	.062						
Gender	1.41	.49	122	-.276**	-.080	-.287**	.002	-.148					
Highest Completed Education	2.67	.72	122	.021	-.014	.179	-.108	.187**	-.084				
Age	2.38	.91	122	-.075	-.034	.105	.113	.019	-.309**	.542*			
Years of Experience	2.80	1.22	122	-.198**	-.215**	-.042	.008	-.165	-.222**	.378*	.812*		
Current Job Position	1.97	1.23	122	.013	-.019	.111	-.027	.098	-.086	.155	.423*	.414*	
Number of Employees in the Business	3.39	.95	122	.054	-.111	.154	-.269**	.134	-.100	.118	.056	-.090	-.187**

Source: own research

Note. CMC = Crisis Management Competences; TW = Team Work; IS = Information Sharing; CD = Cognitive Diversity; TP = Team Performance; **p > .05.

The correlation matrix indicates that there are significantly positive correlations between all five examined variables, which indicates the use of the mediator model. In mediation we have started with the set main hypothesis.

H: The dependency between the crisis management competences and team performance is mediated through information sharing, teamwork and cognitive diversity of crisis management.

We have proceeded in three steps (A, B, C), in which we will verify the partial hypotheses by calculating three regressions.

C) There is a relation between team performance (Y) and crisis management competences (X).

A) There is a relation between the mediator variable (M) and crisis management competences (X).

B) There is a relation between team performance (Y) and mediator variable (M), on which X does not participate.

Where C represents the overall effect. The multiplication of A*B is mediated through the (indirect) effect of X on Y through M. The difference C' = C - A*B is the net (direct) effect of X on Y without the participation of M.

The hypothesis is true when the indirect effect is significant, meaning if A*B = C - C' is significant (use of Sobel's test). We have added the control variables of age, gender, years of experience and position of the manager and the size of the organization into the modeling of the overall effect. We have used the ANOVA variance analysis to analyze multiple dependency. We have worked at the 5% significance level and the obtained results are presented in Table 2. Since we are working with three mediator variables, we will divide the structure of the model into three parts - i.e. three paths, through which the indirect, meaning the mediated relation, will pass

through every mediator. A path for a direct relation is also part of the model. The breakdown of the variance for the overall dependence on the initial model has shown that no control variable was significant (p-value < 0.05).

Table 2. Parameter Estimate.

Step C: (Dependent Variable: TP)						
Parameter	B	Std. Error	t	Sig.	Lower Limit	Upper Limit
Intercept	.705	.237	2.972	.004	.235	1.175
CMC	.688	.047	14.613	.000	.595	.782
Steps A1. A2. A3: (Dependent Variable: TW)						
Parameter	B	Std. Error	T	Sig.	Lower Limit	Upper Limit
Intercept	1.544	.241	6.412	.000	1.067	2.020
CMC	.565	.048	11.825	.000	.470	.660
(Dependent Variable: IS)						
Parameter	B	Std. Error	T	Sig.	Lower Limit	Upper Limit
Intercept	.018	.250	.072	.943	-.478	.514
CMC	.843	.050	16.964	.000	.744	.941
(Dependent Variable: CD)						
Parameter	B	Std. Error	T	Sig.	Lower Limit	Upper Limit
Intercept	3.713	.448	8.290	.000	2.826	4.600
CMC	.075	.089	.841	.402	-.101	.251
Steps B1. B2. B3: (Dependent Variable: TP)						
Parameter	B	Std. Error	T	Sig.	95% Confidence Interval	
					Lower Limit	Upper Limit
Intercept	.197	.238	.826	.411	-.275	.669
CMC	.077	.076	1.012	.313	-.074	.227
TW	.374	.075	4.981	.000	.225	.523
IS	.476	.068	7.004	.000	.342	.611
CD	-.021	.040	-.517	.606	-.101	.059
	Overall Indirect Effect		Indirect Effect Mediated through Mediators:			
			M1 (TW)	M2 (IS)	M3(CD)	
A*B	0.611	Ai*Bi	0.211	0.402	-0.002	
z	5.491	zi	4.591	6.474	-0.440	
Sig.	0.000	Sig.	0.000	0.000	0.660	
Effect size of individual parts of the overall structure of the model:						
Effect	Coefficient					%
Total	.688					100%
Direct						.077 11%
Indirect						0.611 89%
Indirect through M1						0.211
Indirect through M2						0.402
Indirect through M3						-0.002

Source: own research

Note. CMC = Crisis Management Competences; TW = Team Work; IS = Information Sharing; CD = Cognitive Diversity; TP = Team Performance; $p > .05$. Lower Limit and Upper Limit are in the 95% Confidence Interval

The results in Table 2 show that the overall indirect effect is significant in the positive direction, just like 2 items of the indirect effect that are mediated through individual mediating variables are significant in the positive direction (teamwork and information sharing). The cognitive diversity mediator was not significant. Since the direct effect is not significant and indirect effect is greater than 80% of the overall effect, we can declare complete mediation. Almost 90% of the overall effect of crisis management competences on team performance are mediated by individual mediating variables, of which information sharing has the greatest effect, which has twice the intensity of teamwork. The effect of cognitive diversity has not been verified.

5. Discussion

We have found that the relations expressed through steps A and B are significant for 2 mediating variables, meaning there are relations between teamwork (M1) and sharing of information (M2) and crisis management competences (X) and that there are also relations between team performance (Y) and two mediating variables (M1, M2), on which X does not participate. Due to the significance of these relations, there is an assumption for the existence of mediation. The multiplication of $A*B$ is significant, so the indirect effect of crisis management competences (X) and team performance (Y) through the measured information sharing and teamwork was confirmed. The hypothesis was confirmed. Direct effect is not significant, the overall effect is mediated. Expressed in percentages, we can see that approximately 89% of the overall effect falls onto the indirect effect. Since the indirect effect reaches more than 80% of the overall effect, it is complete mediation.

The hypothesis on the dependency between the crisis management competences and employee performance, which is mediated through the sharing of information and teamwork has been confirmed. Complete mediation has been identified, where the mediator variables mediate more than 80% of the effect. This is a significant finding; specifically that crisis management has an effect on performance through the sharing of information and support of teamwork. Based on research results we state that cognitive diversity of crisis management does not support the effect of crisis management competences on employee performance of teams. Crisis management competences have to be formed in a different way. Our findings are in line with many studies and findings presented in scientific literature, where significant factors for crisis management, especially during its acute stage, are efficient and effective communication (especially internal), selection of suitable management style, flexibility of decision-making, establishment of an effective crisis team and sharing of information within it (Pearce et al., 2020; Bhaduri, 2019; Bowers et al., 2017). Research results have confirmed that support, interest and space for learning from mistakes are important for employee performance in teams during the acute stage of the crisis. Employees are interested in business recovery, pride of own work remains and the crisis reinforces morale in the workplace. Autonomy, feedback and space for critical thinking are important for employee performance. Teamwork as a form of work organization is a supporting element of employee performance during the acute stage of the crisis. Team organization of work during the crisis creates a better environment for questions, mutual support in performance, better coordination and joint search for answers to crisis problems. The research has shown that the competency to lead people during a crisis means creating an environment for teamwork (cooperation), which in its essence includes especially delegating and strengthening of autonomy.

The research has shown that information sharing is the most important of the tested variables. Communication is the most important tested variable in the effect of competent crisis management on performance. The sharing of information in the form of providing information and creating an environment for the sharing of information explain, based on the results, the greatest effect of crisis management on employee performance in teams. The respondents have often ranked sufficient information, explanations, directives and positive aspects of the crisis

state as important. Additionally, there was sincerity, honesty and transparency of communication. Two-way communication and openness in communicating uncertainty, opinions and solutions were also often stated.

Our assumption that diversity of knowledge, which may be used in qualified decision-making during the acute stage of the crisis was not verified. The research did not prove the effect of cognitive diversity of crisis management as an important factor for employee performance.

6. Conclusions

In the digital age, during the COVID-19 pandemic crisis, the society is at the beginning of its path from the physical world to the virtual world. The only certainty on this path is the certainty of change, and because biological evolution is slow, the state of uncertainty remains the greatest source of stress for a person. Social distancing caused fundamental changes of economic activity during the pandemic and business sustainability became the main task of people management. This will most likely lead to permanent changes in corporate management. Through a thorough understanding of causal relations regarding corporate management in the context of the crisis, we can better anticipate the consequences and prepare for opportunities. The conditions of the 4.0 Industry era have prepared the best possible environment for the viability of businesses during the time of social distancing and whether they are prepared to operate in the virtual environment. Using the available published studies on management during the crisis, we have identified the content of crisis management competences and we have defined the relations to employee performance in teams during the acute stage of the crisis.

6.1 Practical implications

The research has confirmed that competent crisis management affects employee performance in teams through information sharing and team organization of work. Cognitive diversity of crisis management does not prove its competence, affecting employee performance in teams. We consider this the fundamental finding of this study. It seems that diversity of knowledge and value foundations of the leadership is not important for the positive effect of crisis management on employee performance, quite the contrary. The employees require value-consistent leadership, without demands for specific knowledge, which informs them reliably and allows them to cooperate. The results show that information and an environment for quality team cooperation are important for team performance during the acute stage of the crisis. From the perspective of the effect on performance, it is not very important, if the crisis management consists of people of different opinions, different knowledge or perspectives on the source of truth. The feeling of safety, good morale and engagement of employees during a crisis is dependent more on reliable and transparent information, empathy, expression of interest and especially on the conditions for the joint search for a way out of the crisis. The research has confirmed that people need access to information and autonomy to decide and cooperate to perform during the crisis. The practical implications of the research are: (1) Leadership during a crisis supports employee performance, if the crisis management is competent, trustworthy and restores certainty. (2) Crisis management competences positively affect performance through information sharing and transparency of decisions. (3) Crisis management competences positively affect performance through the strengthening of autonomy at the level of teams and supporting team cooperation. (4) Crisis management competences are not supported by the cognitive diversity of the crisis management, on the contrary, consistency of opinions is a source of certainty and transparency of management decisions. (5) Communication and cooperation are important tools for managing employee performance, which were defined by the pandemic crisis, and on which the potential of the virtual environment can be focused.

Our research contributed to the existing knowledge through the finding of the importance of management competences during a crisis. We consider these findings to be valuable for the business practice, especially for the management during the stage of acute crisis. According to the published studies, the relation between psychological safety of employees and business performance has been verified (Edmondson, 1999). The path to psychological safety begins with open communication about problems. The basis is the absence of fear, allowing

to express opinions and present new ideas. High level of uncertainty is a source of stress, which inhibits the capacity to think creatively and act rationally. Fear is a source of shortcuts in peoples' thinking and it leads to simplified solutions. Anger is a source of energy and forces people to act. During the crisis, fast and simple solutions do not have to be a safe path to prosperity. During the acute stage of the crisis it is necessary to restore faith, which stands on competency and credibility. Leadership and proven content of consequences of its competences are the key aspects. We consider it important to deal with the content of the relation between competency and employee performance. We consider it beneficial for corporate management to know the relations between specific sources of competency and the nature of their effect on employee performance during the acute stage of the crisis. The applied mediator model has pointed out the need for effective crisis communication based on transparency of sharing information with the employees. Furthermore, the mediator model has verified the positive effect of team organization of work, where it is possible to develop autonomy, trust and cooperation, on employee performance. The research has also verified that the diversity of crisis management does not have a fundamental effect on its competency, which affects employee performance in teams. Demographic characteristics of crisis management, such as personal or service age, gender and education, are also not important for the relation of competent crisis management and employee performance.

The aim of the research was also to point out the space for the forming of a new normal for the post-crisis period. The 4.0 Industry in its nature has prepared an environment for the companies, in which it is possible to preserve economic activity and overcome a pandemic-type crisis, which is specific to social distancing. The use of the potential of the virtual environment during the pandemic crisis is dependent on the ability of interconnecting the digital and the real world. On the corporate level, these are challenges of organizational and cultural nature. The leaders and the change management must be understood and respond adequately to these challenges (Schneider, 2018).

During the crisis caused by social distancing, fears are fulfilled and deepened. The digital age stimulates topics of scientific research of management in the direction of topics suitable also from the perspective of business practice. The penetration of the scientific research and applied examination are leadership challenges with a far-reaching impact. These are usually change management, building of competency for the digital age, development of new business models, derived consequences of the business models and qualification of employees. The acceptance of change is the subject of many scientific studies, such as change management, and it emphasizes timely communication and participation of employees (Sinčić Ćorić et al., 2020). Building competency for the digital age means the ability to acquire big data in structured or unstructured form, store it safely, process it and intelligently use it. Building the competency for the digital age means focusing on the technological, organizational and human aspect of the business (Schneider, 2018).

According to Boin et al. (2013), learning from the crisis is one of the main roles of crisis management. Since every crisis is unique, its very nature requires the capacity to improvise, discover and experiment. Therefore, it is of utmost importance for the crisis managers to have the ability to learn. Learning is the precondition for adaptation, which should subsequently help fixing dysfunctional processes and facilitate the application of newly discovered solutions. However, it also has a symbolic value for the companies – it demonstrates the ability to learn from failures.

6.2 Research limitations

The performed research has several limitations, especially in the form of other aspects of crisis management, the consideration of which would contribute to a better informative value of the results. Bigger and more quality research samples would contribute to a higher validity of research results and conclusions for the crisis management in the business practice. In the interest of covering the relevant business sectors and the size of companies in Slovakia, managers at any management level were included in the research sample, because the organizational structures of companies are different. The statements of the respondents on the crisis management competency and the relation to team performance are therefore affected by the level of management, of which

they are part. Another limitation of the interpretation of the research results is the local nature of the research and the limited research sample (122) of companies in Slovakia. From the regional perspective, the results are relevant; their generalization would require for the sample to be expanded.

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