The role of crisis management in organisations functioning in COVID-19 pandemic conditions

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Abstract: The purpose of the paper is to analyse the influence of crisis management on job performance as well as indicate a mechanism, which supports such influence. The theoretical model was proposed based on a literature review, showing the role of organisational trust, organisational communication, knowledge sharing, job security and openness to change in shaping job performance by crisis management among organisations operating under COVID-19 pandemic conditions. The model was empirically verified based on a sample of 1,160 organisations operating in Poland, Italy and the USA during an active wave of the pandemic in 2021. The obtained results allow to confirm that crisis management significantly positively influences the job performance of employees in organisations operating under the dynamic and turbulent COVID-19 pandemic conditions. Moreover, such influence was proven to be mediated by organisational trust, organisational communication, knowledge sharing, job security and finally – openness to change. The performed analysis fills in the existing research gap and constitutes and important contribution to the field of crisis management. The results show that in order for crisis management to bring benefits to the entire organisation, employees need to go beyond the routines of their behavior and efficiently adapt to the changed conditions of the organisation. The openness to change becomes a de facto enabler of that. The obtained results also have practical implications, showing the mechanism through which crisis management impacts individual employees, allowing organisations to stimulate each factor and contributing to the possibility of ensuring more benefits coming from implementing crisis management.

Keywords: Crisis management, job performance, organisational trust, organisational communication, knowledge sharing, job security, openness to change, COVID-19.

JEL Classification: M54, O15.

Introduction

The ubiquitous uncertainty, complexity and volatility of the environment make the possibility of crisis in an organisation a normal phenomenon, and its undisturbed functioning is rather rare today (Bienkowska et al., 2005). In this context, there is no doubt that the modern manager should be prepared for the permanent occurrence of situations that can throw the organisation out of the stable status quo. It is easier to manage an organisation with proven routines and ways of doing things according to a predetermined schedule, even if the organisation's environment is volatile or turbulent. It is definitely more difficult to manage an organisation and its employees under conditions of high risk, unpredictability and time deficit, which de facto always accompany crisis phenomena in organisations. Admittedly, a crisis can generate problems that must be solved through ad hoc measures (Ardito et al., 2021). Nevertheless, the conditions of the environment that can potentially trigger a crisis situation, or the conditions of a crisis already existing in the organisation, require the managers at various levels of management to skillfully develop and adopt solutions referred to as crisis management, as only such solutions can support management in a situation where the continuity of the organisation's operations may be threatened (Al-Dabbagh, 2020; Krystek, 1987; Simola, 2005).

Crisis management (organisational crisis management) is understood as the activity necessary to overcome an existing situation that threatens the existence of an organisation. Thus, it is such a response to the difficulties that have arisen in order to prevent the collapse of the organisation and ensure its survival (Bienkowska et al., 2005). Thus, crisis management offers numerous tips on how to deal with various crisis situations (Seraphin, 2019). It should be stated that "different crisis situations require different approaches to crisis management" (Kukanja et al., 2020, p. 349). Krystek (1987) uses the concepts of proactive and reactive crisis management. Proactive crisis management (anti-crisis management) is ".... aimed at avoiding crises in the enterprise, the actions of internal and/or external managers entrusted to the enterprise" (Krystek, 1987, p. 106). Reactive crisis management aims to break and resolve crises that have already occurred, i.e., those perceived and identified

by the organisation (Bienkowska et al., 2005). Alonso-Almeida et al. (2015) complement this viewpoint, stating that crisis management consists of three main elements, regardless of the type of crisis – crisis identification, proactive and reactive crisis management strategies. Similarly, McCool (2012) proposed three groups of measures that are essential for an organisation's survival in times of crisis – pre-crisis planning, rapid response during a crisis and post-crisis recovery strategy (Kukania et al., 2020). It should be emphasised that "effective implementation of crisis management plans requires high-level strategic integration between HRD, organisational structure, culture and strategy" (Wang et al., 2009, p. 24). The role and impact of crisis management understood in this way on the organisation has been emphasised for years (e.g., Wang et al., 2009). At the level of the organisation as a whole, crisis management helps ensure the continuity of its operations. It also affects individual employees and their work performance.

When analysing the impact of crisis management on job performance, it is essential to consider that it is an indirect impact mediated by various factors. In determining the set of mediating variables, it is necessary to identify those directly affected by crisis management. It is known that as a set of actions taken in an organisation to prevent and/or resolve crises, crisis management firstly affects communication in the organisation, as well as the resulting exchange of knowledge not only between managers and employees but also within a group of employees at different levels of management (Bratianu & Bejinaru, 2021; Wang & Wu, 2020). At the same time, the level of organisational trust increases due to the crisis management measures taken.

However, in creating a model of the impact of crisis management on job performance, it is also important to pay attention to specific work-related attitudes that are of particular importance to employees in crisis. One of these is job security, since a general organisational crisis threatens the organisation's existence and, therefore, requires downsizing the organisation. As part of crisis management, measures must be taken to increase job security through effective communication (Burke, 1991; Yousef, 1998). Once job security is achieved, it is also necessary to build openness to change among employees. After all, employees must go

beyond the routine of their behavior and effectively adapt to the changed conditions in the organisation. Thus, openness to change becomes a de facto trigger for change, which, in the face of a crisis that triggers the need to act out of the box, is essential for employees to perform at the expected level.

The analysis of the mechanism of the impact of crisis management on job performance in organisations operating under COVID-19 pandemic conditions should, therefore, take into account the mediating role not only of organisational trust, organisational communication, knowledge sharing, but also of job security and openness to change. Such an analysis has not yet been the subject of theoretical and empirical research, which is a research gap. The purpose of this paper, therefore, is to examine the impact of crisis management on job performance and the mechanisms underlying it. This will be achieved through an analysis of the literature as a basis for building a sequential mediation model. The resulting model (and the set of hypotheses describing it) will be verified through an empirical study conducted among 1,160 organisations operating under the active wave of the COVID-19 pandemic in Poland, Italy and the USA. Analysis of crisis management will be possible because most of these organisations were operating in a crisis caused by the pandemic.

1. Theoretical background

According to Pearson and Clair (1998, p. 61), crisis management is "a systematic attempt by members of an organisation together with external stakeholders to avoid crises or effectively manage those that have already occurred." It should not be understood solely as the management of a specific incident (Roux-Dufort, 2007) but as a systematic process that begins long before a crisis occurs and continues afterwards, supporting organisational change and transformation. The basic model of crisis management includes four phases: prevention (crisis preparedness formation), coping with the crisis, recovery and learning from the crisis, and as a process, it can be divided into three phases: pre-crisis, crisis response and post-crisis (Coombs, 2007). All of these phases consist of multiple activities. The pre-crisis phase focuses on shaping crisis preparedness and prevention "involves developing knowledge and capabilities to effectively anticipate, respond to and recover from a crisis" (Baubion, 2013, p. 9), and specifically includes activities such as risk assessment, building early warning systems and contingency plans, maintaining equipment and supplies, training and practising crisis response, building appropriate institutional structures and procedures. The materialisation of the crisis begins the emergency response phase. The procedures and routines developed are adapted to the type of crisis situation. Great emphasis is placed here on monitoring the development of the crisis, coordination of activities, knowledge sharing and communication. This is also the phase in which crisis response strategies are built and implemented for the crisis situation. Once the crisis is over, there comes a time for reflection. Lessons learned from the crisis should help improve preparedness and the response process in the next crisis. The last stage flows seamlessly into the first: evaluation and modification of activities is the starting point for shaping crisis preparedness.

A part of crisis response strategies is always crisis communication (Coombs, 2020). It may be addressed to different stakeholder groups of the organisation and therefore may have different purposes. However, although the means and methods of crisis communication are different (i.e., convincing stakeholders that there is no crisis, helping stakeholders see the crisis less negatively or helping them see the organisation more positively; Coombs & Holladay,1996), the overarching goal is clear here – to calm the situation and to sustain or restore image and trust. The paper focuses on the part of communication activities addressed to the internal stakeholders of the organisation – employees. It is a part of internal communication and plays a critical role in influencing employee attitudes and behaviors. Qin and Men (2022) state that internal communication in times of crisis influences employee psychological well-being during a crisis, and organisational trust successfully mediates this impact. Internal communication is perceived as a driver of other dimensions of the operational success of the organisation. It influences i.e., job satisfaction, organisational commitment, employee engagement, and job performance (Eka & Anik, 2020; Mehra & Nicekrson 2019) and job insecurity (Jiang & Probst, 2014). Eka and Anik (2020) found that organisational communication has directly no significant effect on employee

performance; however, employee engagement becomes a mediator of this relation.

In summary, crisis management is a multi-directional, multi-step process focused on preventing or mitigating the negative effects of a crisis, thereby protecting the organisation and its stakeholders (including employees) from harm. It creates a framework for organisational behavior in a crisis and includes, among other things, activities related to establishing crisis preparedness capabilities, crisis communication, crisis management implementation and post-crisis recovery. Zehir and Yavuz (2014) found that crisis preparedness capabilities have a direct impact on organisational performance. The COVID-19 pandemic revealed that these results are achieved mainly through employees. The scale and intensity of the COVID-19 pandemic quickly demonstrated that employee involvement was essential for effective risk mitigation and ultimate control in this crisis (Malecki et al., 2021). However, the way in which crisis management is implemented can either support employees' adherence to mitigation strategies and increase their productivity or discourage them from doing so and negatively affect their work performance. Moreover, employees evaluate the organisation's efforts during a crisis, and through a simple psychological mechanism of reciprocity (Buunk & Schaufeli, 1999), it can be assumed that their contribution to overcoming crisis phenomena, as manifested by organisational commitment or work performance, will be greater in return. In the context of the above, the following hypothesis can be made.

H0: In organisations functioning in the environment affected by COVID-19 pandemic, crisis management is influencing job performance of employees.

However, this relation it rather indirect. Interesting thus is, how this impact is created (mediated).

2. Crisis management influence on job performance
2.1 Crisis management impact during COVID-19 pandemic

Crisis management affects the way organisational communication is conducted and the amount of knowledge shared with employees, which builds organisational trust. The multidimensional concept of organisational trust is not easily operationalised. Although there is a lot of research focusing on the search for the essence, sources and successors of inter- and intra-organizational trust, no universally accepted definition of this concept has been developed yet, and there is an open debate whether trust in general, is a psychological attitude or a behavioral choice (Bieńkowska et al., 2005; Shockley-Zalabak et al., 2000). Generally, organisational trust "refers to expectations individuals have about networks of organisational relationships and behaviors" (Shockley-Zalabak et al., 2000, p. 37), based on organisational roles, relationships, experiences, and interdependencies. The concept of organisational trust contains two dimensions described by: trustworthiness (credibility, reliability and the resulting conviction that the other side is trustworthy) and trustiness (reliance, inclination to trust or demonstrating openness to cooperation) (Bieńkowska et al., 2005). While trustworthiness is rather built by behavior and practices of the trustee (organisation), trustiness is a kind of reflection of the environment in which an employee exists and of the interactions he engages (Bengtsson & Brommesson, 2022). In this paper, the term organisational trust will be understood in a very narrow meaning as "employees' collective perception regarding the trustworthiness of their organisation" (Li et al., 2012, p. 372).

It is not quite clear what employees are referring to when they decide to trust their organisation. Often among antecedents of trust placed in the organisation, HR practices and policies, organisational justice (both procedural and distributive), as well as perceived organisational trustworthiness or perceived organisational support are pointed (Bernardin et al., 2011; Tan & Tan, 2000).

According to Mayer et al. (1995), critical factors that form trust are ability, benevolence, and integrity. Referring them to the discussed organisational trust, ability means the skills, knowledge or capacities that allow an organisation to have an influence on an employee in a specific area; benevolence indicates the extent to which an organisation is believed to want to do good to the employee (which is quite consistent but not identical with perceived organisational support), while integrity involves the employee's perception that the organisation adheres to a set of principles that the employee finds acceptable (Mayer et al., 1995), which in turn seems to coincide with the concept of procedural justice. Thus,

if an employee perceives that the organisation possess enough capacities or resources to maintain and support the employee in an area important to him, he would perceive that his organization is trustworthy.

Among institutional sources of organisational trust are institutional rules, norms and roles, which are manifested respectively, i.e., in organisational structure, organisational culture (i.e., cultural norm) and organisational leadership. The conviction that trust building in organisational settings is facilitated by leaders and their trustworthy behavior (Legood et al., 2016) or in general – by management practices (Gillespie & Dietz, 2009) is often described in the literature. The basis of this conviction is communication.

Also, policies and practices enacted by an organisation send signals regarding the trustworthiness of the organisation. The COVID-19 pandemic brought a radical change in working conditions concerning the nature of work, including job demands or job control (Venkatesh, 2020), and in the context of subsequent lockdowns and exclusions from the functioning for some industries – also a risk of job loss. Thus, it turned out to be a kind of test for the organisation's trustworthiness. In this specific case, the organisation's crisis management practices were thus also a kind of message addressed to employees, having the power to convince them whether the organisation is trustworthy or not. A crisis is a time of applying prepared procedures, not time to prepare them; hence, a coordinated, unified response to a threat from the very beginning of COVID-19 spread, addressed firstly to employees' health protection and then to economic protection for those workers who may suffer the most or HRM COVID-19 oriented strategies implementation, could be for employees a kind of confirmation of organisation's trustworthiness, a proof that the organisation will work for their benefit or at least will not harm them.

From the beginning, the amount of different information regarding COVID-19 was overwhelming, and it was difficult to distinguish reliable and accurate information from unclear and misleading one. It was quite natural that employees turned to organisational leaders for information, trying to understand what was happening and make sense of the situation around them. Thus, one of the most important roles of employers in the COVID-19 pandemic was to provide reliable information about the development of the situation, the economic condition of the organisation, as well as the actions taken as a remedy for the spread of the epidemic and their effectiveness (Guzzo et al., 2021). Clear information, e.g., how the obligation to take all possible measures to protect employees from the possibility of contracting the virus was fulfilled, reduced fear and a sense of uncertainty, and the same, i.e., reduced the need to enforce pressure of complying with new security rules. It is generally advised that in a crisis, a transparent information strategy should be used (Siegrist & Zingg, 2014). Carefully planned crisis communication can play a critically important role in the prevention and mitigation of crisis over time by reducing anxiety and fear and supporting employees' adherence to mitigation strategies (Malecki et al., 2021). During a crisis, such as the COVID-19 pandemic, what managers communicate to their employees can greatly impact important organisational attitudes, especially organisational trust (Guzzo et al., 2021).

Devlin (2007) advises to communicate with employees before their loyalties begin to erode. The content of messages and their frequency are of great importance here, also in the context of organisational trust. Communication positively influences people's willingness to adopt recommended behavior and makes people more willing to take the recommended actions to alleviate the threat, even if they are not entirely convinced that they are right. This trustworthiness will probably be manifested, i.e., in the perception of work as safer or perceived as higher job security and in the COVID-19 pandemic, this has become particularly important for employees. The fundamental feature of job insecurity is the degree of uncertainty about an employee's job continuity (Kim, 2019), and this, apart from employee's life, is one of the things that has been critically endangered in the COVID-19 pandemic.

Knowledge is a critical organisational resource for gaining and maintaining a competitive advantage in any organisation (Wang & Wu, 2020), but also an essential resource from the employee's point of view, determining his effectiveness in work processes. Knowledge is the understanding of specific discipline or a topic in each situation or matters. Knowledge involves the theoretical and practical skills acquired from a particular discipline or specific

subject (Lee, 2017). Polanyi (1962) articulates that every aspect of knowledge accumulated over time has two complementary dimensions: the tacit and the explicit. On the one hand, tacit knowledge is very personal and difficult to present in written form. It is related to the experience and values of the individual (Holste & Fields, 2010; Nonaka & Konno, 1998). Explicit knowledge, on the other hand, is structured, easily quantified, and presented in written form. It is recorded and documented and often takes on an impersonal character in the form of reports, databases, catalogues and presentations (Holste & Fields, 2010; Nonaka & Konno, 1998; Nonaka & Takeuchi, 1995).

Bock et al. (2005) define knowledge sharing as the willingness of an individual to share his or her created or acquired knowledge with others. Sharing tacit knowledge requires effective communication, regular face-to-face contact, and mutual trust (Yang et al., 2021). Its transfer is often done by means of imitation and observation (Choo, 2000). However, the knowledge itself is often transferred through the social network or informal interactions of employees (Hau et al., 2013). The levels of risk and uncertainty that are associated with tacit knowledge transfer are reduced by trusting relationships. Sometimes, tacit knowledge sharing can also occur formally in training sessions or conferences. Nonaka and Takeuchi (1995) argue that sharing tacit knowledge among multiple individuals with different experience, education, perspectives and motivations becomes a critical step for organisational knowledge creation to take place. Due to the character of this type of knowledge, its transfer may be hampered by lack of willingness of employees to share knowledge, lack of awareness of individuals to possess tacit knowledge, difficulty in applying specific knowledge, and difficulty in articulating knowledge due to physical or mental barriers (Nonaka & Takeuchi, 1995; Stenmark, 2002). Sharing explicit knowledge is much easier than tacit knowledge. Transferring it does not require personal contact, as it is possible to save it on various media, which allows it to be transferred in time and place. However, this knowledge is very often in many places in the organisation, taking different forms and versions, which can make it difficult to transfer.

Decisions made during a business crisis are not routine; moreover, they are characterised by high uncertainty and complexity. Knowledge in crisis management has several functions, as it may enhance defence mechanisms, limit potential damages, or even empower the return to the normal situation faster (Kuščer et al., 2021). The COVID-19 pandemic has brought numerous challenges in various areas of the organisation's operations, including how knowledge is managed (Bratianu & Bejinaru, 2021; Wang & Wu, 2020). Tomé et al. (2021) believe that the crisis caused by the COVID-19 pandemic is even a knowledge crisis, so it requires the development of new methods and ways of sharing knowledge.

The link between crisis management and knowledge sharing has been shown in the research of Haddawee (2018), who noted that sharing knowledge before a crisis occurs is crucial to planning and implementing crisis management strategies. According to Ng et al. (2022), knowledge sharing during a crisis supports the organisation and its employees in solving problems with the crisis, enables the acquisition of new knowledge and skills, and contributes to shaping the organisation's post-crisis strategy. In addition, knowledge sharing among employees enables the optimisation of operations, the creation of innovations through organisational learning, and it provides an opportunity to protect jobs and ensure the safety of employees (Schiuma et al., 2021). Sharing the knowledge accumulated during previous crises will result in quick action in the next difficult situation for the company (Ng et al., 2022).

Therefore, the following partial hypothesis can be put forward:

H1: Crisis management influences job security (an indirect effect) through organisational trust (a1), organisational communication (a2) and knowledge sharing (a3) (intermediary variables).

2.2 Job security and openness to change in COVID-19 pandemic

Job security is another factor which should be included in the analysis due to its impact on job performance of employees during the COVID-19 pandemic. Job security should be understood as "the knowledge that your job is permanent as long as you want to be" (Kraja, 2015, p. 19). "Job security can be defined as protection against job loss" (Kraja, 2015, p. 20). It can also be defined as a state in which the organisation guarantees

a stable work environment, providing a steady income, opportunities for self-development and self-realisation, and retirement security (Guberina & Wang, 2021). Employees' perceptions of job security may vary within an organisation, as its provision stems from accepted organisational practices and the working conditions themselves (Kraimer et al., 2005).

The literature on the subject distinguishes the concept of job security from the concept of job insecurity, which manifests itself as subjective perceptions about employment and unemployment and reflects the uncertainty, insecurity, helplessness, and powerlessness that people experience when they are not sure that their work will remain stable (Witte, 2005). Job insecurity was associated with lower levels of job satisfaction and organisational commitment. However, the literature often emphasises the importance of job security not only for employees' job performance but also for other job-related attitudes in pre-pandemic conditions. Many studies on job security indicate that it is a factor that has both a direct and indirect impact on employees' job performance. However, this impact is not clearly defined positively or negatively. Yousef (1998) underlined that job security is critical for influencing work-related outcomes, e.g., job performance, well-being of employees, employee turnover, organisational commitment or job satisfaction. In his research, he argues that satisfaction with job security as a predictor of organisational commitment and job performance. A similar position is presented by Burke (1991).

A high level of job security causes employees to identify more strongly with the organisation, viewing it positively (Kim, 2019). They are more likely to be involved in organisational work for the employer, achieve higher satisfaction from their performance (De Cuyper et al., 2020) and are more motivated (Taamaneh & Al-Gharaibeh, 2014). However, too high level of job security can result in high employee complacency and reduced motivation to work (Pearce, 1998). Moreover, Noelke and Beckfield (2016) underlined that high job security altered employee behaviour since employees with high job security take frequent leaves, often report off sick, and have little interest in overtime work.

Too low level of job security reduces the confidence and motivation of employees to work and can also cause distraction (Newman et al., 2019). And indirectly, it can contribute to increasing the powerlessness, helplessness of employees to control their work environment and also lower their self-esteem (De Cuyper et al., 2020; Schumacher et al., 2016). However, some studies indicate that job security at low levels may motivate employees to do a better job to maintain employment (Kim, 2019; de Cuyper et al., 2020).

The operation of an organisation under the conditions of the COVID-19 pandemic causes changes in working conditions, which can create a great deal of uncertainty among employees about their employment. Employees may fear the loss of their jobs or changes in important parameters of their employment, such as salary or job changes. Following the existing organisational and psychological literature, the very anticipation of a stressful event was found to be an equivalent or more potent source of anxiety than the actual event (Guberina & Wang, 2021). Fear of losing employment can block proactive employee behavior (Boyd & Gessner, 2013; Marjanovic et al., 2013), worsen their well-being due to financial instability, destroy professional relationships (Guberina & Wang, 2021) and lead to absenteeism and affect employee well-being (Nemteanu et al., 2021). Job acts as a buffer against fear, panic and anxiety, and in turbulent economic conditions, it becomes a source of critical resources (Guberina & Wang, 2021). Employees' well-being at work as well as in their personal lives affect each other, which is crucial in the context of operating in the COVID-19 pandemic, where the boundaries between work and home are blurred by greater pressure to work remotely (Steel et al., 2019).

As mentioned earlier, empirical work examining the relationship between job security and job performance has not produced conclusive results on this topic (Newman et al., 2019). Some works show a non-significant correlation between job security and job performance (Staufenbiel & König, 2010; Sverke et al., 2002). Other studies emphasise the importance of the relationship between occupational safety and worker productivity (Cheng & Chan, 2008; Newman et al., 2019; Yousef, 1998). Hence, such relations, especially under the conditions of the COVID-19 pandemic, need further research.

Providing job security as a basic need is a necessary but not sufficient condition for

achieving the assumed job performance of employees under COVID-19 pandemic conditions. Even more important in this context is that such obtained job security may trigger openness to change of employees, which seems crucial in such conditions.

Fasth et al. (2022) underline that openness is a success factor in crisis management. Various authors state that without the openness to change their role in the organisation, the way the tasks are performed or even the goals or strategy of the entire organisation, it is much harder to implement crisis management properly and fully benefit from it (Dahles & Susilowati, 2015; Torres et al., 2019). That is mainly because "crisis management requires the development of firm-specific capabilities and learning and performance interventions that enable stakeholders to identify, respond to, and recover from crisis events" (Wang et al., 2009, p. 24). Any possibility to align the ability to learn, change, and intervene to shape the organisational performance through organisational strategy is important from the point of view of the implementation of crisis management (Wognum & Ford, 2000).

In summary, the following hypothesis can be posed (Fig. 1):

H2: Crisis management influences job performance (an indirect effect) through organisational trust (a1), organisational communication (a2) and knowledge sharing (a3), job security (b) and openness to change (c) (intermediary variables).

3. Research methodology

The conclusions underlying the theoretical model in Fig. 1 were drawn from an extensive literature review. The verification of hypotheses describing the model was made using empirical research.

The main research was preceded by a pilot one. The pilot research was aimed at verification of a questionnaire itself and obtaining information about the level of understanding of respondents concerning each analysed phenomenon. The main research was conducted among 1,160 organisations, assuming that only one questionnaire was performed in each of them and it was filled by managers of higher level, having an overall view of the entire organisation. The questionnaire was fulfilled using the purchased panel of high-level managers as respondents using CAWI method. The organisations were selected randomly from within the purchased sample. The only characteristics which limited the sample were place of operations and size. The organisations covered by the research were operating in three countries: Poland, Italy and the USA and were employing more than 9 people. The study was performed in the first quarter of 2021, during an active wave of COVID-19 pandemic occurring in each of those countries (characterised by a rising number of active cases, various restrictions required by most countries – including social distancing, travel limitations, and remote work). The overall conclusions may be formulated based on the selected sample,
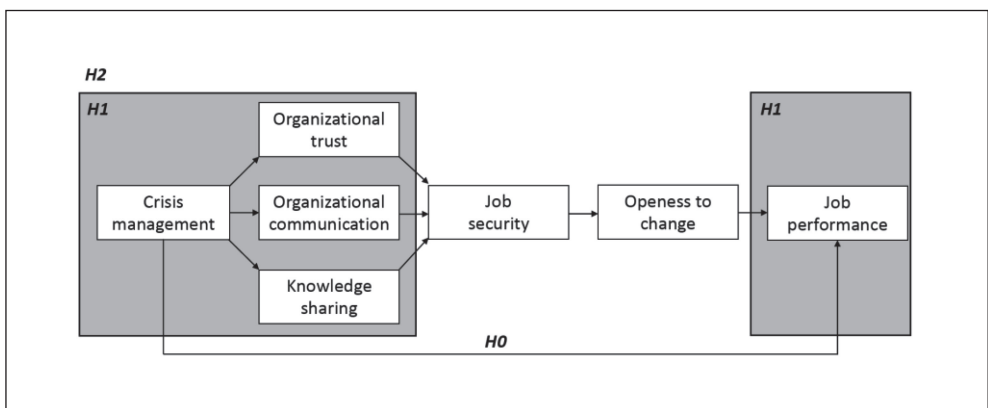

Fig. 1: **Hypotheses overview**

Source: own

despite the fact that there was a purposeful selection of organisations. That is because of the diversity of the organisations included. Tab. 1 shows the overview of the selected sample, showing that organisations come from different backgrounds and their time of operations differ significantly. Moreover, Tab. 2 shows that 937 out of 1,160 organisations included in the sample operated in a crisis caused by the COVID-19 pandemic.

3.1 Variables overview

To verify the proposed hypotheses, the following variables were used in the research and analysed based on previously known scales: i) **Job performance** – covered task proficiency, task meticulousness and work discipline, it was measured based on the scale consisting of 3 items using a 5-point Likert scale [from I strongly disagree (5), to I strongly agree (1) with a middle point: I have no opinion]; ii) **Openness to change** – covered the organisational and individual openness to changes required by the environment, it was measured based on

the scale consisting of 3 items using a 5-point Likert scale (the same); iii) **Job security** – covered the employees trust that they will be able to keep their jobs and their certainty of job environment, it was measured based on the scale consisting of 2 items using a 5-point Likert scale (the same); iv) **Organisational trust** – covered the fairness of employees' treatment and trust of employees in the organisation and managers, it was measured based on the scale consisting of 3 items using a 5-point Likert scale (the same); v) **Knowledge sharing** – covered frequency of information exchange, shared experiences of employees and ability to learn from other employees, it was measured based on the scale consisting of 3 items using a 5-point Likert scale (the same); vi) **Communication** – measured based on the single item concerning the clarity and organisation of communication, allowing for feedback to avoid errors and untested assumptions, and was assessed on a 5-point Likert scale (the same); vii) **Crisis management** – it was measured based on three elements: the existence of strategic crisis

Tab. 1: Organisations characteristics

Primary source of revenue	How long does your organisation operate?				Total
	Less than a year	More than a year, less than 5 years	More than 5 years, less than 20 years	More than 20 years	
Production	39	172	174	95	480
Trade	16	114	78	28	236
Services	8	89	169	220	486
Total	63	375	421	343	1,202

Source: own

Tab. 2: Sample characteristics

Country	Organisation		
	Not in crisis	In crisis	Total
Poland	83	343	426
USA	95	406	501
Italy	45	188	233
Total	223	937	1,160

Source: own

management actions, the existence of structural and technical crisis management actions and the existence of evaluation and diagnostic crisis management actions; each scale consisted of a set of actions, evaluated by the respondents on the 2-point scale: the action exists/the action does not exist.

Moreover, the crisis occurrence was a variable used for identifying the organisations within the sample which experienced a crisis caused by COVID-19. It was a single statement, single choice question concerning the crisis stage in which the organisation was currently operating (with an option: organisation is not in crisis).

Subcategories composing each scale are included in the Appendix.

3.2 Scales' validity

The scales' validity was assessed as a first step to determine whether they can be used as a basis for statistical reasoning. Tab. 3 presents the characteristics of the used variables together with the results of Cronbach alpha and factor analysis (showing the total variance, which is predicted by the set of items building each variable). Both of them show high enough values, which allows to conclude that the proposed scales were good enough (reliable, coherent) to be used in further reasoning.

Tab. 3: **Variables characteristics**

Variable	Items	Cronbach alpha	Factor analysis
Crisis management (CM)	9	0.843	56.895
Knowledge sharing (KnowShar)	3	0.738	65.599
Organisational trust (OrgTrust)	3	0.726	64.626
Communication (Comm)	1	–	–
Job security (JobSec)	2	0.700	76.900
Openness to change (OpChan)	3	0.728	57.463
Job performance (JobPerf)	4	0.753	57.759

Source: own

4. Research results

As a first step of the analysis, determining whether crisis management is indeed influencing job performance, the linear regression analysis was performed. The analysis was done using IBM SPSS Statistics v. 25. It was aimed to verify whether crisis management is an important indicator of job performance in the context of used control variables. It is an important analysis, which allows to determine whether it is possible to carry out further statistical reasoning based on the obtained sample and determined assumptions. The statistically significant model was obtained, which is characterised by $R2 = 0.326$ and $F(8.1102) = 39.750$, $p < 0.001$. The statistics concerning each variable are given in Tab. 4.

The obtained results of linear regression analysis confirmed that crisis management is statistically significant element of the regression model,

including all control variables (V1–6 concern organisational structure, culture, technology, human capital and goals – describing elements of the organisation distinguished by the Leavitt model). It should be noted that not all of those control variables were statistically significant elements of the model (organisational structure and organisational goals were presented with $p > 0.05$). However, the statistical reasoning based on path analysis with crisis management as the independent variable may be used in the given sample. Moreover, such results allow to accept *H0* hypothesis, stating that in organisations functioning in the environment affected by the COVID-19 pandemic, crisis management influences job performance, among other elements essential from the point of view of the organisation's functioning as a whole. It allows to accept *H0* hypothesis and move forward with the analysis.

Tab. 4: Regression analysis results

Variables	B	Standard error	t	p
(h)	2.295	0.112	20.531	0.000
V1	0.022	0.019	1.170	0.242
V2	−0.055	0.021	−2.555	0.011
V3	0.047	0.021	2.257	0.024
V4	−0.111	0.023	−4.832	0.000
V5	−0.075	0.019	−3.978	0.000
V6	−0.001	0.021	−0.067	0.947
CM	0.126	0.025	4.935	0.000

Note: (h) – constant; V1–6 – organisational structure, culture, technology, human capital, goals and environment; CM – crisis management.

Source: own

As the second step, to verify the obtained theoretical model, the path analysis was performed using IBM SPSS AMOS v. 25. The aim of such analysis was to verify the obtained theoretical mediation model of crisis management influence on job performance through set of mediators. Various models were calculated (including default model, unconstrained model, saturated model and independence model) as the steps of the path analysis. The statistically significant and well-fitted model was finally obtained. The fit of the model was assessed with usual values concerning the validity of models obtained through path analysis – CFI (sufficient values above 0.7) and RMSEA (sufficient values below 0.2). The obtained model was statistically significant and well-fitted: Chi2 (9) = 399.316, $p < 0.001$, CFI = 0.828, RMSEA = 0.188. The obtained characteristics of this model are more than sufficient to use it for statistical reasoning. The calculated regression coefficients and effects (total, indirect, direct) occurring within the model for each group of organisations are presented in Tabs. 5–7.

The results obtained based on the statistical reasoning allow to form conclusions acting as a base for the verification of proposed set of hypotheses and verify the proposed theoretical model. At first, it should be underlined that crisis management is indeed influencing job performance and that influence is mediated by other variables, which can be seen in the existence of indirect effects (Tab. 7) between given variables and by

Tab. 5: Regression coefficients

	Estimate	Standard error	Critical ratio	p
KnowShar ← CM	0.244	0.030	8.128	0.001
Comm ← CM	0.187	0.036	5.175	0.001
OrgTrust ← CM	0.275	0.032	8.498	0.001
JobSec ← KnowShar	0.439	0.026	16.932	0.001
JobSec ← Comm	0.141	0.022	6.496	0.001
JobSec ← OrgTrust	0.250	0.024	10.414	0.001
OpChan ← JobSec	0.409	0.022	18.224	0.001

Source: own

Tab. 6: Total effects within the model

	CM	OrgTrust	Comm	KnowShar	JobSec	OpChan
OrgTrust	0.275	0.000	0.000	0.000	0.000	0.000
Comm	0.187	0.000	0.000	0.000	0.000	0.000
KnowShar	0.244	0.000	0.000	0.000	0.000	0.000
JobSec	0.202	0.250	0.141	0.439	0.000	0.000
OpChan	0.083	0.102	0.058	0.179	0.409	0.000
JobPerf	0.031	0.038	0.021	0.067	0.152	0.371

Source: own

Tab. 7: Direct and indirect effects within the model

	CM	OrgTrust	Comm	KnowShar	JobSec	OpChan
OrgTrust	0.275	0.000	0.000	0.000	0.000	0.000
Comm	0.187	0.000	0.000	0.000	0.000	0.000
KnowShar	0.244	0.000	0.000	0.000	0.000	0.000
JobSec	(0.202)	0.250	0.141	0.439	0.000	0.000
OpChan	(0.083)	(0.102)	(0.058)	(0.179)	0.409	0.000
JobPerf	(0.031)	(0.038)	(0.021)	(0.067)	(0.152)	0.371

Note: In the parentheses, indirect effects within the model are shown.

Source: own

the statistically significant relations between variables in the model (Tab. 5).

The regression coefficient given in Tab. 4 and determining the importance of each relation within the model show that all assumed variables were statistically significant elements of the model. Total, indirect and direct effects presented in Tabs. 6–7 show that each of those variables contributed positively in its own way to the influence of crisis management on job performance. The obtained results describing the path analysis performed based on a given sample are enough to accept the proposed hypothesis *H1* confirming that crisis management is influencing job performance through organisational trust (such mediation is the strongest out of first three serial mediators), communication, knowledge sharing, job security and openness to change. Such results allow to accept *H1* and *H2* hypotheses stating that in organisations functioning in the environment affected by the COVID-19 pandemic, crisis management is influencing job performance through organisational trust, communication, knowledge sharing, job security and openness to change.

5. Discussion

The study focused on examining the impact of crisis management on labor performance and identifying the factors mediating this relationship. It was not surprising that among the various indicators that affect job performance, crisis management (or specific management in a crisis) is one of the strongest. The observation that crisis management has a significant, direct impact on employee performance is also confirmed by Pop (2017) and Alariki and Al-Abed (2021). The essence of crisis management is to "restore normalcy by organising, directing and implementing actions to minimise the effects of a hazard" (Trachsler & Jong 2020, p. 485). It should be prepared and trained long before a crisis occurs. And while each crisis is different and

requires an individual strategy, rehearsed ways of responding provide employees with certain behavioral patterns that allow them to maintain individual, group and operational productivity during the first phase of the crisis or during the transition period. In the COVID-19 crisis, the responsible behavior of managers in implementing COVID-19-oriented HRM strategies also had a significant impact on labor productivity. Many of these actions involved ensuring job security (e.g., social distancing, supporting contact tracking, cohorting employees to reduce direct contact, regular hand and respiratory hygiene, wearing protective clothing), which in COVID-19 conditions proved to be a critical factor in reducing the transmission of the virus and, further, the sense of physical and economic threat. Reducing anxiety had a positive impact on productivity, while using inappropriate tactics to reverse the situation or refraining from doing anything at all only increased job insecurity, further reinforced by the expectation of reduced working hours and pay. In a crisis situation, such as the COVID-19 pandemic undoubtedly is, organisations should take into account the subjective reactions of employees, who, due to insecurity and high job insecurity, may exacerbate the impending crisis in the organisation. The COVID-19 pandemic has contributed to the escalation of a number of stressors that threaten the well-being of employees, reduce their job satisfaction and, as suggested by various authors (Cheng & Chan, 2008; Newman et al. 2019; Yousef, 1998), affect organisational performance. This is confirmed by the study. Crisis management can indirectly lead to maintaining a level of occupational safety that is appropriate for the organisation, and thus translate into high employee motivation and commitment to the organisation.

The complexity of organisational processes suggests that the impact of crisis management on job performance through job insecurity is indirect. To this end, additional determinants related to the relationship between crisis management and job performance (through job security) were also examined: organisational trust, communication and knowledge sharing. It should be noted that knowledge sharing has the strongest impact on job security (three times stronger than organisational communication). This means that what is important is not so much the mere fact of transferring information, but primarily what this information is, i.e., whether it carries real and useful knowledge for the recipients. Knowledge transfer in an organisation plays an important role in crisis management and provides support in decision-making processes. The result of this study is an important contribution to the field of crisis management and occupational safety. Knowledge sharing, in addition to the other studied determinants, i.e., organisational trust and communication, makes it possible to maintain an adequate level of occupational safety, through the transfer of data and knowledge that support employees in solving problems and enable optimisation of operations during a crisis. Knowledge sharing (both explicit and tacit) during the COVID-19 pandemic was supported by IT. Through the use of IT, it was possible to work remotely, meet online or maintain relationships via instant messaging (Asrar-ul-Haq & Anwar, 2016). This solution enabled organisations to respond to the ongoing crisis and take quick action to protect jobs and ensure the safety of employees, and indirectly affected organisational productivity. It should be noted that the pandemic has severely curtailed the primary method of implicit knowledge transfer [which, according to Nonaka and Takeuchi (1995), is face-to-face interaction]. Electronic modes of information transfer, used in lieu of face-to-face communication, have enabled the flow of mostly explicit knowledge needed to perform daily tasks, but it should be noted that perhaps the most useful knowledge may be tacit. Communication plays a key role in building trusting relationships, and organisational trust has proven to be a very important mediator of the relationship between crisis management and occupational safety. Moreover, organisational trust is also essential for building productivity (Roberts & David, 2020; Usikalu et al., 2015), but in an electronic context it becomes fragile and even breaks down (Rocco, 1998).

The study also offers some significant contributions to crisis management research by introducing openness to change as an element that significantly mediates the impact of crisis management on employee performance. The obtained model helped confirm the views found in the literature, which state that without openness to change, it is much more difficult to change the role of employees in the organisation, the way tasks are performed, and even the goals or strategies of the entire organisation, which can hinder the implementation of crisis

management and limit the ability to reap its full benefits (Dahles & Susilowati, 2015; Torres et al., 2019). The results obtained show that openness to change is indeed an important mediator for crisis management to influence work performance, and mediates the significant role not only of crisis management, but also of organisational trust, organisational communication, knowledge sharing and job security in shaping work performance. This allows us to conclude that once job security is achieved, it is necessary to build openness to change among employees. The results confirmed that employees need to go beyond the routine of their behavior and effectively adapt to the changed conditions of the organisation, and openness to change becomes a de facto trigger for change. Such a trigger for the need to implement out-of-the-box measures proved to be essential for employees to perform at expected levels under the crisis conditions caused by the COVID-19 pandemic.

Conclusions

The main aim of this study is to examine the impact of crisis management on the job performance as well as mechanism underlying it. It was assumed that the relation was mediated by organisational trust, organisational communication, knowledge sharing but also job security and openness to change. Such aim was achieved with literature analysis, which was a basis for building a sequential mediation model using the above-mentioned mediators. The obtained model was verified using empirical research performed among 1,160 organisations operating under active wave of COVID-19 pandemic in Poland, Italy and the USA. It allowed for the analysis of crisis management among organisations, which were operating in crisis caused by the COVID-19 pandemic.

The research showed that the mechanism of the impact of crisis management on job performance for organisations operating under COVID-19 pandemic conditions includes the mediating role of not only organisational trust, organisational communication, knowledge sharing but also job security and openness to change. Such analysis fills in the existing research gap and constitutes and important contribution to the field of crisis management. The obtained results also have some practical implications, showing the mechanism through which the implemented crisis management

is impacting individual employees, allowing organisations to stimulate each factor contributing to the possibility of ensuring more benefits coming from the implemented crisis management.

However, the performed research has some limitations. The obtained model was verified only in one, specific crisis context (in COVID-19 pandemic) and although many factors suggest that they can be generalised to all types of crisis phenomena, this should be the subject of further research. It would be also worth checking whether this effect is not reinforced by other factors, e.g., organisational, managerial or with employees connected determinants. Moreover, also relationships among knowledge sharing, communication and organisational trust in the context of crisis management are worth a deeper study.

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Appendix

Organizational trust
Scale: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.
A. Employees are treated fairly by the organisation.
B. Employees trust this organisation to keep its promises or commitment to employees.
C. Employees trust management to look after their best interests.

Job turnover
Scale: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.
A. Employees are very sure that they will be able to keep their job.
B. Employees are certain of their job environment.

Knowledge sharing
Scale: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.
A. Employees frequently exchange important information with other teams' members.
B. Employees share experience with other teams' members.
C. Employees learn a lot from other teams' members.

Openness to change
Scale: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.
A. Employees would consider themself to be open to the changes in the work policies caused by COVID-19.
B. Employees think that implementation of changes caused by COVID-19 in the organisation will have a positive effect on how they accomplish my work.
C. From the employees' perspective, the proposed changes caused by COVID-19 will be for the better.

Job performance
Scale: very poor, poor, fair, good, very good.
A. Please, assess the work of employees in the context of job quality.
B. Please, assess the work of employees in the context of job efficiency.
C. Please, assess the work of employees in the context of punctuality.
D. Please, assess the work of employees in the context of effectiveness of achieving goals at the workplace.

Crisis management
Scale: does occur, does not occur.
A. Does the organisation implement any strategic crisis management (CM) actions?
   1. None.
   2. Integrate CM into strategic planning processes.
   3. Integrate CM into statements of corporate excellence.
   4. Include outsiders on the Board and on CM teams.
   5. Provide training and workshops in CM.
   6. Expose organisational members to crisis simulations.
   7. Create a diversity or portfolio of CM strategies.
B. Does the organisation implement any technical and structural crisis management (CM) actions?
   1. None.
   2. Create a CM team.
   3. Dedicate budget expenditures for CM.
   4. Establish accountabilities for updating emergency policies/manuals.

   5. Computerise inventories of CM resources (e.g., employee skills).
   6. Designate an emergency command control room.
   7. Assure technological redundancy in vital areas (e. g., computer systems).
   8. Establish working relationship with outside experts in CM.

C. Does the organisation implement any evaluation and diagnostic crisis management (CM) actions?
   1. None.
   2. Conduct legal and financial audit of threats and liabilities.
   3. Modify insurance coverage to match CM contingencies.
   4. Conduct environmental impact audits.
   5. Prioritise activities necessary for daily operations.
   6. Establish tracking system for early warning signals.
   7. Establish tracking system to follow up past crises or near crises.

Crisis occurrence (single response)

A. In which phase of crisis is currently the organisation?
   1. The organisation is not in crisis.
   2. The organisation detected signals, which inform that a crisis may occur.
   3. The organisation is currently implementing preparations to prevent the predicted crisis.
   4. The organisation is currently implementing a containment plan and damage limitation measures to contain the crisis.
   5. The organisation is recovering from the crisis and its parameters are growing.
   6. The organisation is failing to recover from the crisis and its parameters are declining even though all measures were implemented to contain the crisis.
   7. The organisation is currently learning from the recent crisis.