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KEY COMPETENCIES FOR PROJECT MANAGEMENT IN UNEXPECTED CRISIS SITUATIONS: AN EMPIRICAL STUDY

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Purpose: This study investigates the key competencies required of project managers when leading projects triggered by unexpected organizational crises. There is limited empirical research on competencies for such projects. The paper addresses this gap by examining the importance of skills in crisis response projects using one of the standard project management skillset frameworks.

Design/methodology/approach: A quantitative survey was conducted among 151 project management professionals affiliated with professional communities such as the IPMA Poland and Agile Warsaw. Using the IPMA ICB v.4.0.1 framework, respondents rated the importance of twenty-eight defined competencies in the context of projects initiated in response to unexpected organizational or corporate crisis. The data were analyzed using descriptive statistics and the coefficient of variation to determine priority competencies and the level of agreement among practitioners.

Findings: The results show that interpersonal competencies are perceived as the most important when managing crisis response projects. These are followed by competencies related to risk management and the timely handling of information. Conversely, procedural and compliance-related competencies were rated less critical in the initial response phase. The findings suggest a shift in the competency profile needed for crisis contexts, emphasizing emotional intelligence, adaptability, and decision-making under uncertainty.

Research limitations and implications: The study is limited by its geographic focus on Poland, the chosen population of practitioners, and its reliance on self-assessed perceptions rather than observed behavior. Future research should include cross-cultural comparisons, longitudinal tracking, and scenario-based simulations to understand better how competencies are applied during real crises.

Practical implications: Findings can inform training, certification, and development programs by emphasizing soft skills, adaptive leadership, and crisis simulations. Organizations should reassess their competency frameworks to better prepare crisis managers for volatile environments and to benefit from assigning project managers with the adequate set of skills to the role of crisis managers.

Social implications: Strengthening crisis management competencies can enhance organizational resilience, improve stakeholder trust, and mitigate the societal impact of disruptions related to “black swan” events, such as pandemics or cyberattacks.

Originality/value: This is one of the first studies to apply the IPMA ICB v.4.0.1 framework to crises empirically. It offers a revised competency profile for crisis-response projects, providing actionable insights for practitioners, educators, and certifying bodies.
Keywords: unexpected organizational crisis, project manager competencies, crisis manager competencies, risk management, IPMA ICB.
Category of the paper: Research paper.

1. Introduction

Organizations face many unexpected and disruptive crises in an increasingly volatile and complex global environment. Events such as pandemics, technological failures, cyberattacks, and reputational scandals have highlighted the limitations of traditional risk management and continuity planning frameworks (Knight, 1921; Coombs, 2019). These developments emphasize the need for new organizational capabilities, particularly in managing crises that exceed predefined risk scenarios and demand rapid, adaptive responses under extreme uncertainty.

While the field of crisis management has matured significantly, much of the existing research focuses on known risks and standard continuity strategies. There is comparatively little focus on unexpected crises that require organizations to initiate ad hoc, project-like responses without the benefit of ready-made procedures. Moreover, although project management competencies have been extensively studied in stable environments (Patankul, Milosevic, 2009; Stevenson, Starkweather, 2010), little attention has been given to the specific competencies necessary for project managers leading crisis-response projects in unpredictable and unstable conditions.

This study addresses this gap by investigating which competencies are perceived as most critical for project managers when managing projects triggered by unexpected organizational crises, including ones triggered by "black swan" events (Taleb, 2010). Drawing on the IPMA Individual Competence Baseline v. 4.0.1 (IPMA, 2015), a well-established competency model, we conducted a quantitative study among 151 experienced project management professionals affiliated with communities such as IPMA Poland and Agile Warsaw. Participants assessed the relevance of twenty-eight IPMA competencies in managing projects in response to unexpected crises.

The results indicate that interpersonal competencies, particularly personal communication, teamwork, and leadership, are perceived as most vital in crises, followed by risk awareness and strategic alignment competencies. Conversely, technical and procedural competencies, such as compliance, procurement, and quality management, were rated comparatively less critical during immediate crisis response phases.

By exploring the competency profile required for effective leadership in unexpected crises, this study contributes to both theory and practice. It emphasizes the importance of soft skills, emotional intelligence, and adaptive leadership capabilities in project management. It offers insights for competency development, training, and certification processes in an era where uncertainty and volatility have become the new normal.

2. Literature review

2.1. Crisis Management and Unexpected Crises in Organizations

Crisis management in organizations has gained increasing attention in recent years. Academia and business practice now broadly agree on the inevitability of crises and their potential to escalate into full-blown disruptions (European Commission: Directorate-General for Research and Innovation, 2022; Pearson, Mitroff, 1993; Aon, 2023). Some scholars argue that crises occur more frequently and have become defining characteristics of contemporary organizational reality (Unterhitzenberger et al., 2024). This understanding underscores the importance of comprehensive and proactive crisis management strategies.

The concept of a crisis has been defined and classified in numerous ways (Walas-Trębacz, Ziarko, 2011; Vašíčková, 2020), and its foundations are deeply rooted within various management theories (Kozieradzka, Zawiła-Niedźwiecki, 2016; Roux-Dufort, Lalond, 2013; Nteka, 2021). In this article, a crisis is defined according to ISO 22361:2022 Security and Resilience - Crisis Management - Guidelines (International Organization for Standardization, 2022), which describes the crisis as an abnormal and unstable situation that threatens an organization's strategic objectives, reputation, or continued existence, demanding urgent decision-making under conditions of uncertainty and time pressure.

The field of crisis management has evolved significantly, shifting from primarily reactive measures to more proactive, strategic approaches (Coombs, 2019). Originally, responses were reactive, focusing on public relations and damage control after crises erupted. However, growing organizational complexity and high-profile failures have driven the development of sophisticated frameworks. Several key trends mark this evolution: a move toward proactive risk management and scenario planning (Pearson, Mitroff, 1993), the integration of crisis management with strategic planning, and the emphasis on stakeholder communication, involving transparency, empathy, and timely dissemination of information (Coombs, 2019) or resilience as a general approach (Rzegocki, 2021; Eichholz, Hoffmann, Schwering, 2024)

Organizational resilience has emerged as a critical concept, emphasizing the ability to survive crises and adapt and grow in response to them. Key elements of resilience include robust risk management, adaptive capacity, strong leadership, and a culture that fosters preparedness

and continuous learning. Organizations that cultivate resilience tend to recover more efficiently, maintain stakeholder trust, and identify opportunities for post-crisis improvement. Increasingly, crisis management is not an isolated function but an element deeply integrated into an organization's overall strategic and operational management.

Building on Knight's classic theory of risk and uncertainty (Knight, 1921), organizations are understood to face two types of random events, differentiated by the degree of control possible. In the case of risk, prior analysis and the development of targeted responses, often through business continuity programs, are possible. In contrast, uncertainty precludes direct preemptive actions. Some random events can precipitate abnormal and unstable conditions that constitute crises regardless of origin. Moreover, ignoring a crisis typically amplifies its disruption, increasing the likelihood of organizational failure (Coombs, 2019, Chapter 7, "Crisis responding").

The existence of uncertainty underscores the possibility of shaping a direct response. This is especially true for "black swan" events, a now-popular term for unpredictable, high-impact events that can only be thoroughly analyzed in hindsight (Aven, 2013). Therefore, an organization's reaction to a crisis should be based on its specific preparedness for known risks and general resilience to unexpected events. Concerning the risk-based shaped response, uncertainty can also play a role. Risk management procedures can be insufficient, ineffective, or even counterproductive. A non-existent procedure fulfills at least the first two criteria above and can also lead to some counterproductive actions.

The predictability of crises has served as a criterion for taxonomy for almost 30 years (Pearson, Clair, 1998) and laid the foundation for Nassim's definition of a black swan event. From the perspective of organizational continuity, several approaches to effective preparedness for responding to disruptions have been identified (Galaitsi et al., 2021; Galaitsi et al., 2023). However, there is still a lack of a definition of the event itself that addresses the ability to respond based upon a ready scenario.

When an organization finds its existing crisis response procedure to be nonexistent, insufficient, ineffective, or counterproductive, it can be considered an unexpected crisis.

Unexpected crises can manifest in numerous forms, each presenting unique organizational challenges (Coombs, 2019). Natural disasters, such as earthquakes, tsunamis, hurricanes, or pandemics like COVID-19, can severely disrupt operations and supply chains (European Commission, Directorate-General for Research and Innovation, 2022). Technological failures, including cyberattacks and data breaches, can damage reputations and lead to substantial financial losses. Economic crises, such as recessions and market crashes, threaten financial viability, while reputational crises, stemming from scandals or social media backlash, can erode customer trust and brand loyalty.

The consequences of such crises are far-reaching, encompassing operational disruptions, financial losses, legal repercussions, and adverse effects on employee morale. Resilience again plays a crucial mitigating role: organizations that anticipate and prepare for multiple disruptions are better equipped to recover and capitalize on opportunities arising from the post-crisis period.

2.2. Crisis Response Project

Responding to an organizational or corporate crisis can be viewed as initiating a temporary organization, which may involve more or less readily available solutions (Unterhitzenberger et al., 2024). In the context of an unexpected crisis, the option to trigger a pre-deployed and tested risk-response action is either unavailable or significantly limited (Unterhitzenberger et al., 2024). However, a response to an unexpected crisis inherently fulfills the definition of a project, even if it is not formally designated as such. This perspective, that a corporate crisis response can be understood as a project, is not a new one (Sawle, 1991; Rolfe, 2011), and while it has recently regained prominence (Čelesnik, Radujković, Vrečko, 2018; Gmerski, Waszkiewicz, 2023; Zijderveld, Kalkman, 2023), it also sometimes falls outside the scope of analysis (Obłój, Voronovska, 2024; Szews, 2022).

A crisis response project can be defined by drawing from crisis management literature and de facto standards, as illustrated in Table 1. For example, Coombs (2019) describes it as a coordinated initiative by an organization to address, manage, and mitigate the impact of unexpected and disruptive events that threaten the organization's people, operations, assets, or reputation. Similarly, it can be viewed as a structured set of actions taken rapidly by an organization to mitigate damage, restore operations, and communicate effectively with stakeholders in emergencies such as natural disasters, cyberattacks, or public relations crises (International Organization for Standardization, 2022).

Table 1.
Definitions of the crisis response project

Definition of the crisis response project	Source
A coordinated initiative undertaken by an organization to address, manage, and mitigate the impact of unexpected and disruptive events that threaten to harm the organization's people, operations, assets, or reputation.	Chapter 7 "Crisis responding" in (Coombs, 2019)
A structured set of actions taken rapidly by an organization to reduce damage, recover operations, and communicate effectively with stakeholders in the face of emergencies such as natural disasters, cyberattacks, or public relations crises.	(International Organization for Standardization, 2022)

Furthermore, aligning with the logic of risk management in the Project Management Body of Knowledge (PMBOK® Guide), a de facto standard in project management (Project Management Institute 2021a), a crisis response project can be defined as a temporary, goal-oriented organizational effort initiated to respond to a critical disruption, to ensure business continuity and stakeholder safety. In the case of an unexpected crisis, this type of project represents a unique, temporary organization that is only loosely connected to existing business continuity processes. Like any other project, it requires a competent project manager.

This raises the question of evaluating such a manager and identifying the competencies that are most vital in an unexpected crisis. While some studies aim to define crisis manager competency (Mikušová, Čopíková, 2016; Tomastik, Strohmandl, Cech, 2015) or the crisis leadership role in general (International Organization for Standardization, 2022), research specifically investigating crisis response manager competency from a project manager perspective is limited (Gmerski, Waszkiewicz, 2023; Champlain College, 2024; Owusu, 2024), yet it represents an important area for further exploration (Unterhitzenberger et al., 2024). This paper focuses on the competency profile of a crisis manager, viewed explicitly as a project manager, when handling an unexpected organizational crisis.

2.3. Project Manager Competency Frameworks

The competencies of a project manager play a crucial role in determining the success of a project (Patankul, Milosevic, 2009; Stevenson, Starkweather, 2010). Effective project management requires combining technical expertise, strategic thinking, leadership, and interpersonal skills to achieve success. Various competency frameworks and standards have been established to ensure project managers develop and maintain these essential competencies (Chen, Partington, Wang, 2008; Takey, Carvalho, 2015). These frameworks serve as structured guidelines for assessing, enhancing, and reassessing project management competencies throughout a professional's career. Competency development is not a one-time event, but a continuous process that requires project managers to engage in ongoing learning, skill refinement, and professional development (Marnewick, Erasmus, Joseph, 2016).

Over the years, several project management competency models have been introduced to define the knowledge, skills, and behaviors necessary for success in the field. These models serve as theoretical references and provide a formal structure for evaluating and certifying project managers. The methodologies outlined in these frameworks help organizations and individuals identify strengths and areas for improvement, enabling them to ensure that project managers are well-equipped to handle the complexities of real-world project execution.

A variety of specialized project management methodologies exist, including the PMBOK Guide, PRINCE2, Project Cycle Management (PCM), TenStep, and HERMES, among others (Morris, 2013; Trocki et al., 2017; Svejvig, 2015). While these methodologies offer structured approaches to project execution, only a few explicitly incorporate project manager competency models (Eskerod, 2013). Selecting a competency framework that aligns with industry standards and professional certification requirements is crucial for ensuring consistency in project management training and assessment. In line with Bredillet et al. (2015), this research focuses on three well-established competency standards widely recognized and utilized across the project management profession: those of the Global Alliance for Project Performance Standards (GAPPS), the Project Management Institute (PMI), and the International Project Management Association (IPMA). Each of these organizations has developed a structured framework for defining, assessing, and developing project management competencies. While they share

common elements, they also differ in their approaches, assessment criteria, and certification processes.

The Competency Baseline for Project, Program, and Portfolio Management (CBP), developed by GAPPS, is a globally recognized standard that outlines the core competencies required for practical project, program, and portfolio management (Global Alliance for Project Performance Standards, 2007). The CBP framework identifies 46 key competencies, categorized into five units that focus on critical project processes, including stakeholder engagement, project planning, and progress monitoring. Unlike IPMA and PMI, GAPPS operates as a volunteer-driven organization, collaborating with industry stakeholders to develop open-source competency frameworks that are freely available to businesses, academic institutions, and government bodies. However, while GAPPS provides a structured competency assessment model, it does not function as a formal certification body, meaning its competency framework serves more as a guideline than a regulated certification system.

PMI, one of the most globally recognized organizations in project management, emphasizes a competency-based approach through its Talent Triangle, which was recently updated to reflect the evolving demands of the profession (Project Management Institute, 2021). The Talent Triangle defines three core areas of competency that are essential for project managers:

- Ways of Working (formerly technical project management).
- Power Skills (formerly leadership).
- Business Acumen (formerly strategic and business management).

PMI's competency framework is further detailed in the Project Manager Competency Development (PMCD) Framework, which provides a structured approach to defining and assessing project management competence (Project Management Institute, 2021). While PMI offers one of the most recognized project management certification systems, it is essential to note that its certifications, such as the Project Management Professional (PMP) certification, are not directly based on the PMCD Framework but instead focus on mastery of the PMBOK Guide methodology. Additionally, PMI certification requires a combination of professional experience and exam-based assessment; thus, competency development is often a self-driven process rather than following the steps of a structured certification program.

The IPMA takes a distinctive approach to competency development. The IPMA Competence Baseline v.4.0.1 (ICB) does not discuss competencies in terms of specific roles (e.g., project manager), but rather in terms of domains (e.g., individuals working in project management). The rationale for this approach is that roles and role titles vary significantly across different languages, industries, and areas of focus. Therefore, the ICB presents important competencies for three domains: project management, program management, and portfolio management. Each domain may contain roles and titles that fit into the overall competence domain. ICB is organized into three areas: technical competencies (called "Practice), behavioral competencies (called "People"), and contextual competencies (called "Perspective") (see Figure 1).

Figure 1. IPMA's Eye of Competence.

Source: IPMA, 2015.

Unlike PMI's methodology-focused certification process, IPMA's certification system is explicitly designed for competency assessment, making it the only framework among the three that integrates both competency modeling and a structured, multi-level certification process.

According to ICB, there are several key competency areas. Perspective competencies encompass the methods, tools, and techniques through which individuals interact with the environment, as well as the rationale that leads people, organizations, and societies to initiate and support projects, programs, and portfolios. People competencies refer to the personal and interpersonal skills required to successfully participate in or lead a project, program, or portfolio. Lastly, practice competencies refer to the specific methods, tools, and techniques employed in projects, programs, and portfolios to achieve their success. Within each competence area, generic competence elements (CEs) apply to all domains. CEs contain lists of the pieces of knowledge and skills required to master the related competence area. Key competence indicators (KCIs) provide definitive indicators of successful project, program, and portfolio management across two or all three domains. Each KCI contains detailed measures of related performance points.

Competence in the project domain is broken into 28 CEs, each of which can contain one or many KCIs (see Figure 2).

Area No.	CE No.	Description
4.3 Perspective	4.3.1	Strategy
	4.3.2	Governance, structures and processes
	4.3.3	Compliance, standards and regulations
	4.3.4	Power and interest
	4.3.5	Culture and values
4.4 People	4.4.1	Self-reflection and self-management
	4.4.2	Personal integrity and reliability
	4.4.3	Personal communication
	4.4.4	Relationships and engagement
	4.4.5	Leadership
	4.4.6	Teamwork
	4.4.7	Conflict and crisis
	4.4.8	Resourcefulness
	4.4.9	Negotiation
	4.4.10	Result orientation
4.5 Practice	4.5.1	Project design
	4.5.2	Requirements and objectives
	4.5.3	Scope
	4.5.4	Time
	4.5.5	Organization and information
	4.5.6	Quality
	4.5.7	Finance
	4.5.8	Resources
	4.5.9	Procurement
	4.5.10	Plan and control
	4.5.11	Risk and opportunity
	4.5.12	Stakeholders
	4.5.13	Change and transformation

Figure 2. IPMA Project KCIs.

Source: IPMA, 2015.

As discussed above, among the three selected competency standards, IPMA ICB v.4.0.1 is the only one that has been formalized and operates as an actual project management assessment (certification) body worldwide. Therefore, our research will utilize it as a framework, seeking key competencies in managing the project in response to an unexpected crisis.

2.4. Related Studies on Project Manager Competencies

When addressing the competencies required of managers leading projects during unexpected crises, it is crucial to consider prior research efforts that have explored project management competencies in broader contexts. Several studies have provided significant insights into the profiles of effective project managers, which serve as a foundation for understanding the competencies critical during crisis response.

Trivellas and Drimoussis (2010) provided a valuable diagnostic framework by integrating the IPMA Competence Baseline with the Competing Values Framework. Their research highlighted that, beyond technical skills, behavioral competencies (e.g., leadership, self-control, openness, crisis management skills) have a substantial influence on project success. Particularly relevant to crisis scenarios is their emphasis on "Conflict and Crisis" as an essential behavioral competence, requiring project managers to undertake risk analyses, scenario planning, and to remain composed under pressure.

Brzozowski and Bartkowiak (2019) conducted an empirical study in Poland to assess the competencies and personality traits of project managers. They categorized competencies into seven dimensions: technical, interpersonal, diagnostic-analytical, conceptual, organizational, managerial, and political. Their findings also emphasized the importance of independent thinking, resilience in the face of stress, and proactive behavior, traits particularly vital for managers operating in unexpected crises.

Musioł-Urbańczyk (2020) emphasized the need to identify and prioritize the key competencies of project managers. Through a structured procedure combining literature analysis, job market reviews, and interviews with experienced project leaders, 46 competencies were categorized into four major groups: professional, social, personal, and business competencies. Particular attention was paid to leadership, communication, team building, and risk management skills, with an understanding that socio-cultural context (such as the Polish business environment) influences the perceived importance of these competencies. This holistic competency model suggests that social and personal competencies, such as motivating teams and demonstrating resilience, become even more crucial in times of crisis.

In a recent systematic literature review, Ochoa Pacheco et al. (2023) identified leadership, communication, and emotional intelligence as dominant personal and social competencies associated with project success. Their analysis highlights that while technical skills remain important, competencies related to interpersonal dynamics and adaptability have become increasingly crucial to successful project outcomes. The findings underscore that the manager's soft skills are crucial in guiding projects toward recovery and stabilization in volatile and uncertain environments, such as crises.

Reviewing existing studies on project manager competencies reveals a consistent evolution in understanding the skill sets required for effective project leadership, particularly in conditions characterized by high uncertainty and unexpected disruptions. Musioł-Urbańczyk's model presents a comprehensive profile encompassing professional, social, personal, and business competencies, all of which are critical but must be reprioritized under crisis conditions (Musioł-Urbańczyk, 2020). Similarly, Trivellas and Drimoussis, through the lens of behavioral competencies, emphasize the indispensable role of emotional regulation, conflict management, and resilience—qualities directly transferable to crisis response contexts (Trivellas, Drimoussis, 2010). Ochoa Pacheco et al.'s systematic literature review reinforces that soft skills such as leadership, communication, and emotional intelligence are pivotal to project success under dynamic and unpredictable circumstances (Ochoa Pacheco et al., 2023). Brzozowski and Bartkowiak's empirical findings in the Polish context further substantiate the need for managers to possess strong interpersonal, analytical, and adaptive competencies when operating in project-based environments (Brzozowski, Bartkowiak, 2019).

Synthesizing the above research suggests that while technical proficiency remains necessary, the behavioral, emotional, and strategic agility competencies are most critical in enabling project managers to lead effectively during unexpected crises. These findings align

directly with the results of our empirical study, in which interpersonal competencies such as communication, teamwork, and leadership were rated as the most important for managing crisis-response projects. Thus, project managers entrusted with steering organizations through unexpected crises must be technically capable and embody a robust profile of adaptive leadership, emotional intelligence, and strategic resilience. This shift in competency prioritization has profound implications for the training, development, and certification of project managers in today's increasingly unpredictable organizational landscapes.

3. Methodology

This research employed a quantitative approach to investigate the competencies required of a project manager to deal with unexpected crises effectively. Quantitative research is well-suited for this purpose, as it enables the systematic collection and analysis of data to identify patterns and relationships between specific competencies and their perceived importance in crisis management scenarios. The study's primary objective was to develop a ranking of project manager competencies in the context of unexpected crises. The analysis focused on three groups of competencies based on the IPMA model: Perspective, People, and Practice. Respondents were asked to assess the usefulness of individual competencies for effectively managing a project initiated in response to an unexpected crisis. The evaluation was conducted using a five-point Likert scale, ranging from "not useful" to "very useful". Subsequently, the results of the conducted study were compared with findings from other academic works that examine the importance of project management competencies, though not specifically in the context of managing unexpected crises.

The study involved 151 participants, all of whom possess professional experience in project management. Participants were recruited from various professional communities and organizations, including IPMA Poland, Agile Warsaw, and Agile Kraków, to ensure a representative sample. These affiliations provided access to a diverse group of project management practitioners with varying levels of experience and industry backgrounds. Data was collected through a structured questionnaire designed explicitly for this research. The questionnaire's core component evaluated the relevance of the 28 competence elements outlined in the IPMA ICB v.4.0.1. Participants were asked to assess the perceived importance of each competence element in managing projects initiated in response to unexpected crises. This assessment systematically evaluated how project management professionals prioritize different competencies when faced with crises. The questionnaire employed a rating scale, allowing respondents to quantify their perception of the relevance of each competency. This approach facilitated statistical analysis and comparison of the competence elements. Using a standardized instrument based on the IPMA ICB v.4.0.1, the study ensured that the

data collected was aligned with a recognized and widely used competency framework in project management.

Using a quantitative methodology, which emphasizes structured data collection and analysis, allowed for the objective measurement of project management competencies in unexpected crises. The data obtained through the questionnaire was then analyzed using statistical techniques to identify key trends and draw conclusions about the most critical competencies for crisis response project managers.

4. Research Results

4.1. Perspective Area

The first group of competencies – Perspective Area - consists of five competencies (see Table 3). The Perspective Area generally received slightly lower average scores overall than the other domains – People and Practice. However, specific competencies still stand out as especially important. Notably, "Strategy" (Mean = 4.40, CV = 0.186) and "Governance, Structures, and Processes" (Mean = 4.34, CV = 0.184) were seen as essential, emphasizing the importance of swiftly connecting crisis response actions to the organization's overarching strategy and ensuring well-defined operational frameworks.

Table 3.
Scores for the First Group of Competencies – Perspective Area

No.	ICB CE	N	Mean	Median	SD	CV
1.	Strategy	151	4,40	5,00	0,818	0,186
2.	Governance, structures, and processes	151	4,34	4,00	0,800	0,184
3.	Power and interest	151	4,27	4,00	0,791	0,185
4.	Compliance, standards, and regulations	151	3,97	4,00	0,955	0,241
5.	Culture and values	151	3,84	4,00	1,033	0,269

In contrast, lower scores for "Culture and Values" (Mean = 3.84, CV = 0.269) and "Compliance, Standards, and Regulations" (Mean = 3.97, CV = 0.241) suggest these areas were viewed as less urgent during the immediate crisis response. Their significance is likely to increase during the recovery and long-term adjustment phases.

Additionally, the coefficient of variation (CV) was calculated to interpret the relative variability of the data, specifically how consistently respondents rated each competency. It expresses the standard deviation as a percentage of the mean, providing a standardized way to compare the variability of different items, even if their means are different. "Strategy" not only scored high but had a low CV, indicating strong agreement between respondents that it is crucial. "Culture and Values" had the lowest mean score; its CV is also the highest (0.269), suggesting people had divergent views on its importance.

4.2. People Area

There are ten competencies in the People Area (see Table 4). Competencies in this domain received the highest average scores, with "Personal Communication" (M = 4.70, CV = 0.123), "Teamwork" (M = 4.65, CV = 0.139), and "Leadership" (M = 4.57, CV = 0.135) ranking at the top. These results underscore the crucial role of interpersonal skills in crisis environments. Notably, "Conflict and Crisis" and "Self-reflection and Self-management" also scored high, reinforcing the value of emotional intelligence and composure under pressure.

Table 4.
Scores for the Second Group of Competencies – People Area

No.	ICB CE	N	Mean	Median	SD	CV
1.	Personal communication	151	4,70	5,00	0,577	0,123
2.	Teamwork	151	4,65	5,00	0,645	0,139
3.	Leadership	151	4,57	5,00	0,617	0,135
4.	Relationships and engagement	151	4,50	5,00	0,738	0,164
5.	Self-reflection and self-management	151	4,48	5,00	0,738	0,165
6.	Conflict and crisis	151	4,43	5,00	0,770	0,174
7.	Resourcefulness	151	4,34	5,00	0,841	0,194
8.	Negotiation	151	4,32	4,00	0,805	0,186
9.	Result orientation	151	4,06	4,00	0,947	0,233
10.	Personal integrity and reliability	151	3,89	4,00	1,114	0,286

While still important, the lowest-rated item in this domain, "Personal Integrity and Reliability" (Mean = 3.89, CV = 0.286), may reflect an assumption that ethical behavior is a baseline expectation rather than a differentiator in crisis response.

4.3. Practice Area

Within the Practice domain (See Table 5), "Risk and Opportunity" (Mean = 4.60, CV = 0.133) emerged as the most prominent competency, underscoring the recognized importance of proactively managing risks, even in highly volatile situations. "Organization and Information" (Mean = 4.50, CV = 0.162) and "Time" (Mean = 4.44, CV = 0.180) also received high ratings, highlighting the critical role of efficient information flow and timely decision-making during periods of uncertainty.

Table 5.
Scores for the Second Group of Competencies – Practice Area

No.	ICB CE	N	Mean	Median	SD	CV
1.	Risk and opportunity	151	4,60	5,00	0,612	0,133
2.	Organization and information	151	4,50	5,00	0,729	0,162
3.	Time	151	4,44	5,00	0,796	0,180
4.	Requirements and objectives	151	4,40	5,00	0,801	0,182
5.	Plan and control	151	4,38	5,00	0,782	0,178
6.	Scope	151	4,38	5,00	0,781	0,178
7.	Project design	151	4,34	4,00	0,784	0,180

Cont. table 5.

8.	Resources	151	4,34	4,00	0,738	0,170
9.	Change and transformation	151	4,11	4,00	0,956	0,232
10.	Finance	151	4,09	4,00	0,904	0,221
11.	Quality	151	4,09	4,00	0,952	0,233
12.	Stakeholders	151	4,08	4,00	0,891	0,218
13.	Procurement	151	4,01	4,00	0,856	0,213

By contrast, competencies like "Procurement" (Mean = 4.01, CV = 0.213) and "Stakeholders" (Mean = 4.08, CV = 0.218) were rated somewhat lower. This suggests that, during an acute crisis, managing supply chains and engaging with broader stakeholder networks may be deprioritized in favor of focusing on internal operations and maintaining control.

It is worth noting that, when considering all twenty-eight project management competencies, the ones rated as most important in the context of an unexpected crisis were the following:

1. "Personal Communication" (M = 4.70, CV = 0.123).
2. "Teamwork" (M = 4.65, CV = 0.139).
3. "Risk and Opportunity" (Mean = 4.60, CV = 0.133).

5. Discussions and Conclusions

The findings of this study provide critical insights into the competencies required of project managers when responding to unexpected organizational crises. The analysis confirms that in high-uncertainty and high-pressure environments, traditional technical competencies, although still relevant, are no longer sufficient on their own. Instead, interpersonal, behavioral, and strategic adaptability competencies form the dominant profile perceived as essential for effective crisis response management.

The results indicate that personal communication, teamwork, leadership, and risk management were evaluated as the most critical competencies. This outcome aligns closely with the growing body of literature emphasizing the importance of soft skills and emotional intelligence in navigating crises (Trivellas, Drimoussis, 2010; Musioł-Urbańczyk, 2020; Ochoa Pacheco et al., 2023). Coordinating, motivating, and maintaining cohesion within project teams becomes paramount in crisis conditions. Effective communication facilitates the rapid dissemination of accurate information and ensures alignment among stakeholders, while firm leadership provides direction and fosters a psychologically safe environment. These abilities enable organizations to react to crises swiftly and coherently.

The prominence of competencies from the People Area of the IPMA ICB v.4.0.1 model, particularly those related to conflict management and self-management, highlights an important expectation placed upon project managers: beyond operational skills, they must possess high

self-awareness, emotional regulation, and interpersonal sensitivity. In volatile environments, the project manager's personal conduct has a significant influence on the team's resilience and performance, making emotional intelligence a practical necessity rather than a supplementary skill.

On the other hand, competencies traditionally emphasized in standard project environments, such as procurement management, compliance, and quality assurance, were rated as less critical during the immediate crisis response phase. This suggests a pragmatic reordering of priorities in crises, where flexible and swift decision-making outweighs the formal adherence to procedures. Nonetheless, these competencies likely regain importance during the recovery and stabilization phases once the immediate threat has been addressed.

The analysis also validates the importance of specific competencies within the Practice Area, particularly risk and opportunity management and organizational information management. These competencies ensure that decision-making remains structured and grounded in information flow management, even in the midst of chaos, enabling more effective crisis navigation.

The results support the view that managing projects launched in response to unexpected crises requires a distinctive competency profile. The findings suggest that interpersonal and leadership skills become primary, while strategic agility and resilience-building behaviors are essential to sustaining project momentum under highly dynamic and unstable conditions. Project managers who can prioritize tasks effectively, communicate clearly, and adapt strategies quickly are more likely to lead successful crisis responses.

These insights are important for project management training, professional development, and certification frameworks. There is a clear need for educational programs to emphasize the development of crisis leadership capabilities, emotional intelligence, and adaptability. Furthermore, including simulated crisis scenarios in training programs can enhance project managers' ability to practice and refine these critical skills in controlled yet high-pressure environments.

Although this study provides important insights into the competencies required for managing unexpected crisis response projects, several limitations must be acknowledged. First, the research sample was composed primarily of project management professionals affiliated with Polish organizations, which may limit the generalizability of the findings to different cultural, organizational, or national contexts. Future research should aim to replicate and extend the study across diverse international settings to capture potential variations in competency perceptions that cultural or sectoral differences may influence.

Second, the study employed a cross-sectional design based on self-reported perceptions of the importance of competency. While useful for exploratory analysis, this approach does not capture how competencies are enacted in real-time crises. Longitudinal studies tracking project managers' behavior and performance across multiple crisis events could provide deeper insights into the dynamic development of critical competencies.

Third, the study focused on competencies defined within the IPMA ICB v. 4.0.1 framework, which, although comprehensive, may omit emerging competencies, particularly relevant to digital crises, cyber threats, hybrid project environments, or AI-supported management. Future research should investigate whether current frameworks adequately address the new competency demands arising from technological and societal changes. Additionally, experimental studies, such as crisis management simulations or scenario-based testing, can provide valuable insights into how project managers prioritize competencies under stress, thereby complementing self-assessment surveys.

Future investigations could also explore how organizations can best foster the development of crisis-specific competencies through targeted training, mentoring, and organizational culture initiatives. Specifically, the crisis management competence model developed from the project management competence can contribute to an organization's project management governance structure. Anticrisis-adjusted project management governance structures appear to be promising and important areas that have yet to be researched.

In conclusion, project management in the face of unexpected organizational crises necessitates reevaluating the traditional competency model. Soft skills, leadership, emotional intelligence, and strategic adaptability are no longer peripheral but rather fundamental to effective crisis management. By realigning training, certification, and professional development frameworks with these realities, organizations can better equip their project managers to meet the challenges of an increasingly volatile and unpredictable world. Ultimately, strengthening project managers' adaptive, interpersonal, and strategic competencies will be essential to building organizational resilience in an era where unexpected crises are no longer exceptions but the new normal.

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