On-the-fly decision making within organizations: a systematic literature review and future research directions

On-the-fly decision making within organizations:

A systematic literature review and future research directions

Abstract

This study systematically reviews the literature on individual on-the-fly decision making within organizations and introduces an organizational framework to guide future research. The proposed organizational framework comprises four primary factor groups that emerged inductively from the analysis. These include organization-, job-, task-, and individual-related factors. Furthermore, this study proposes an agenda to guide future research aimed at reconciling existing contradictory explanations and closing research gaps. Finally, this study has implications for managerial practices.

Keywords: Fast decisions, organizations, improvisation, systematic literature review, research agenda

1. Introduction

Individuals in organizations are often faced with a multitude of ambiguous, novel, or urgent circumstances that require them to make important on-the-fly decisions; that is, the action or process of quickly arriving at a conclusion regarding the matter under consideration (Oxford English Dictionary). The ability to make such decisions, especially in highly dynamic, unpredictable, or critical situations (Mendonça & Wallace, 2004; Perlow et al., 2002; Tabesh & Vera, 2020) is crucial because it affects organizational processes (Bartkus et al., 2022), customer satisfaction (Crossan et al., 1996), and overall organizational performance and success (Adomako et al., 2021).

Consequently, scholarly work on how individuals make on-the-fly decisions has notably expanded, exploring various aspects and evolving in several independent directions. For instance, scholars have investigated individual factors—such as cognition (Laureiro-Martínez & Brusoni, 2018)—that influence individual on-the-fly decision making processes within organizations. Scholars have also examined the links between job or task attributes and decision-making processes. For instance, the influence of job role or tenure (Hodgkinson et al., 2016; Nemkova et al., 2012, 2015), or whether task novelty or ambiguity (Robinson et al., 2017) influence on-the-fly decision making within organizations. Finally, scholars have investigated how organizational characteristics—such as organizational structure (Hamzeh et al., 2019) or support systems, including systems of delegation or empowerment (Roux-Dufort & Vidaillet, 2003)—influence individual on-the-fly decision making within organizations.

Although these research directions have focused on different areas of investigation, they complement each other. A proper synthesis that unites them represents an opportunity to overcome current fragmentation by integrating scholarly work to provide a comprehensive

understanding of current inconsistencies, discrepancies, and shortcomings. Additionally, it can facilitate the advancement of future scholarly work by providing a granular description of the contributing factors that influence individual on-the-fly decision making within organizations.

The above represents the purpose of this study, which is guided by the following research questions: (1) What factors influence on-the-fly decision-making within organizations? (2) Which research areas require future investigation regarding the processes of on-the-fly decision making within organizations?

To answer these guiding research questions, we systematically review and arrange the current literature into an organizational framework that aims to guide future scholarly work and inform managerial practices. The framework encompasses four factor groups: organization-, job-, task-, and individual-related factors. These factor groups emerged inductively from the analysis of articles and were proposed as categories that influence individual on-the-fly decision making within organizations.

The outcomes of this study are significant for academic scholars because they provide a holistic understanding of the factors that influence on-the-fly decision-making within organizations. The synthesis in this study has the potential to highlight current fragmentation, contradictory explanations, and existing research gaps, and suggest a research agenda to guide future work. Additionally, this study holds significance for managerial practice because it provides a clear understanding of how managers may facilitate or hinder on-the-fly decision-making within organizations.

In this study, the terms “fast decisions” and “on-the-fly decisions” are used interchangeably. Hence, the current scholarly understanding of fast decisions, characterized by the comparatively short length of time between a first reference to action and the following

commitment to action (see Eisenhardt, 1989, 1990; Judge & Miller, 1991), or the relatively quick length of time "between planning and execution" (Hamzeh et al., 2019, p. 62), is extended to encompass this study's conceptualization of "on-the-fly decision making" within organizations. Furthermore, the analysis in this study focuses on the individual level rather than on the hierarchical level. This choice was made to provide the most accurate representation of the reviewed articles, with the intent of developing an organizational framework that is general and succinct, with potential wider applicability in different organizational settings.

The remainder of this paper is organized as follows. Section 2 presents the theoretical discussion. Section 3 discusses the methodology employed to systematically review the literature on management and organization. This is followed by a presentation and discussion of the emerging findings in Section 4. Sections 5 and 6 provide the research agenda. Finally, the limitations, implications, and conclusions of the study are reported in Section 7.

2. Toward an understanding of on-the-fly decision making within organizations

In organizations, individuals often face circumstances that necessitate on-the-fly decision-making. When faced with such situations, what are the factors that influence on-the-fly decision making?

Scholars have extensively investigated decision-making processes, presenting alternative views on how individuals make decisions. These perspectives range from instinctive, emotional decision-making processes to more deliberate, logical approaches, a dichotomy highlighted in dual-process theories (e.g., Kahneman, 2011). While individuals often rely on instincts and emotions, they often employ heuristics, although contrasting positions exist regarding whether they determine better outcomes than more analytical approaches (Flach, 2014; Mariano, 2021; Vera & Crossan, 2005). Furthermore, incomplete or ambiguous information influences decision

making processes, often leading to the pursuit of “good enough” solutions within the confines of bounded rationality (Simon, 1955, 1990).

However, the capacity of individuals to make fast decisions within organizations may be influenced by a multitude of additional factors, offering an opportunity to conveniently synthesize the current understanding. Indeed, the organizational context in which decisions are made—that is, the decision environment (Hey & Knoll, 2011)—may also influence fast decision-making processes. Such a context includes, for instance, the organizational structure (Hamzeh et al., 2019) or organizational support systems that may facilitate or hinder the capacity to make decisions, depending on the systems of delegation and empowerment (Roux-Dufort & Vidaillet, 2003). Moreover, such a context may relate to the existence of training programs that contribute to the development of appropriate skills or abilities for fast thinking (Flach, 2014; Steen & Pollock, 2022; Tint et al., 2015; Vera and Crossan, 2005). Furthermore, the positions held by individuals (Agor, 1986; Hughes et al., 2018, 2020; Laureiro-Martínez & Brusoni, 2018; Nemkova et al., 2015; Sayegh et al., 2004; Tabesh & Vera, 2020; Vera & Rodriguez-Lopez, 2007) and the time spent as a member of an organization (Hodgkinson et al., 2016; Nemkova et al., 2012, 2015) may influence the capacity to make on-the-fly decisions because of the nature of the work or accumulated experience (Forbes, 2005). Finally, the characteristics of the work to be accomplished may influence the on-the-fly decision-making process, with routine-based decisions mainly governed by established procedures (Trondal, 2015) while novel or ambiguous problems (Robinson et al., 2017) often necessitate improvisation abilities (Pina e Cunha et al., 2014; Zack, 2000).

In line with this extended understanding, in this study, making decisions on-the-fly is viewed as a phenomenon influenced by individual and organizational factors that contribute to

individuals' capacity to think fast. Therefore, the capacity to make decisions on-the-fly within organizations depends not only on individual skills and abilities, such as cognition (Laureiro-Martínez & Brusoni, 2018), emotions (Agor, 1986; Sayegh et al., 2004), and improvisation (Pina e Cunha et al., 2014; Zack, 2000), but is also influenced by environmental and work-related aspects that may have an impact on the overall outcomes of the decision-making processes.

Hence, conducting a systematic literature review that synthesizes notable scholarly works is crucial in contributing to an expanded scholarly understanding. Such a synthesis can help unite different streams of research and contribute to interdisciplinary integration (Burgers et al., 2019) with the aim of generating an organizational framework to guide a future research agenda on individual on-the-fly decision making within organizations. This synthesis provides a roadmap for managers and managerial practice. In contemporary times characterized by high uncertainty, unpredictability, and scarcity of information, such a synthesis appears to be significant and necessary.

The methodology used to conduct the systematic literature review is presented in the following section.

3. Methodology

A systematic literature review was conducted (Denyer & Tranfield, 2009; Tranfield et al., 2003; Webster & Watson, 2002) to identify, select, retrieve, and analyze peer-reviewed articles and report the findings. A review protocol involving three stages and several steps was developed to accomplish this.

3.1 Stage one

In stage one, the peer-reviewed articles were identified, selected, and retrieved. Keywords, developed using guidelines proposed by Feldvari (2009) and Knapp (2000) regarding thesaurus usage in computer-aided search and retrieval processes, were employed to search databases available at affiliated institutions. These databases include Scopus, which is one of the largest and most reliable scientific databases (Visser et al., 2021)—and Elsevier (ScienceDirect). Keywords included “decisions on the fly”, “real time decision making”, “improvisation”, “decision making”, “improvised decisions”, “fast decision making”, “fast decisions”, and “dynamic decision making”. The preliminary search was not restricted to a specific time frame. However, included articles had to be peer-reviewed, full-text articles published in English, and related to the field of “Business, Management and Accounting”. Peer-reviewed articles were chosen because they are commonly recognized as valuable scientific resources (Podsakoff et al., 2005), and their use in systematic literature reviews is widely accepted (Billore & Anisimova, 2021; Billore et al., 2023; Evers et al., 2023; Francke & Carrete, 2023; Mariano & Walter, 2015; Senivongse et al., 2017). Duplicate, unavailable, and out-of-scope articles were excluded from the preliminary list. Next, manually retrieved articles—identified from an in-depth analysis of the selected articles—were added to the list. This step helped mitigate potential sample selection bias (Ferrari, 2015), and increased the overall comprehensiveness of the literature review. After an in-depth reading, a list of key articles was finalized, comprising 126 articles published in 89 journals between 1973 and 2022.

3.2 Stage two

In stage two, peer-reviewed articles were downloaded and subsequently uploaded to Mendeley Reference Manager software. This step facilitated the organization and easy retrieval

of articles as the analysis progressed. The analysis followed an inductive theorizing process (Miles & Huberman, 1994) and a flexible approach (Strauss & Corbin, 1998). From this analysis, a spreadsheet listing all the peer-reviewed articles and a synthesis table were created. The spreadsheet included information regarding author(s), title, source title, type of article (i.e., conceptual or empirical), methodology (i.e., qualitative, quantitative, or mixed), level of analysis, theories employed, DOI, article link, abstract, and keywords. Conceptual articles included works that combined and discussed previously published articles, whereas empirical articles included works that collected and analyzed field data. Qualitative articles included case studies, grounded theory studies, and ethnographic studies; quantitative articles included descriptive, correlational, quasi-experimental, and experimental studies; and mixed-methodology articles included a combination of qualitative and quantitative methods of data collection and analysis. The theories employed required the specification of the theoretical lens (or lenses) used in the examined articles, for example, decision-support, knowledge-based, or practice-based theories. An additional MS Word document was created, which included a synthesis table of key findings and future research directions related to each article. Recurrent, repetitive, and forceful (Owen, 1984) themes were identified and grouped to contribute to a literature-driven organizational framework and concept-centric final table (Webster & Watson, 2002). As draft frameworks were developed, they were iteratively applied and reapplied to the full list of articles. This process was continued until a final version was obtained that ensured a dependable representation of the findings.

3.3 Stage three

In stage three, tables, figures, and the finalized literature-driven organizational framework were created using MS Office packages (i.e., MS Excel and MS Visio). A narrative of the findings was also created to answer this study's research questions.

The detailed review protocol is reported in Table 1.

Insert Table 1 about here

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4. Findings

The following subsections discuss the findings that emerged inductively from the systematic literature review and answer the following research question: What factors influence on-the-fly decision-making within organizations?

The first subsection presents the descriptive statistics, including the yearly total and cumulative frequency of publications (1973-2022), journal outlets, article type, level of analysis, and employed theories. The following subsections provide a description of emerging factors grouped into organization-, job-, task-, and individual-related factors.

4.1 Descriptive statistics

Figure 1 shows the cumulative frequency of the publications. The oldest article was published in 1973 (i.e., Ford, 1973), and four articles were published in 2022 (i.e., Nabavi, 2022; Nieschke & Mauer, 2022; Steen & Pollock, 2022; Bartkus et al., 2022). The highest number of publications (n=8) was recorded in 2007 and again in 2016. *Organization Science*, *Organizational Dynamics*, and *Strategic Management Journal* published the highest numbers of articles, with seven, five, and four articles, respectively. Most (n=73) were empirical studies focused on individual-level analysis (n=62), followed by organizational level analysis (n=49). A few articles focused on the group level (n=13), and even less focused on the inter-organizational level of analysis (n=2) (i.e., Konsynski & Tiwana, 2004; Nieschke & Mauer, 2022). Reviewed articles employed decision making (e.g., Adomako et al., 2021), decision support system (e.g.,

Phillips et al., 2014), learning (e.g., Barrett, 1998; Bergh & Lim, 2008), knowledge-based (e.g., Krylova et al., 2016; Vera et al., 2016), sensemaking (e.g., Pereira Christopoulos et al., 2016), cognitive (e.g., Laureiro-Martínez & Brusoni, 2018; Maia & Lima, 2020), and practice-based theories (e.g., Massa & Testa, 2005), or they focused on improvisation (e.g., Alperson, 2010; Crossan et al., 2005; Vera & Crossan, 2004) and temporality (e.g., Crossan et al., 2005). Finally, some articles focused on contingency, negotiation, absorptive capacity, routines, groupthink, and paradox theories.

Insert Figure 1 about here

4.2 Organization-related factors

The first group of factors that emerged inductively from the article analysis related to organization-related factors, including organizational structure, support, memory, and training.

4.2.1 Organizational structure

Organizational structure was the first organization-related factor identified, noting the extensive discussion regarding its influence on organizational decision making. According to the literature, aspects related to authority (Hamzeh et al., 2019), empowerment (Hamzeh et al., 2019), centralization and decentralization (Baum & Wally, 2003), coordination (Faraj & Xiao, 2006) network structures (Konsynski & Tiwana, 2004), clarity in roles and responsibilities (Hamzeh et al., 2019), and proper communication (Dennis & MacAulay, 2007; Steen & Pollock, 2022) either facilitate or hinder fast decision making within organizations. Baum and Wally (2003) suggested that organizational structures that centralize strategies while decentralizing operations facilitate faster decisions. Roux-Dufort and Vidaillet (2003) highlighted the

importance of flexibility and empowerment in allowing experimental practices (Hamzeh et al., 2019). In the presence of a minimal structure, some scholars (Barrett, 1998; Pina e Cunha et al., 1999; Roux-Dufort & Vidaillet, 2003; Vera et al., 2016) proposed that improvisation tends to drive fast decision-making and that organic structures amplify the relationship between strategic decision speed and the internationalization of SMEs (Adomako et al., 2021). Furthermore, decentralized and formalized structures (Liu et al., 2018) were found to contribute to improvisation improving innovation. According to Hatch (1999), organizational structures are ambiguous, emotional, and temporal, and therefore present opportunities for changes that influence decisions. Similarly, according to Trondal (2015), the distinction between pre-planned or improvised structures and activities is a simplification that could be replaced by a more complex understanding of organization.

4.2.2 Organizational support

Organizational support was the second identified organization-related factor. Organizational support was discussed in relation to organizational practices promoting and rewarding risk-taking decisions or behaviors that would encourage employees to make fast decisions, knowing that their actions will not be punished or judged harshly (de Clercq et al., 2021). Similarly, organizational support for flexibility and learning promote quick decisions and improvisation (see also Crossan et al., 1996; Hodgkinson et al., 2016). In such cases, strategic-level support is key (Leybourne, 2006, 2007). Some scholars (Perky, 1991; Vera & Crossan, 2004, 2005) discussed the importance of organizational support in developing an experimental culture that encourages fast decisions and improvisation. Others focused on forms of decision support and empirically showed that feedforward support plays a key role in improving individuals' real-time decision-making performances (Gonzalez, 2005). However, some

investigations (Lerch & Harter, 2001) found that providing support for real-time decision-making may be difficult because it requires an in-depth understanding of the associated cognitive processes.

4.2.3 Organizational memory

Organizational memory was the third identified organization-related factor. Organizational memory was discussed in relation to its mediating (Kyriakopoulos, 2011) and moderating (Moorman & Miner, 1998b) roles, as well as its guiding (Moorman & Miner, 1997), and assistive (Crossan et al., 2005) roles in the retrieval of skills and fact knowledge (Moorman & Miner, 1998b). Moorman and Miner (1998a) suggested that, without properly developed organizational memory, individuals rely on improvisation to make decisions, especially in highly turbulent or novel (Dewett & Williams, 2007) environments. In contrast, a properly developed procedural (how to) and declarative (what) organizational memory (Moorman & Miner, 1998b) helps reduce the incidence of improvisation and expedites decision-making, facilitating retrospective access to knowledge and application of previous solutions (Vera & Crossan, 2004). When time pressure necessitates quick decisions, Kamoche et al. (2003) suggested that a properly developed procedural memory is particularly useful to provide guidelines for fast actions. According to Roux-Dufort and Vidaillet (2003), if procedural memory is poorly developed, this leads to a low probability of routine behavior, especially in making decisions on-the-fly or improvising (Pina e Cunha et al., 1999). Jabbar et al. (2020) suggested that proper elaboration of organizational knowledge influences the speed of decisions.

4.2.4 Organizational training

Organizational training was the fourth organization-related factor identified. Organizational training was discussed in relation to its role in enhancing the incidence and

effectiveness of fast decision-making, including improvisation practices (Flach, 2014; Tint et al., 2015; Vera & Crossan, 2005). Steen and Pollock (2022) described decision-making as a craft that can be improved through proper training. Organizations promoting proper training provide individuals with a means to address unexpected events when more structured approaches cannot be applied and rapid responses need to be found (see also Jambekar & Pelc, 2007; Pereira Christopoulos et al., 2016). In such cases, proper training encourages individuals to make changes to their behaviors before a change in cognition can take place, making fast actions precede a more in-depth understanding, as well as recognizing what could work or not work in a more intuitive way (Vera & Crossan, 2004). Vera and Crossan (2005) proposed that proper training helps develop process skills, context-specific knowledge (see also Mariano, 2018), and "yes-and" attitudes to increase the overall ability of individuals to face challenging situations requiring more spontaneous actions. Scenario-based (Steen & Pollock, 2022) and improvisation training (Mueller, 2011) assist in highly uncertain situations that require rapid decision-making (Vera & Crossan, 2005).

4.3 Job-related factors

The second group of factors that emerged inductively from the article analysis related to job-related factors, including role, accountability, and tenure.

4.3.1 Role

Role was the first identified job-related factor. Scholars found that the role of an individual within an organizational context influences how decisions are made, proposing that fast decision-making could be a priority for managers (Agor, 1986; Aram & Walochik, 1996; Crossan et al., 2005; Eisenhardt, 1990; Hughes et al., 2018, 2020; Laureiro-Martínez & Brusoni, 2018; Nemkova et al., 2015; Peplowski, 1998; Perky, 1991; Pina e Cunha et al., 2003; Sayegh et

al., 2004; Tabesh & Vera, 2020; Vera & Rodriguez-Lopez, 2007) that have the power to make decisions (Silva, 2002). However, managerial roles are not the only factors influencing fast decision-making. Scholars investigated several other roles and related decision-making practices included in studies of construction professionals (Hamzeh et al., 2018, 2019), electricians (Menches & Chen, 2014), police commanders (Steen & Pollock, 2022), project managers (Leybourne, 2006), artists and musicians (Alperson, 2010; Barrett, 1998), climbers (Hällgren, 2010), entrepreneurs (Best & Gooderham, 2015; Hmieleski & Corbett, 2008; Vershinina et al., 2017), humanitarian aid workers (Tint et al., 2015), and start-uppers (Baker et al., 2003). Factors such as the remoteness of the final decision-making authority, loss of momentum in an up-the-chain-of-command decision, and lack of commensurate authority to assume decision responsibility (Ford, 1973) influence the speed and depth of decision-making. Additionally, leader-team role configurations influence the speed of strategic decision-making (Bartkus et al., 2022).

4.3.2 Accountability

Accountability was the second job-related factor identified in the article analysis. The research indicated that unclear accountability, together with other organization-related factors, negatively influences engagement in quick decision-making processes (Ford, 1973). Some cultures (e.g., Japanese culture) promote higher levels of accountability among individuals or groups performing tasks or making decisions together (Mueller, 2011). The willingness to assume responsibility is a crucial attitude in any organizational environment, this represents a relevant research area that needs further investigation to better understand how accountability may facilitate or hinder on-the-fly decision-making.

4.3.3 Tenure

Tenure was the third job-related factor that emerged. While Nemkova et al. (2012, 2015) suggested that tenure positively influences quicker understanding and decision-making in Western organizations, Hodgkinson et al. (2016) found a contrasting perspective. Their findings indicated that tenure had a negative effect on quick decision-making and improvisation in low-competitive and turbulent environments, proposing that individuals in long-established Eastern organizations suffer from path dependency that hinders creative thinking and the exploration of alternative solutions. Similarly, Leybourne's (2006) study on six organizations in the financial service sector in the UK found that quick, improvised decisions were implemented by individuals in different project-based roles regardless of their tenure.

4.4 Task-related factors

The third group of factors that emerged inductively from the article analysis related to task-related factors, including complexity, ambiguity, urgency, novelty, and relevance.

4.4.1 Complexity

Complexity was the first task-related factor identified in the article analysis. Along with ambiguity and novelty, Good (2014) discussed complexity in the context of real-time dynamic decision-making. In situations of modest dynamic complexity, Bleijenbergh et al. (2016) proposed that an intuitive understanding of the problem helps individuals perform better in decision-making, although this is a necessary but insufficient condition to correctly accomplish a task. Furthermore, Hey and Knoll (2011) conducted an experimental study illustrating how strategic choices adapt with fluctuations in complexity and/or cognitive demand within dynamic decision problems. They highlighted instances where economic theory accounts for decision

problems of manageable complexity, where time and willingness allow for analytical strategies, cognitive abilities, and decision aids, prioritizing optimization processes despite their associated costs. Conversely, they highlighted that in other cases, psychological theory better explains decision-making behavior.

4.4.2 Ambiguity

Ambiguity was the second task-related factor that emerged. Robinson et al. (2017) suggested that ambiguity is one of the conditions under which decisions are made in today's world, together with volatility, uncertainty, complexity, and external turbulence. They proposed that ambiguity is uncomfortable; therefore, individuals tend to reduce it consciously or unconsciously while making decisions. Orlikowski (1996) proposed that change is endemic to organizational practices and a factor influencing how individuals adjust while making decisions or performing tasks. Similarly, Nachbagauer and Schirl-Boeck (2019) proposed a shift from rationality-based decisions to second-order cybernetics and resilient organization to handle unexpected tasks or situations. In situations involving high uncertainty and ambiguity, Agor (1986) suggested that relying on intuition could be advantageous, aiding in guiding and expediting the decision-making process. Additionally, learning reduces ambiguity in decision making (Meyer & Shi, 1995) and contributes to faster decision-making processes (Vendelø, 2009). Similarly, unlearning stimulates improvisation in decision-making and accelerates the application of new knowledge (Akgün et al., 2007). Being able to think quickly in ambiguous and highly uncertain business environments is a logical, normal, and necessary condition for managerial practice (Gustafsson & Lindahl, 2017) or a real-time, short-term type of learning (Miner et al., 2001). The ability to accept ambiguity is a key personal trait of managers who are

able to make fast decisions (Harris et al., 2001) as well as a characteristic of groups of individuals making concerted decisions (Steen & Pollock, 2022).

4.4.3 Urgency

Urgency was the third task-related factor that emerged. Several scholars discussed the relationship between urgency and decisions made on-the-fly. Agor (1986) suggested that if time is limited, the pressure to make decisions increases and leads to fast actions, mostly guided by intuition. Similarly, Roux-Dufort and Vidaillet (2003) highlighted the need to act quickly under contextual urgency and environmental turbulence (Oakes, 2009). Sharkansky and Zalmanovitch (2000) proposed that urgency, together with an assessment of existing alternatives and trade-offs in values, contributes to legitimate, fast, and improvised decisions. Similarly, Judge and Miller (1991) proposed that the number of alternatives considered simultaneously has a positive influence on the speed of decisions under urgency constraints because it accelerates cognitive processes. Urgency is linked to the use of minimal structures to address emerging problems (Pina e Cunha et al., 2003). Similarly, time pressure and uncertainty variables were used to explain possible organizational responses, including planning, ornamented improvisation, discovery improvisation, and full-scale improvisation (Crossan et al., 2005). Fast decisions under urgency constraints are made because of exogenous factors or due to “speed trap”, that is, a product of past organizational emphasis on fast decision making (Perlow et al., 2002).

4.4.4 Novelty

Novelty was the fourth task-related factor identified. Agor (1986) suggested that when there is a shortage of previous precedents and variables are not predictable, or facts or analytical data are limited and do not indicate where to go, individuals tend to rely on other ways to make fast decisions, which include the use of intuition or improvisation. Indeed, when novelty and

resource constraints are high, fast decisions are often improvised (Hmieleski & Corbett, 2008; see also Kanter, 2002), since improvisation "has a reduced temporal gap between the planning and implementation of unique actions... it applies to actions and decisions that are novel, or deviations from standard practices" (Bergh & Lim, 2008, p. 599). The opportunity for extensive planning or properly established policies (Ding et al., 2014) is reduced in the presence of novel problems that necessitate acting quickly (Mendonça & Wallace, 2004, 2007). Similarly, in emergency situations where novelty is high, there is a need to act quickly (Mendonça & Wallace, 2004, 2007). Novel situations often require novel and fast responses (Suarez & Montes, 2019) and improvisation includes opening up, working together, or haggling, depending on the characteristics of the socially embedded relationship (McGinn & Keros, 2002).

4.4.5 Relevancy

Relevancy was the fourth task-related factor that emerged. Pina e Cunha et al. (2003) proposed that a feeling of relevance toward a challenge initiates a prompt response. Menches and Chen (2013, 2014) found that an individual's level of determination and interest tends to decline following a disruption, with negative consequences for decision-making and related workflows. Appropriate data sources and real-time processes are linked to the need for relevant and rapid decision making (Jabbar et al., 2020). The relevancy of quick decisions has been attributed to leaders (Pina e Cunha et al., 2003); group members and their perceptions that tasks are individually important (Pina e Cunha et al., 2003); and top management teams (Bartkus et al., 2022).

4.5 Individual-related factors

The fourth group of factors that emerged inductively from the article analysis related to individual-related factors, including age, cognitive ability, improvisation ability, crafting

propensity, and emotions. Additional attributes related to individual improvisation abilities were also identified, including willingness, readiness, spontaneity, creativity, risk acceptance, self-efficacy, experience, and expertise.

4.5.1 Age

Age was the first individual-related factor to emerge. Forbes (2005) discussed individual characteristics such as age that influence the extent to which individuals make fast decisions, proposing that older individuals tend to make faster decisions as they are guided by their experience. Similarly, senior individuals have greater intuitive thinking and improvisation skills to manage contradictions (Hughes et al., 2018) and make faster decisions. Corporate board chairs and CEO age dissimilarity negatively influences firm value and the demand for managerial discretion and fast decision-making during crises (Goergen et al., 2015).

4.5.2 Cognitive ability

Cognitive ability was the second individual-related factor that emerged. Scott (1962) and Weick (1998) discussed the role of cognition in fast decision-making, highlighting aspects of cognitive complexity and flexibility; the former relates to the number of dimensions used to describe a phenomenon, while the latter relates to the readiness to change an individual concept system due to external stimuli (Scott, 1962). Cognitive agility describes the flexibility between openness and focus as opposite phenomena (Good, 2014). Similarly, cognitive search influences the emergence of non-routine responses through the creation or uncovering of "possible courses of action, either by resorting to learned templates or by creating new ones" (Suarez & Montes, 2019, p. 592). Furthermore, cognition influences the speed of decision-making (Forbes, 2005), especially through cognitive flexibility—an individual's ability to match the type of cognitive processing with the type of problems at hand (Laureiro-Martínez & Brusoni, 2018). High

cognitive flexibility helps individuals pause and evaluate new courses of action, moving from fast to slow decisions, as needed (Laureiro-Martínez & Brusoni, 2018). Similarly, cognitive conflict inhibits decision making (Maia & Lima, 2020). Moreover, a link exists between the efficiency of cognitive processes and enhanced task performance (Phillips et al., 2014), together with a link between cognition and self-awareness development (Hodgkinson et al., 2009). Visual tools improve the efficiency of cognitive processes (Phillips et al., 2014).

4.5.3 Improvisation ability

Improvisation ability was the third individual-related factor identified. This encompasses various attributes associated with improvisation, including willingness (to respond), readiness, spontaneity, creativity, risk acceptance, self-efficacy, experience, and expertise, as explained in the following subsections.

4.5.3.1 Willingness

Willingness to respond in the moment to unanticipated organizational events is a valuable individual trait (de Clercq et al., 2021) that favors fast decisions. Similarly, the willingness to assume responsibility is a functional qualification of an improvisation attitude (Mueller, 2011), together with the willingness to forego planning to improvise (Crossan et al., 2005). Cultures that do not punish mistakes favor the use of improvisation (Sharkansky & Zalmanovitch, 2000).

4.5.3.2 Readiness

Hughes et al. (2020) discussed readiness, proposing a readiness index score and developing a three-step guide for improvisation during crisis periods. They suggested that a reality check, crisis response, gap analysis, and strategic improvisation sustainability are critical. Furthermore, improvisation readiness is crucial, especially during crisis periods, with

improvisation readiness levels ranging from moderate to incremental to radical, depending on cumulative or abrupt crises (Maldonado & Vera, 2014). Some tools such as Pathways Theatre (Nabavi, 2022) generate transformative engagement and increase improvisation readiness levels.

4.5.3.3 Spontaneity

Several scholars discussed spontaneity as an improvisation attribute (Alperson, 2010; Crossan et al., 2005; Nemkova et al., 2015; Pina e Cunha et al., 2014; Vera & Crossan, 2004). According to Crossan et al. (2005), an improvisation attitude embodies traits of spontaneity, characterized by extemporaneity. Nemkova et al. (2012, 2015) found that spontaneity is one of the multiple dimensions of improvisation, along with creativity and action orientation. Furthermore, Alperson (2010, p. 273) stated, "what makes the activity improvisatory is the sense that what is being done is being done on the fly" (see also Zack, 2000). Creativity and spontaneity represent the two key attributes of improvisation, which is defined as "the spontaneous and creative process of attempting to achieve an objective in a new way" (Vera & Crossan, 2004, p. 733).

4.5.3.4 Creativity

Nemkova et al. (2015), Pina e Cunha et al. (2014), and Crossan et al. (2005) addressed multiple improvisation dimensions, including creativity. Vera and Crossan (2004) proposed that improvisation must be creative in the sense that it must develop novel and useful outcomes that can be used in specific situations. Creativity can be particularly pertinent in scenarios demanding idea generation and divergent thinking to improvise decisions for a class of problems described as "fuzzy, vague, unjustified, experimental, empathic" (Hodgkinson et al., 2009, p. 291). Nisula and Kianto (2016) proposed a link between knowledge management practices and employee creativity, attributing a positive influence on decisions and overall organizational success.

4.5.3.5 Risk acceptance

Hamzeh et al. (2019), Harris et al. (2001), and Steen and Pollock (2022) proposed that decision-making and improvisation imply taking risks as well as accepting the risk of failures (Hamzeh et al., 2018). Hodgkinson et al.'s (2016) study on managerial and organizational antecedents of improvisation under turbulence revealed that organizational risk-taking and manager expertise were common antecedents of improvisation.

4.5.3.6 Self-efficacy

Self-efficacy is the "general belief in one's ability to achieve high levels of performance in tasks undertaken in life" (see also Bandura, 1977; Hmieleski & Corbett, 2008, p. 485). Hmieleski and Corbett (2008) found that improvisation positively influences entrepreneurial performance when founders possess high entrepreneurial self-efficacy. Self-efficacy has been linked to increased confidence and positive overall emotional responses to unexpected situations (Sayegh et al., 2004).

4.5.3.7 Experience

A consensus exists in the current literature regarding the importance of having experience in improvising (Hamzeh et al., 2019). Improvisation requires adequate problem-related experience (Mueller, 2011). Seniors possess greater intuitive thinking and improvisation skills to manage contradictions (Hughes et al., 2018), as previous experience increases their use of intuition (Cheetham & Chivers, 2000). Individual characteristics influence improvisation and fast decision making, and older entrepreneurs and entrepreneurs with prior entrepreneurial experience are believed to make faster decisions (Forbes, 2005).

4.5.3.8 Expertise

To be able to improvise, individuals must be tenured (Hodgkinson et al., 2016), possess proper expertise (Crossan et al, 2005; Vera & Crossan, 2004, 2005)—since expertise is an antecedent of improvisation (Hodgkinson et al., 2016)—or acquire intuitive expertise (Hodgkinson et al., 2009). Specialized knowledge helps technically grounded extemporization (Cheetham & Chivers, 2000). Expertise in comprehensive decision-making, expertise in intuitive decision-making, and a paradoxical balanced combination of comprehensive and intuitive decision-making represent the boundary conditions of the link between improvisational decision-making and decision quality in crisis situations (Tabesh & Vera, 2020).

4.5.4 Crafting propensity

Crafting propensity was the fourth individual-related factor that emerged. Cheetham and Chivers (2000) investigated how practitioners use reflections to adjust their performance, procedures, problems, and work philosophy. Both reflection-about-action and reflection-in-action were considered. Positive feelings about job outcomes are crucial for quick thinking and appropriate task adjustment, since too much time spent on reflection leads to potential indecision. A combination of applied knowledge and reflection is best suited to professional practice. This conclusion is in line with the concept of “practical thinking” discussed by Ciborra (1999) where the task environment is experienced in action; or with the idea of “recombinative thinking capabilities” proposed by Jambekar and Pelc (2007) that encourages a combination of proactive and reactive thinking while doing certain tasks, rather than relying on a fixed plan unsuitable for dynamic decision making or rapid organizational changes. In unplanned emergency situations, individuals improve their relationships with peers to facilitate cooperation and collaboration (Steen & Pollock, 2022), share ideas created on-the-fly, and build tools to

solve emerging, pressing issues (Pereira Christopoulos et al., 2016). These ideas seem to be in line with Kock and Gemünden's (2016) study, which pointed out the importance of monitoring the frequency and innovation climate in turbulent environments.

4.5.5 Emotions

Emotions were the fifth individual-related factor that emerged. The role of negative emotions in decision-making processes was highlighted by Koporcic et al. (2020). While Agor (1986) proposed that emotional tension is a stress factor that impedes fast decisions and intuition, Sayegh et al. (2004) saw emotions as a necessary component of decision making, especially if tacit knowledge or intuition need to be used. Certain cultures—such as the Spanish culture—rely highly on emotions in their decision-making processes, preferring verbal interactions to written planning (Aram & Walochik, 1996). Emotions fluctuate throughout the working day, influencing an individual's level of determination and interest (Menches & Chen, 2014). Emotional memory (Mueller, 2011; Sayegh et al., 2004) triggers the use of past experiences to guide actions that require quick responses (Sayegh et al., 2004). Affective reactions in fast strategic decision-making aid crucial information exchanges under extreme time pressure (Netz et al., 2020); while regretful emotions (i.e., degrees of regret aversion) were not found to measure the irrationality of a decision-maker in a dynamic decision-making problem under risk (Guo & Vetschera, 2023). Further research is required to clarify the contrasting positions of the role of emotions while making decisions on-the-fly.

5. Making decisions on-the-fly within organizations: an organizational framework

The organizational framework of the systematic literature review is illustrated in Figure 2. The framework includes four group of emerging factors: (1) Organization- (i.e., organizational structure, support, memory, and training); (2) job- (i.e., role, accountability, tenure); (3) task-

(i.e., complexity, ambiguity, urgency, novelty, relevancy); and (4) individual-related factors (i.e., age, cognitive ability, improvisation ability, crafting propensity, and emotions). The improvisation ability factor is further explained by several sub-factors, such as willingness, readiness, spontaneity, creativity, risk acceptance, self-efficacy, experience, and expertise.

A synthesis of findings is reported in Table 2.

Insert Figure 2 and Table 2 about here

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6. An agenda for future research on making decisions on-the-fly within organizations

The following subsections answer the second research question: Which research areas require future investigation regarding the processes of on-the-fly decision making within organizations?

The first subsection proposes potential avenues for future research, expanding the current understanding of on-the-fly decision-making within organizations. The second section proposes potential avenues for future research to reconcile existing contradictory explanations of factors influencing on-the-fly decision-making within organizations. The third section proposes potential avenues for future research on the link between decisions made on-the-fly and organizational processes.

6.1 Research direction 1: expand current research on on-the-fly decision making within organizations

From the article analysis, one area appears to be underdeveloped and needs further investigation: organizational culture.

Organizational culture. This area of future research relates to the development of a more refined understanding of how organizations can create a culture that encourages fast decisions and improvisation, and supports experimentation practices, risk-taking behavior (Hock-Doepgen et al., 2021), and innovation (Rieger & Klarmann, 2022) when circumstances or events require them (Perky, 1991; Vera & Crossan, 2004, 2005). Potential research questions could include the following: How can organizations support the use of experimentation or the development of risk-taking behavior? Under what specific circumstances are these approaches most effective? When is it convenient to act fast, and when is it better to pause and reflect on making decisions in an organization? Qualitative studies, including grounded theory, ethnography, and practice-based studies, are worth pursuing.

6.2 Research direction 2: reconcile existing contradictory explanations of factors influencing on-the-fly decision making within organizations

From the article analysis, the existing contradictory explanations of factors influencing on-the-fly decision-making within organizations include the role of organizational structure, accountability, tenure, relevancy, and emotions.

Organizational structure. The first area of future research relates to the role of organizational structure and its influence on on-the-fly decision making. While Baum and Wally (2003) proposed that faster decisions are facilitated by an organizational structure that centralizes strategies while decentralizing operations, Roux-Dufort and Vidaillet (2003) highlighted the importance of flexibility and empowerment in making use of experimentation practices (Hamzeh et al., 2019). More research is needed to clarify these contradictions in the current scholarly understanding. Potential research questions include the following: Does organizational structure facilitate or hinder on-the-fly decision-making? How can existing contradictions in the role of

the organizational structure in on-the-fly decision making be resolved? Quantitative surveys and qualitative studies using observations, shadowing methods, and semi-structured interviews are worth pursuing.

Accountability. The second area of future research relates to the construct of accountability (Ford, 1973; Mueller, 2011) and the need for further investigation to reconcile the current limited understanding. This is a relevant research area that requires more granular description. Potential research questions could include the following: Does accountability facilitate or hinder on-the-fly decision-making? What are the underlying reasons? Qualitative studies, including practice-based studies, are worth pursuing.

Tenure. The third area of future research relates to the role of tenure and its influence on on-the-fly decision making. While Nemkova et al. (2012, 2015) proposed that tenure positively influences quicker understanding and faster decision-making in Western organizations, Hodgkinson et al. (2016) found that tenure had a negative effect on quick decision-making and improvisation in low-competitive turbulent environments, proposing that individuals in long-established Eastern organizations might suffer from path dependency that blocks creative thinking and the search for alternative solutions. Furthermore, Leybourne (2006) proposed that quick improvised decisions are implemented by individuals in different project-based roles, regardless of their tenure. Therefore, this area requires attention to clarify the implications of tenure on decisions made on-the-fly. Potential research questions could include the following: How does tenure contribute to making decisions on-the-fly? How can existing contradictions in the role of tenure in making decisions on-the-fly be resolved? Does tenure positively or negatively influence decision-making on-the-fly? Quantitative, qualitative, and longitudinal studies are worth pursuing.

Relevancy. The fourth area of future research relates to the extent to which relevancy influences decision-making on-the-fly. While Pina e Cunha et al. (2003) proposed that the feeling of relevance toward a challenge initiated a prompt response, Menches and Chen (2013, 2014) found that an individual's level of determination and interest tends to decline following a disruption, with negative consequences for decision-making and related workflows. Further research is required to reconcile these contradictions. Potential research questions could include: Does the relevancy of challenges faced influence on-the-fly decision making? What are the specific mechanisms, and in what contexts does this influence manifest? Quantitative comparative studies that include survey research and large sample sizes are worth pursuing.

Emotions. The fifth area of future research relates to the role of emotions in on-the-fly decision-making. While Agor (1986) proposed that emotional tension is a stress factor that impedes fast decisions and intuition, Sayegh et al. (2004) saw emotions as a necessary component of decision making, especially if tacit knowledge or intuition need to be used. Certain cultures rely more on emotions in their decision-making processes than others (Aram & Walochik, 1996). Further research is required to clarify these contrasting positions regarding the role of emotions when making decisions on-the-fly. Potential research questions could include: Do emotions facilitate or hinder the on-the-fly decision-making process within organizations? Do Western cultures differ from Eastern cultures in how emotions play a role in making decisions on-the-fly within organizations? What are the specific mechanisms? Quantitative comparative studies that include survey research, multiple research settings, mixed-method studies, and large sample sizes are worth pursuing.

6.3 Research direction 3: investigate the link between decisions made on-the-fly and organizational processes

From the article analysis, the final area of research that seems worth pursuing is the link between decisions made on-the-fly and organizational processes, including organizational learning, unlearning, standard operating procedures, and routines.

Meyer and Shi (1995) proposed that learning decreased ambiguity in decision making and helped the speed of decision-making processes or improvisation (Vendelø, 2009). Similarly, unlearning stimulates improvisation in decision-making and helps expedite the application of new knowledge (Akgün et al., 2007). It would be beneficial to better understand the link between learning and unlearning and making decisions on-the-fly, as well as the extent to which learning or unlearning while making decisions on-the-fly influences the creation of new organizational processes, such as standard operating procedures or routines, or the abandonment of existing ones.

Potential research questions could include: What is the link between learning, unlearning, and making decisions on-the-fly? Do decisions made on-the-fly contribute to the development of new organizational processes such as standard operating procedures or routines? If so, what type of decisions and why? What is the influence of decisions made on-the-fly on the development or abandonment of organizational processes? Do decisions made on-the-fly contribute to changes in existing organizational processes? What are the specific mechanisms? Do decisions made on-the-fly substitute existing organizational processes? In what circumstances? Do decisions made on-the-fly set precedents for future decisions within organizations? In what contexts does this manifest? What are the specific mechanisms?

Qualitative investigations using diaries, observations, semi-structured interviews, processual and practice-based studies, and longitudinal studies are worth conducting.

Syntheses of the future research directions are presented in Figure 3 and Table 3.

Insert Figure 3 and Table 3 here

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7. Limitations, implications, and conclusions

This systematic literature review has limitations related to its management-related scope reflected in the review protocol, which does not include other related fields such as psychology, behavioral economics, or behavioral science. It is limited by the applied inclusion/exclusion criteria, as well as the nature of the data analysis, that is, the inductive method. Other limitations include journal accessibility and the omission of alternative databases that may have returned a different list of articles. However, to minimize this potential limitation, multiple databases were used together with manually retrieved articles to minimize selection bias in this systematic literature review (Ferrari, 2015). Finally, the use of software alternatives to MS Office packages (i.e., MS Excel and MS Visio) could have produced different visual depictions of the findings.

This systematic literature review has implications for theory and managerial practice. First, it serves as a comprehensive synthesis and organization of management and organization studies literature, focusing on how individuals within organizations make on-the-fly decisions. It covers a period of 49 years (1973-2022) and includes 118 articles from 83 journals. It groups the factors influencing decision making on-the-fly into organization-, job-, task-, and individual-related factors and provides an organizational framework of existing literature.

Second, this systematic literature review provides a research agenda for scholars interested in future conceptual and empirical investigations on making decisions on-the-fly within organizations. The proposed future research directions include investigations that expand the current understanding of decision-making on-the-fly within organizations, including the role of organizational culture and accountability; investigations that reconcile existing contradictory explanations of factors influencing decision-making on-the-fly within organizations, including organizational structure, tenure, relevancy, and emotions; and investigations of the link between decisions made on-the-fly and organizational processes, such as standard operating procedures or routines, and the link with organizational learning and unlearning.

Third, this systematic literature review provides insights for managerial practice, highlighting factors that could enable or hamper on-the-fly decision-making within organizations. The proposed organizational framework could help managers better understand factors that may have the most prominent impact in their organizational contexts or help them identify factors that need further development to promote faster decision-making processes. In turn, this awareness could help direct managerial efforts toward more refined managerial practices, increasing the overall levels of effectiveness and efficiency as well as overall organizational performance and success.

Managers could consider the proposed organizational framework as a roadmap for conducting an internal audit to see how improvements to the four proposed groups of factors could assist individuals in making decisions on-the-fly. For instance, managers could assess whether changes to the organizational structure or organizational support could facilitate the making of decisions on-the-fly by promoting empowerment or delegation practices (Roux-Dufort & Vidaillet, 2003) that would not restrain individuals in situations where fast thinking is crucial.

Similarly, managers can examine how organizational memory contributes to the retrieval of key insights to make fast decisions and improve identification, storage, and retrieval as needed (Moorman & Miner, 1998b; Vera & Crossan, 2004).

Furthermore, managers can assess how organizational training (Flach, 2014; Steen & Pollock, 2022; Tint et al., 2015) helps with decision-making. Managers could start implementing new training practices if current ones are found to be insufficient or inappropriate to facilitate decision-making on-the-fly, especially during highly unpredictable or emergency situations. Likewise, managers could assess the extent to which job-related factors, such as role and tenure, positively or negatively influence decision-making on-the-fly, and adjust organizational dynamics accordingly and as required. For tasks that may reoccur over time and, therefore, could be routinized, managers could reduce the level of novelty, ambiguity, or urgency through learning and institutionalization processes, reducing the potential occurrence and need for fast decision-making.

Finally, managers could rely on internal opportunities and programs that may help individuals acquire the necessary skills to facilitate fast thinking, if and when the circumstances require it. These opportunities could include individual-targeted training, scenario sharing, and role-playing practices that may be attended by individuals, which may provide a safe space to practice and develop fast thinking skills in fictional situations that could contribute to learning how to quickly address problems in real-time situations.

References

Adomako, S., Frimpong, K., Amankwah-Amoah, J., Donbesuur, F., & Opoku, R. A. (2021). Strategic decision speed and international performance: the roles of competitive intensity, resource flexibility, and structural organicity. *Management International Review*, *61*, 27–55. https://doi.org/10.1007/s11575-021-00439-w.

Agor, W. H. (1986). The logic of intuition: how top executives make important decisions. *Organizational Dynamics*, *14*, 5–18. https://doi.org/10.1016/0090-2616(86)90028-8.

Akgün, A. E., Byrne, J. C., Lynn, G. S., & Keskin, H. (2007). New product development in turbulent environments: impact of improvisation and unlearning on new product performance. *Journal of Engineering and Technology Management*, *24*, 203–230. https://doi.org/10.1016/j.jengtecman.2007.05.008.

Alperson, P. (2010). A topography of improvisation. *Journal of Aesthetics and Art Criticism, 68*, 273–280.

Aram, J. D., & Walochik, K. (1996). Improvisation and the Spanish manager: cultural values and management style in Spain. *International Studies of Management and Organization*, *26*, 73–89. https://doi.org/10.1080/00208825.1996.11656695.

Baker, T., Miner, A. S., & Eesley, D. T. (2003). Improvising firms: bricolage, account giving and improvisational competencies in the founding process. *Research Policy,* 32, 255–276. https://doi.org/10.1016/S0048-7333(02)00099-9.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215. https://doi.org/10.1037//0033-295x.84.2.191.

Barrett, F. J. (1998). Coda—Creativity and improvisation in jazz and organizations: implications for organizational learning. *Organization Science*, *9*, 605–622. https://doi.org/10.1287/orsc.9.5.605.

Bartkus, V. O., Mannor, M. J., & Campbell, J. T. (2022). Fast and rigorous: configurational determinants of strategic decision-making balance. *Long Range Planning*, *55*, 102142. https://doi.org/10.1016/j.lrp.2021.102142.

Baum, J. R., & Wally, S. (2003). Strategic decision speed and firm performance. *Strategic Management Journal*, *24*, 1107–1129. https://doi.org/10.1002/smj.343.

Bergh, D. D., & Lim, E. N. K. (2008). Learning how to restructure: absorptive capacity and improvisational views of restructuring actions and performance. *Strategic Management Journal*, *29*, 593–616. https://doi.org/10.1002/smj.676.

Best, S., & Gooderham, P. (2015). Improvisation: A legitimate strategy in the face of adversity. *Small Enterprise Research*, *22*, 49–68. https://doi.org/10.1080/13215906.2015.1017871.

Billore, S., & Anisimova, T. (2021). Panic buying research: A systematic literature review and future research agenda. *International Journal of Consumer Studies*, *45*, 777–804. https://doi.org/10.1111/ijcs.12669.

Billore, S., Anisimova, T., & Vrontis, D. (2023). Self-regulation and goal-directed behavior: A systematic literature review, public policy recommendations, and research agenda. *Journal of Business Research*, *156*, 113435. https://doi.org/10.1016/j.jbusres.2022.113435.

Bleijenbergh, I., Vennix, J., Jacobs, E., & van Engen, M. (2016). Understanding decision making about balancing two stocks: the faculty gender balancing task. *System Dynamics Review*, *32*, 6–25. https://doi.org/10.1002/sdr.1548.

Burgers, C., Brugman, B. C., & Boeynaems, A. (2019). Systematic literature reviews: four applications for interdisciplinary research. *Journal of Pragmatics*, *145*, 102–109. https://doi.org/10.1016/j.pragma.2019.04.004.

Cheetham, G., & Chivers, G. (2000). A new look at competent professional practice. *Journal of European Industrial Training*, *24*, 374–383. https://doi.org/10.1108/03090590010349827.

Ciborra, C. U. (1999). Notes on improvisation and time in organizations. *Accounting, Management and Information Technologies*, *9*, 77–94. https://doi.org/10.1016/S0959-8022(99)00002-8.

Crossan, M. M., Lane, H. W., White, R. E., & Klus, L. (1996). The improvising organization: where planning meets opportunity. *Organizational Dynamics*, *24*, 20–35. https://doi.org/10.1016/S0090-2616(96)90011-X.

Crossan, M., Pina e Cunha, M., Vera, D., & Cunha, J. (2005). Time and organizational improvisation. *Academy of Management Review*, *30*, 129–145. https://doi.org/10.5465/amr.2005.15281441.

de Clercq, D., Ul Haq, I., & Azeem, M. U. (2021). Unpacking the relationship between procedural justice and job performance. *Management Decision*, *59*, 2183–2199. https://doi.org/10.1108/MD-09-2019-1211.

Dennis, N., & MacAulay, M. (2007). "Miles ahead"- Using jazz to investigate improvisation and market orientation. *European Journal of Marketing*, *41*, 608–623. https://doi.org/10.1108/03090560710737642.

Denyer, D., & Tranfield, D. (2009). Producing a systematic review. In D. A. Buchanan, & A. Bryman (Eds.), *The Sage handbook of organizational research methods* (pp. 671–689). Sage Publications Ltd.

Dewett, T., & Williams, S. D. (2007). Innovators and imitators in novelty-intensive markets: A research agenda. *Creativity and Innovation Management*, *16*, 80–92. https://doi.org/10.1111/j.1467-8691.2007.00421.x.

Ding, S. H., Kamaruddin, S., & Abdul Azid, I. A. (2014). Maintenance policy selection model - A case study in the palm oil industry. *Journal of Manufacturing Technology Management*, *25*, 415–435. https://doi.org/10.1108/JMTM-03-2012-0032.

Eisenhardt, K. M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal*, *32*, 543–576. https://doi.org/10.2307/256434.

Eisenhardt, K. M. (1990). Speed and strategic choice: how managers accelerate decision making. *California Management Review*, *32*, 39–54. https://doi.org/10.2307/41166616.

Evers, N., Ojala, A., Sousa, C. M. P., & Criado-Rialp, A. (2023). Unraveling business model innovation in firm internationalization: A systematic literature review and future research agenda. *Journal of Business Research*, *158*, 113659. https://doi.org/10.1016/j.jbusres.2023.113659.

Faraj, S., & Xiao, Y. (2006). Coordination in fast-response organizations. *Management Science*, *52*, 1155–1169. https://doi.org/10.1287/mnsc.1060.0526.

Feldvari, K. (2009). Thesauri usage in information retrieval systems: example of LISTA and ERIC database thesaurus. In *Future of Information Sciences* 2nd International Conference INFuture (pp. 4–6).

Ferrari, R. (2015). Writing narrative style literature reviews. *Medical Writing*, *24*, 230–235. https://doi.org/10.1179/2047480615Z.000000000329.

Flach, L. (2014). Use or abuse of improvisation in organizations? *Creativity and Innovation Management*, *23*, 374–385. https://doi.org/10.1111/caim.12087.

Forbes, D. P. (2005). Managerial determinants of decision speed in new ventures. *Strategic Management Journal*, *26*, 355–366. https://doi.org/10.1002/smj.451.

Ford, C. H. (1973). Structuring the organization for fast decision-making. *Human Resource Management*, *12*, 1–14. https://doi.org/10.1002/hrm.3930120202.

Francke, A. E., & Carrete, L. (2023). Consumer self-regulation: looking back to look forward. A systematic literature review. *Journal of Business Research*, *157*, 113461. https://doi.org/10.1016/j.jbusres.2022.113461.

Goergen, M., Limbach, P., & Scholz, M. (2015). Mind the gap: the age dissimilarity between the chair and the CEO. *Journal of Corporate Finance*, *35*, 136–158. https://doi.org/10.1016/j.jcorpfin.2015.08.011.

Gonzalez, C. (2005). Decision support for real-time, dynamic decision-making tasks. *Organizational Behavior and Human Decision Processes*, *96*, 142–154. https://doi.org/10.1016/j.obhdp.2004.11.002.

Good, D. (2014). Predicting real-time adaptive performance in a dynamic decision-making context. *Journal of Management and Organization*, *20*, 715–732. https://doi.org/10.1017/jmo.2014.54.

Guo, S., & Vetschera, R. (2023). Preference reversals in dynamic decision-making under uncertainty based on regret theory. *Managerial and Decision Economics, 44*, 1720–1731. https://doi.org/10.1002/mde.3778.

Gustafsson, C., & Lindahl, M. (2017). Improvisation–An emergence theory perspective. *Culture and Organization, 23*, 177–196. https://doi.org/10.1080/14759551.2015.1021801.

Hällgren, M. (2010). Groupthink in temporary organizations. *International Journal of Managing Projects in Business, 3*, 94–110. https://doi.org/10.1108/17538371011014044.

Hamzeh, F. R., Alhussein, H., & Faek, F. (2018). Investigating the practice of improvisation in construction. *Journal of Management in Engineering, 34*, 1–10. https://doi.org/10.1061/(ASCE)ME.1943-5479.0000652.

Hamzeh, F. R., Faek, F., & AlHussein, H. (2019) Understanding improvisation in construction through antecedents, behaviours and consequences. *Construction Management and Economics, 37*, 61–71. https://doi.org/10.1080/01446193.2018.1497189.

Harris, J. G., de Long, D. W., & Donnellon, A. (2001). Do you have what it takes to be an e-manager? *Strategy and Leadership*, 29, 10–14. https://doi.org/10.1108/10878570110400062.

Hatch, M. J. (1999). Exploring the empty spaces of organizing: how improvisational jazz helps redescribe organizational structure. *Organization Studies*, *20*, 75–100. https://doi.org/10.1177/0170840699201004.

Hey, J. D., & Knoll, J. A. (2011). Strategies in dynamic decision making - an experimental investigation of the rationality of decision behaviour. *Journal of Economic Psychology*, *32*, 399–409. https://doi.org/10.1016/j.joep.2011.02.011.

Hmieleski, K. M., & Corbett, A. C. (2008). The contrasting interaction effects of improvisational behavior with entrepreneurial self-efficacy on new venture performance and entrepreneur work satisfaction. *Journal of Business Venturing*, *23*, 482–496. https://doi.org/10.1016/j.jbusvent.2007.04.002.

Hock-Doepgen, M., Clauss, T., Kraus, S., & Cheng, C. F. (2021). Knowledge management capabilities and organizational risk-taking for business model innovation in SMEs. *Journal of Business Research, 130*, 683–697. https://doi.org/10.1016/j.jbusres.2019.12.001.

Hodgkinson, G. P., Sadler-Smith, E., Burke, L. A., Claxton, G., & Sparrow, P. R. (2009). Intuition in organizations: implications for strategic management. *Long Range Planning*, *42*, 277–297. https://doi.org/10.1016/j.lrp.2009.05.003.

Hodgkinson, I. R., Hughes, P., & Arshad, D. (2016). Strategy development: driving improvisation in Malaysia. *Journal of World Business*, *51*, 379–390. https://doi.org/10.1016/j.jwb.2015.07.002.

Hughes, P., Hodgkinson, I. R., Hughes, M., & Arshad, D. (2018). Explaining the entrepreneurial orientation–performance relationship in emerging economies: the intermediate roles of absorptive capacity and improvisation. *Asia Pacific Journal of Management*, *35*, 1025–1053. https://doi.org/10.1007/s10490-017-9539-7.

Hughes, P., Morgan, R. E., Hodgkinson, I. R., Kouropalatis, Y., & Lindgreen, A. (2020). A diagnostic tool to determine a strategic improvisation Readiness Index Score (IRIS) to survive, adapt, and thrive in a crisis. *Industrial Marketing Management*, *88*, 485–499. https://doi.org/10.1016/j.indmarman.2020.05.020.

Jabbar, A., Akhtar, P., & Dani, S. (2020). Real-time big data processing for instantaneous marketing decisions: A problematization approach. *Industrial Marketing Management, 90*, 558–569. https://doi.org/10.1016/j.indmarman.2019.09.001.

Jambekar, A. B., & Pelc, K. I. (2007). Improvisation model for team performance enhancement in a manufacturing environment. *Team Performance Management, 13*, 259–274. https://doi.org/10.1108/13527590710842565.

Judge, W. Q., & Miller, A. (1991). Antecedents and outcomes of decision speed in different environmental contexts. *Academy of Management Journal*. *Academy of Management, 34*, 449–463. https://doi.org/10.2307/256451.

Kahneman, D. (2011), *Thinking, fast and slow*. New York: Farrar, Straus & Giroux.

Kamoche, K., Pina e Cunha, M., & Vieira da Cunha, J. (2003). Towards a theory of organizational improvisation: looking beyond the jazz metaphor. *Journal of Management Studies, 40*, 2023–2051. https://doi.org/10.1046/j.1467-6486.2003.00410.x.

Kanter, R. M. (2002). Strategy as improvisational theater. *MIT Sloan Management Review, 20*, 76–81.

Knapp, S. D. (2000), *The contemporary thesaurus of search terms and synonyms: A guide for natural language computer searching*. Greenwood Publishing Group.

Kock, A., & Gemünden, H. G. (2016). Antecedents to decision-making quality and agility in innovation portfolio management. *Journal of Product Innovation Management, 33*, 670–686. https://doi.org/10.1111/jpim.12336.

Konsynski, B., & Tiwana, A. (2004). The improvisation-efficiency paradox in inter-firm electronic networks: governance and architecture considerations. *Journal of Information Technology*, *19*, 234–243. https://doi.org/10.1057/palgrave.jit.2000029.

Koporcic, N., Nietola, M., & Nicholson, J. D. (2020). IMP: it's time to get emotional! Understanding the role of negative emotions in dynamic decision-making processes. *Journal of Business and Industrial Marketing*, *35*, 2151–2163. https://doi.org/10.1108/JBIM-12-2019-0520.

Krylova, K. O., Vera, D., & Crossan, M. (2016). Knowledge transfer in knowledge-intensive organizations: the crucial role of improvisation in transferring and protecting knowledge. *Journal of Knowledge Management*, *20*, 1045–1064. https://doi.org/10.1108/JKM-10-2015-0385.

Kyriakopoulos, K. (2011). Improvisation in product innovation: the contingent role of market information sources and memory types. *Organization Studies*, *32*, 1051–1078. https://doi.org/10.1177/0170840611410833.

Laureiro-Martínez, D., & Brusoni, S. (2018). Cognitive flexibility and adaptive decision-making: evidence from a laboratory study of expert decision makers. *Strategic Management Journal*, *39*, 1031–1058. https://doi.org/10.1002/smj.2774.

Lerch, F. J., & Harter, D. E. (2001). Cognitive support for real-time dynamic decision making. *Information Systems Research*, *12*, 63–82. https://doi.org/10.1287/isre.12.1.63.9717.

Leybourne, S. (2006). Improvisation within the project management of change: some observations from UK financial services. *Journal of Change Management*, *6*, 365–381. https://doi.org/10.1080/14697010601081548.

Leybourne, S. A. (2007). Improvisation within management: oxymoron, paradox, or legitimate way of achieving? *International Journal of Management Concepts and Philosophy*, *2*, 224. https://doi.org/10.1504/IJMCP.2007.014998.

Liu, Y., Lv, D., Ying, Y., Arndt, F., & Wei, J. (2018). Improvisation for innovation: the contingent role of resource and structural factors in explaining innovation capability. *Technovation*, *74–75*, 32–41. https://doi.org/10.1016/j.technovation.2018.02.010.

Maia, T. S. T., & Lima, E. (2020). Cognitive conflict in strategic decision of management teams in small enterprises. *RAM. Revista de Administração Mackenzie*, *21*. https://doi.org/10.1590/1678-6971/eramr200177.

Maldonado, T., & Vera, D. (2014). Leadership skills for international crises: the role of cultural intelligence and improvisation. *Organizational Dynamics*, *43*, 257–265. https://doi.org/10.1016/j.orgdyn.2014.09.002.

Mariano, S. (2018). Initiating, challenging and improving knowledge in organizational contexts. *Management Research Review*, *41*, 278–295. https://doi.org/10.1108/MRR-02-2017-0028.

Mariano, S. (2021). Let me help you! Navigating through the COVID-19 crisis with prosocial expert knowledge behaviour. *Knowledge Management Research and Practice*, *19*, 484–492. https://doi.org/10.1080/14778238.2020.1866445.

Mariano, S., & Walter, C. (2015). The construct of absorptive capacity in knowledge management and intellectual capital research: content and text analyses. *Journal of Knowledge Management*, *19*, 372–400. https://doi.org/10.1108/JKM-08-2014-0342.

Massa, S., & Testa, S. (2005). Data warehouse-in-practice: exploring the function of expectations in organizational outcomes. *Information and Management*, *42*, 709–718. https://doi.org/10.1016/j.im.2004.06.002.

McGinn, K. L., & Keros, A. T. (2002). Improvisation and the logic of exchange in socially embedded transactions. *Administrative Science Quarterly*, 47, 442–473. https://doi.org/10.2307/3094847.

Menches, C. L., & Chen, J. (2013). Using ecological momentary assessment to understand a construction worker's daily disruptions and decisions. *Construction Management and Economics*, *31*, 180–194. https://doi.org/10.1080/01446193.2012.717707.

Menches, C. L., & Chen, J. (2014). Diary study of disruption experiences of crew members on a jobsite. *Journal of Management in Engineering*, *30*, 60–68. https://doi.org/10.1061/(ASCE)ME.1943-5479.0000191.

Mendonça, D. J., & Wallace, W. A. (2007). A cognitive model of improvisation in emergency management. *IEEE Transactions on Systems, Man, and Cybernetics – Part A*, *37*, 547–561. https://doi.org/10.1109/TSMCA.2007.897581.

Mendonça, D., & Wallace, W. A. (2004). Studying organizationally-situated improvisation in response to extreme events. *International Journal of Mass Emergencies and Disasters*, *2*, 5–30. https://doi.org/10.1177/028072700402200201

Meyer, R. J., & Shi, Y. (1995). Sequential choice under ambiguity: intuitive solutions to the armed-bandit problem. *Management Science*, *41*, 817–834. https://doi.org/10.1287/mnsc.41.5.817.

Miles, M. B., & Huberman, A. M. (1994), *Qualitative data analysis: A sourcebook of new methods*. Newbury Park, CA: Sage.

Miner, A. S., Bassof, P., & Moorman, C. (2001). Organizational improvisation and learning: A field study. *Administrative Science Quarterly, 46*, 304–337. https://doi.org/10.2307/2667089.

Moorman, C., & Miner, A. S. (1997). The impact of organizational memory on new product performance and creativity. *Journal of Marketing Research, 34*, 91–106. https://doi.org/10.1177/002224379703400108.

Moorman, C., & Miner, A. S. (1998a). The convergence of planning and execution: improvisation in new product development. *Journal of Marketing, 62*, 1–20. https://doi.org/10.1177/002224299806200301.

Moorman, C., & Miner, A. S. (1998b). Organizational improvisation and organizational memory. *Academy of Management Review*, *23*, 698–723. https://doi.org/10.2307/259058.

Mueller, D. (2011). Antecedences and determinants of improvisation in firms. *Problems and Perspectives in Management*, *9*, 117–130.

Nabavi, E. (2022). Pathways theatre: using speculative and collaborative improvisation for transformative engagement. *Futures*, *143*, 103022. https://doi.org/10.1016/j.futures.2022.103022.

Nachbagauer, A. G. M., & Schirl-Boeck, I. (2019). Managing the unexpected in megaprojects: riding the waves of resilience. *International Journal of Managing Projects in Business*, *12*, 694–715. https://doi.org/10.1108/IJMPB-08-2018-0169.

Nemkova, E., Souchon, A. L., & Hughes, P. (2012). Export decision-making orientation: an exploratory study. *International Marketing Review*, *29*, 349–378. https://doi.org/10.1108/02651331211242610.

Nemkova, E., Souchon, A. L., Hughes, P., & Micevski, M. (2015). Does improvisation help or hinder planning in determining export success? Decision theory applied to exporting. *Journal of International Marketing*, *23*, 41–65. https://doi.org/10.1509/jim.14.0071.

Netz, J., Svensson, M., & Brundin, E. (2020). Business disruptions and affective reactions: A strategy-as-practice perspective on fast strategic decision making. *Long Range Planning*, *53*, 101910. https://doi.org/10.1016/j.lrp.2019.101910.

Nieschke, S., & Mauer, R. (2022). "Let's have a chat!": A field study on relational governance in the evolution of new venture-accelerator relationships. *Venture Capital*, *24*, 137–171. https://doi.org/10.1080/13691066.2022.2091493.

Nisula, A. M., & Kianto, A. (2016). The role of knowledge management practices in supporting employee capacity for improvisation. *International Journal of Human Resource Management*, *27*, 1920–1937. https://doi.org/10.1080/09585192.2015.1088885.

Oakes, S. (2009). Freedom and constraint in the empowerment as jazz metaphor. *Marketing Theory*, *9*, 463–485. https://doi.org/10.1177/1470593109346897.

Oxford English Dictionary. n.d. Senses relating to decide. Retrieved from https://www.oed.com/view/Entry/48221?redirectedFrom=decision. Accessed November 28, 2022 making#eid7329320. In Oxford English Dictionary.

Orlikowski, W. J. (1996). Improvising organizational transformation over time: A situated change perspective. *Information Systems Research*, *7*, 63–92. https://doi.org/10.1287/isre.7.1.63.

Owen, W. F. (1984). Interpretive themes in relational communication. *Quarterly Journal of Speech*, *70*, 274–287. https://doi.org/10.1080/00335638409383697.

Peplowski, K. (1998). The process of improvisation. *Organization Science*, *9*, 560–561. https://doi.org/10.1287/orsc.9.5.560.

Pereira Christopoulos, T., Wilner, A., & Trindade Bestetti, M. L. (2016). Experimental learning enhancing improvisation skills. *Learning Organization*, *23*, 415–428. https://doi.org/10.1108/TLO-04-2015-0027.

Perky, L. T. (1991). Strategic improvising: how to formulate and implement competitive strategies in concert. *Organizational Dynamics*, *19*, 51–64. https://doi.org/10.1016/0090-2616(91)90053-C.

Perlow, L. A., Okhuysen, G. A., & Repenning, N. P. (2002). The speed trap: exploring the relationship between decision making and temporal context. *Academy of Management Journal*, *45*, 931–955. https://doi.org/10.2307/3069323.

Phillips, B. K., Prybutok, V., & Peak, D. (2014). Determinants of task performance in a visual decision-making process. *Journal of Decision Systems*, *23*, 373–387. https://doi.org/10.1080/12460125.2014.962245.

Pina e Cunha, M., Clegg, S., Rego, A., & Neves, P. (2014). Organizational improvisation: from the constraint of strict tempo to the power of the avant-garde. *Creativity* and *Innovation Management*, *23*, 359–373. https://doi.org/10.1111/caim.12076.

Pina e Cunha, M., Kamoche, K., & Campos e Cunha, R. (2003). Organizational improvisation and leadership - A field study in two computer-mediated settings. *International Studies of Management and Organization*, *33*, 34–57. https://doi.org/10.1080/00208825.2003.11043677.

Pina e Cunha, M., Vieira da Cunha, J., & Kamoche, K. (1999). Organizational improvisation: what, when, how *and* why. *International Journal of Management Reviews*, *1*, 299–341. https://doi.org/10.1111/1468-2370.00017.

Podsakoff, P. M., MacKenzie, S. B., Bachrach, D. G., & Podsakoff, N. P. (2005). The influence of management journals in the 1980s and 1990s. *Strategic Management Journal, 26*, 473–488. https://doi.org/10.1002/smj.454.

Rieger, V., & Klarmann, M. (2022). The effect of cooperative team culture on innovation. *Journal of Business Research, 144*, 1256–1271. https://doi.org/10.1016/j.jbusres.2022.02.020.

Robinson, J., Sinclair, M., Tobias, J., & Choi, E. (2017). More dynamic than you think: hidden aspects of decision-making. *Administrative Sciences, 7*, 1–29. https://doi.org/10.3390/admsci7030023.

Roux-Dufort, C., & Vidaillet, B. (2003). The difficulties of improvising in a crisis situation - A case study. *International Studies of Management and Organization, 33*, 86–115. https://doi.org/10.1080/00208825.2003.11043675.

Sayegh, L., Anthony, W. P., & Perrewé, P. L. (2004). Managerial decision-making under crisis: the role of emotion in an intuitive decision process. *Human Resource Management Review, 14*, 179–199. https://doi.org/10.1016/j.hrmr.2004.05.002.

Scott, W. A. (1962). Cognitive complexity and cognitive flexibility. *Sociometry*, *25*, 405–414. https://doi.org/10.2307/2785779.

Senivongse, C., Bennet, A., & Mariano, S. (2017). Utilizing a systematic literature review to develop an integrated framework for information and knowledge management systems. *VINE Journal of Information and Knowledge Management Systems*, *47*, 250–264. https://doi.org/10.1108/VJIKMS-03-2017-0011.

Sharkansky, I., & Zalmanovitch, Y. (2000). Improvisation in public administration and policy making in Israel. *Public Administration Review*, *60*, 321–329. https://doi.org/10.1111/0033-3352.00094.

Silva, L. O. (2002). Outsourcing as an improvisation: A case study in Latin America. *Information Society*, *18*, 129–138. https://doi.org/10.1080/01972240290075057.

Simon, H. A. (1955). A behavioral model of rational choice. *Quarterly Journal of Economics*, *69*, 99–118. https://doi.org/10.2307/1884852.

Simon, H. A. (1990). Invariants of human behavior. *Annual Review of Psychology*, *41*, 1–19. https://doi.org/10.1146/annurev.ps.41.020190.000245.

Steen, R., & Pollock, K. (2022). Effect of stress on safety-critical behaviour: an examination of combined resilience engineering and naturalistic decision-making approaches. *Journal of Contingencies and Crisis Management*, *30*, 339–351. https://doi.org/10.1111/1468-5973.12393.

Strauss, A., & Corbin, J. M. (1998), *Basics of qualitative research: techniques and procedures for developing grounded theory*. Newbury Park, CA: Sage.

Suarez, F. F., & Montes, J. S. (2019). An integrative perspective of organizational responses: routines, heuristics, and improvisations in a Mount Everest expedition. *Organization Science*, *30*, 573–599. https://doi.org/10.1287/orsc.2018.1271.

Tabesh, P., & Vera, D. M. (2020). Top managers' improvisational decision-making in crisis: a paradox perspective. *Management Decision*, *58*, 2235–2256. https://doi.org/10.1108/MD-08-2020-1060.

Tint, B. S., McWaters, V., & van Driel, R. (2015). Applied improvisation training for disaster readiness and response: preparing humanitarian workers and communities for the unexpected. *Journal of Humanitarian Logistics and Supply Chain Management*, *5*, 73–94. https://doi.org/10.1108/JHLSCM-12-2013-0043.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, *14*, 207–222. https://doi.org/10.1111/1467-8551.00375.

Trondal, J. (2015). Ambiguities in organizations and the routines of behavior and change. *International Journal of Organizational Analysis*, *23*, 123–141. https://doi.org/10.1108/IJOA-04-2013-0654.

Vendelø, M. T. (2009). Improvisation and learning in organizations-an opportunity for future empirical research. *Management Learning*, *40*, 449–456. https://doi.org/10.1177/1350507609339684.

Vera, D., & Crossan, M. (2004). Theatrical improvisation: lessons for organizations. *Organization Studies*, *25*, 727–749. https://doi.org/10.1177/0170840604042412.

Vera, D., & Crossan, M. (2005). Improvisation and innovative performance in teams. *Organization Science*, *16*, 203–224. https://doi.org/10.1287/orsc.1050.0126.

Vera, D., Nemanich, L., Vélez-Castrillón, S., & Werner, S. (2016). Knowledge-based and contextual factors associated with R&D teams' improvisation capability. *Journal of Management*, *42*, 1874–1903. https://doi.org/10.1177/0149206314530168.

Vera, D., & Rodriguez-Lopez, A. (2007). Leading improvisation: lessons. *Organizational Dynamics*, *36*, 303–319. https://doi.org/10.1016/j.orgdyn.2007.04.002.

Vershinina, N., Barrett, R., & McHardy, P. (2017). Logics and rationalisations underpinning entrepreneurial decision-making. *Journal of Small Business and Enterprise Development*, *24*, 158–175. https://doi.org/10.1108/JSBED-06-2016-0092.

Visser, M., van Eck, N. J., & Waltman, L. (2021), *Large-scale comparison of bibliographic data sources: Scopus, Web of Science, Dimensions*. Crossref, and Visser, M., van Eck, N. J., & Waltman, L.. (2021). Large-scale comparison of bibliographic data sources: Scopus, Web of Science, Dimensions, Crossref, and Microsoft Academic. *Quantitative Science Studies*, *2*, 20–41. https://doi.org/10.1162/qss_a_00112.

Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare the future: writing a literature review. *MIS Quarterly*, *26*, 3–23.

Weick, K. E. (1998). Introductory Essay—Improvisation as a mindset for organizational analysis. *Organization Science*, *9*, 543–555. https://doi.org/10.1287/orsc.9.5.543.

Zack, M. H. (2000). Jazz improvisation and organizing: once more from the top. *Organization Science*, *11*, 227–234. https://doi.org/10.1287/orsc.11.2.227.12507.