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Organizational learning from failures: double moderating impact of organizational trust and owner-manager interest in human resource development

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ABSTRACT

This study examines how organisational learning processes, such as learning stocks, learning flows, and external learning affect Korean small- and medium-sized enterprises' (SMEs) perceived recovery and organisational performance through learning from failure. The double moderated mediation impact of organisational trust and owner-managers' interest in human resource development (HRD) in these relationships has been tested. About 400 SMEs were selected and a self-reported online survey was administered. Among them, 296 SMEs were analysed based on their experience in employee development. All three organisational learning activities have an impact on perceived failure recovery and organisational performance through learning from failure. Additionally, organisational trust and owner-managers' interest in HRD moderates the relationship between organisational learning activities. However, owner-managers' interest in HRD has a negative moderating effect, indicating that power-political relationships impede learning from failure. Using the method of self-reporting to identify the role of organisational learning from failure, this study addresses the lack of empirical research with an integrated approach on this topic. The findings have several academic and practical implications. Owner-managers must engage in various developmental activities to build trust among members and should create space and time where employees feel free to share ideas and reflect on their opinions.

1. Introduction

Due to coronavirus disease-2019 (COVID-19), the global economy has experienced a period of severe crisis and challenges. Specifically, small- and medium-sized enterprises (SMEs) that are dependent on external changes have faced severe turbulence. There are 67.8% of South Korean SMEs that reported worse business conditions than those experienced during the last two financial crises, that is, in 1997 (Korean financial crisis) and 2008 (global financial crisis); moreover, the smaller the company, the more vulnerable the situation has been (M. J. Kim 2020). Compared to countries that are part of the European Union, South Korea has a similar proportion of SMEs in total enterprises (99.9%), but a somewhat higher proportion of small sized enterprises (43%), and

a relatively higher proportion of SME workers (81.3%), making crisis recovery support and worker training extremely significant (K. Kim 2017). In addition, the five-year survival rate of SMEs in Korea is 27.3%, which is lower than that in major countries such as France 44.3% and Germany 39.1%, and the need for support, such as fostering human resources and building a learning ecosystem, in addition to financial and equipment support, has been highlighted as a solution for the survival and renovation of Korean SMEs (S. Kim et al. 2023). Moreover, with the onset of the COVID-19 pandemic, the number of participants in the Korean government's SME worker training programme decreased by 40% and the budget by 55% (Ministry of Employment and Labor 2023), leading to a shift in SMEs' learning needs from simply participating in training programmes to creating their own organisational learning culture to increase future adaptability to the rapidly changing post-COVID-19 industrial environment (Human Resource Development Service of Korea 2022). Organizational learning is a socio-psychological process though which new and existing learnings are assimilated and leveraged so that organisations drive and adapt with change (Crossan, Maurer, and White 2011). SMEs, in particular, aim to improve their ability to respond to change by accumulating learnings across multiple levels of the organisation, such as individual and group levels, and by transferring and circulating learning within and between organisations (Holmqvist 2004; O. Jones and Macpherson 2006). Most studies on organisational learning consider its multidimensional process as a key survival strategy, especially in crisis situations (Argyris and Schön 1996; Huber 1991; Oh and Lee 2022). However, unlike large firms that have already experienced several successes and failures, SMEs are vulnerable to failure and less resilient; thus, they need organisational learning capabilities that can turn failures into learning opportunities (Oh and Lee 2020, 2022). In addition, due to the relative lack of experience with failure, organisational learning practices accumulated during stable periods can be a competitive advantage in times of crisis (O. Jones and Macpherson 2006). Learning from failure is a process through which multi-dimensional learning entities, such as individuals and groups, interactively gain accurate and useful insights to overcome setbacks (Cannon and Edmondson 2012). Learning from failure, often embedded in an organisation's routine, stems from a proactive attitude to learn, and involves interpreting failures and creating changes in perception based on lessons learned through experience (Edmondson 2011; Nigam and Ocasio 2010). The expected outcomes of learning from failure tend to be assessed based on the degree of recovery from the perceived failure and perceived improvement in organisational performance (Desai et al. 2020; Lattacher and Wdowiak 2020). How well an organisation has recovered from failure can be subjective, as it depends on the aspiration level of the organisation's members; nonetheless, it remains an important benchmark of organisational success or failure (Baum and Dahlin 2007). In times of global crises, such as the COVID-19 pandemic, aspiration levels may not be high for most, and even small successes in overcoming challenges can be perceived as recovery. Furthermore, failure is considered 'good' for organisational performance when it is viewed as a valuable new asset (Edmondson 2011; Sitkin 1992) because failure situations can reveal new opportunities and initiate the reorganisation of existing routines to increase organisational success (Desai et al. 2020).

This study examines how organisational learning affects perceived recovery from failure and organisational performance through learning from failures among Korean

SMEs during the COVID-19 pandemic. It also reveals the role that organisational trust and owner-manager interest play in human resource development (HRD) systems in the relationship between organisational learning activities and learning from failure. In the study of organisational learning from failure, contextualisation is considered an important issue because contextual factors can either constrain or facilitate the learning process (Desai et al. 2020). Due to their lack of resources, SMEs tend to rely on social capital to deal with problems, which is a key contextual factor for SMEs globally. Several European studies argue that building social relationships within organisations is crucial for SMEs (Gherardi 2001; Thole 2023), so practices and relationships that are not based on trust or are excessively owner-driven can lead to limited learning of employees, especially during crises. In particular, (Higgins, Mirza, and Drozynska 2013) contend that practice-based learning in SMEs cannot be explained without factoring in the relationship between employees and owner-managers, specifically in terms of power equations. Similarly, in a Korean study, Oh and Lee (2020) maintain that learning and development systems, such as HRD department, do not operate largely outside the intentions of owner-managers. Furthermore, as organisational trust develops based on the process of an employee's authentic learning experience, without trust, organisational learning cannot disseminate its impact in a far-reaching way throughout the organisation (Oh 2019). In the specific context of Korean SMEs, where owner-managers have a strong influence on decision-making in a hierarchical structure (Oh and Lee 2020), and interpersonal relationships are emphasised in the collectivist culture (Oh and Han 2020), organisational trust and owner-manager interest in HDR are integral components of creating an environment that is conducive to learning from failures. Therefore, this study examines the role of organisational trust and owner-manager interest in HRD systems in the relationship between organisational learning activities, learning and recovery from failure, and organisational performance, and proposes relevant academic and practical implications.

2. Literature review and hypotheses development

In the learning and management literature, organisational learning is broadly defined as a learning process of an organisation that involves interactions at multiple levels – individual, group, organisational, and inter-organisational – and the organisation is considered a socio-psychological system and culture (Crossan, Maurer, and White 2011; Holmqvist 2004). Accordingly, rather than viewing organisational learning from a single perspective, it is analysed from a meta-paradigmatic framework, namely, an integrative perspective involving functionalist, critical, and constructivist paradigms (Beauregard, Lemyre, and Barrette 2015; Popova-Nowak and Cseh 2015). This study applies three theoretical perspectives. First, it adopts the resource-based theory approach, which has a major influence on the conceptualisation of organisational learning. This is a functionalist approach that regards knowledge as a resource and learning as a process of acquisition, diffusion, and institutionalisation of such knowledge to achieve organisational goals. According to this perspective, organisations rely on embedded knowledge assets that are deemed essential for gaining a competitive advantage (Barney 1991). Studies on organisational learning in SMEs support the notion of multiple levels of learning stock, learning flow between levels, and learning from the outside (i.e. inter-

organisational learning) as embedded knowledge resources (e.g. O. Jones and Macpherson 2006; Oh and Lee 2022). This study also views these learning activities, each with their own characteristics, as competitive resources necessary for the survival of SMEs. Second, this study uses the critical perspective of organisational learning (Vince 2001), which suggests that the power in SME contexts is embedded in members' social relations, and learning occurs in response to specific work environments that reflect these contexts (Higgins, Mirza, and Drozynska 2013). Research on HRD in SMEs points that informal learning is preferred in the workplace (Nolan and Garavan 2016a), which raises the question of whether institutionalised HRD helps organisations learn from failure. Third, this study shares the position of constructionists, which view organisational learning as a social practice in the lived world (Gherardi 2001). It is a widely accepted fact of informal daily life that organisational trust amidst failure leads to the shared belief of being safe among employees, promotes risk-taking behaviour, and enables learning from failure (e.g. Cannon and Edmondson 2012). From a constructivist perspective, organisational learning focuses on social relationships based on mutual trust, with attention to the meaning-making process at the collective level. It also recognises that power relations are unavoidable and identifies which forms of power are important to meaning-making.

2.1. Organizational learning in SMEs

Previous studies consider organisational learning as an actionable practice for improving managerial decision-making and the correction of 'errors' in the workplace (Argyris and Schön 1996). Early research on organisational learning recognised the concept of learning as a change, emphasising that defensive routines can be changed through cognitive and behavioural learning processes. Researchers understand organisational experience across dimensions (i.e. systems, structures, and cultures) and at multiple levels (i.e. individual, group, organisational, and inter-organisational). The context in which learning occurs, and the interactions between actors, have been identified as significant aspects of organisational learning processes.

From a functionalist approach, which views learning behaviour as a resource, organisational learning is a process through which organisations articulate the knowledge and insights gained from experience and improve performance by accumulating, sharing, and applying explicit knowledge (Huber 1991; Nonaka and Toyama 2015). This perspective also acknowledges the various managerial interventions that can facilitate knowledge acquisition, sharing, and application (Jerez-Gómez, Céspedes-Lorente, and Perez-Valls 2019; Oh and Han 2020).

However, organisational learning is also recognised as a social process (i.e. from the socio-cultural perspective); that is, learning cannot be considered in isolation from its social context, as it is the outcome of social interactions, such as participating in communities of practice (Brown and Duguid 1991) and practice-based learning (Gherardi 2001). From this perspective, collectively constructing new meanings and sharing various modes of thought and behaviour are critical learning processes in which individuals and groups engage. Thus, learning is about working and living (Chia 2017; Cook and Yanow 1993).

An integrated understanding of the aforementioned perspectives is important for examining SME organisational learning. Overall, in small businesses, learning activities tend to be more informal than those in larger organisations (Nolan and Garavan 2016a; Short and Gray 2018). Thus, SMEs may have less formalised training programmes and rely more on social- and relationship-based learning communities of practice, mentoring, and coaching (Oh and Lee 2022). Additionally, as SMEs are more vulnerable to environmental changes than large organisations, they must be more flexible and responsive, which includes obtaining resources from exogenous sources due to limited access to such resources. However, because of their small size and owner-dependence, SMEs have the advantage of learning and adapting to new situations, which makes it easier to shift strategies (Oh and Kim 2021).

Crossan et al. (1999, 2011) explained organisational learning processes from a socio-psychological perspective, including *intuition*, *interpretation*, *integration*, and *institutionalization*. Individuals perceive organisational routines and intuit them through workplace events, determining whether to accept or extend them; groups interpret and combine individual intuitions to create shared knowledge, and organisations institutionalise the knowledge as needed. This generates a knowledge transfer process that flows between the organisation and individuals. Crossan et al'.s model is based on the concept of learning stocks and flows, which is the accumulation and transfer of knowledge across different levels of analysis, including the individual, group, and organisation. Jones and Macpherson (2006) extended this organisational learning model (Crossan, Lane, and White 1999) by adding *intertwine* with external support, arguing that understanding how knowledge is scattered within and outside an organisation or acquired and combined is critical to understanding organisational learning in SMEs – an argument that reflects their preference for informal learning and the characteristic of depending on external support.

This study applies the integrated perspective and defines SMEs' organisational learning as the process of accumulating learning outcomes at multiple levels, including individual, group, and organisation levels, transferring those outcomes between levels, and acquiring necessary knowledge from outside the organisation.

2.2. Organizational learning and learning from failure

Learning from failure is a major theme in organisational learning (Levitt and March 1988; Shrivastava 1983) as it addresses how organisational routines and procedures are formed and amended through trial and error (Argote 2013; Cyert and March 1992), and how the failures that organisations experience can facilitate positive cognitive and behavioural changes through the knowledge that is embedded in the organisation's routines and procedures (Deichmann and Ende 2014; Khanna, Guler, and Nerkar 2016). While organisational learning builds routines by defining reasonable procedures, norms, and strategies, learning from failure relates to behaviours modifying routines or converting them into new ones based on learning from situations that existing routines cannot resolve (Desai et al. 2020). Previous literature identifies learning from failure as an attribute of organisational learning (Levitt and March 1988); however, the latter focuses primarily on activities that strategically reinforce or renew routines by developing learning capabilities (Crossan, Lane, and White 1999), whereas the former

focuses on actions that seek to change existing routines to reflect the specific situation of failure. Learning from failure is different from changing behaviour through learning, as organisations are reluctant to experience failure, fearing that it could threaten their survival. Although the notion of failure is regarded as an important component of learning processes that drive change and create a shift to new strategies (Madsen and Desai 2010), it is difficult for organisations to recognise failure as a learning opportunity. Sitkin (1992) contends that organisations learn from intellectual failures, which come from carefully planned actions in areas where the outcome is uncertain but familiar enough to allow for effective learning. Furthermore, it is difficult to distinguish between failures that can lead to learning and those that cannot because this distinction is subjective, and it is possible to learn from failures when learning activities within an organisation are routinely predicted based on the possibility of failure and the motivation to see it as an opportunity for learning, described as 'learning readiness' (Desai et al. 2020; Diwas, Staats, and Gino 2013).

The perception of failure depends on the organisation's past achievements and disappointments, external environment, and the decision-makers' attitude. Moreover, determining failure at the individual level is not straightforward, as members may have different values of success, and define success and failure in ways that could help them achieve their goals (see Desai et al. 2020, 111). This perspective emphasises the process based on which a group or organisation perceives something in a specific context and views it negatively or positively based on its dominant mental model. Similarly, a mental model based on an organisation's learning activities is more likely to view failure as a learning resource (Dillon and Tinsley 2008; Nigam and Ocasio 2010).

In management literature, organisational failure is conceptualised as a state in which an organisation fails to achieve a certain level of performance, goals, or aspirations that represent a satisfactory performance level for its members (Bromiley and Harris 2014). Learning from failure is the process of seeking innovative solutions (i.e. new ways of working) and being motivated to deviate from existing routines due to the perception that it will be difficult to achieve organisational goals if problems intensify or persist (Deichmann and Ende 2014). Bazerman and Watkins (2004) proposed 'scanning' failures, integrating them with existing knowledge, and learning and preserving them in memory as the main activities of learning from failure. Edmondson (2011) also emphasised that the strategy of learning from failure involves detecting and analysing the failure and learning from experiments. Thus, the notion of learning from failure presupposes a routine socio-psychological organisational learning activity, as follows: learning stocks, learning flows, and learning from the outside (Bontis, Crossan, and Huallnd 2002; Crossan, Maurer, and White 2011; Oh and Kim 2021).

Learning stocks refer to the accumulated knowledge and skills that individuals and groups develop over time (Bontis, Crossan, and Huallnd 2002; Oh and Kim 2021). This includes knowledge that is both explicit (e.g. documented regulations and manuals) and tacit (i.e. experience and intuition), and occurs at the individual, group, and organisational levels. Knowledge accumulation facilitates learning from failure in two ways. First, the accumulated knowledge functions as a resource, shaping learning agents' routines. The routines of each learning entity (i.e. individuals and groups) interact with each other to drive knowledge creation processes that help employees adapt to change and are stored in the form of norms, procedures, and regulations (Nonaka and Toyama 2015). The

routines of each level also serve as a benchmark for organisational success and failure, guiding each level to learn what is lacking.

Second, the accumulation of knowledge produces a surplus of intellectual capital that facilitate new attempts (Huber 1991; Natividad 2013). Learning from failure is a more radical and expansive activity because it suggests that existing routines are obsolete and implies replacing them with new ones. This requires members to accumulate knowledge above what is necessary for the immediate business, called organisational slack, not only from direct experience but also from indirect sources, motivating them to explore and experiment by investing additional resources in a learning opportunity called failure. Thus, the following hypothesis is proposed:

H1: Learning stocks at individual, group, and organisational levels promote learning from failure.

According to the threat rigidity theory, organisations or their subgroups become more rigid in their decision-making behaviour when they perceive a threat to their survival or core operations (Staw, Sandelands, and Dutton 1981). When faced with external pressures or threats, such as economic downturns, increased competition, or regulatory changes, they become more focused on defending their current practices and routines and are less willing to explore innovative approaches or take risks.

Learning flows refer to the transfer of knowledge across different levels and the flexible utilisation of knowledge exploration and exploitation. This includes feedback (i.e. from owner-managers to frontline staff) and feed-forward learning flows across various departments and teams, or from frontline staff to owner-managers (Bontis, Crossan, and Huallnd 2002). Learning flows can facilitate learning from failures through information sharing, experience, and various organisational perspectives. Additionally, open communication and collaboration can help individuals and groups learn from one another's failures and develop more effective solutions and approaches (Newman, Donohue, and Eva 2017).

Crossan et al. (2011) emphasised organisational ambidexterity, which is the firm's ability to simultaneously pursue and balance feedforward learning (e.g. exploration) to seek new ideas with risk-taking, and feedback learning (e.g. exploitation), which refines existing knowledge and maximises efficiency. Some scholars insist that organisational ambidexterity entails the occasional benefits of organised inertia at specific intervals when organisations are subject to environmental selection pressure or competitive momentum, such that organisations can benefit from maintaining consistency in their strategies so that their rivals can be overtaken (March 1991; Miller 1993). However, an organisation's ability to balance exploration and exploitation increases its agility and responsiveness, thereby enhancing its ability to turn new opportunities or threats into learning opportunities, leading to the following hypothesis:

H2: Learning flows, including feedback and feedforward, promote learning from failure.

Given that SMEs have limited resources, it is important to focus on external knowledge sources to promote learning from failure. Oh and Kim (2021) classified the SMEs'

organisational learning process as inter- and intra-organisational learning, verifying that the acquisition of external knowledge activates the latter. They also found that SMEs rely on inter-organisational knowledge transfer, which is particularly vigorous when environmental dynamism is high (i.e. when the probability of failure is high) and that intra-organisational learning is more vigorous when dynamism is low.

The vicarious experience of other firms' success and failure is a major theme in organisational learning in SMEs, whether in terms of formal collaboration or informal networks (Madsen and Desai 2010; Mozzato, Bitencourt, and Grzybovski 2015). As the ability of SMEs to recover from mistakes is much lower than larger organisations when faced with failure, there is emphasis on external knowledge transfer. External experts, feedback from customers and suppliers, guidelines from government or industry associations, and networks among peers are important external resources for SMEs to overcome resource constraints (Oh and Kim 2021) and sources of organisational resilience (Kayes 2015). Based on previous research, the following hypothesis is proposed:

H3:   Learning from the outside promotes learning from failure.

2.3. Recovering from failures: perceptions of failure recovery and organizational performance

This study adopts two learning outcomes of learning from failure: perceived failure recovery and organisational performance. Consistent with aspiration-performance models (e.g. Baum and Dahlin 2007; Cyert and March 1992), which emphasise how perceptions of failure and success motivate change and performance, this study considers the first learning outcome as perceived recovery from failure at the organisational level, which is measured as the gap between performance and aspiration (i.e. the level of overcoming failure minus that of actual failure). According to Baum and Dahlin (2007), organisational aspirations are a reference point that simplifies performance evaluation and measures performance relative to historical aspirations as the value of the historical aspiration level minus number of failures during the current year. Prior studies have proposed that when learning from failure is low, it may lead to performance that falls short of aspiration, whereas higher learning may lead to performance that matches or surpasses aspiration (e.g. Ocasio 1995). Desai et al. (2020) pointed out that the concept of failure is largely subjective, and satisfaction with aspirations and achievements is determined by bounded rationality (Simon 1997); therefore, the criteria for overcoming failure may vary depending on the organisation's perception of the failure it has experienced and which it must overcome.

Perceived organisational performance is an important outcome of learning from failure. The perception of current organisational performance is to the outcome of an organisation's response to past failures. In response to failure, organisational behaviour is driven by perceived performance, reflecting the performance level achieved by organisational members prior to the failure and the current performance relative to that of competitors (Bromiley and Harris 2014). Baum and Dahlin (2007) collected data on financial performance, comparing it with the measured performance relative to

aspirations. Therefore, considering perceived organisational financial performance as a learning outcome of past failures, this study proposes the following hypotheses:

H4-1:   Learning from failure mediates the relationship between organisational learning activities (learning stocks, learning flows, and learning from the outside) and perceived failure recovery.

H4-2:   Learning from failure mediates the relationships between organisational learning activities and organisational performance.

2.4. HRD in SMEs and organizational learning from failure

The concept of HRD in SMEs has been limited to training programmes and skills development (Nolan and Garavan 2016b). Despite being labour-intensive, SMEs are characterised by less HRD knowledge, lack of functions and strategies, and low budgets for learning and development. According to Short and Gray (2018), research on SMEs from an HRD perspective is lacking. Furthermore, informal learning, considered a key characteristic of HRD in SMEs, is not appropriately addressed (Nolan and Garavan 2016a); similarly, power relations and socio-political interactions have not yet been adequately researched in the context of SMEs (Higgins, Mirza, and Drozynska 2013; Oh and Lee 2020). According to Desai et al. (2020), the contextualisation of organisational learning from failure is important as contextual factors impose constraints on learning processes that can be recognised as managerial or intraorganizational in nature.

Owner-managers' interest in HRD is a contextual factor of its effectiveness (Hill and Stewart 2000; Nolan and Garavan 2016a; Oh and Park 2021), as an understaffed workforce does not allow for the capacity to be engaged in learning, and low interest in employees discourages self-development through work. Although managerial commitment to HRD can be interpreted as a power factor that influences commitment towards the organisation (Higgins, Mirza, and Drozynska 2013), it is difficult for employees to voluntarily engage in learning in SMEs without managerial interest and support. Therefore, this study views owner-managers' interest in HRD as a moderator in the relationship between organisational learning activities and learning from failure, and examines the efforts to provide a supportive learning environment, such as the operation of the HRD department and learning communities of practice (Oh and Lee 2020).

Given that learning stock refers to explicit and tacit knowledge that accumulates among employees, when organisations experience failure, the organisation's HRD initiatives help members draw on their learning stock to reflect on the situation, identify the underlying causes, and develop strategies. Additionally, the institutionalisation of HRD and management attention can mitigate employees' reluctance to share their accumulated knowledge as learning resources when they are at risk (Higgins, Mirza, and Drozynska 2013). Oh and Lee (2020) found that communities of practice in SMEs are the circuit of power (Clegg 1989) of organisational learning, leading to the inclusion of social integration with mandatory passage points to build consensus in their case studies. They explained that various conflict situations are converted into organisational learning activities through institutionalised decision-making circuits.

This has also been observed in the relationship between learning flows and learning from failure. Learning flows can promote learning from failure through formal training programmes that play a role in sharing knowledge and experiences across different parts of an organisation (Lawrence et al. 2005). In addition, the owner-manager's strong attention to employee learning and development provides psychological safety to facilitate bottom-up efforts to obtain feedback (Edmondson and Hugander 2023).

Moreover, SME owners' strong interest in HRD could promote the relationship between organisational learning from the outside and from failure (Coetzer, Wallo, and Kock 2019). By investing in HRD, SME owner-managers can create a culture of continuous learning within the organisation and encourage employees to learn from external sources, thereby become more willing to experiment and take risks. In promoting learning and development through HRD, SME owner-managers encourage employees to learn from external sources, including failures that occur in other organisations (Coetzer, Perry, and Matlay 2008). Based on the above, the following hypotheses are proposed:

H5-1: When owner-manager's interest in HRD is high, organisational learning activities positively impact perceived failure recovery through learning from failure.

H5-2: When owner-manager's interest in HRD is high, organisational learning activities positively impact perceived organisational performance through learning from failure.

2.5. Organizational trust

Trust and fairness are important contextual factors that are closely related to the psychological contract between employers and employees within an organisation to engage in organisational learning activities (Oh 2019). Organizational trust is the belief employees have in the systems and procedures necessary to allow them to reach their organisational goals, and the confidence that they have in their owners, managers, and colleagues (Lewicki and Bunker 1996; Oh 2019).

It is more likely that SME employees will develop organisational trust through social relationships because they work in a less structured environment, and owner-managers have a dominant influence on workplace behaviour. Moreover, SMEs tend to operate with limited resources, making it difficult for employees to communicate and share vulnerabilities openly and honestly because they often work under tight schedules and time constraints. Thus, research on organisational trust in SMEs must focus on employees' trust in their colleagues, management, and the organisation as a fair system (Bylok et al. 2015).

In the context of low organisational trust, SME workers may be apprehensive about sharing their vulnerabilities as they may appear incompetent or inferior to their peers and managers. This may be a characteristic of SME workers with relatively low levels of organisational commitment; however, it may also be due to low expectations for transparency in promotions, rewards, and learning- and development-allocation systems (Oh and Lee 2020). On the contrary, a high trust culture in the organisation can lead to interaction and use of learning activities to share ideas and solutions, thereby

strengthening the process of learning from failure. For example, when managers from different departments, especially if they are individually involved in important organisational challenges, share their perspectives under organisational trust, they quickly realise that their roles and functions are different rather than conflicting, and identify ways to prioritise their interests and balance their priorities to execute the organisation's overall strategy (Edmondson and Hugander 2023).

Learning stocks, flows, and external learning are closely related to the establishment and maintenance of organisational routines, determining whether failure is viewed as a shared learning resource or an object of criticism. Trust in organisational routines and in people who create them is an important moderator in facilitating learning from failure (Oh 2019). Additionally, knowledge stocked in individuals and groups can be considered an underlying competitive advantage; therefore, sharing their failures and learnings for a common purpose requires a high level of trust. Thus, when organisational trust is strong, failure can be interpreted as an opportunity for new learning and recovery, whereas when it is low, it can be viewed as a threat to the organisation's survival. Attempts are made to maintain existing practices or minimise behavioural expansion through learning from failure.

Organizational trust can also control the relationship between inter-organisational learning activities and learning from failure. Organizations may seek locally accessible solutions when they are initially at risk; however, if the problem intensifies, they expand their scope and may consider unfamiliar solutions (Desai et al. 2020). Thus, this study proposes that when trust in an organisation's ability to scan and interpret new information is strong, learning from failure is high.

H6-1: When organisational trust is high, organisational learning activities positively impact perceived failure recovery through learning from failure.

H6-2: When organisational trust is high, organisational learning activities positively impact perceived organisational performance through learning from failure.

Owner-managers' interest in HRD and organisational trust have been explored in studies related to the SME workplace; however, few have considered these factors simultaneously. Given that SME employees are easily exposed to power relations, it is important to address the role of HRD systems and organisational trust to ensure that employees use them appropriately in the process of organisational learning from failure. This study proposes that in a situation of high trust in an organisation, increased owner interest in HRD will have a greater impact on learning from failure. This study suggests that organisational learning activities facilitate learning from failure in the context of high trust in the organisation and owner-manager's increased interest in HRD. The proposed model is illustrated in Figure 1 and the hypotheses are as follows:

H7-1: Organizational trust and owner-manager's interest in HRD system simultaneously moderates the mediated impact of learning from failure on the relationship between organisational learning activities and perceived failure recovery, in such a way that the relationship is strongest when organisational trust and owner-manager's interest are simultaneously high.
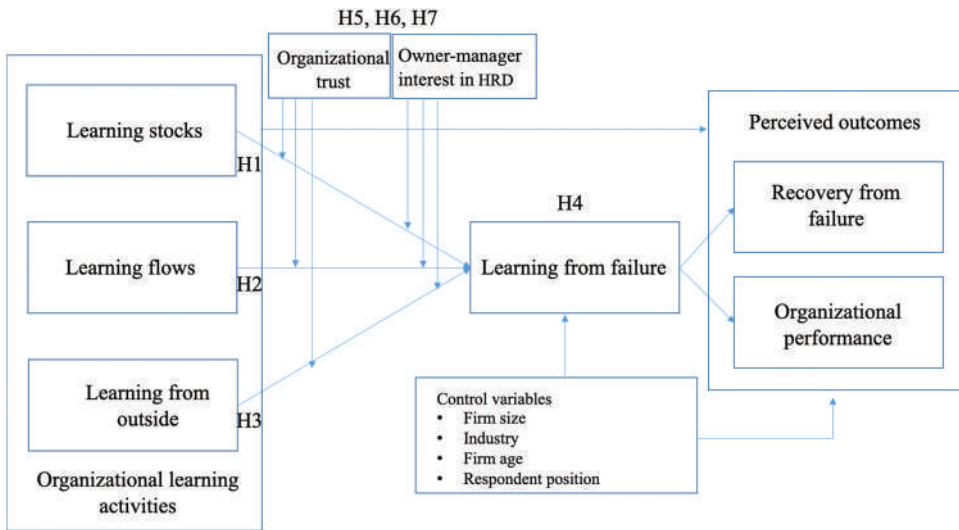
Figure 1. Hypnotized model.

H7-2: Organizational trust and owner-manager's interest in HRD simultaneously moderates the mediated effects of learning from failure on the relationship between organisational learning activities and/or perceived organisational performance, in such a way that the relationship is strongest when organisational trust and owner-manager's interest are simultaneously high.

3. Methodology

3.1. Sample and procedure

The study sample included SMEs enrolled in a competency development programme, called *Support for HRD Competency Enhancement of SMEs* of the HDR Service of Korea, and located in the Seoul and Gyeonggi regions where 51% of the SMEs are concentrated in South Korea (M. J. Kim 2020). The programme supports SMEs' self-training, entrusting vendors to provide training, and SMEs' learning infrastructure for their study circle activities. Given that SMEs are generally unfamiliar with the concept of organisational learning and skills development (Oh and Park 2021; Short and Gray 2018), this study used convenient sampling for selecting SMEs with experience in employee development to identify learning from failure activities. To explain the research purpose, HR managers at each SME were asked to select a person who could answer questions about organisational learning activities and financial performance. An online self-report survey was conducted between September and November 2021 during the COVID-19 pandemic. Of the 400 firms targeted, 317 responded (79% response rate), and the study included data from 296 SMEs that reported experiencing organisational failure during the pandemic.

In terms of demographics, 45.7% (137), 20.3% (61), and 19.7% (59) of the sampled SMEs had fewer than 50, between 100–199, and more than 200 employees, respectively. In terms of industry, 43.0% (129), 26.3% (79), 22.0% (66), and 8.6% (26) of the firms were

in IT, manufacturing, services, and other industries, respectively. The average firm age was 18 years, and the respondents had an average work experience of 14 years, primarily in HR and strategy (43.1%), with 63.3% (190) working in senior management positions.

3.2. Measurements and instruments

In this study, organisational learning activities were measured as learning stocks, learning flows, and learning from the outside between 2018 and 2021. The items were adapted from the Strategic Learning Assessment Map developed by Bontis et al. (2002). Oh (2019) reduced the items to fit the Korean context, and Oh and Kim (2021) included the inter-organisational learning activity items proposed by Jones and Macpherson (2006), modifying them in the context of SMEs, testing their reliability and validity (e.g. CRs: 0.81 ~ 0.89 and AVEs: 0.50 to 0.68). Learning stocks have been considered at the individual, group, and organisational levels, with a total of 15 items (e.g. willingness of individuals to learn and grow, ability of groups to collaborate and generate new ideas, extent to which the organisation has and provides information and knowledge required to work). Learning flows comprise bottom-up and top-down learning flows, with 10 items (e.g. the extent to which members or groups participate in the creation of new business policies, the extent to which members or groups accept organisation policies). Learning from the outside comprises five items measuring exchanges with peers, suppliers, government, customers, and communities. The respondents were asked to answer on behalf of their organisation and provide information about organisational learning activities over the past four years. A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used for all items.

3.3. Learning from failure

Based on tools developed previously to measure learning from failure (Lattacher and Wdowiak 2020), this study used the following four items: the extent to which failure is perceived as a challenge (Edmondson 2011; Levitt and March 1988; Sitkin 1992), failure is shared across the organisation (Bazerman and Watkins 2004; Edmondson 2011), efforts are made to turn failure into a learning experience (Bazerman and Watkins 2004; Shrivastava 1983; Sitkin 1992), and the degree of blame for failure (reverse coding) (Desai et al. 2020; Edmondson 2011; Rami and Gould 2016). The respondents were asked to focus on their recent experiences on behalf of their organisations over the past three years (2019–2021), including the pandemic.

3.4. Organizational performance and recovery from failure

As an organisation's perceived financial performance can indirectly measure the extent to which it has recovered from a crisis relative to expectations (Desai et al. 2020), this study measured five financial performance criteria used in related studies (Milia and Birdi 2010; Oh 2019; Prieto and Revilla 2006). The respondents were asked about their firm's growth in revenue, profitability, return on investment, net income growth, and market share in recent years relative to similarly sized firms in their industry. CR was 0.94 and AVE was 0.67 (Oh 2019).

Recovery from failure is about turning a negative experience into a positive one, and given that some events with ambiguous outcomes may be categorised as successes or failures (Desai et al. 2020; Ocasio 1995), perceived recovery from failure was measured by subtracting the perceived failure experience (i.e. the extent to which they experienced 'failure' in their work) from perceived recovery from failure (i.e. the extent to which they have overcome 'failure' in their work) over the past three years. Each measure was scored on a five-point Likert scale ranging from 1 (very little) to 5 (very much).

3.5. Moderators: owner-manager's interest in HRD and organizational trust

Owner-managers' interest in HRD was measured as the product of whether the organisation had an HRD department (if yes, 2; otherwise, 1), learning community of practice (if yes, 2; otherwise, 1), and the extent of the owner-manager's attention to HRD (5 for very interested; 1 for not interested), based on previous SME studies (Nolan and Garavan 2016a; Oh and Lee 2020).

Organizational trust was measured based on employees' trust in co-workers and management and their perception of the organisation as a fair system. Four items were considered: the extent to which the organisation has 1) a climate of mutual trust among employees, 2) managers trusted by employees, 3) fairness in decision-making across the organisation, and 4) transparency and trust in the work processes (Bylok et al. 2015; Lewicki and Bunker 1996; Oh 2019). CR was 0.94 and AVE was 0.64 (Oh 2019).

3.6. Control variables and data analysis

Consistent with related studies, four variables were used: firm size, industry type, firm age, and respondents' years of work experience (Milia and Birdi 2010; Oh and Kim 2021). Firm age and years of work experience were log-transformed, and firm size and industry type were the dummy variables. Confirmatory factor analysis (CFA) was conducted to examine the validity and reliability of constructs. The PROCESS macro for SPSS v.4.20 was used, and a double moderated mediation analysis (Model 9) was conducted to test the hypotheses (Hayes 2017). To make inferences about mediated, moderated, and moderated-mediated effects, bootstrapping tests (5,000 resamples) were conducted.

4. Results

CFA was used to verify the loading values of six constructs (e.g. three organisational learning constructs, learning from failure, organisational trust, and organisational performance) and their model fit. For organisational learning activities, a measurement model for the three constructs comprising learning stocks, learning flows, and learning from the outside were set up. Two items with loading values below 0.40 in learning stocks and flows were removed, with the rest having acceptable loading values between 0.62 and 0.82. The model also showed acceptable fit, such as chi-square/degrees of freedom (df) = 3.49, $p < 0.001$, goodness-of-fit index (GFI) = 0.93, Tucker-Lewis index (TLI) = 0.95, comparative fit index (CFI) = 0.96, and root – mean – square error of approximation (RMSEA) = 0.07. It is acceptable if GFI, TLI, and CFI are above 0.9, and RMSEA is below

0.08 (Hu and Bentler 1999). All the constructs showed suitable composite reliability (CR) (in order: 0.91, 0.92, and 0.84), average variance extracted (AVE) (0.50, 0.59, and 0.52), and Cronbach's alpha (0.94, 0.92, and 0.84). Both the CR and Cronbach's alpha should be greater than 0.70 (Nunnally 1978), and an AVE greater than 0.50 is an appropriate value (Fornell and Larcker 1981). Each construct of learning from failure, organisational trust, and performance, showed acceptable loading values between 0.65 and 0.92. All the models showed adequate model fit: chi-square/df is 5.13, 3.33, and 3.89 with $p = 0.00$, GFI is 0.98, 0.99, and 0.97; TLI is 0.97. CFI is 0.99, 0.98, and 0.98, and RMSEA is 0.08. CR ranges from 0.90 to 0.91, AVE from 0.53 to 0.72, and Cronbach's alpha from 0.82 to 0.91.

A multicollinearity test performed on the variables showed that all variance inflation factors are less than 4, ranging from 1.20 to 3.43, and the Durbin-Watson value is 1.78, which is between 1.50 and 2.50, indicating no multicollinearity among the variables. Harman's one-factor test, which detects common method bias that can occur in self-reported data (Podsakoff et al. 2003), showed that data are not affected by bias because a single factor explains 42.62%, which means that the variance for one factor did not exceed half of the total variance of all the components. Table 1 shows the descriptive statistics and correlations among variables.

Ordinary least squares regression analysis was performed to validate the hypothesised model (Hayes 2017). All continuous variables, except for outcome variables, were mean-centred to minimise multicollinearity, and the study conducted double moderated mediation tests for each independent variable: learning stocks, learning flows, and learning from the outside. For Hypotheses 1 through 4, the mediation model tested if learning from failure mediated the relationship between organisational learning activities (learning stocks, learning flows, and learning from the outside) and perceptions of failure recovery and organisational performance (recovery from failure and organisational performance). The results (see Table 2) show that learning stocks, learning flows, and learning from the outside are significantly associated with learning from failure ($b = 0.43$, 0.46, and 0.25, $p < 0.001$), and partially associated with recovery from failure (learning stocks, $b = 0.34$, $p < 0.01$; and learning flows, 0.44, $p < 0.001$) and organisational performance (learning stocks, $b = 0.15$, $p < 0.05$; learning flows, 0.17, $p < 0.01$; and learning from the outside, 0.18, $p < 0.001$). A bootstrap analysis was conducted for the indirect effects (Hayes 2017). A nonparametric resampling procedure was conducted and resampled 5000 times. The indirect effect is statistically significant if the confidence

Table 1. Descriptive statistics and correlations among variables.

Variable	M	SD	1	2	3	4	5	6	7	8
1. LS	3.76	0.69	(0.94)							
2. LF	3.63	0.77	0.61***	(0.92)						
3. LFO	3.51	0.83	0.63***	0.65***	(0.84)					
4. LFF	3.26	0.73	0.56***	0.57***	0.49***	(0.82)				
5. RF	0.44	1.29	0.43***	0.49***	0.36***	0.56***				
6. OP	3.42	0.69	0.27***	0.31***	0.31***	0.27***	0.31***	(0.91)		
7. OT	3.52	0.90	0.79***	0.85***	0.63***	0.52***	0.47***	0.34***	(0.91)	
8. OIHRD	7.05	4.92	0.31***	0.36***	0.37***	0.29***	0.21***	0.23***	0.35***	

Notes. ***p <0.001.
M, mean; SD, standard deviation; LS, learning stocks; LF, learning flows; LFO, learning from outside; OT, organisational trust; OIHRD, owner-manager interest in HRD; LFF, learning from failure; RF, perceived recovery from failure; OP, perceived organisational performance; Parentheses are the Cronbach's alpha coefficient.

interval does not include zero. The results show that all organisational learning activities facilitate learning from failure, which increases both recovery from failure and organisational performance. Table 2 shows that learning from failure is statistically mediated by organisational learning activities and recovery from failure (learning stocks, $b = 0.35$, 95% CI [0.20, 0.53]; learning flows, 0.35, [0.20, 0.52]; and learning from the outside, 0.23, [0.12, 0.35]) and organisational performance (learning stocks, 0.07, [0.00, 0.14]; learning flows, 0.05, [0.01, 0.10]; and learning from the outside, 0.04, [0.00, 0.08]). These results show that Hypotheses 1 through 4 are supported.

Double-moderated mediation tests were conducted to test Hypotheses 5 through 7. The results are listed in Table 3 and Figure 2. In the learning stocks model, only organisational trust moderates the relationship between learning stocks and learning from failure ($b = 0.12$, $p < 0.05$, R2-change = 0.02), and the mediating effect of learning from failure between learning stocks and recovery from failure, and the learning stocks and organisational performance become increasingly strong as organisational trust increases. In the learning flows and learning from the outside models, both organisational trust and owner-managers'

Table 2. Results of the double moderated mediation tests among variables.

From to (b)	RF		OP	
	LFF	RF	LFF	OP
LS	0.43***	0.34**	0.43***	0.15*
LFF		0.53***		0.17**
OT	0.16*		0.16*	
OIHRD	0.11*		0.11*	
LS x OT	0.12*		0.12*	
LS x OIHRD	−0.09		−0.09	
	Effect	CI$_{95\%low}$	CI$_{95\%high}$	Effect	CI$_{95\%low}$	CI$_{95\%high}$

	Effect	CI$_{95\%low}$	CI$_{95\%high}$	Effect	CI$_{95\%low}$	CI$_{95\%high}$
Direct (LS→RF/OP)	0.34	0.12	0.55	0.15	0.02	0.29
Indirect (LS→ LFF → RF/OP)	0.35	0.20	0.53	0.07	0.00	0.14

	LFF	RF	LFF	OP
LF	0.46***	0.44***	0.46***	0.17**
LFF		0.45***		0.15*
OT	0.10*		0.10*	
OIHRD	0.12*		0.12*	
LF x OT	0.13**		0.13**	
LF x OIHRD	−0.15*		−0.15*	

	Effect	CI$_{95\%low}$	CI$_{95\%high}$	Effect	CI$_{95\%low}$	CI$_{95\%high}$
Direct (LF→RF/OP)	0.44	0.25	0.63	0.17	0.05	0.29
Indirect (LF→ LFF → RF/OP)	0.35	0.20	0.52	0.05	0.01	0.10

	LFF	RF	LFF	OP
LFO	0.25***	0.13	0.25***	0.18***
LFF		0.63***		0.15*
OT	0.28***		0.28***	
OIHRD	0.10*		0.10*	
LFO x OT	0.11*		0.11*	
LFO x OIHRD	−0.14*		−0.14*	

	Effect	CI$_{95\%low}$	CI$_{95\%high}$	Effect	CI$_{95\%low}$	CI$_{95\%high}$
Direct (LFO→RF/OP)	0.13	−0.04	0.31	0.18	0.07	0.28
Indirect (LFO→ LFF → RF/OP)	0.23	0.12	0.35	0.04	0.00	0.08

Notes. b, unstandardised coefficient; CI, confidence interval.

interest in HRD moderate the relationship between learning flows and learning from failure and learning from the outside and learning from failure. However, organisational trust (learning flows: $b = 0.13$, $p < 0.01$, R2-change = 0.02; learning from the outside: $b = 0.11$, $p < 0.05$; R2-change = 0.01) and HRD (learning flows: $b = -0.15$, $p < 0.05$, R2-change = 0.01; learning from the outside: $b = -0.14$, $p < 0.05$; R2-change = 0.02) moderate these relationships positively and negatively, respectively. Therefore, the mediating effect of learning from failure between learning flows (or learning from the outside) and recovery from failure (or organisational performance) becomes stronger when organisational trust increases, and weaker when owner-managers' interest in HRD increases.

As shown in Figure 2 and Table 3, organisational trust and owner-managers' interest in HRD significantly moderates the indirect impact of organisational learning activities' recovery from failure and organisational performance through learning from failure. Specifically, regarding organisational trust, this study found that the interactional effect between organisational learning activities and organisational trust increases from lower to higher levels; however, regarding owner-managers' interest in HRD, the interactional effect between learning flows (or learning from the outside) and owner-managers' interest in HRD decreases as the level of interest in HRD increases (see Figure 2). As shown in Table 3, the impact on learning from failure is strongest when organisational trust is highest (+1SD) and owner-managers' interest in HRD is lowest (−1SD), respectively. Therefore, Hypothesis 5 is rejected, Hypothesis 6 is supported, and Hypothesis 7 is partially supported.

Table III. Double conditional indirect effects of organisational learning activities on perceived recovery from failure and organisational performance.

Moderators		Dependent variables				Bootstrapping			
		RF		OP		RF		OP	
OT	OIHRD	IDE	SE	IDE	SE	$CI_{95\%low}$	$CI_{95\%high}$	$CI_{95\%low}$	$CI_{95\%high}$
LS→ LFF → RF/OP									
−1SD	−1SD	0.32	0.10	0.07	0.03	0.13	0.52	0.00	0.13
−1SD	+1SD	0.21	0.10	0.04	0.03	0.01	0.42	−0.01	0.10
M	−1SD	0.41	0.10	0.08	0.04	0.23	0.62	0.00	0.16
M	+1SD	0.30	0.10	0.06	0.03	0.12	0.50	0.00	0.12
+1SD	−1SD	0.50	0.11	0.10	0.05	0.29	0.74	0.00	0.20
+1SD	+1SD	0.39	0.10	0.08	0.04	0.20	0.60	0.00	0.16
LF→ LFF → RF/OP									
−1SD	−1SD	0.34	0.10	0.04	0.03	0.17	0.54	0.00	0.10
−1SD	+1SD	0.19	0.08	0.02	0.02	0.03	0.35	−0.01	0.07
M	−1SD	0.42	0.10	0.06	0.03	0.24	0.63	0.01	0.12
M	+1SD	0.27	0.08	0.04	0.02	0.13	0.44	0.00	0.09
+1SD	−1SD	0.50	0.12	0.08	0.04	0.30	0.75	0.01	0.15
+1SD	+1SD	0.35	0.09	0.06	0.03	0.20	0.54	0.01	0.11
LFO→ LFF → RF/OP									
−1SD	−1SD	0.23	0.08	0.04	0.02	0.09	0.38	0.00	0.08
−1SD	+1SD	0.05	0.09	0.01	0.02	−0.14	0.22	−0.02	0.05
M	−1SD	0.32	0.08	0.05	0.02	0.17	0.48	0.01	0.10
M	+1SD	0.14	0.07	0.02	0.02	0.00	0.27	0.00	0.06
+1SD	−1SD	0.41	0.10	0.07	0.03	0.22	0.61	0.01	0.13
+1SD	+1SD	0.23	0.07	0.04	0.02	0.10	0.37	0.00	0.08

Notes. *b*, unstandardised coefficient; IDE, indirect effect; SE, standard error; CI, confidence interval.
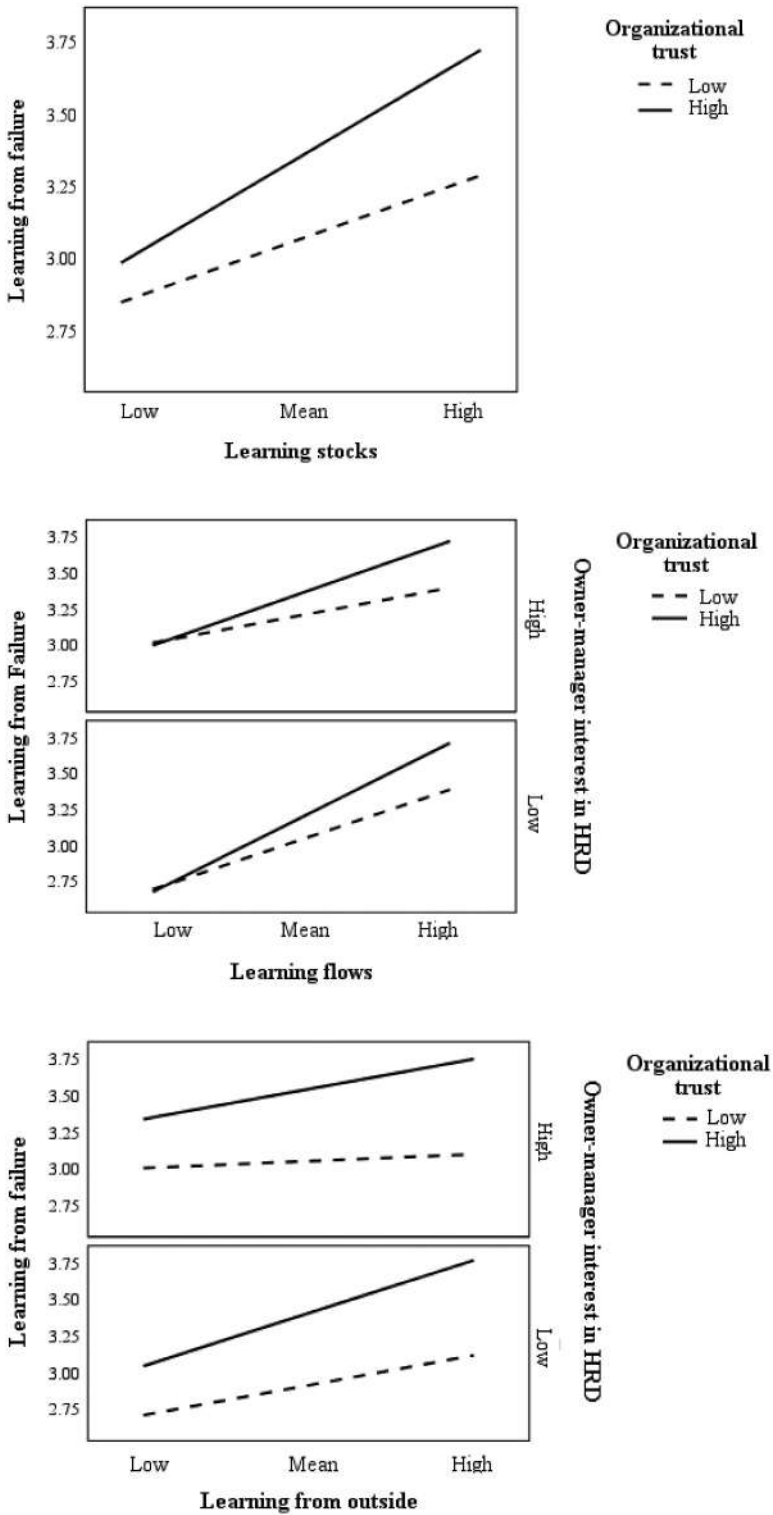
Figure 2. Interaction effects of owner-manager interest in HRD systems and organisational trust.

5. Discussions and conclusions

5.1. Discussions

This study examined the roles of SME owner-managers' interest in HRD and employees' organisational trust in the relationships among organisational learning activities' learning from failure and their performance.

Contrary to the hypothesis that owner-managers' interest in HRD in SMEs would facilitate the relationship between organisational learning activities and learning from organisational failures, we found that owner-manager's interest in HRD negatively moderates the relationships. These results draw attention to the argument by some scholars in the critical perspective that one of the main factors affecting the learning process in SMEs is the influence of owner-managers, who have the power and legitimacy to lead employee practices (Giddens 1984; Higgins, Mirza, and Drozynska 2013). Power and political perspectives on learning show that learning as a social process is not an isolated, decontextualised event, but forms connections that are stimulated by social contexts (Vince 2001). Conceiving the study of learning from this critical perspective can be premised on recognising and articulating the power of the subject. Although there are both coercive powers (where higher-status actors oppress) and constructive powers (where people are allowed to act on their own) in the way power is expressed in organisations (Clegg 1989; Oh and Lee 2020), there are limits to the extent to which employees can leverage their political power to learn in an informal learning context, as that in SMEs. SME workers, who tend to identify themselves as socially marginalised and passively accept learning environments embedded with performance-driven goals and owner-driven decision-making (Thole 2023), can consider owner-manager attention to HRD as a burden or extra work rather than a favour to promote learning (Oh and Lee 2020). This study also shows that Korean owner-managers' attention to HRD, especially in the context of the pandemic, slows down the rate of learning from failure. This may reflect the propensity of Korean employees to want their learning autonomy (Ko and Oh 2022) to be respected in a Korean corporate culture that values relationship-oriented collectivism and hierarchy (Oh and Han 2020). In addition, from a perspective that extends beyond the Korean context, this may be the result of rigid and reactive owner-manager attitudes that try to make up for failures with limited knowledge in a pandemic situation that requires agility (Desai et al. 2020). It may also be due to a lack of emotional support, which is a prerequisite for workplace learning (Hökkä, Vähäsantanen, and Paloniemi 2020). However, given that an important finding of this study, their attention to HRD is having an impact on increasing the baseline level of organisational learning capabilities, there is still a positive function in the power of owner-managers. Thus, it is important to recognise that the owner-manager's interest in HRD itself does not function negatively, but rather, that it is expressed in a way that respects employees' autonomy to learn.

5.2. Implications for HRD research

The findings of this study contribute to providing evidence that enables a critical view of existing organisational learning theories. They suggest that SMEs with high owner-manager interest in HRD have relatively high organisational learning activities compared

to SMEs with low owner interest but learning from failure slows down or is limited as owner interest increases. While organisational learning has been perceived as a process of organisational change driven by the sum of members' learning or the shared mental model according to *a theory of action perspective* (Argyris and Schön 1996; Huber 1991), it is possible to analyse the emotional and power processes that impede learning when it is viewed from a broader social context (Bierema et al. 2023). This study contributes to the literature on the need for a critical HRD perspective by showing how owner-managers' attention to HRD in the context of the crisis faced by SMEs can have unintended consequences.

This study has also advanced the application of organisational learning theory in SME contexts. While some organisational learning theories focused primarily on knowledge generation from the internal organisation (e.g. Crossan, Lane, and White 1999; Nonaka and Toyama 2015), this study confirmed organisational learning theorists' assertion that in the SME context (e.g. Holmqvist 2004; O. Jones and Macpherson 2006), knowledge flows from the outside are as important as internal knowledge creation. While this may reflect the Korean context, where cooperative networks exist between large and small firms (S. Kim et al. 2023), the evidence of this phenomenon within a specific context is imperative for comparative studies of international SME HRD. Lastly, one of our findings, which SMEs with high owner-manager interest in HRD have relatively higher levels of organisational learning activities although they limit the learning from failure, contributes to a shift in perspective in the study of leadership styles in SMEs. According to Bierema et al. (2023), previous popular leadership approaches, such as leader-member exchange and transformation leadership, continue to be based on leader-focused theory and leave little room for marginalised individuals and groups (pp. 75–77). With the increasing diversity in organisations and the widening of fissures for SME workers during the pandemic (Blustein and Flores 2023), the concept of inclusive leadership has gained attention, as it is based on constructive power that recognises workers for their efforts, makes moral values an organisational standard, and fosters open dialogue and change (Thompson and Matkin 2020). Inclusive leadership includes providing an open space for SME employees to discuss how they feel about learning in the workplace and what they need to facilitate learning (Byrd 2022). Therefore, this study contributes to SME leadership research by implicating that owner-managers' interest in learning should foster an inclusive and supportive attitude that recognises employees' uniqueness and efforts.

5.3. Implications for HRD practice

This study offers several practical implications. First, building organisational trust plays an important role in the learning process by using failure as a learning resource. Even before the pandemic, the role of trust in the organisational learning process was considered crucial (Oh 2019). However, the pandemic has widened the fissures in society at large, especially surrounding issues such as job insecurity for workers in SMEs (Blustein and Flores 2023). It is thus important for organisations to redefine the value of 'trust' to reflect their own organisational context and build learning strategies based on this to address issues that were previously considered problematic. Second, SMEs' need to shift HRD activities to informal learning activities (e.g. action learning or study circles),

allowing knowledge creation, experimentation, and new applications, rather than traditional lecture-based training that focuses on delivering organisational routines. The findings of this study suggest that the SME HRD system may either be too rigid, with only owner-led institutionalisation, or lack a shared vision on HRD across the organisation (Coetzer, Wallo, and Kock 2019). Contextualized HRD practices foster flexibility and adaptability, allowing employees to learn from failure and adapt quickly to changing environments. Third, owner-managers' interest in HRD is important, but rather than direct and directive interventions, they should help create a learning culture where employees feel free to share ideas and voice their opinions. This requires the need for development and training in new leadership styles, such as inclusive leadership (Bierema et al. 2023).

5.4. Conclusions

This study explored how organisational learning activities, namely, learning stocks, learning flow, and learning from the outside, affected Korean SMEs' recovery from failure and organisational performance through learning from failure during the COVID-19 pandemic. It also examined whether owner-managers' interest in HRD and organisational trust facilitated the relationship between the variables and had a moderating impact on the relationships between them. Through the participation of 269 Korean SMEs, the following conclusions were drawn.

First, the study shows that learning from failure mediates the link between organisational learning activities and recovery from failure, as well as organisational performance.

Second, organisational trust and owner-managers' interest in HRD had moderating impacts on the extent to which organisational learning activities facilitate learning from failure. However, organisational trust had moderating effects on the relationships between all SME organisational learning activities and learning from failure, whereas owner-managers' interest in HRD had moderating effects except on the relationship with learning stocks.

Third, owner-managers' interest in HRD and organisational trust simultaneously moderates the impact of learning from failure on the relationship between organisational learning activities and perceived failure recovery. However, the relationship is not the strongest when organisational trust and owner-manager interest are simultaneously high, but rather, when organisational trust is relatively high and owner-manager's interest is relatively low.

5.5. Limitations and future research

First, due to its convenient sampling method, this study is limited in its representation of SMEs. In addition, the proportion of IT SMEs among the participating SMEs is relatively high compared to that of other industries. Thus, future studies must conduct random sampling stratified by industry to increase the representativeness of the sample. Second, a self-report instrument was used to measure the outcome variables. To verify potential common method bias, a single factor test was conducted (Podsakoff et al. 2003), and less than 50% of the single factor among eight constructs was obtained. However, future research must include quantitative studies that are linked to cases of objective failures or

objective organisational performance. Third, contrary to the hypothesis of this study, we found that the higher the owner-manager's interest in HRD, the slower that learning flow (or learning from the outside) facilitated learning from failure. Future research using qualitative or mixed research methods is needed to determine what factors and contexts in failure situations caused these results. Fourth, the study was conducted in the context of Korean SMEs. It is necessary to extend the study in an international context. This extension would enable a comparative analysis that would corroborate the findings presented in this study. Fifth, the findings emphasise the importance of considering the specific context of SME settings when designing and implementing HRD practices. In addition to trust and the owner's interest in HRD, contextual factors that moderate learning from failure may include leadership styles, organisational culture, and the professional identity of employees. Other organisational factors may also influence this, such as organisational age, size, and structure. Future research that reflects the organisational context during a crisis using other factors is necessary.

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