

MINDFUL LEADERSHIP AND ORGANISATIONAL RESILIENCE POST COVID-19: THE CASE OF ENVIRONMENTAL SMES GOVERNANCE

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Abstract

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This study investigates the impact of mindful leadership on organizational resilience in small and medium-sized enterprises (SMEs) in Vietnam's environmental technology sector. SMEs are central to sustainable development but remain vulnerable to shocks, resource constraints, and market volatility, particularly in the post-COVID-19 era (Erdiaw-Kwasie et al., 2023). Mindful leadership, emphasizing self-awareness, compassion, and situational understanding, offers a promising pathway but has been underexplored in emerging economies (Zheng et al., 2022). The purpose of this research is to examine how mindful leadership influences two dimensions of resilience: situation awareness and adaptive capacity. A quantitative design was employed, with data collected through an online survey of employees and mid-level managers in environmental technology SMEs in Hanoi. Our findings reveal that compassion has a significant positive effect on both situation awareness and adaptive capacity, while self-awareness has a weaker influence, significant only for situation awareness. These results highlight compassion's critical role in fostering trust, cohesion, and adaptability. The study extends mindful leadership research to Vietnamese SMEs and offers practical implications for managers seeking to strengthen resilience in dynamic environments.

Keywords: Mindful Leadership, Organizational Resilience, Self-Awareness, Compassion, Situation Awareness, Adaptive Capacity

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1. INTRODUCTION

The COVID-19 pandemic was one of the most severe crises of the early 21st century, causing prolonged economic stagnation in Vietnam and globally. This disruption highlighted the urgent need for businesses to adopt proactive strategies to manage risks and sustain operations. As political, economic, and environmental uncertainties continue to unfold, future crises remain inevitable and unpredictable. Against this backdrop, the concept of the resilient organization has gained growing attention in both scholarship and practice (Chen et al., 2021). Resilience is understood as a firm's capacity not only to withstand disruption but also to adapt, recover, and emerge stronger (Buranapin et al., 2023). For Vietnam's small and medium-sized enterprises (SMEs) — which are central to economic growth yet highly vulnerable to resource constraints and market volatility — the development of resilience is particularly critical. Leadership plays a pivotal role in this process, shaping how organizations prepare, mobilize resources, and respond under pressure. Emerging styles such as mindful leadership offer promising avenues by fostering awareness, stability, and compassion that strengthen organizational resilience (Al-Janabi et al., 2024; Cudia & Legaspi, 2025; Muthuswamy & Savithri, 2025; Robbins & Coulter, 2018; Verawati et al., 2025).

Mindful leadership integrates principles of humanistic management by valuing stakeholders, positioning the firm as a social contributor, and aligning organizational goals with broader societal well-being. Such practices form a self-reinforcing leadership system that supports both organizational performance and long-term survival (Vu & Tran, 2021). A core function of mindful leadership is its emphasis on preparedness and adaptability. Cultivating present-moment awareness and encouraging contingency planning, it equips leaders to anticipate uncertainty and respond effectively to disruptions (Robbins & Coulter, 2018). Beyond immediate crisis management, mindful leadership fosters compassion, empathy, and open communication, which strengthen employee trust and collective resilience. Despite these potential advantages, mindful leadership remains underutilized in practice and underexplored in management research, particularly within SMEs and in emerging economies. This gap highlights the need for empirical studies examining how mindful leadership contributes to organizational resilience, offering both theoretical advancement and practical guidance for firms navigating volatile and uncertain environments.

Therefore, this paper aims to fill the gap by exploring whether mindful leadership in SMEs positively impacts the company's resilience. By using fairly new constructs of mindful leadership and resilience, the study contributes to the literature with new empirical evidence about the actual impact of this traditional value-embedded leadership on resilience. The findings of the study provide practical insights for the environmental companies in Vietnam, as well as their peers, on how to improve

resilience by applying a deeper level of mindfulness in the firm's leadership journey.

Vietnam provides unique research setting as a country with deep roots in Buddhist culture, which encourages reflection and consideration of multiple perspectives rather than taking conditions for granted (Vu & Tran, 2021). This cultural foundation makes Vietnam a 'fusion' context where traditional values intersect with modern business practices, offering a distinctive environment for examining leadership and resilience. Environmental SMEs are still a relatively new but growing sector in Vietnam, generating value directly through solutions to environmental problems and thus contributing meaningfully to sustainability (Northern Environmental Monitoring Center, Department of Environment, 2018). Despite progress, persistent issues such as waste generation and insufficient environmental measures remain pressing concerns (Mulhern, 2021). Compared to other industries, environmental firms are often regarded as more sustainability-driven and cautious in their returns, which underscores their suitability as a focus for investigating the link between mindful leadership and organizational resilience (Galani et al., 2012).

The remainder of this paper is organized as follows. Section 2 reviews the literature and develops the hypotheses. Sections 3 and 4 describe the methodology and present the empirical results. Section 5 discusses the findings and offers recommendations. Finally, Section 6 concludes the paper.

2. LITERATURE REVIEW

The increasing frequency of crises — including political conflicts (e.g., the Russia-Ukraine war), global health emergencies (e.g., COVID-19), climate-induced natural disasters, and economic shocks such as inflation and supply chain disruptions — poses significant threats to business survival. To withstand such disruptions, organizations must adopt proactive strategies that enhance resilience. Leadership plays a central role in shaping this capacity (Southwick et al., 2017). However, identifying a leadership style that is sufficiently flexible to navigate diverse and unpredictable contexts remains a challenge. Mindful leadership, which emphasizes self-awareness, compassion, and situational understanding, has emerged as a promising approach. Despite its potential to enhance resilience, especially within SMEs, mindful leadership remains under-recognized and under-practiced in Vietnam.

2.1. Mindful leadership

2.1.1. Mindful leadership definition

Mindfulness, rooted in Buddhist traditions dating back over 2,500 years, has long been regarded as a practice for cultivating awareness and inner balance (Fleming, 2015). From an Eastern perspective, mindfulness is associated with orientation, reflective thinking, and the capacity to view situations from multiple perspectives (Fleming, 2015; Aiken, 2006). In contrast, Western psychology

typically defines mindfulness as purposeful, present-moment awareness characterized by non-judgmental acceptance of experience (Kabat-Zinn, 2003). Although these conceptualizations differ, they are complementary: while Eastern traditions emphasize deep insight and wisdom, Western approaches stress attentional control and acceptance. Together, they highlight the consistent benefits of mindfulness, including calmness, reduced stress and anxiety, improved concentration, and the cultivation of compassion, empathy, and emotional resilience (Brown & Ryan, 2003; McKee et al., 2008).

Extending these principles into organizational contexts, mindful leadership has emerged as a leadership style that integrates presence, self-awareness, and compassion with a focus on organizational goals (Reitz et al., 2020). Leaders who embody mindfulness are able to remain centered, emotionally stable, and attentive to both people and situational demands, which is particularly valuable in dynamic and uncertain environments (Schuh et al., 2019). For SMEs, especially in emerging economies, these attributes are critical. SMEs often face greater vulnerability to shocks such as market volatility, supply chain disruptions, and environmental crises due to their limited resources. Mindful leadership offers a practical approach for enhancing resilience by strengthening adaptive capacity, situation awareness, and team cohesion.

Empirical studies further underscore these benefits. Dunoon and Langer (2012) show that mindfulness enhances leaders' ability to detect contextual cues, anomalies, and new opportunities, while Gonzalez (2012) emphasizes its role in maintaining clarity, reducing stress, and managing tasks more effectively to achieve goals under varying conditions. These findings suggest that mindful leadership is not only applicable across contexts but also particularly well-suited to challenging and uncertain situations. As such, mindful leadership may provide SMEs with a pathway to long-term sustainability by fostering both individual and organizational resilience. In the context of this study, mindful leadership is therefore defined as a leader's ability to cultivate self-awareness, maintain focus, and engage constructively with employees to achieve organizational objectives.

2.1.2. Mindful leadership constructs in SMEs

Scholars have conceptualized and measured mindful leadership in diverse ways. Gonzalez (2012) identifies nine dimensions, including presence, awareness, calmness, focus, clarity, equanimity, positivity, compassion, and impeccability. In contrast, Buranapin (2024) adopts a more concise framework, emphasizing awareness and acceptance as the two core characteristics. George (2012) narrows the scope further, highlighting self-awareness and compassion as essential attributes of mindful leadership. Similarly, Wongkom et al. (2019) examine mindful leadership through four dimensions: self-awareness, good decision-making, commitment, and compassion. Despite these varying perspectives, a consistent theme emerges across the literature: self-awareness and compassion

appear repeatedly as central elements of mindful leadership.

In the context of environmental SMEs in Vietnam, this focus is particularly relevant. These firms typically operate with limited resources, small teams, and heightened vulnerability to external shocks such as regulatory shifts, climate-related risks, and market volatility. Under such conditions, leaders' ability to accurately understand themselves (self-awareness) and to care for and support employees (compassion) becomes critical. These qualities not only strengthen employee trust and engagement but also enhance adaptive capacity and collective resilience. By contrast, other dimensions of mindful leadership, such as attention regulation or cultivating non-judgmental attitudes, while valuable, may be less visible or harder to capture in small, resource-constrained organizations.

To balance theoretical comprehensiveness with empirical feasibility, this study therefore narrows its operationalization of mindful leadership to the two most widely supported constructs: self-awareness and compassion. This decision aligns with prior research that highlights these attributes as central to leadership effectiveness and resilience-building (Limphaibool et al., 2022). By focusing on these dimensions, the study can more clearly identify the pathways through which mindful leadership contributes to organizational resilience in SMEs, without over-complicating measurement or diluting analytical focus.

Self-awareness

Self-awareness has been widely recognized as a central leadership quality, encompassing the ability to understand one's emotions, thoughts, and reactions in real time (Gonzalez, 2012). Roemer and Orsillo (2010) describe it as a process of continuously monitoring one's internal states and experiences, with an emphasis on present awareness rather than fixation on past or future events. Similarly, Burmansah et al. (2020) conceptualize self-awareness as both a psychological and emotional state of self-management that integrates understanding of internal and external environments. Wongkom et al. (2019) offer a more concise definition, framing self-awareness as emotional awareness, self-assessment, and recognition of limitations.

In leadership contexts, self-awareness allows leaders to remain less influenced by negative emotions or stereotypes, fostering objectivity and openness (Cardaciotto, 2005). Gonzalez (2012) emphasizes that mindful leaders, through self-perception, sustain a non-judgmental and compassionate stance toward others. Likewise, Konte and Li (2020) find that self-awareness equips leaders with insight into their intentions, thoughts, and behaviors, thereby enhancing their ability to manage emotions effectively. Research further highlights three complementary aspects of self-awareness — awareness of mental states, awareness of automatic reactions, and awareness of experiential reference modes — that together enhance leadership effectiveness (Cardaciotto, 2005). In this study, self-awareness is understood as

leaders' capacity to recognize and manage internal states in ways that strengthen emotional balance and decision-making.

Compassion

Compassion is another cornerstone of mindful leadership, commonly associated with kindness, generosity, and attentiveness (Wongkom et al., 2019). Gonzalez (2012) defines compassion as a deep, unattached concern for others that requires courage and resilience, while Stoeber (2005) highlights its role in responding constructively to difficulties. Similarly, Germer (2009) frames compassion as the capacity to accept challenges and the diverse ways people cope with them. While definitions vary slightly depending on context, scholars agree that compassion enables leaders to remain caring and supportive under adverse circumstances. Gonzalez (2012) further emphasizes that compassionate leaders perform optimally across conditions by fostering trust and sustaining team morale. For this study, compassion is defined as leaders' ability to demonstrate kindness, benevolence, and generosity toward employees, thereby fostering a supportive organizational climate.

2.2. Firm resilience

2.2.1. Definition

Organizational resilience refers to the capacity of firms to adapt, withstand, and recover from shocks while maintaining core functions and pursuing long-term objectives. While definitions vary across contexts, resilience is generally seen as the ability to anticipate risks, cope with disruptions, and sustain growth in uncertain environments (Limphaibool et al., 2022; Sutcliffe & Vogus, 2003). Adaptability and resilience, though related, are distinct: adaptability represents flexible adjustment, whereas resilience encompasses survival and recovery capabilities (Walker et al., 2004). For SMEs, resilience is reflected in proactive planning, positive behavioral responses, and the ability to maintain operations despite external shocks (Vakilzadeh & Haase, 2021). Following McManus et al. (2008), this study emphasizes two attributes most relevant to environmental SMEs: situation awareness and adaptive capacity.

2.2.2. Constructs of resilience in SMEs

On the resilience side, situation awareness (detecting and interpreting signals from the environment) and adaptive capacity (responding effectively to change) are the two dimensions most directly relevant to SMEs' survival and competitiveness. Other resilience components, such as robustness or redundancy, tend to be more applicable to large organizations with greater resources and are therefore less suited to SMEs.

For SMEs, resilience is best captured through situation awareness and adaptive capacity. Situation awareness involves detecting and interpreting environmental signals, recognizing risks and opportunities, and aligning actions with organizational goals (Buranapin et al., 2023).

It requires collective understanding, information sharing, and accurate anticipation to support effective decision-making (Le Guillaume & Lerouvreur, 2013). In environmental technology firms, situation awareness enables timely responses to partner needs and regulatory changes. Adaptive capacity, by contrast, reflects the firm's ability to adjust strategies, governance, and processes to withstand disruptions (Walker et al., 2004). It involves flexibility, responsiveness, and creativity in both operational and managerial domains (McManus et al., 2008). For environmental SMEs, adaptive capacity is demonstrated in adapting to evolving environmental laws and integrating them into services and operations. Together, situation awareness and adaptive capacity provide a robust framework for assessing resilience in resource-constrained but dynamic business contexts.

2.3. Hypotheses development

2.3.1. Mindful leadership and resilience organization

Empirical studies directly examining the relationship between mindful leadership and organizational resilience remain limited. Existing evidence primarily highlights that mindful leadership fosters positive organizational outcomes, including sustainability, transformation, performance, decision-making, and employee satisfaction (Davis & Hayes, 2012; Reb et al., 2014). Leaders who adopt a mindful style tend to suspend judgment, encourage trust, and foster openness, which in turn supports stronger organizational functioning. Parse (2018) further suggests that mindfulness enhances leaders' cognitive capacity, enabling them to process contextual information more accurately and make more effective decisions. Similarly, Shapiro et al. (2006) argue that mindfulness facilitates objective situation assessment. Taken together, these findings imply that mindful leadership indirectly contributes to resilience by strengthening dimensions such as situation awareness and adaptive capacity, though direct empirical studies are still scarce.

Other contributions emphasize mindfulness as a resource for coping with uncertainty and managing risks. Chiesa and Serretti (2009) and Goilean et al. (2020) show that mindfulness practice improves resilience by enhancing the ability to confront challenges calmly and effectively. Limphaibool et al. (2019) add that mindful leaders can sustain problem-solving capacity and stability in the face of turbulence, positioning mindfulness not only as a personal resource but also as an organizational capability. Building on these insights, this study examines how mindful leadership, through its two core dimensions of self-awareness and compassion, strengthens organizational resilience in SMEs. Our main hypothesis, therefore, is stated as:

H1: There is a positive association between mindful leadership and organizational resilience.

2.3.2. Self-awareness and resilience

According to "A new B-school speciality: Self-awareness" (2009), leadership is most effective when grounded in self-awareness, which encompasses emotional awareness, self-assessment, and self-limitation. Leaders who know their own strengths

and weaknesses are better equipped to leverage advantages while addressing limitations. Self-awareness enables leaders to recognize circumstances in which their likelihood of success is greater, while also preparing them to confront challenges in high-risk contexts where vulnerabilities may surface. This ability to evaluate contextual cues is closely related to situation awareness, defined as the capacity to perceive and interpret environmental conditions in ways that guide appropriate responses. By fostering a comprehensive understanding of situations, self-aware leaders can adapt their style and actions effectively, thereby reducing risks and enhancing decision quality. In this sense, self-awareness is not only an internal attribute but also a key enabler of external awareness and adaptability.

H1a: Self-awareness has a positive impact on situation awareness.

2.3.4. Self-awareness and adaptive capacity

Adaptive capacity refers to the proactive ability to respond to disturbances, requiring both cognitive flexibility and behavioral adjustment (Boylan & Turner, 2017). As a leadership competency, it is closely intertwined with self-awareness, which provides the foundation for recognizing personal strengths, weaknesses, and contextual demands. Research highlights the symbiotic relationship between self-awareness and adaptive capacity: leaders with self-awareness but without adaptive capacity struggle to innovate or adjust effectively to environmental changes, while adaptive capacity without self-awareness becomes irrational and detached from goals and context. Thus, self-awareness enhances adaptive capacity by enabling leaders to assess their limitations and adjust their strategies in complex and uncertain environments. This reciprocal relationship ensures that leaders can adapt more effectively to dynamic conditions.

H1b: Self-awareness has a positive impact on adaptive capacity.

2.3.4. Compassion and resilience

Leadership compassion has been shown to influence both organizational management and development by enabling leaders to recognize favorable and risky situations, directly affecting business success (Yoder, 2010). Compassion, when combined with situation awareness, strengthens leaders' coping strategies and enhances the organization's ability to anticipate risks and seize opportunities (Shuck & Wollard, 2009). Compassionate leaders also demonstrate responsibility for organizational goals, which helps them identify environmental contexts that may either benefit or threaten the business. More recently, Chan (2022) emphasizes that

leadership compassion — rooted in empathy and relational skills — improves situation awareness by fostering stronger connections between leaders and employees, thereby aligning efforts toward organizational goals. Collectively, these findings suggest that compassion significantly enhances situation awareness by integrating empathy with contextual judgment and resource awareness.

H1c: Compassion has a significant impact on situation awareness.

2.3.5. Compassion and adaptive capacity

Compassion is considered an essential leadership quality that enhances organizational resilience and adaptability (Fernandez, 2018). Adaptive capacity, defined as the ability to respond proactively to challenges and adjust strategies or structures, is strengthened when combined with compassionate leadership. Wasylshyn and Masterpasqua (2018) emphasize that leadership compassion fosters organizational strength and credibility by supporting adaptability in the face of risks and uncertainty. Moreover, cultivating compassion enables leaders to be more open to challenges, more creative and rational when addressing difficulties, and more likely to involve employees in collaborative problem-solving. Taken together, these findings suggest that compassion plays a critical role in enhancing adaptive capacity.

H1d: Compassion has a significant impact on adaptive capacity.

2.4. Research model

The conceptual framework of this study is grounded in the literature on mindful leadership and organizational resilience. Mindful leadership is proposed as a central antecedent of resilience because it cultivates leaders' awareness, composure, and relational capacity, enabling them to guide organizations through turbulence. Based on prior studies (Davis & Hayes, 2012; Limphaibool et al., 2022), this study hypothesizes that mindful leadership positively influences organizational resilience (*H1*).

To deepen this relationship, the framework emphasizes two key dimensions of mindful leadership — self-awareness and compassion. Self-awareness refers to leaders' ability to recognize emotions, assess strengths and weaknesses, and regulate their internal states ("A new B-school speciality: Self-awareness", 2009). These capacities enhance situation awareness and adaptive capability, two constructs of organisation resilience.

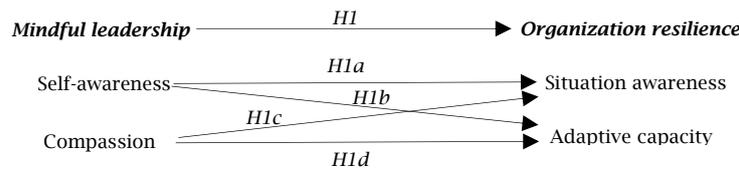
The framework of this paper can be summarised in Table 1.

Table 1.The framework for mindful leadership and organizational resilience

Constructs	Theoretical basis/Prior studies	Expected relationship	Hypothesis
Mindful leadership (ML) → Organizational resilience (OR)	Davis and Hayes (2012): mindful leaders foster trust; Reb et al. (2014): mindfulness enhances employee satisfaction; Chiesa and Serretti (2009) and Goilean et al. (2020): mindfulness strengthens resilience; Limphaibool et al. (2019): mindfulness improves coping and calmness in crises.	Mindful leaders cultivate trust, adaptability, and composure under pressure, thereby enhancing organizational resilience.	H1
Self-awareness (SEA) → Situational awareness (SA)	“A new B-school speciality: Self-awareness” (2009): self-awareness includes emotional awareness, accurate self-assessment, recognition of limitations. Current research: self-awareness strengthens situation awareness.	Self-aware leaders anticipate risks, recognize strengths/weaknesses, and interpret contexts effectively, thus improving situation awareness.	H1a
Self-awareness (SEA) → Adaptive capacity (AC)	Boylan and Turner (2017): self-awareness and adaptive capacity have a symbiotic relationship; lack of one undermines leadership effectiveness.	Self-awareness enables leaders to adjust behaviors and strategies appropriately, thereby strengthening adaptive capacity in dynamic environments.	H2b.
Compassion (CPS) → Situational awareness (SA)	Yoder (2010): compassion influences situational recognition; Shuck and Wollard (2009): compassion supports contextual perception and coping; Chan (2022): compassion enhances leader-employee awareness and collaboration.	Compassionate leaders better identify risks, opportunities, and team needs, which strengthens situation awareness.	H3b
Compassion (CPS) → Adaptive capacity (AC)	Fernandez (2018): compassion is vital for leadership; Wasylyshyn and Masterpasqua (2018): compassion fosters adaptability and resilience; Worline and Dutton (2017): compassion supports collective recovery.	Compassionate leadership enhances trust, collaboration, and openness, sustaining adaptive capacity during disruptions.	H4b

Source: Authors' elaboration.

Figure 1. Study framework



Source: Authors' elaboration.

3. METHODOLOGY

Data were collected from employees of SME environmental technology companies in Hanoi, Vietnam through an online survey administered via Google Forms. Measurement items were adapted from prior studies and piloted with 10 respondents to refine clarity. The questionnaire, presented in both Vietnamese and English, was distributed through company managers to employees and mid-level managers. Over a four-week period (late February-late March 2025), 252 responses were

received, of which 46 were excluded due to missing data or patterned, unthoughtful answers, leaving 216 valid responses for analysis. The survey comprised two sections: demographic information and study variables, the later measured using a five-point Likert scale. Hanoi was chosen as the study site given its concentration of environmental SMEs and its role as a policy and innovation hub, making it a representative context for examining mindful leadership and resilience. Table 2 presents the list of the variables.

Table 2. List of variables

Variables	Sources
Independent variables	Self-awareness (SEA) Compassion (CPS)
Dependent variables	Situation awareness (SA) Adaptive capacity (AC)

Note: Questionnaire is available from the authors upon reasonable request.
Source: Authors' calculations.

4. RESULTS

4.1. Descriptive statistics

As shown in Table 3, 65.5% of respondents are male and 34.5% are female, with the majority aged 25-33 years old (59.3%). By department, 34.5% work in technology design, 27.4% in project management,

7.1% in accounting, 20.4% in environmental consulting, and 10.6% in other areas. In terms of tenure, most respondents have 1-5 years of experience (46%), followed by 5-10 years (30.1%). Overall, the sample reflects a relatively young, early-career workforce that is typical of Vietnam's environmental SMEs.

Table 3. Demographic statistics

<i>Respondents</i>		<i>Frequency</i>	<i>Percent</i>	<i>Cumulative percent</i>
Sex	Male	74	65.5	65.5
	Female	39	34.5	100
Age	25-33 years old	67	59.3	59.3
	33-45 years old	42	37.2	96.5
	> 45 years old	4	3.5	100.0
Department	Technology design department	39	34.5	34.5
	Project management department	31	27.4	61.9
	Accounting department	8	7.1	69.0
	Environmental consulting department	23	20.4	89.4
	Other	12	10.6	100
Working time	< 1 year	9	8.0	8.0
	1-5 years	52	46.0	54.0
	5-10 years	34	30.1	84.1
	> 10 years	18	15.9	100

Source: Authors' calculations.

As shown in Table 4, the mean value for *SEA* is around 3, suggesting that leaders' ability to regulate their own emotions remains moderate. In contrast, *compassion* has a higher mean of 4, indicating that leaders tend to be more supportive and attentive to employee needs. This imbalance may reflect cultural and organizational dynamics in Vietnamese SMEs, where collective harmony and care for employees are emphasized, while individual self-reflection is less developed. For the dependent variables, both *SA* and *AC* average around 4.1, highlighting leaders' strong ability to perceive changing contexts and respond effectively. The maximum values reach 5, while minimum values fall between 1 and 2, with standard deviations ranging from 0.622 to 1.020, suggesting moderate variability across respondents.

Table 4. Descriptive statistics

<i>Variable</i>	<i>Mean</i>	<i>Min.</i>	<i>Max.</i>	<i>Std. dev.</i>
Independent variables				
<i>Self-awareness (SEA)</i>				
<i>SEA1</i>	2.94	1	5	1.020
<i>SEA2</i>	3.03	1	5	0.921
<i>SEA3</i>	2.78	1	5	0.874
<i>SEA4</i>	3.40	2	5	0.620
<i>SEA5</i>	3.29	1	5	0.932
<i>SEA6</i>	3.43	2	5	0.680
<i>Compassion (CPS)</i>				
<i>CPS1</i>	4.00	1	5	0.768
<i>CPS2</i>	3.90	2	5	0.719
<i>CPS3</i>	4.19	1	5	0.778
<i>CPS4</i>	3.79	1	5	0.796
<i>CPS5</i>	3.71	2	5	0.622
Dependent variables				
<i>Situation awareness (SA)</i>				
<i>SA1</i>	3.97	1	5	0.558
<i>SA2</i>	3.76	1	5	0.685
<i>SA4</i>	4.66	1	5	0.781
<i>Adaptive capacity (AC)</i>				
<i>AC1</i>	4.18	2	5	0.722
<i>AC2</i>	4.10	1	5	0.756
<i>AC3</i>	4.16	2	5	0.862
<i>AC4</i>	4.18	2	5	0.697
<i>AC5</i>	3.96	2	5	0.660
<i>AC6</i>	4.53	2	5	0.682
<i>AC7</i>	3.57	2	5	0.718
<i>AC8</i>	4.10	1	5	0.654

Source: Authors' calculations.

4.2. Validity tests

Cronbach's alpha was used to assess the reliability of latent variables. Following Hair et al. (2019) and Nunnally (1978), coefficients above 0.7 indicate acceptable reliability, while values above 0.6 are deemed sufficient for exploratory research. Given the novel context of mindful leadership in Vietnam, this threshold is appropriate. The results confirm that all four scales — two independent (*SEA*, *CPS*) and two dependents (*SA*, *AC*) — meet the required reliability standards.

Table 5. Cronbach alpha

<i>Variables</i>	<i>No. of items</i>	<i>Cronbach's alpha</i>
<i>SEA</i>	6	0.823
<i>CPS</i>	5	0.767
<i>SA</i>	3	0.614
<i>AC</i>	8	0.828

Source: Authors' calculations.

Table 5 reports that the Cronbach's alpha values for all variables exceed the 0.7 threshold, except *SA*. In addition, each construct's Cronbach's alpha is higher than the corresponding "Cronbach's alpha if item deleted", confirming that the measurement scales demonstrate satisfactory internal consistency and are reliable for subsequent analysis, consistent with prior studies.

4.3. The validity

The authors applied Varimax rotation, the Kaiser-Meyer-Olkin (KMO) measure, and Bartlett's test to assess the factor structure of the measurement scales. For the independent variables (11 attributes), the results show that $KMO = 0.756$, exceeding the 0.5 threshold, while Bartlett's test is significant (Sig. < 0.05). All factor loadings surpass the 0.5 standard, eigenvalues are greater than 1, and the cumulative variance explained is 54.44%, meeting established criteria (Hair et al., 2019; Kaiser, 1974). Two components were extracted (eigenvalue = 2.405), confirming the reliability and suitability of the scales for further analysis.

Table 6. Correlation matrix of independent variables in the model

Variables	Component	
	Self-awareness	Compassion
SEA1: Your leader is easily irritated when the work results are not as expected.	0.845	
SEA2: Your leaders often show excessive excitement when the company achieves good business results.	0.841	
SEA3: Your leaders often express frustration or anger and see it as a way to pressure employees.	0.776	
SEA4: With mistakes in the first incident, your leader always has an open-minded attitude.	0.729	
SEA5: When talking to employees about yourself at work, your leader often talks about both your strengths and weaknesses.	0.616	
SEA6: Your leader uses employees' comments and suggestions to improve and develop their leadership style.	0.517	
CPS1: Your leader always treats employees well.		0.826
CPS2: Your leader always has the altruism and benevolence before the mistakes (acceptable) of the employees.		0.798
CPS3: Your leader always supports employees in their work.		0.791
CPS5: Your leader takes actions to help employees face difficult situations in life.		0.568
CPS4: Your leader has volunteered to help society or participate in creating good things for society.		0.562

Note: KMO measure of sampling adequacy = 0.756; Bartlett's test of sig. = 0.000; cumulative % = 54.435; eigenvalue = 2.405.
Source: Authors' calculations.

For the dependent variables (11 attributes), the exploratory factor analysis (EFA) results indicate a KMO value of 0.813 and a significant Bartlett's test (Sig. < 0.05). Factor loadings again exceed 0.5, with eigenvalues greater than 1 and a cumulative variance explained of 50.15%. Two components were extracted (eigenvalue = 1.601), further demonstrating that the measurement scales meet

reliability requirements and are appropriate for subsequent analysis (Hair et al., 2009; Kaiser, 1974).

In summary, the factor rotation results support the extraction of two independent variables and two dependent variables from the 22 attributes, validating the robustness of the measurement model.

Table 7. Correlation matrix of dependent variables in the model

Variables	Component	
	Adaptive capacity	Situation awareness
AC6: Everyone in the company always has a multi-dimensional perspective and thinks in an open way.	0.766	
AC2: When errors occur during work, we discuss how we can fix them.	0.757	
AC8: Our organization is able to make quick decisions even in difficult circumstances.	0.696	
AC3: Our organization maintains enough resources to deal with some unexpected changes.	0.644	
AC7: Our company can quickly switch operations in response to a crisis.	0.644	
AC1: We spend our time researching and looking at issues that we don't want to go wrong.	0.636	
AC5: In our company, when an unexpected or unusual situation occurs, everyone knows who has the expertise to deal with it.	0.630	
AC4: In our company, it is always a priority that employees have the necessary information and knowledge to deal with and resolve unexpected problems.	0.576	
SA4: Everyone in the company always interacts with each other to understand the company's situation.		0.778
SA1: Everyone in your company fully understands the impact of external shocks (e.g., epidemics, financial crises, etc.) on the company's operations.		0.776
SA2: The company's management is very proactive in understanding the problems the company may face so that it can provide timely solutions.		0.654

Note: KMO measure of sampling adequacy = 0.813; Bartlett's test of sig. = .000; cumulative % = 50.147; eigenvalue = 1.601.
Source: Authors' calculations.

4.4. Pearson correlations

Pearson correlation analysis was conducted to assess the linear relationships between independent and dependent variables. Mean values of the observed variables were used in the analysis, and the results are reported in Table 8.

Table 8. Pearson correlations

Variables	SEA	CPS	SA	AC
SEA	1			
CPS	0.189*	1		
SA	0.187*	0.561**	1	
AC	-0.142	0.372**	0.273**	1

Note: *, ** denote significance at 5% and 1% levels, respectively.
Source: Authors' calculations.

As shown in Table 8, compassion is significantly correlated with both situation awareness and adaptive capacity at the 1% level (Sig. < 0.05). In contrast, self-awareness is not significantly correlated with adaptive capacity (Sig. = 0.135) but does show a significant correlation with situation awareness at the 5% level. For the relationship between the two independent variables, the correlation coefficient is low (0.189), indicating no evidence of multicollinearity.

$$\text{Situation awareness} = \beta_0 + \beta_1(\text{Self_awareness}) + \beta_2(\text{Compassion}) + \epsilon \tag{1}$$

$$\text{Adaptive capacity} = \beta_0 + \beta_1(\text{Self_awareness}) + \beta_2(\text{Compassion}) + \epsilon \tag{2}$$

The regression results are presented in Tables 9 and 10. As can be seen in Table 9, compassion emerges as a statistically significant predictor of situation awareness, exerting a strong positive effect ($\beta = 0.546$, $p < 0.001$). By contrast, self-awareness demonstrates only a negligible and non-significant effect on situation awareness ($\beta = 0.084$, $p = 0.296$), suggesting that it does not meaningfully explain variance in this outcome. These findings indicate that while compassion substantially enhances leaders' ability to recognize and respond to contextual conditions, self-awareness does not independently contribute in a statistically significant manner. The overall model demonstrates a good fit, with the analysis of variance (ANOVA) test yielding $F = 26.215$ ($p < 0.001$), confirming the robustness of the regression model. Additionally, the Durbin-Watson statistic of 1.646 falls within the acceptable threshold, indicating no serious autocorrelation issues and supporting the appropriateness of the model for the dataset (Hair et al., 2009; Qiao et al., 2011).

Table 9. Model regression results

Variables	β	Sig.	Tolerance	VIF
Self-awareness	0.084	0.296	0.964	1.037
Compassion	0.546	0.000	0.964	1.037
Durbin-Watson = 1.646 Adjusted R-square = 0.310 R-square = 0.322 ANOVA-F = 26.215 ANOVA Sig. = 0.000				

Note: Dependent variable: Situation awareness.
Source: Authors' calculations.

For Eq. (2), results are in Table 10, both compassion and self-awareness are statistically significant predictors of adaptive capacity. The regression coefficients are $\beta = 0.413$ (Sig. < 0.05) for compassion and $\beta = 0.220$ (Sig. < 0.05) for self-awareness, confirming their positive influence on the dependent variable.

Model fit statistics also support the validity of the regression. The ANOVA test reports $F = 12.452$ (Sig. = 0.000), and the Durbin-Watson statistic is 2.306, which falls within the acceptable range. These results indicate that the model is appropriate for the dataset and consistent with methodological standards (Hair et al., 2009; Qiao et al., 2011).

4.5. Regression analysis

To test the hypotheses, two regression models were estimated, with situation awareness and adaptive capacity as the dependent variables, and self-awareness and compassion as the independent variables. The regression specifications are in Eq. (1) and (2) as follows:

Table 10. Model regression results

Variables	β	Sig.	Tolerance	VIF
Self-awareness	0.220	0.014	0.964	1.037
Compassion	0.413	0.000	0.964	1.037
Durbin-Watson = 2.306 Adjusted R-square = 0.170 R-square = 0.185 ANOVA-F = 12.452 ANOVA Sig. = 0.000b				

Note: Dependent variable: Adaptive capacity.
Source: Authors' calculations.

According to Hair et al. (2019), multicollinearity is a concern when the variance inflation factor (VIF) exceeds 2 and the significance value (Sig.) is greater than 0.05. However, as shown in Tables 9 and 10, the VIF values for both compassion and self-awareness are 1.037, with high tolerance values (0.964) and Sig. < 0.05. These results indicate that multicollinearity is not present between the two independent variables. Furthermore, the multiple regression results obtained through SPSS confirm the robustness of the hypotheses. Table 11 summarizes the hypothesis testing outcomes of this study.

Table 11. Testing the regression hypothesis

Hypothesis	Relationship	Result
H1a	SEA -> SA	Not accepted
H1b	SEA -> AC	Accepted
H1c	CPS -> SA	Accepted
H1d	CPS -> AC	Accepted

Source: Authors' calculations.

5. DISCUSSIONS AND RECOMMENDATIONS

The results of testing the regression hypotheses are presented below.

The findings of this study diverge from those of "A new B-school speciality: Self-awareness" (2009), who argues that self-awareness positively influences situation awareness by enabling leaders to identify challenges and difficulties in contexts where risks are likely to arise or where personal weaknesses may be exposed. While this theoretical argument underscores the potential value of self-awareness for enhancing leaders' ability to assess situations, it remains largely conceptual and lacks robust empirical validation. By contrast, the present results show that self-awareness does not exert a statistically significant effect on situation awareness, suggesting that the relationship between these constructs is more complex than previously

assumed. In practice, the influence of self-awareness on situation awareness may be contingent upon multiple factors, such as individual differences, organizational context, and the leader's capacity to translate self-knowledge into adaptive behaviors. Consequently, the link between self-awareness and situation awareness cannot be regarded as straightforward or universally applicable. Although self-awareness may, under certain conditions, support leaders in perceiving and responding to situational demands, it does not appear to serve as a sufficient or guaranteed determinant of situation awareness. Thus, *H1* is not supported.

Leaders in this context generally demonstrate self-awareness in their work, which can serve as a significant advantage for employees and the organization as a whole. In the relationship between self-awareness and adaptive capacity, self-aware leaders are better equipped to regulate their emotions and reactions to diverse situations, thereby enhancing their ability to make effective decisions. Furthermore, self-awareness facilitates clearer communication between leaders and employees, contributing to stronger workplace relationships and a more collaborative environment. Consistent with prior research, the results of this study confirm the statistically significant relationship between self-awareness and adaptive capacity, reinforcing the robustness of this link. Taken together, these findings provide sufficient evidence to conclude that self-awareness is an important determinant of adaptive capacity, enabling leaders to respond more effectively to challenges and adapt to dynamic organizational contexts. Therefore, *H2* is supported.

This finding shows that compassion has an impact as well as a positive relationship with situation awareness. For this study, compassion means caring for the people around you without being preoccupied. This may be because compassion requires leaders to be attentive to all employees, understand their needs, and understand their employees' linguistic and emotional cues (Wongkom et al., 2019). According to this, *H3* is supported.

As discussed above, compassion requires leaders to pay close attention to employees, understand their needs, and recognize both linguistic and emotional cues. This attentiveness enables leaders to improve problem-solving, foster creativity, and encourage innovation. In other words, when leaders genuinely care about employees' challenges, happiness, and well-being, they are more likely to identify new solutions and approaches that help both individuals and organizations adapt to changing circumstances and overcome challenges more effectively. This finding is consistent with Wasylyshyn and Masterpasqua (2018), who emphasized the critical link between leadership compassion and adaptive capacity as a source of

organizational strength and credibility. Their research further highlights the benefits of cultivating compassion in leadership for enhancing organizational adaptability, including greater creativity, resilience in facing difficulties, and the capacity to navigate risks and uncertainties successfully. Thus, *H4* is supported.

6. CONCLUSION

This study provides an early empirical examination of mindful leadership in the context of environmental SMEs in Vietnam, a sector that plays a critical role in advancing sustainability but faces significant challenges in resilience. While mindful leadership has been widely explored in Western contexts, little is known about its impact in emerging economies, particularly in Asia, where cultural and institutional environments differ. By demonstrating how dimensions such as compassion and self-awareness influence situation awareness and adaptive capacity, this paper establishes a foundation for future research to refine measurement tools, test the model in other contexts, and explore long-term performance outcomes. Thus, our findings not only extend leadership and resilience theory to a new setting but also offer a basis for comparative and longitudinal studies on how mindful leadership can strengthen SMEs in the face of global environmental and economic uncertainty.

The findings suggest that, in Vietnam, cultivating self-awareness of strengths, weaknesses, and challenges enhances leaders' ability to adapt to changing contexts. In practice, leaders should emphasize active listening, compassion, and empathy to better understand employee concerns, make appropriate decisions, and foster team cohesion. By creating a positive work environment characterized by openness and trust, leaders can raise morale, improve satisfaction, and strengthen organizational adaptive capacity.

Like other studies, this research has several limitations. First, resilience and mindful leadership were assessed using subjective scales; future work employing more objective measures could yield more robust results. Second, only two factors of mindful leadership and resilience were examined, which may limit construct rigor; refining and expanding these constructs in future research would strengthen insights. Third, the use of a convenience sample restricts generalizability, suggesting that random sampling should be employed in subsequent studies. Despite these limitations, the study makes meaningful contributions by extending the understanding of mindful leadership and resilience in Vietnamese SMEs.

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