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The Human Side of Project Resilience: A Traditional Literature Review of Emotional Intelligence, Adaptability, and Team Learning

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Abstract: **This paper explores the human dimensions of project resilience by examining the interrelated roles of emotional intelligence (EI), adaptability, and team learning as core enablers of resilient project performance. While traditional approaches to resilience emphasize structural systems and risk management frameworks, this review highlights the growing recognition that human capabilities are equally critical in determining how projects anticipate, absorb, and recover from disruptions. Through a synthesis of recent literature, the study demonstrates that EI fosters emotional regulation and psychological safety, adaptability translates these emotional competencies into flexible and creative responses to change, and team learning institutionalizes these adaptive behaviors through shared reflection and knowledge exchange. Together, these constructs form a synergistic framework that transforms project resilience from a reactive process into a proactive, strategic capability. The study concludes that emotionally intelligent, adaptable, and learning-oriented teams are fundamental to sustaining success in complex and turbulent project environments.**

Keywords: **Project Resilience, Emotional Intelligence, Adaptability, Team Learning, Psychological Safety, Human-centered Project Management, Organizational Learning.**

I. INTRODUCTION

Project resilience, traditionally viewed through mechanical and structural lenses, is increasingly recognized as fundamentally dependent on human dimensions, particularly emotional, behavioral, and social intelligence, in navigating the complexities of contemporary projects (Wang et al., 2024; Borg et al., 2022). The ability of a project to anticipate, absorb, and adapt to disruptions is not solely a function of robust systems or contingency plans but is deeply intertwined with the capabilities of its human capital (Borg et al., 2022). This shift in understanding is particularly salient given recent global challenges, such as the COVID-19 pandemic and rapid digital transformations, which have underscored the necessity for human adaptability and psychological fortitude in project success (Klaser et al., 2023; Wang et al., 2024).

Project resilience can be defined as the capacity of a project to anticipate potential disruptions, absorb the impacts when they occur, and adapt effectively to changed circumstances, ultimately enabling continued progress toward its objectives (Borg et al., 2022). This involves maintaining stability and functionality in the face of unexpected events and leveraging these challenges as opportunities for learning and growth (Borg et al., 2022; Thomas et al., 2018). Historically, resilience research in project management often emphasized mechanical or structural aspects, focusing on rigid systems, robust infrastructure, and formalized risk management frameworks (Borg et al., 2022). This perspective primarily addressed how physical or organizational structures could withstand shocks and recover to a predefined state. For instance, the Theory of Constraints (TOC) focuses on identifying and managing bottlenecks to improve system performance, inherently seeking to

build resilience within operational processes (Ikeziri, et al., 2018). Similarly, Six Sigma methodologies aim to reduce process variation and defects, thereby enhancing the robustness and predictability of project outcomes (Dowson et al., 2024). While these approaches are vital for process optimization and risk mitigation, they often overlook the dynamic and adaptive contributions of individuals and teams (Dowson et al., 2024).

In contrast, a human-centered view of resilience highlights the critical role of individual and collective human capabilities. This perspective emphasizes that the psychological, emotional, and social attributes of project teams and leaders are paramount for navigating unforeseen challenges (Borg et al., 2022). Modern projects operate in environments characterized by high uncertainty, complexity, and rapid change (Dowson et al., 2024). In such volatile contexts, human capability becomes central to project survival and success. For example, the shift to hybrid work models, accelerated by events like the COVID-19 pandemic, necessitated significant adaptability from workers and organizations, demonstrating that human flexibility is key to maintaining productivity and well-being (Klaser et al., 2023). Digital transformations, involving the integration of artificial intelligence (AI) and cyber-physical systems (CPS), further introduce complexities that demand sophisticated human-AI collaboration and the cultivation of specific intelligence capabilities among managers and employees (Wang et al., 2024; Zheng et al., 2023).

A significant body of research on project resilience tends to concentrate on tangible aspects such as tools, standardized processes, and technical risk management systems (Idrees et al., 2023). This inclination often leads to an underemphasis on the "human side" within mainstream project management literature (Wang, et al., 2024). While the importance of human capital in projects is acknowledged, studies have often explored only fragmented segments, such as commitment or trust, rather than a holistic view of human capabilities (Zheng, et al., 2023). The rationale for a renewed focus on emotional, behavioral, and social intelligence within project management is compelling. Project managers, for instance, are increasingly recognized for needing more than just technical competencies; their emotional intelligence (EI) significantly influences project performance (Zhu et al., 2021; Al Hosani et al., 2023). EI encompasses abilities like self-awareness, self-management, social awareness, and relationship management (Sunil, 2024; Hiluf & Alemu, 2024). Project managers with higher EI can better establish psychological contact, coordinate goals, persuade team members, and build non-conflict relationships, all of which are crucial for achieving strategic and tactical objectives (Hiluf & Alemu, 2024).

The mediating role of project commitment further illustrates the impact of EI on project success (Zhu, et al., 2021). Emotional intelligence helps project managers foster commitment among team members, which in turn leads to improved performance, especially in complex projects (Zhu, et al., 2021). In the construction industry, for example, the emotional intelligence of a project manager plays an essential role in team effectiveness, mediated by team cohesion (Zhang & Hao, 2022). This is particularly critical because construction projects, traditionally valuing technical knowledge, often overlook the personality traits that contribute to effective teamwork and conflict resolution (Mirza et al., 2025; Muñoz-La Rivera et al., 2020). Furthermore, the integration of emotional intelligence training (EIT) has been shown to enhance occupational safety and well-being, suggesting a direct link between emotional skills and resilience in demanding sectors like mining and construction (Iyanda et al., 2024). EI also positively correlates with resilience, which acts as a protective factor against psychological distress like anxiety and depression (Ibrahim et al., 2024; Sharma & Tiwari, 2023). Individuals with higher EI tend to have higher resilience levels, with 86.0% of a sample demonstrating high EI and 71.4% exhibiting normal resilience, or 26.5% high resilience (Ibrahim et al., 2024).

There is a clear need for an integrative review that explicitly connects emotional intelligence, team learning, and adaptability to project resilience. While knowledge management is recognized as integral to business strategy and new product development, effective knowledge transfer and learning within projects depend heavily on social and behavioral factors (Idrees et al., 2023; Dowson et al., 2024). A lean approach in projects, for instance, offers opportunities to better connect people, processes, workflows, and delivery, directly facilitating learning within contemporary, uncertain environments (Dowson et al., 2024). The practice of learning through a lean approach underscores the interplay of socio-cultural and behavioral interactions, leadership support, and knowledge of lean principles in fostering continuous improvement and adaptation (Dowson et al., 2024).

The capacity for team learning, driven by open communication, shared knowledge, and psychological safety, directly contributes to a project's adaptive resilience (Dowson et al., 2024; Stephens & Clark, 2024). Adaptability, in turn, is a critical component of individual exterior resilience, involving the ability to sense, anticipate, and adjust to environmental changes (Thomas et al., 2018). Therefore, by fostering EI, encouraging robust team learning mechanisms, and cultivating

adaptability, project management can build more resilient projects capable of thriving amidst increasing complexity and unforeseen challenges. This integrative perspective moves beyond merely managing risks to actively cultivating human capabilities as a strategic asset for project success.

The purpose of this study is to synthesize existing studies that examine the relationship between emotional intelligence, adaptability, and team learning as key drivers of project resilience. In pursuing this goal, the study seeks to explore how these three human-centered factors interact to strengthen a project's capacity to anticipate challenges, respond effectively to disruptions, and recover from setbacks. Specifically, the study aims to examine the role of emotional intelligence in sustaining project resilience by enabling project leaders and team members to manage stress, foster collaboration, and maintain positive interpersonal relationships under pressure. It also seeks to explore how adaptability allows projects to thrive amid volatility, uncertainty, and change by promoting flexibility, creative problem-solving, and responsiveness to evolving conditions. Additionally, the study examines how team learning processes—such as reflection, knowledge sharing, and continuous improvement—enhance collective resilience and long-term project performance. Ultimately, the study seeks to identify gaps within the existing body of literature and propose a conceptual model that integrates emotional intelligence, adaptability, and team learning as interdependent constructs, collectively contributing to the development of resilient project environments.

II. THEORETICAL AND CONCEPTUAL BACKGROUND GOAL

The theoretical scaffolding linking human capabilities with resilient project performance is multifaceted, drawing upon established theories in psychology, organizational behavior, and project management. This integration highlights how cognitive, emotional, and behavioral adaptability are critical for successful project outcomes in dynamic environments (Dowson, 2024).

The Concept of Project Resilience

Project resilience, a critical attribute in contemporary project management, can be defined as the capacity of a project system to anticipate potential disruptions, absorb their impacts, and adapt effectively to changed circumstances, thereby enabling continued progress toward its objectives (Borg et al., 2024). This definition extends beyond merely surviving adverse events to actively leveraging challenges for learning and growth. Resilience is not a static state but a dynamic process that operates across various levels: individual, team, project, and organizational (Borg et al., 2024).

Traditionally, resilience has been examined in various contexts. In systems engineering, it often refers to the ability of a system to maintain its functions despite internal or external failures. In organizational theory, resilience implies an organization's capacity to bounce back from crises, maintain core operations, and even thrive post-disruption. For projects, this translates into characteristics such as flexibility, preparedness, responsiveness, and a continuous learning orientation (Dowson, 2024). Resilient projects are characterized by their ability to adjust plans, reallocate resources, and modify strategies in response to unforeseen events, rather than rigidly adhering to initial blueprints (Dowson, 2024). This requires a proactive stance, where potential risks are not just identified but also understood in terms of their cascading effects, enabling preparedness. Responsiveness involves swift and effective action when disruptions occur, minimizing negative impacts. Crucially, resilient projects foster a culture of learning, where experiences, both positive and negative, are systematically analyzed and integrated to improve future performance (Dowson, 2024).

The Human Factor in Resilience Theory

While mechanical and structural resilience focuses on robust systems and formalized risk management, a human-centered view emphasizes the paramount role of individual and collective human capabilities in navigating unforeseen challenges (Dowson, 2024). This "people dimension" is explored through behavioral and organizational psychology perspectives, introducing concepts such as sensemaking and psychological capital.

Sensemaking, as a cognitive process, is crucial for human resilience in projects. When confronted with ambiguous or unexpected situations, project teams engage in sensemaking to interpret events, understand their implications, and formulate appropriate responses. This involves creating coherent explanations for surprising events, which in turn guides actions and decisions (Dowson, 2024). Effective sensemaking prevents paralysis in the face of uncertainty and allows teams to move forward adaptively.

Psychological capital (PsyCap) refers to a positive psychological state of development characterized by self-efficacy, hope, optimism, and resilience. Individuals with high PsyCap are more confident in their abilities (self-efficacy), possess a positive outlook on future success (hope and optimism), and demonstrate the capacity to rebound from adversity (resilience) (Sharma & Tiwari, 2023). These traits are particularly valuable in project environments marked by high levels of uncertainty, complexity, and rapid change (Dowson, 2024). Developing psychological capital within project teams can significantly enhance their collective ability to cope with stress, maintain motivation, and perform effectively under pressure (Sharma & Tiwari, 2023). For instance, psychological resilience among troops can be enhanced through interventions including enhancing physical readiness, stress management training, and psycho-social enrichment programs (Panda, et al., 2024).

Theoretical Frameworks Connecting Human Abilities to Resilience

Integrating various theoretical frameworks provides a comprehensive understanding of how human abilities contribute to project resilience. These frameworks highlight the cognitive, emotional, and behavioral adaptability necessary for navigating complex project landscapes.

Emotional Intelligence Theory (Goleman, 1995; Mayer & Salovey, 1997): Emotional Intelligence (EI) is defined as the ability to perceive, understand, manage, and use emotions to facilitate thought and action (Trigueros et al., 2019). Daniel Goleman's model of EI expands this into five key components: self-awareness, self-regulation, motivation (passion), empathy (understanding of others), and social skills (interpersonal skills) (Suvvari, 2024). For project managers, high emotional intelligence is crucial as it significantly influences project performance (Zhu et al., 2021). Project managers with developed EI can better establish psychological contact, coordinate goals, persuade team members, and build non-conflict relationships, directly contributing to achieving project objectives (Trigueros et al., 2019). EI also plays a mediating role in project commitment, which in turn affects project performance, especially in complex projects (Zhu et al., 2021). In the construction industry, a project manager's EI is essential for team effectiveness, mediated by team cohesion (Zhang & Hao, 2022). Furthermore, EI is positively correlated with resilience, acting as a protective factor against anxiety and depression (Ibrahim et al.,2024). Studies show that individuals with higher EI tend to exhibit higher resilience levels (Ibrahim et al.,2024; Trigueros et al., 2019).

Adaptability Theory (Pulakos et al., 2000 – Adaptive Performance Framework): Adaptability theory, particularly the Adaptive Performance Framework, emphasizes the ability of individuals to adjust their behavior and thinking in response to changes in their work environment. This framework identifies several dimensions of adaptive performance, including coping with uncertain and unpredictable work situations, handling emergencies or crises, learning new tasks, technologies, and procedures, and demonstrating interpersonal adaptability (Trigueros et al., 2019). In project management, adaptability is a critical component of individual and team resilience, enabling them to sense, anticipate, and adjust to environmental changes (Dowson, 2024). This framework highlights that projects operate in environments characterized by high levels of uncertainty, complexity, and rapid change, making adaptability an indispensable skill for project survival and success (Dowson, 2024). The capacity to adapt is not merely reactive; it involves proactive adjustments to strategies and processes (Dowson, 2024).

Team Learning Theory (Edmondson, 1999 – Team Learning and Psychological Safety): Team learning theory, notably Linda Edmondson's work on psychological safety, posits that team effectiveness and learning are significantly influenced by a shared belief among team members that the team is safe for interpersonal risk-taking. Psychological safety allows team members to speak up, ask questions, admit mistakes, and experiment with new ideas without fear of embarrassment or punishment. This environment fosters open communication, knowledge sharing, and collective problem-solving, which are fundamental to a project's adaptive resilience (Dowson, 2024). The practice of learning through a lean approach in projects further highlights the interplay of socio-cultural and behavioral interactions, leadership support, and knowledge of lean principles in fostering continuous improvement and adaptation (Dowson, 2024).

Integrating these theories within a resilience lens reveals that cognitive, emotional, and behavioral adaptability are interconnected and collectively contribute to project outcomes. Emotional intelligence provides the foundation for self-awareness and social skills necessary for effective teamwork and leadership (Suvvari, 2024). Adaptability theory explains the behavioral flexibility required to navigate dynamic project environments (Trigueros et al., 2019). Team learning theory, through psychological safety, creates the conditions for knowledge sharing and continuous improvement (Dowson, 2024). Together, these human capabilities transform projects from rigid plans into adaptive systems capable of thriving amidst increasing complexity and unforeseen challenges (Dowson, 2024).

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III. EMOTIONAL INTELLIGENCE AND PROJECT RESILIENCE

EI plays a pivotal role in fostering project resilience by influencing how individuals and teams navigate the complexities, stresses, and disruptions inherent in contemporary project environments (Zhu et al., 2021; Suvvari, 2024). This section defines EI, explores its mechanisms in stress management, its contribution to leadership and team climate, summarizes empirical evidence, and addresses associated challenges and critiques.

Definition and Dimensions of Emotional Intelligence

Emotional Intelligence refers to the capacity to perceive, understand, manage, and utilize emotions to facilitate thought and action (Castro et al., 2022; Boyatzis et al., 2019). A widely recognized model, Daniel Goleman's five-component model, expands on this definition by breaking EI down into specific dimensions:

Self-awareness: The ability to recognize and understand one's own moods, emotions, and drives, as well as their effect on others (Suvvari, 2024).

Self-regulation: The capacity to control or redirect disruptive impulses and moods, and the propensity to suspend judgment—to think before acting (Suvvari, 2024).

Motivation (Passion): A passion for work that goes beyond money and status, a propensity to pursue goals with energy and persistence (Suvvari, 2024).

Empathy (Understanding of others): The ability to understand the emotional makeup of other people and skill in treating people according to their emotional reactions (Suvvari, 2024).

Social Skills (Interpersonal skills): Proficiency in managing relationships and building networks, an ability to find common ground and build rapport (Suvvari, 2024).

Beyond Goleman's model, EI can be differentiated into two primary conceptualizations: trait EI and ability EI. **Trait EI** (also known as mixed EI) is often measured through self-report questionnaires and encompasses behavioral dispositions and self-perceived abilities to understand and manage emotions (Boyatzis et al., 2019). It integrates personality traits with emotional aspects. **Ability EI**, conversely, is typically assessed via maximum-performance tests and measures an individual's actual capacity to perform emotion-related tasks, much like traditional IQ tests measure cognitive ability (Boyatzis et al., 2019). This distinction is crucial for understanding measurement variations and their implications for research and practice.

Emotional Regulation and Stress Management

Emotional intelligence is instrumental in enabling project leaders to effectively manage stress, uncertainty, and interpersonal conflict, particularly during crises (Nadiia & Sergey, 2018; Castro et al., 2022). Project managers with high EI can better regulate their own emotions, preventing personal stress from escalating into team-wide anxiety or conflict (Castro et al., 2022). This self-regulation allows them to maintain composure and make rational decisions under pressure, providing stability for the team (Suvvari, 2024).

In situations of high uncertainty, emotional intelligence facilitates effective sensemaking, helping leaders and teams interpret ambiguous information and understand its implications, thus reducing paralyzing fear and promoting adaptive responses (Castro et al., 2022). By understanding and empathizing with the emotional states of team members, EI-enabled leaders can anticipate and mitigate potential interpersonal conflicts, fostering a more harmonious and productive work environment even amidst adversity (Nadiia & Sergey, 2018). This capability is particularly vital in complex projects where interdependencies and unforeseen challenges are common (Castro et al., 2022).

Leadership and Team Climate

EI significantly contributes to building trust, enhancing communication, and motivating project teams (Castro et al., 2022; Zhang & Hao, 2022). Leaders with high emotional intelligence are better equipped to understand and respond to the needs and concerns of their team members, which fosters a sense of psychological safety and trust (Zhang & Hao, 2022). This trust is fundamental for open communication, where team members feel comfortable sharing ideas, concerns, and even mistakes, which is crucial for team learning and problem-solving (Castro et al., 2022).

Studies have linked EI with transformational and authentic leadership styles in projects. Transformational leaders, characterized by their ability to inspire and motivate followers, often exhibit high levels of EI, using their emotional skills to articulate a compelling vision, build strong relationships, and encourage individual and collective growth (Castro et al., 2022). For instance, research in the construction industry highlights a positive relationship between emotional intelligence and transformational leadership behaviors of construction project managers (Zhang & Hao, 2022). Authentic leadership, which emphasizes transparency, ethical conduct, and genuine self-expression, also relies heavily on emotional intelligence to build credible and trustworthy relationships with team members (Castro et al., 2022). Through empathy and social skills, emotionally intelligent leaders can create a supportive team climate that boosts morale, increases commitment, and ultimately improves project performance (Zhu et al., 2021).

Empirical Evidence on EI and Resilience

Empirical evidence consistently demonstrates a positive correlation between emotional intelligence and project performance, as well as a project's ability to recover after disruption (Zhu et al., 2021; Castro et al., 2022). Quantitative studies have shown that project managers' emotional intelligence affects project performance through the mediating effect of project commitment, particularly in complex projects (Zhu et al., 2021). This suggests that EI enhances team engagement and dedication, leading to better outcomes.

In construction projects, a project manager's EI is essential for team effectiveness, with team cohesion acting as a mediating factor (Zhu et al., 2021). High EI enables managers to build stronger, more cohesive teams that can collectively respond to challenges and maintain productivity. Furthermore, EI has been shown to correlate positively with resilience, acting as a protective factor against anxiety and depression (Zhang & Hao, 2022). Zhang and Hao (2022) indicated that 86.0% of the sample population displayed high EI, while 71.4% exhibited normal resilience and 26.5% high resilience, supporting a strong connection between EI and the capacity to rebound from adversity.

IV. ADAPTABILITY AND RESILIENT PROJECT PERFORMANCE

Adaptability is a crucial human capability that underpins resilient project performance, particularly in dynamic and unpredictable environments. It represents the readiness and capacity of individuals and teams to modify their cognition, behavior, and emotions in response to changing conditions, thereby enabling projects to navigate challenges and achieve objectives despite disruptions (Borg et al., 2022). This section will define adaptability, delineate its key dimensions, discuss its role as a core resilience competence, summarize empirical evidence, and explore organizational and cultural moderators, ultimately synthesizing its role in bridging emotional regulation and collective learning.

Concept of Adaptability

Adaptability, in the context of project management, refers to the capacity to effectively adjust to novel, changing, or uncertain circumstances (Borg et al., 2022). It encompasses an individual's or team's willingness and ability to alter established routines, strategies, and approaches when faced with new information, unexpected challenges, or evolving requirements (Zhang & Hao, 2022). This proactive and reactive adjustment is essential for maintaining momentum and achieving project goals in environments characterized by volatility, uncertainty, complexity, and ambiguity (VUCA) (Borg et al., 2022). Adaptability is not merely about reacting to change but also about anticipating it and proactively preparing for potential shifts.

Dimensions of Adaptability

Adaptability is a multi-dimensional construct, encompassing cognitive, behavioral, and emotional aspects that work in concert to facilitate effective responses to change (Zhang & Hao, 2022).

Cognitive Adaptability: This dimension involves the mental flexibility to reframe problems, synthesize new information, and maintain situational awareness (Borg et al., 2022). It includes the ability to critically evaluate existing assumptions, conceptualize alternative solutions, and understand the broader implications of changes (Zhang & Hao, 2022). For instance, project managers with high cognitive adaptability can quickly shift their understanding of a problem when new data emerges, allowing them to formulate revised strategies that align with the changed reality (Zhu et al., 2021).

Behavioral Adaptability: Behavioral adaptability refers to the ability to modify actions, strategies, and task execution in response to environmental demands (Castro et al., 2022). This includes task flexibility, where individuals can switch between different roles or responsibilities, and strategic flexibility, which involves altering plans or methods when initial approaches prove ineffective (Zhu et al., 2021). An example would be a project team rapidly re-prioritizing tasks and reassigning resources in response to an unexpected technical roadblock.

Emotional Adaptability: This dimension pertains to the capacity to manage and regulate one's own emotions, and sometimes the emotions of others, during periods of stress, uncertainty, or conflict (Zhu et al., 2021). Key components include emotional control, which prevents disruptive emotions from negatively impacting performance, and optimism, which fosters a positive outlook and belief in successful outcomes despite adversity (Borg et al., 2022). Emotionally adaptable individuals can maintain composure under pressure, learn from setbacks without becoming demoralized, and inspire confidence in their team members (Zhang & Hao, 2022).

Adaptability as a Core Resilience Competence

Adaptability is fundamentally linked to project resilience because it provides the means through which projects can absorb shocks and recover effectively (Borg et al., 2022). Resilient project teams, characterized by their adaptive capabilities, are better equipped to withstand various disruptions, including uncertainty, resource constraints, and shifting client demands (Zhu et al., 2021).

The VUCA (Volatility, Uncertainty, Complexity, Ambiguity) framework provides a pertinent lens through which to understand adaptability's role. In volatile situations, adaptable teams can quickly react to rapid and unpredictable changes. Under uncertainty, their cognitive flexibility enables them to make sense of ambiguous information and form coherent strategies (Zhang & Hao, 2022). For complex challenges, behavioral adaptability allows them to experiment with different approaches and adjust their methods until a viable solution is found. Finally, in ambiguous conditions, emotional adaptability helps teams maintain motivation and cohesion despite a lack of clear direction or outcomes (Borg et al., 2022). By embracing adaptability, project teams move beyond simply enduring disruptions to actively leveraging them as opportunities for learning and growth, which is a hallmark of true resilience.

Empirical Studies

Empirical research consistently highlights the positive correlation between adaptability and project success, innovation, and resilience. Studies have shown that project managers' emotional intelligence, a key component enabling adaptability, significantly influences project performance by mediating project commitment, especially in complex projects (Zhu et al., 2021). This indicates that adaptability, fostered by EI, enhances dedication and engagement, leading to improved outcomes (Zhu et al., 2021).

In the construction industry, for example, the emotional intelligence of a project manager is essential for team effectiveness, with team cohesion acting as a mediating factor (Zhang & Hao, 2022). This suggests that adaptable leaders, who can manage emotions and foster strong interpersonal bonds, build more cohesive teams capable of responding effectively to challenges (Zhang & Hao, 2022). Furthermore, emotional intelligence is positively correlated with resilience, acting as a protective factor against anxiety and depression (Sharma & Tiwari, 2023). Sharma and Tiwari (2023) indicated that 86.0% of a sample population displayed high EI, while 71.4% exhibited normal resilience and 26.5% high resilience, supporting a strong connection between EI and the capacity to rebound from adversity.

Organizational and Cultural Moderators

Organizational structures and cultural norms significantly moderate the impact of adaptability on project resilience (Borg et al., 2022). **Organizational Structures:** Agile methodologies, characterized by iterative development, flexible planning, and continuous feedback, inherently promote adaptability and, consequently, resilience (Fitzpatrick, 2022). These structures empower teams to rapidly respond to changes and learn from experience (Fitzpatrick, 2022). In contrast, highly bureaucratic or rigid organizational structures can impede adaptability by enforcing strict adherence to predefined processes, discouraging deviation, and slowing down decision-making (Borg et al., 2022). For instance, a process flow for human resource management planning in a project management context, if overly rigid, might limit the flexibility needed to adapt to sudden changes in personnel availability or skill requirements (Palma, et al., 2020).

Organizational Culture: A culture that values openness, psychological safety, and continuous learning significantly enhances adaptability (Borg et al., 2022). In such environments, team members feel comfortable experimenting, sharing knowledge, and admitting mistakes, which are vital for adaptive problem-solving (Fitzpatrick, 2022). Conversely, rigid, blame-oriented cultures can stifle innovation and adaptability by discouraging risk-taking and promoting a fear of failure. Effective leadership, particularly transformational leadership styles which are often associated with high emotional intelligence, can cultivate a culture that fosters adaptability and resilience (Potter et al., 2018).

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V. TEAM LEARNING AND COLLECTIVE RESILIENCE

Team learning is fundamental to fostering collective resilience within project contexts, enabling teams to not only recover from disruptions but also evolve and improve as a result. This section will define team learning, explore its underlying mechanisms, detail the concept of learning loops in building resilience, review empirical evidence, and identify common barriers and the crucial role of leadership in cultivating effective learning environments.

Concept and Importance of Team Learning

Team learning is defined as the continuous process through which teams acquire, share, and combine knowledge, incorporating reflection and action (Amber & Porter, 2019). It involves activities that allow team members to engage in ongoing reflection, feedback, and knowledge exchange, which is critical for achieving organizational goals (Amber & Porter, 2019). This continuous process moves beyond individual learning to a collective understanding and adaptation, ensuring that knowledge gained is integrated into the team's operations and strategies (Potter et al., 2018). In project management, where tasks are often complex and interdependent, team learning is paramount for developing innovative solutions and improving overall effectiveness (Verwijs, & Russo, 2023).

Mechanisms of Team Learning

The effectiveness of team learning is driven by several key mechanisms, each contributing to the team's ability to process information, adapt, and innovate:

Inquiry: This involves asking questions, seeking feedback, and actively challenging existing assumptions within the team (Amber & Porter, 2019). Such an approach encourages deeper understanding and exploration of problems, moving beyond superficial solutions.

Experimentation: Teams engage in experimentation to test new ideas, approaches, and solutions (Ehnert, 2022). This iterative process allows for continuous refinement and adaptation based on observed outcomes, fostering a culture of innovation (Viitaharju, et al., 2023).

Open Dialogue: Facilitating open and honest communication, where team members feel comfortable expressing diverse viewpoints, sharing information, and engaging in constructive debate, is crucial (Viitaharju, et al., 2023; Amber & Porter, 2019). Open dialogue is essential for breaking down silos and ensuring that collective knowledge is leveraged effectively.

After-Action Reviews (AARs): These structured debriefings allow teams to reflect on past actions, identify what went well, what could be improved, and what lessons were learned (Amber & Porter, 2019). AARs are vital for institutionalizing learning and preventing the recurrence of mistakes.

Underpinning these mechanisms is psychological safety, which is the shared belief among team members that the team is a safe place for interpersonal risk-taking (Harvey et al., 2019). In a psychologically safe environment, team members feel comfortable speaking up, admitting mistakes, and challenging the status quo without fear of embarrassment or punishment (Alami et al., 2024). This foundation enables open communication, critical reflection, and the candid exchange of feedback necessary for effective team learning and, consequently, resilience (Stothard & Drobnjak, 2021).

Learning Loops and Resilience

Learning loops describe different levels of organizational learning, each contributing uniquely to project resilience by enabling teams to "bounce forward" rather than merely "bounce back" (Patterson et al., 2023):

Single-Loop Learning: This involves detecting and correcting errors within the existing governing variables or framework (Patterson et al., 2023). It focuses on improving the effectiveness of actions without questioning the underlying assumptions or goals. For example, if a project task fails, single-loop learning would involve adjusting the method of execution to achieve the desired outcome (Patterson et al., 2023). This type of learning primarily helps teams recover from immediate setbacks.

Double-Loop Learning: This type of learning occurs when errors are detected and corrected by questioning and modifying the underlying norms, policies, and objectives themselves, not just the actions (Patterson et al., 2023; Wilke, 2023). It challenges the "governing variables" that dictate behavior. For instance, if a project repeatedly faces the same type of failure, double-loop learning would prompt a re-evaluation of the project's foundational assumptions or strategic goals (Patterson et al., 2023). This deeper reflection enables transformational change and true adaptation, allowing teams to "bounce forward" by fundamentally improving their approach.

Triple-Loop Learning: Building on double-loop learning, triple-loop learning involves questioning the very values and beliefs that frame the learning process and the organizational context (Patterson et al., 2023). It asks "How do we decide what is right?" and "Why do we operate the way we do?" This meta-level learning fosters a deeper understanding of purpose and identity, leading to profound shifts in organizational culture and long-term resilience (Wilke, 2023). This highest level of learning ensures that the project not only adapts its methods and objectives but also re-examines its core identity and mission in response to profound changes.

Empirical Evidence

Numerous studies demonstrate the strong link between team learning and positive project outcomes, including innovation, agility, and post-crisis improvement:

Project Innovation: Teams that actively engage in learning activities, such as knowledge sharing and collaborative problem-solving, are more likely to generate innovative solutions and adapt to new challenges (Mahmood et al., 2024; Patterson et al., 2023). The continuous acquisition and integration of knowledge enable teams to push boundaries and develop novel approaches.

Agility: Team learning enhances project agility by allowing teams to quickly respond to changes and reconfigure their strategies (Adler, 2023). This adaptive capacity is crucial in dynamic environments where rapid adjustments are necessary to maintain project momentum (Wang et al., 2025).

Post-Crisis Improvement: Organizations and teams that effectively learn from crises tend to improve their performance and management systems significantly (Millimouno, et al., 2023; Bian et al., 2023). This involves analyzing past incidents, identifying root causes, and implementing systemic changes to prevent future recurrences, as seen in cybersecurity incident responses (Mahmood et al., 2024; Patterson et al., 2023).

Barriers to Team Learning

Despite its importance, several factors can impede effective team learning:

Hierarchical Culture: Rigid hierarchical structures can stifle open communication and psychological safety, as team members may be reluctant to challenge superiors or admit mistakes (Stothard & Drobnjak, 2021). This can create an environment where learning is restricted to top-down directives rather than collaborative exchange (Millimouno et al., 2023).

Blame Orientation: A culture that assigns blame for failures rather than focusing on learning from them severely hinders team learning (Alami et al., 2024). When individuals fear reprisal, they are less likely to disclose errors or engage in experimentation, thereby preventing the team from benefiting from valuable lessons (Stothard & Drobnjak, 2021).

Time Pressures: Intense time constraints can lead teams to prioritize immediate task completion over reflective learning activities (Amber & Porter, 2019). The pressure to deliver quickly may lead to skipping crucial steps like after-action reviews or in-depth problem analysis, compromising long-term learning and improvement (Viitaharju et al., 2023).

Leadership plays a critical role in overcoming these barriers and creating open learning climates. Leaders must actively foster psychological safety by modeling vulnerability, encouraging questions, and rewarding constructive feedback (Strothard & Drobnjak, 2021). They should promote a culture of continuous improvement, where mistakes are viewed as learning opportunities rather than failures (Verwijs & Russo, 2023). Digital leaders, for instance, need capabilities like empowerment, coaching, psychological safety, and knowledge sharing to thrive in complex environments (Tigre et al., 2024). By demonstrating a commitment to learning and providing the necessary resources and support, leaders can transform a team's approach to challenges, enabling them to leverage learning for enhanced resilience (Strothard & Drobnjak, 2021).

VI. INTEGRATIVE DISCUSSION: INTERLINKING EMOTIONAL INTELLIGENCE, ADAPTABILITY, AND TEAM LEARNING

Conceptual Integration

EI, adaptability, and team learning operate as interconnected dimensions of human capability that collectively enhance project resilience. EI serves as the foundation by enabling individuals to understand, regulate, and express emotions constructively, which is essential in maintaining psychological stability and effective communication within teams (Zhu et al., 2021; Castro et al., 2022). Through self-awareness and empathy, emotionally intelligent project leaders foster an

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atmosphere of trust and psychological safety—conditions that allow teams to express concerns, take risks, and collaborate effectively (Edmondson, 1999; Harvey et al., 2019). This psychological safety, in turn, becomes a precursor to adaptability and collective learning, as it reduces fear of failure and encourages experimentation (Alami et al., 2024).

Adaptability functions as a behavioral manifestation of emotional intelligence. When individuals possess high EI, they are better equipped to handle uncertainty with composure and creativity, translating emotional regulation into flexible responses to change (Pulakos et al., 2000; Trigueros et al., 2019). Adaptability allows project teams to transform stress and disruption into opportunities for innovation. For instance, emotionally intelligent leaders who can reframe challenges positively are more likely to cultivate adaptive mindsets within their teams, enabling members to reconfigure tasks and strategies quickly when conditions shift (Zhang & Hao, 2022). Adaptability thus operationalizes emotional intelligence by turning self-regulation and social awareness into concrete behaviors that sustain project performance amid turbulence (Dowson et al., 2024).

Team learning, the third pillar, institutionalizes adaptability by embedding it into the team's collective routines and culture. Through mechanisms such as open dialogue, feedback sharing, and after-action reviews, learning teams continuously reflect on experiences and integrate lessons into future practices (Amber & Porter, 2019; Patterson et al., 2023). Emotional intelligence and adaptability make this process possible by creating an environment conducive to honest reflection and by encouraging resilience in the face of mistakes (Harvey et al., 2019; Alami et al., 2024). In this way, team learning becomes both an outcome and a driver of resilience—it not only arises from adaptive responses but also reinforces them, allowing project teams to evolve beyond each crisis stronger and more capable. Together, EI nurtures the psychological foundations of resilience, adaptability translates emotional competence into action, and team learning ensures that the benefits of adaptation are sustained and institutionalized across the project lifecycle (Dowson et al., 2024).

Proposed Conceptual Model

The proposed conceptual model positions emotional intelligence, adaptability, and team learning as three interdependent constructs feeding into the broader construct of project resilience. Visualized as overlapping circles, each represents a distinct yet connected domain of human capability, as illustrated in Figure 1.1. Emotional intelligence lies at the foundation, underpinning the ability to recognize and manage emotions constructively (Goleman, 1995; Mayer & Salovey, 1997). Adaptability intersects with EI by translating emotional regulation into flexible cognitive and behavioral responses to change (Pulakos et al., 2000; Borg et al., 2022). Team learning overlaps with both by capturing and institutionalizing adaptive behaviors through shared reflection, open communication, and collective improvement (Edmondson, 1999; Amber & Porter, 2019).

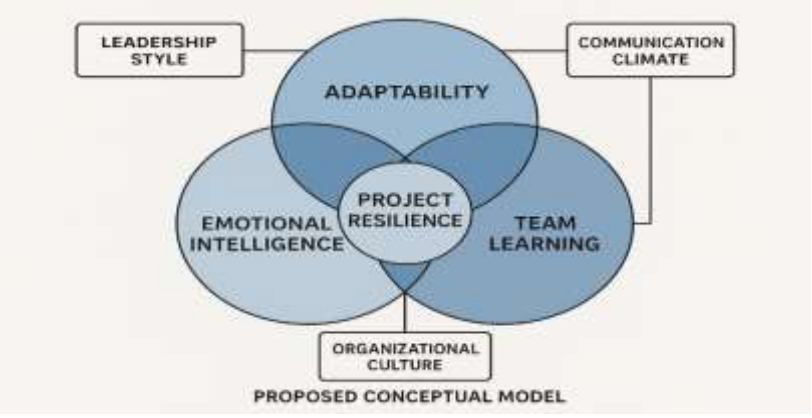

Figure 1.1

At the intersection of all three constructs lies project resilience—the emergent capability of a project to anticipate, withstand, and recover from disruptions while continuing to pursue its objectives (Borg et al., 2022; Dowson et al., 2024). Several moderating variables influence the strength of these relationships. Leadership style, particularly transformational and authentic leadership, plays a critical moderating role by modeling emotionally intelligent and adaptive behaviors that encourage team learning (Potter et al., 2018; Castro et al., 2022). Organizational culture also acts as a key moderator: a culture emphasizing openness, trust, and continuous learning amplifies the positive effects of EI and adaptability on resilience (Harvey et al., 2019; Alami et al., 2024). Similarly, the communication climate within a project environment

determines whether learning behaviors can thrive; open and psychologically safe communication channels foster collaboration and shared sensemaking (Stothard & Drobnjak, 2021). These moderators interact to create a reinforcing loop, whereby emotionally intelligent leaders cultivate adaptive and learning-oriented cultures, which in turn enhance the project's overall capacity for resilience (Dowson et al., 2024).

Synthesis with Resilience Outcomes

The integration of emotional intelligence, adaptability, and team learning directly contributes to measurable project outcomes that define resilience. Projects characterized by high levels of these human capabilities tend to demonstrate greater continuity, reduced burnout, increased innovation, and faster recovery following disruptions (Stephens & Clark, 2024; Wang et al., 2025). Emotional intelligence reduces stress and enhances motivation, resulting in lower turnover and sustained engagement (Sharma & Tiwari, 2023). Adaptability improves response time and decision-making under uncertainty, thereby enhancing continuity of operations and minimizing the negative effects of crises (Borg et al., 2022). Team learning ensures that lessons from past challenges are systematically incorporated into new strategies, fostering continuous improvement and innovation (Patterson et al., 2023).

Moreover, resilient teams that embody these interlinked constructs exhibit superior client satisfaction due to their ability to maintain composure, transparency, and responsiveness even under pressure (Zhu et al., 2021). In volatile environments, such as digital transformation initiatives or construction megaprojects, these capabilities translate into tangible advantages—fewer delays, improved safety outcomes, and stronger stakeholder trust (Zhang & Hao, 2022; Dowson et al., 2024). Collectively, emotional intelligence, adaptability, and team learning form a dynamic triad that strengthens not only a project's ability to survive disruptions but also its capacity to evolve and thrive in the face of change (Borg et al., 2022; Dowson et al., 2024).

VII. IMPLICATIONS FOR PRACTICE

For Project Leaders

For project leaders, the integration of emotional intelligence, adaptability, and team learning underscores the importance of cultivating human-centered competencies alongside technical expertise. Leaders should engage in targeted training and coaching programs designed to enhance emotional self-awareness, empathy, and social skills (Boyatzis et al., 2019; Suvvari, 2024). By modeling vulnerability and authenticity, leaders signal that openness and learning are valued over perfection, fostering psychological safety within teams (Edmondson, 1999; Alami et al., 2024). Leadership behaviors such as active listening, empathetic feedback, and calm communication during crises promote trust and encourage adaptive thinking among team members (Potter et al., 2018; Zhang & Hao, 2022). Leaders who exemplify emotionally intelligent adaptability inspire teams to confront uncertainty with confidence and creativity, strengthening both morale and performance (Fitzpatrick, 2022; Dowson et al., 2024).

For Teams

At the team level, practical application involves embedding learning rituals into regular project activities. Practices such as retrospective meetings, lessons-learned sessions, and cross-functional collaboration help institutionalize learning and adaptability (Amber & Porter, 2019; Patterson et al., 2023). These forums offer teams the opportunity to analyze setbacks, share diverse perspectives, and collectively develop improved strategies (Harvey et al., 2019). Teams should be encouraged to reflect even under time pressures, as reflection fosters deeper understanding and prevents the recurrence of past errors (Viitaharju et al., 2023). Emphasizing open communication and mutual support fosters cohesion and ensures that emotional intelligence is integrated into daily interactions (Stothard & Drobnjak, 2021). By normalizing dialogue about mistakes and successes alike, teams create a culture of continuous improvement that underpins collective resilience (Alami et al., 2024).

For Organizations

Organizations play a pivotal role in embedding resilience through systems and culture. They should institutionalize psychological safety and flexibility by designing structures that empower employees to act autonomously while maintaining alignment with strategic objectives (Harvey et al., 2019; Dowson et al., 2024). Integrating human resilience indicators—such as adaptability, collaboration, and learning orientation—into performance evaluations and human resource systems encourages desired behaviors (Borg et al., 2022). Organizational cultures that reward curiosity, experimentation, and transparency foster the conditions necessary for adaptability and team learning to flourish (Amber & Porter, 2019). Project Management Offices (PMOs) can further reinforce resilience by aligning governance frameworks with these human-

centered principles, ensuring that policies and procedures promote flexibility rather than rigid compliance (Dowson et al., 2024).

For Project Management Education

Finally, project management education must evolve to reflect the growing recognition that human capabilities are at the core of project resilience. Training and certification programs should include structured modules on emotional intelligence, adaptability, and team learning (Boyatzis et al., 2019; Suvvari, 2024). Case-based learning, simulations, and reflective exercises can help aspiring project managers practice these competencies in realistic scenarios (Amber & Porter, 2019). Curricula should also emphasize the integration of technical and human factors, preparing professionals to lead not just through plans and processes but through emotional awareness, flexibility, and collaborative learning (Fitzpatrick, 2022; Wang et al., 2025). By embedding these competencies into formal education, the next generation of project leaders will be equipped to manage uncertainty with empathy, adaptability, and resilience—qualities that are increasingly indispensable in the complex and fast-changing landscape of contemporary project management (Dowson et al., 2024; Borg et al., 2022).

VIII. CONCLUSION

EI, adaptability, and team learning are interdependent human capabilities that collectively enable project resilience. Emotional intelligence provides the emotional awareness and regulation necessary to maintain stability under pressure; adaptability transforms this awareness into flexible, solution-oriented behavior; and team learning embeds these behaviors through shared reflection and continuous improvement. Together, they create a dynamic system that allows projects to anticipate, absorb, and recover from disruptions. These human-centered capabilities are not "soft" skills but strategic assets essential for thriving in volatile and complex environments. Ultimately, resilient projects are driven by people—teams that are emotionally intelligent, adaptable, and committed to learning—who turn uncertainty into an opportunity for growth and sustained success.

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