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Understanding the Role Of Emotional Intelligence in Agile Teams in Context of Requirement Change Management

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Requirement changes are inevitable in Agile software development, wherein flexibility is the key. Although Scrum offers defined change management procedures, but they tend to overlook the emotional aspects involved in Requirement Change Management (RCM) success. This systematic literature survey investigates the application of Emotional Intelligence (EI) in Agile RCM, concluding 27 studies. Results emphasize recurring issues like ineffective change planning, uncertain prioritization, inadequate stakeholder involvement, resistance to changes, and affective barriers in the form of fear, lack of trust, and low motivation. The review finds shortcomings in disciplined RCM practices, role-based EI integration, and alignment for performance. To fill these gaps, the research recommends a role-centric RCM framework incorporating EI concepts to enhance communication, trust, and flexibility with Agile adaptability.

Keywords: Agile Team, Sentiment Analysis, Emotions, Emotional Intelligence, Requirement Change Management, Challenges

Introduction:

Requirement changes are inevitable in modern software development, especially in rapidly evolving environments. Agile methodologies, which emphasize adaptability, iterative progress, and close customer collaboration, provide an effective framework for managing these changes [1]. Although Scrum and Kanban offer structured processes, they often overlook the human factor, where emotional responses ranging from motivation to resistance can significantly influence the success of change implementation [2]. These emotional dynamics must be addressed to sustain morale, cooperation, and productivity [3]. Emotional Intelligence (EI), the capacity to perceive, interpret, and regulate emotions in oneself and others [4], offers a strong foundation for addressing Requirement Change Management (RCM) challenges. High customer expectations, shifting priorities, and stringent deadlines frequently create stress, miscommunication, and conflict within Agile teams [5]. Developing EI competencies such as empathy, self-awareness, and emotional regulation can enhance problem-solving, build trust, and support smooth adaptation to change [6]. This study examines the role of emotions within Agile teams during RCM activities, demonstrating how emotional awareness can transform potential disruptions into opportunities for creativity and stronger team cohesion.

Agile Requirement Change Management (RCM) views change as a value-creation opportunity, unlike traditional approaches that consider late changes costly [7]. Iterative cycles, continuous feedback, and stakeholder collaboration enable teams to incorporate evolving requirements without compromising project goals. Practices such as backlog refinement, sprint planning, and review ceremonies provide structured checkpoints for assessing and prioritizing changes [8]. Despite Agile's inherent flexibility, frequent and unpredictable changes may overwhelm teams [9], [10], [11], [12], [13], disrupt workflows, and create prioritization challenges. Large or last-minute changes may also trigger emotional pressure, miscommunication, or conflict [10], [11]. Thus, effective Agile RCM requires not only disciplined processes but also strong interpersonal skills, emotional awareness, and shared team understanding [1]. Grundy's foundational framework on EI in software engineering explores how stakeholders' emotional responses affect developers during requirement changes, identifying positive, negative, and neutral reactions across three phases: receiving, implementing, and delivering, and six emotional dimensions: conditions, causes, consequences, contingencies, strategies, and covariance [14], [2], [15]. While valuable, the framework primarily emphasizes developers and overlooks other crucial Agile roles such as Scrum Masters and Product Owners, whose emotions also influence RCM outcomes [15]. Figure 1 illustrates Grundy's EI Six-Cs framework across the receiving, implementing, and delivering phases.

The key contributions of this paper are:

A consolidated identification of the key factors that make Requirement Change Management (RCM) challenging in Agile environments, including planning issues, communication gaps, human factors, and technical constraints.

A systematic synthesis of how Agile practitioners emotionally respond to RCM challenges, highlighting common affective states such as stress, frustration, low motivation, fear, and reduced trust.

An analysis of how different stakeholders, such as customers, Product Owners, Scrum Masters, peers, and management, shape practitioners' emotional experiences during the receiving, implementing, and delivering phases of requirement change handling.

A set of evidence-based recommendations for improving RCM practices through Emotional Intelligence (EI), emphasizing communication, empathy, emotional regulation, and role-specific EI strategies for Agile teams.

A set of future research directions for advancing EI-driven Agile RCM, including the need for role-centric EI frameworks, performance measurement integration, and empirical validation through industry studies.

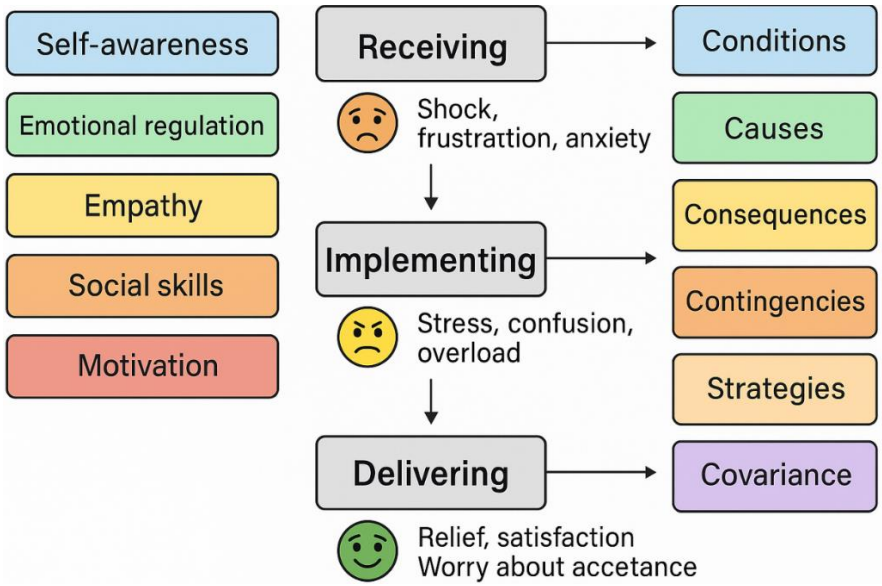

Figure 1. Grundy's EI Six-C Framework [14], [2], [15]

Objective & Research Questions:

The objective of this review is to examine how Emotional Intelligence (EI) influences Requirement Change Management (RCM) in Agile software development. Specifically, it aims to identify the key challenges associated with managing requirement changes, explore the emotional experiences of practitioners, analyze how stakeholders affect these emotional responses, and investigate the EI competencies that can support effective change handling. Additionally, the review synthesizes existing EI-related frameworks, highlights gaps in current research, and proposes recommendations and future directions for developing more emotionally aware and human-centered Agile RCM practices.

To address these objectives, the study is guided by the following research questions:

RQ1: What emotional challenges do Agile teams face during Requirement Change Management?

RQ2: How does Emotional Intelligence (EI) influence Agile Requirement Change Management practices?

RQ3: What gaps exist in current EI-based approaches to Agile RCM?

Literature Review:

Software success depends not only on technical expertise and well-defined processes but also on the team's ability to manage human and emotional dynamics [5]. In environments characterized by frequent and evolving requirements, emotions significantly influence collaboration, decision-making, and overall project outcomes [1]. Empirical evidence increasingly recognizes the role of Emotional Intelligence (EI) in improving communication, conflict resolution, and adaptability within software teams [16]. However, its specific application in Agile Requirement Change Management (RCM) remains insufficiently explored.

Emotional Intelligence:

Both simple and complex emotions can significantly influence cognition, decision-making, and interpersonal behavior [17]. Techniques like the Feeling Wheel aid in emotion identification [18], while Emotional Intelligence frameworks—such as the Ability Model [17], Competency Model [4], Bar-On's Trait Model [19], Emotional and Social Competency Inventory [3], and TEIQue [20] offer structured approaches for perceiving, understanding, and regulating emotions in organizational contexts, including software engineering.

Emotional Intelligence in the Software Engineering Domain:

Throughout the Software Development Lifecycle (SDLC), from requirements to maintenance, emotions influence teamwork, problem-solving, and flexibility [21]. Agile

methodologies, emphasizing collaboration and flexibility, evoke different emotional dynamics compared to traditional models such as Waterfall, V-Model, and Spiral [9]. Research highlights frequent challenges like unclear requirements, ongoing changes, and communication gaps [22], underscoring the importance of Requirement Change Management (RCM). Integrating Emotional Intelligence (EI) into RCM can transform requirement changes into opportunities for innovation, enhancing team cohesion and outcomes [11].

Agile Requirement Engineering:

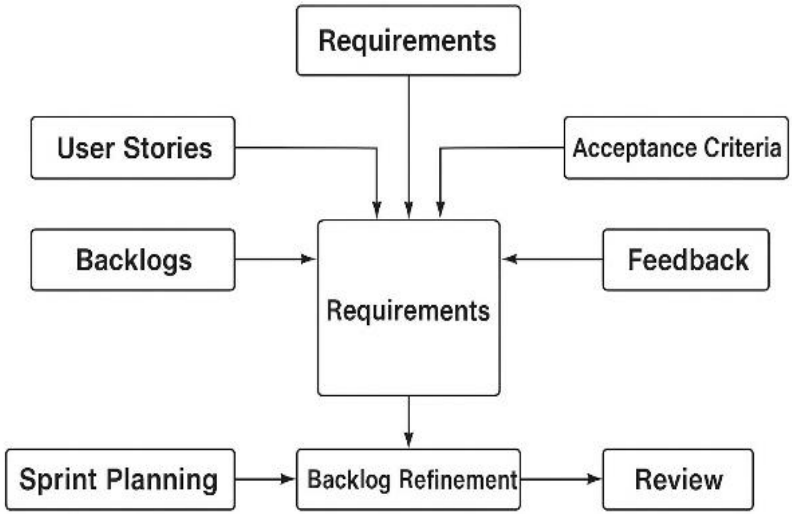

Figure 2. Agile Requirement Engineering

Agile Requirement Engineering views requirements as dynamic assets shaped by user stories, backlogs, acceptance criteria, and feedback loops. Practices such as backlog refinement, sprint planning, and review meetings ensure alignment with evolving business requirements [23]. The iterative process enables rapid responses to changes, reduces misunderstandings, and delivers incremental value. However, frequent changes often trigger emotional responses that can affect both delivery and team performance.

Requirement Change Management (RCM):

Agile RCM responds to changes in stakeholders, market, and priority without putting a line on development [24]. In contrast to conventional models that oppose late changes, Agile accepts them as part of its workflow.

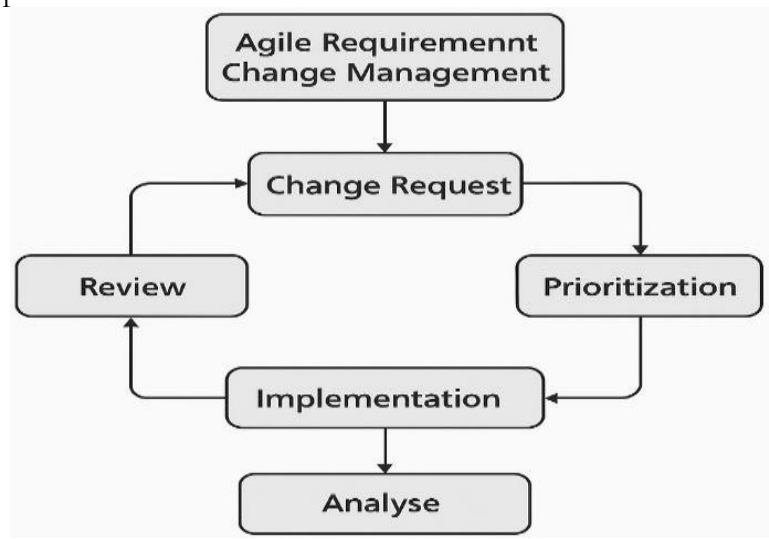

Figure 3. Agile Requirement Change Management

Iterative development, feedback cycles, and intimate participation of stakeholders allow for a rapid examination of feasibility, effect, and priority [25]. Ceremonies like sprint planning,

backlog refinement, and daily standups support effective communication and the seamless integration of changes [21]. Transparency, cooperation, and adaptive planning enable Agile RCM to transform potential disruption into continuous improvement and value delivery [14]. Figure 2 shows the process of requirement change management in an agile environment.

EI Competencies with Agile RCM Challenges:

While prior studies have defined core EI competencies such as self-awareness, self-regulation, empathy, social skills, and motivation, their explicit relevance to Agile Requirement Change Management (RCM) remains underexplored. This review links EI competencies to specific RCM challenges identified in Tables 1 and 2, showing how emotional capabilities directly influence practitioners' experiences during requirement changes. Self-awareness and self-regulation help practitioners manage stress caused by overloaded backlogs, scope creep, prioritization uncertainty, and poor impact analysis. Empathy and social skills mitigate communication failures, unclear stakeholder expectations, and limited knowledge transfer by improving listening, perspective-taking, and conflict resolution. Motivation and relationship management further address resistance to change, low trust, and emotional insecurity by fostering psychological safety and constructive engagement. Overall, EI provides targeted strategies that help Agile teams navigate emotional demands, reduce misunderstandings, and improve the effectiveness of RCM processes.

Methodology:

Research Method:

This study adopts a Systematic Literature Review (SLR) to analyze the contribution of emotions and Emotional Intelligence (EI) to Requirement Change Management (RCM) and Requirement Engineering (RE). The purpose of the review is to identify, synthesize, and interpret existing research to understand how emotions influence RCM processes and the challenges associated with handling changes in Agile and traditional environments. The review followed a predefined protocol designed to ensure rigor, transparency, and replicability throughout the research process.

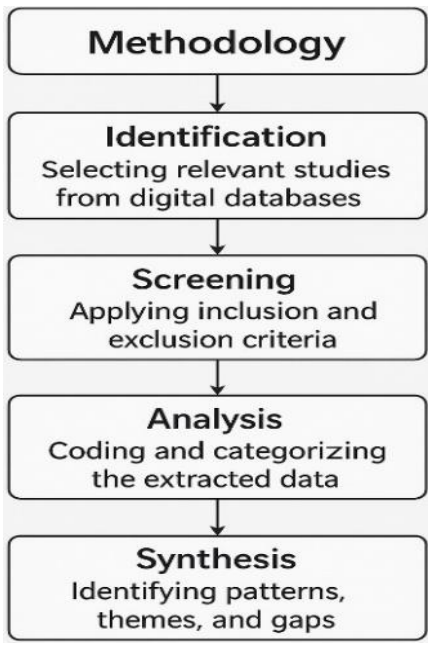

Figure 4. Research Methodology

Search Strategy:

Relevant studies were retrieved from leading digital libraries, including IEEE Xplore, ACM Digital Library, and ScienceDirect. A combination of targeted keywords and Boolean operators was used, such as: "requirement change management", "requirement engineering",

"emotions in software engineering", "emotional intelligence in agile", "challenges in requirement change management", "Requirement engineering challenges". These keywords were applied to titles, abstracts, and full texts to capture studies explicitly linked to emotions, EI, RCM, and RE within software development. The literature search covered the period from 2012 to 2025 to ensure a comprehensive and contemporary understanding of EI and RCM in Agile software development.

Inclusion and Exclusion Criteria:

Inclusion Criteria:

Peer-reviewed journal articles, conference papers, and book chapters
Studies focused on emotions, emotional intelligence, RCM, or RE
Research conducted within the context of software development
Publications available in English

Exclusion Criteria:

Studies unrelated to software engineering
Papers without empirical or conceptual relevance
Non-English publications
Articles lacking a clear focus on emotional or EI-related aspects

Iterative Process of Review:

The review was conducted iteratively to refine the study selection and thematic understanding. Initial searches generated a broad set of papers that were screened through multiple rounds of title, abstract, and full-text evaluations. Each cycle involved refining keywords, updating inclusion criteria, and validating textual patterns related to emotional dynamics in RCM and RE. This iterative approach ensured that only high-relevance studies were included in the final synthesis.

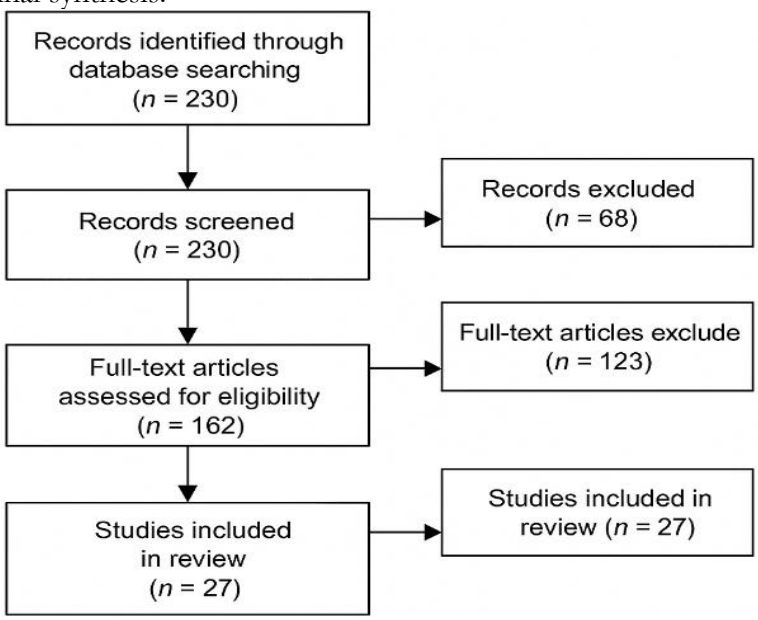

Figure 5. PRISMA diagram

PRISMA Flow Diagram:

The initial search across the three digital libraries yielded 230 records. After removing duplicates and screening titles and abstracts for relevance to software engineering, emotional intelligence, team dynamics, and requirement change management, 162 records remained. Full-text screening of these 162 papers led to the exclusion of studies unrelated to Agile practices, EI in technical settings, or RCM-specific emotional challenges, resulting in 39 articles deemed highly relevant. From these, 27 studies were selected as the core evidence base synthesized in this review.

Coding and Thematic Analysis:

Data extraction was carried out using systematic coding and categorization. Studies were reviewed for recurring concepts, emotional patterns, and EI-related behaviors. Themes were generated based on affective components of RCM and RE, including decision-making, communication, teamwork, and adaptability in both Agile and traditional environments. In addition, common challenges—such as communication breakdown, stakeholder misalignment, and resistance to change—were identified. EI-based mitigation strategies reported across studies were also analyzed to determine their effectiveness in real-world RCM scenarios.

Result and Discussions:

This section describes how the study provides a comparative approach that brings out overlaps, differences, and research gaps. Gaps in disciplined RC management practice, role-based EI application by Agile teams, and integrated frameworks that integrate EI, requirement management, and performance measurement are studied in the research at hand.

Requirement Engineering Challenges:

Table I summarizes 15 typical Requirement Engineering (RE) problems listed in earlier studies. Among them are poor documentation, conflicting or unclear requirements, poor prioritization, imprecise effort estimation, and poor early planning. Further problems include requirements changing, restricted customer availability or knowledge, lack of communication, and poor team skills. Technical issues, such as poor system architecture, overlooking non-functional requirements, and keeping the Software Requirements Specification (SRS) up to date, also occur. In general, the literature reveals that the most common and most important RE problem for Agile teams is requirement change management.

Table 1. Requirement Engineering Challenges

RE Challenge	References
Less Reporting and documentation	[10], [9], [26]
Poor Prioritization processes	[10], [9], [26], [27]
Requirement change management	[9], [10], [11], [12], [13]
Non-professionally documented requirements	[9]
Unrealistic effort calculation	[11]
Unavailability of the customer and Communication Challenges	[12]
Customer insight gap	[9]
Poor design choice	[9]
Communication Methods	[9], [10]
Maintaining a Software Requirements Specification	[9], [13]
Neglect of Quality Requirements (QRs)	[9]
Missing, Ambiguous, and Conflicting Requirements	[11], [10]
Lack of Preliminary Planning and Initial Team Involvement	[10]
Less Experienced and Skilled Team	[10]
Negligence of Nonfunctional Requirements	[11]

Agile Requirement Change Management Challenges:

Tables 2, 3, and 4 consolidate 28 persistent issues in Agile RCM that were documented in earlier research. They range from planning and process gaps (e.g., poor change management planning, poor impact analysis, uncertain prioritization), communication and stakeholder issues (e.g., poor participation, unclear goals, unrealistic expectations), to scope or resource limitations (e.g., scope creep, heavy backlog, inadequate new requirement handling). Human and organizational obstacles, such as change resistance, lack of trust, and low motivation, are also prevalent, in addition to technical and quality-related problems, such as system quality issues

and insufficiency of maturity models. Overall, the results present an integrated perspective on the root RCM challenges encountered by Agile teams.

Planning & Process Challenges:

Planning and process-related challenges represent the foundational difficulties Agile teams face when managing requirement changes. These issues often arise from insufficient change governance, unclear requirements, and weak prioritization mechanisms. As Table 2 illustrates, ineffective impact analysis, scope creep, overloaded backlogs, and poor change control processes undermine a team's capacity to respond adaptively. When planning activities are unstable or incomplete, requirement changes disrupt workflow continuity and decision-making, leading to confusion, rework, and delays. Understanding these challenges is crucial because they form the structural backbone of Agile RCM, influencing how smoothly teams can incorporate evolving requirements.

Communication & Stakeholder Challenges:

Communication and stakeholder collaboration are central to Agile practices, yet they remain some of the most persistent sources of difficulty during requirement changes. Table 3 outlines challenges such as communication failures, unrealistic expectations, limited stakeholder engagement, and poor knowledge transfer. These issues frequently occur when there is ambiguity in business goals, misalignment between stakeholders, or ineffective Agile ceremonies. Such breakdowns create misunderstandings about priorities, constraints, or the rationale behind changes, resulting in friction and delays. Effective communication is therefore essential for ensuring that requirement changes are clearly articulated, negotiated, and integrated across the team and stakeholders.

Table 2. Planning & Process Challenges

RCM Challenge	References
Change management shortfall	[28]
Poor impact analysis	[29]
Prioritization uncertainty	[29]
Specifications shortfall	[30]
Lack of a proper change control process	[28], [29]
Scope creep	[31]
Unclear scope of requested changes	[28],[31]
Overloaded sprint backlog	[29],[30],[32]
Inadequate handling of emergent requirements	[29]

Table 3. Communication & Stakeholder Challenges in Agile RCM

RCM Challenge	References
Change communication failure	[28], [29], [31],[29],[30]
Insufficient stakeholder engagement	[30]
Fuzzy business goals	[33]
Unrealistic expectations from clients/stakeholders	[33]
Ineffective Agile ceremonies for change communication	[29],[31],[30]
Limited knowledge transfer between teams	[28],[31],[29],[30]

Human & Organizational Factors:

The successful handling of requirement changes heavily depends on the emotional and organizational dynamics within Agile teams. Table 4 highlights human-centric challenges such as adaptability issues, role ambiguity, fear, low motivation, and lack of trust. These problems stem from interpersonal tension, unclear responsibilities, and psychological discomfort triggered by ongoing change. Organizational factors such as functional silos further hinder collaboration and information flow. These emotional and relational challenges demonstrate that Agile RCM

is not only a technical process but also a deeply human one, where team morale, psychological safety, and clarity of roles significantly affect change adoption.

Table 4. Human & Organizational Factors in Agile RCM Challenge

RCM Challenge	References
Change adaptability issues	[34],[35]
Functional silos	[28],[29],[31]
Lack of defined roles and responsibilities	[28],[29],[30]
Fear of expressing feelings	[30]
Fear of losing a job	[30]
Lack of motivation	[30]
Lack of trust among team members	[31],[29],[30]

Technical & Quality-Related Challenges:

Technical and quality-related challenges emerge when requirement changes interfere with system stability, architecture, or performance. As shown in Table 5, incompatible requirements, cost overruns, lack of RCM maturity models, and quality degradation pose significant risks during Agile development. These technical issues often result from rushed changes, insufficient analysis, or inadequate tooling and processes. When technical implications are not fully understood, requirement changes can introduce defects, increase complexity, or compromise system integrity. Addressing these challenges is essential to ensure that Agile RCM supports, not jeopardizes, the quality of the evolving product.

Table 5. Technical & Quality-Related Challenges in Agile RCM

RCM Challenge	References
Incompatible requirements	[32]
Cost overrun	[29][32]
Lack of RCM maturity models	[31]
Impact of requirement changes on system quality	[31]

Table 6 compares some studies, specifying publication date, application of Agile Software Development (ASD) and Requirement Engineering (RE), treatment of requirement changes (RC), inclusion of performance measures, emotional intelligence (EI) integration techniques, roles targeted (e.g., Product Owner, Scrum Master, Development Team), and whether a formal model or framework is offered.

Table 6. Existing study

Study ID	Year	RE	ASD	RCM	Measuring Performance	Measure EQ	Surveyed Population	Framework	Ref
S-01	2024	No	Yes	No	No	Yes	Development Team	No	[24]
S-02	2024	Yes	Yes	Yes	No	Yes	Development Team	Yes	[36]
S-03	2024	No	Yes	No	Yes	Yes	Product Owner	No	[37]
S-04	2024	Yes	Yes	No	No	No	N/A	Yes	[38]
S-05	2023	No	Yes	No	Yes	Yes	Agile Team	No	[9]
S-06	2023	No	Yes	No	Yes	Yes	Agile Team	No	[39]
S-07	2023	No	Yes	No	Yes	Yes	Product Owner	No	[37]
S-08	2023	No	No	No	Yes	Yes	Development Team	No	[40]
S-09	2023	Yes	Yes	Yes	No	Yes	Development Team	No	[2]
S-10	2023	Yes	Yes	Yes	No	Yes	Development Team	Yes	[14]
S-11	2022	Yes	Yes	Yes	No	Yes	Development Team	No	[15]
S-12	2022	No	No	No	No	Yes	Development Team	No	[41]
S-13	2022	Yes	Yes	Yes	No	Yes	Development Team	Yes	[5]
S-14	2022	No	No	No	Yes	Yes	Development Team	No	[42]
S-15	2022	No	Yes	No	No	No	Agile Team	No	[43]
S-16	2022	Yes	No	Yes	No	Yes	N/A	No	[44]
S-17	2021	Yes	Yes	No	No	No	N/A	No	[10]
S-18	2021	No	No	Yes	Yes	Yes	Development Team	No	[45]
S-19	2021	No	No	No	Yes	Yes	Development Team	No	[6]
S-20	2021	No	No	No	Yes	Yes	Development Team	No	[46]
S-21	2020	No	No	No	Yes	Yes	Development Team	No	[47]
S-22	2020	No	No	No	Yes	Yes	Development Team	No	[48]
S-23	2020	No	Yes	No	Yes	Yes	Agile Team	No	[49]
S-24	2020	No	Yes	No	Yes	Yes	Development Team	No	[41]
S-25	2020	No	Yes	No	Yes	Yes	Agile Team	No	[50]
S-26	2019	Yes	Yes	Yes	No	No	Agile Team	No	[51]
S-27	2012	Yes	Yes	Yes	No	No	Agile Team	Yes	[52]

Conclusion and Future Work:

This research carried out a systematic literature survey on the intersection of Agile Software Development (ASD), Requirement Engineering (RE), and Emotional Intelligence (EI), focusing on Requirement Change Management (RCM). The synthesis of 27 studies was carried out by comparing their goal, populations of interest, methodologies, and suggested frameworks. The results show that although Agile practices facilitate flexibility in managing evolving requirements, there are still gaps in disciplined RCM practice, EI integration in role-specific terms, and the inclusion of performance measurement in change management. Challenges cut across both RE and RCM areas. Typical RE challenges are poor documentation, poor prioritization, and a lack of customer involvement. In Agile RCM, typical problems are intransient issues such as a lack of adequate change planning, inadequate communication, scope creep, fuzzy business objectives, and opposition to change. Emotional challenges, like fear of job redundancy, distrust, and resistance to information sharing, also make effective change management complex, highlighting the necessity for a more human-oriented approach.

Future research will emphasize developing an integrated RCM framework that incorporates EI principles, formal communication strategies, and quantifiable performance measures. This framework must define role responsibilities, promote cross-functional alignment, and create mature change control processes without sacrificing Agile adaptability. Empirical testing through case studies, controlled experiments, and industry surveys is needed to evaluate the efficacy of these solutions in various Agile settings.

Acknowledgement:

I, the Corresponding Author, declare that this manuscript is original, has not been published before, and is not currently being considered for publication elsewhere. All authors have made a significant contribution to this work and have approved the final manuscript.

References:

[1] K. Madampe, R. Hoda, and P. Singh, "Towards Understanding Emotional Response to Requirements Changes in Agile Teams," *Proc. - 2020 ACM/IEEE 42nd Int. Conf. Softw. Eng. New Ideas Emerg. Results, ICSE-NIER 2020*, pp. 37–40, Oct. 2020, doi: 10.1145/3377816.3381722;CTYPE:STRING:BOOK.

[2] K. Madampe, R. Hoda, and J. Grundy, "The Emotional Roller Coaster of Responding to Requirements Changes in Software Engineering," *IEEE Trans. Softw. Eng.*, vol. 49, no. 3, pp. 1171–1187, Mar. 2023, doi: 10.1109/TSE.2022.3172925.

[3] "Clustering competence in emotional intelligence: Insights from the Emotional Competence Inventory (ECI)." Accessed: Dec. 02, 2025. [Online]. Available: https://www.eiconsortium.org/reprints/clustering_competencies_insights_from_the_eci360.html

[4] R. Perloff, "Daniel Goleman's Emotional intelligence: Why it can matter more than IQ.," *Psychol. J.*, vol. 1, no. 1, pp. 21–22, 1997, doi: 10.1037/H0095822.

[5] K. Madampe, R. Hoda, and J. Grundy, "Emotion-Centric Requirements Change Handling in Software Engineering," May 2022, Accessed: Dec. 02, 2025. [Online]. Available: http://arxiv.org/abs/2205.05827

[6] M. Marinho, L. Amorim, R. Camara, B. R. Oliveira, M. Sobral, and S. Sampaio, "Happier and further by going together: The importance of software team behaviour during the COVID-19 pandemic," *Technol. Soc.*, vol. 67, p. 101799, Nov. 2021, doi: 10.1016/J.TECHSOC.2021.101799.

[7] "(PDF) A Multi-dimensional Study of Requirements Changes in Agile Software Development Projects." Accessed: Dec. 02, 2025. [Online]. Available: https://www.researchgate.net/publication/346702116_A_Multi-dimensional_Study_of_Requirements_Changes_in_Agile_Software_Development_Projects

[8] T. Kamal, Q. Zhang, and M. A. Akbar, "Toward successful agile requirements change management process in global software development: A client-vendor analysis," *IET Softw.*, vol. 14, no. 3, pp. 265–274, Jun. 2020, doi: 10.1049/IET-SEN.2019.0128;JOURNAL:JOURNAL:17518814;CSUBTYPE:STRING:SPECIAL;PAGE:STRING:ARTICLE/CHAPTER.

[9] Z. Hoy and M. Xu, "Agile Software Requirements Engineering Challenges-Solutions—A Conceptual Framework from Systematic Literature Review," *Inf. 2023, Vol. 14, Page 322*, vol. 14, no. 6, p. 322, Jun. 2023, doi: 10.3390/INFO14060322.

[10] A. Rasheed *et al.*, "Requirement Engineering Challenges in Agile Software Development," *Math. Probl. Eng.*, vol. 2021, no. 1, p. 6696695, Jan. 2021, doi: 10.1155/2021/6696695.

[11] A. R. Asghar, A. Tabassum, S. N. Bhatti, and A. M. Jadi, "Impact and challenges of requirements elicitation & prioritization in quality to agile process: Scrum as a case scenario," *Int. Conf. Commun. Technol. ComTech 2017*, pp. 50–55, Oct. 2017, doi: 10.1109/COMTECH.2017.8065749.

[12] L. Ahuja and R. Priyadarshi, "Agile approaches towards Global Software Engineering," *2015 4th Int. Conf. Reliab. Infocom Technol. Optim. Trends Futur. Dir. ICRITO 2015*, Dec. 2015, doi: 10.1109/ICRITO.2015.7359249.

[13] N. Bahurmuz, R. Alnajim, R. Al-Mutairi, Z. Al-Shingiti, F. Saleem, and B. Fakieh, "Requirements Elicitation Techniques in Mobile Applications: A Systematic Literature Review," *https://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/IJITPM.2021070101*, vol. 12, no. 3, pp. 1–18, Jan. 1AD, doi: 10.4018/IJITPM.2021070101.

[14] K. Madampe, R. Hoda, and J. Grundy, "A Framework for Emotion-Oriented Requirements Change Handling in Agile Software Engineering," *IEEE Trans. Softw. Eng.*, vol. 49, no. 5, pp. 3325–3343, May 2023, doi: 10.1109/TSE.2023.3253145.

[15] K. Madampe, R. Hoda, J. Grundy, and S. Member, "The Role of Emotional Intelligence in Handling Requirements Changes in Software Engineering," Jun. 2022, Accessed: Dec. 02, 2025. [Online]. Available: https://arxiv.org/pdf/2206.11603

[16] K. Ahmad, M. Abdelrazek, C. Arora, M. Bano, and J. Grundy, "Requirements practices and gaps when engineering human-centered Artificial Intelligence systems," *Appl. Soft Comput.*, vol. 143, p. 110421, Aug. 2023, doi: 10.1016/J.ASOC.2023.110421.

[17] "Emotional development and emotional intelligence: Educational implications." Accessed: Dec. 02, 2025. [Online]. Available: https://psycnet.apa.org/record/1997-08644-000

[18] G. Willcox, "The Feeling Wheel," *Trans. Anal. J.*, vol. 12, no. 4, pp. 274–276, Oct. 1982, doi: 10.1177/036215378201200411.

[19] "Bar-On, R. (1997). The emotional quotient inventory (EQ-i) A test of emotional intelligence. Toronto Multi-Health Systems. - References - Scientific Research Publishing." Accessed: Dec. 02, 2025. [Online]. Available: https://www.scirp.org/reference/referencespapers?referenceid=768114

[20] K. V. Petrides and A. Furnham, "Trait emotional intelligence: psychometric investigation with reference to established trait taxonomies," *Eur. J. Pers.*, vol. 15, no. 6, pp. 425–448, Nov. 2001, doi: 10.1002/PER.416.

[21] Y. Li, J. Keung, K. E. Bennin, X. Ma, J. Zhang, and Z. Yang, "Agile Requirements Engineering in a Distributed Environment: Experiences from the Software Industry during Unprecedented Global Challenges," *Proc. - 2024 IEEE 48th Annu. Comput. Software, Appl. Conf. COMPSAC 2024*, pp. 682–691, 2024, doi: 10.1109/COMPSAC61105.2024.00098.

[22] B. Jan *et al.*, "Deep learning in big data Analytics: A comparative study," *Comput. Electr.*

Eng., vol. 75, pp. 275–287, May 2019, doi: 10.1016/J.COMPELECENG.2017.12.009.

[23] L. Cao and B. Ramesh, "Agile requirements engineering practices: An empirical study," *IEEE Softw.*, vol. 25, no. 1, pp. 60–67, Jan. 2008, doi: 10.1109/MS.2008.1.

[24] A. A. Alsanad, A. Chikh, and A. Mirza, "A Domain Ontology for Software Requirements Change Management in Global Software Development Environment," *IEEE Access*, vol. 7, pp. 49352–49361, 2019, doi: 10.1109/ACCESS.2019.2909839.

[25] S. Jayatilleke and R. Lai, "A systematic review of requirements change management," *Inf. Softw. Technol.*, vol. 93, pp. 163–185, Jan. 2018, doi: 10.1016/J.INFSOF.2017.09.004.

[26] R. H. Al-Ta'ani and R. Razali, "A framework for requirements prioritisation process in an agile software development environment: Empirical study," *Int. J. Adv. Sci. Eng. Inf. Technol.*, vol. 6, no. 6, pp. 846–856, 2016, doi: 10.18517/IJASEIT.6.6.1375.

[27] S. Anwer, L. Wen, and Z. Wang, "A systematic approach for identifying requirement change management challenges: Preliminary results," *ACM Int. Conf. Proceeding Ser.*, pp. 230–235, Apr. 2019, doi: 10.1145/3319008.3319031;PAGE:STRING:ARTICLE/CHAPTER.

[28] M. A. Akbar, A. A. Khan, A. W. Khan, and S. Mahmood, "Requirement change management challenges in GSD: An analytical hierarchy process approach," *J. Softw. Evol. Process*, vol. 32, no. 7, p. e2246, Jul. 2020, doi: 10.1002/SMR.2246;ISSUE:ISSUE:DOI.

[29] M. A. Akbar, J. Sang, A. A. Khan, and S. Hussain, "Investigation of the requirements change management challenges in the domain of global software development," *J. Softw. Evol. Process*, vol. 31, no. 10, p. e2207, Oct. 2019, doi: 10.1002/SMR.2207;REQUESTEDJOURNAL:JOURNAL:20477481.

[30] S. Qureshi, S. U. R. Khan, J. Iqbal, and Inayat-Ur-Rehman, "A Study on Mitigating the Communication and Coordination Challenges during Requirements Change Management in Global Software Development," *IEEE Access*, vol. 9, pp. 88217–88242, 2021, doi: 10.1109/ACCESS.2021.3090098.

[31] M. Kausar, A. W. Muhammad, R. Jabbar, and M. Ishtiaq, "Key Challenges of Requirement Change Management in the context of Global Software Development: Systematic literature review," *Pakistan J. Eng. Appl. Sci.*, vol. 30, pp. 41–51, Apr. 2022, Accessed: Dec. 02, 2025. [Online]. Available: https://journal.uet.edu.pk/ojs_old/index.php/pjeas/article/view/2565

[32] R. PUSHPAMALAR and G. KARURI, "Exploring Emotional Intelligence in Agile Software Testing," Oct. 2024, Accessed: Dec. 02, 2025. [Online]. Available: https://gupea.ub.gu.se/handle/2077/83660

[33] N. Wahbeh, N. Admodisastro, S. Hassan, and S. Abdullah, "Requirement Change Management in Global Software Development: A Systematic Review," Apr. 2024, doi: 10.21203/RS.3.RS-4253959/V1.

[34] F. Batista, L. Pereira, and R. L. da Costa, "Success and barrier factors in agile transformations," *Int. J. Agil. Syst. Manag.*, vol. 18, no. 2, pp. 200–238, 2025, doi: 10.1504/IJASM.2025.145414.

[35] L. S. Geetha *et al.*, "Challenges and Solutions in Agile Software Development: A Managerial Perspective on Implementation Practices," *Int. J. Adv. Comput. Sci. Appl.*, vol. 16, no. 3, pp. 748–758, Mar. 2025, doi: 10.14569/IJACSA.2025.0160374.

[36] K. Madampe, R. Hoda, and J. Grundy, "Supporting Emotional Intelligence, Productivity and Team Goals while Handling Software Requirements Changes," *ACM Trans. Softw. Eng. Methodol.*, vol. 33, no. 6, Jun. 2024, doi: 10.1145/3664600;CSUBTYPE:STRING:JOURNAL;JOURNAL:JOURNAL:TOSEM;SUBPAGE:STRING:FULL.

[37] "Essay - Product owner emotional intelligence related to agile team processes and

effectiveness: A qualitative case study." Accessed: Dec. 02, 2025. [Online]. Available: https://essay.utwente.nl/

[38] T. Kamal, Q. Zhang, M. A. Akbar, M. Shafiq, A. Gumaei, and A. Alsanad, "Identification and Prioritization of Agile Requirements Change Management Success Factors in the Domain of Global Software Development," *IEEE Access*, vol. 8, pp. 44714–44726, 2020, doi: 10.1109/ACCESS.2020.2976723.

[39] A. Y. Aránega, R. C. Urueña, R. C. Sánchez, and C. G. Montesinos, "Agile methodologies and emotional intelligence: An innovative approach to team management," *J. Compet.*, vol. 15, no. 3, pp. 164–183, Sep. 2023, doi: 10.7441/JOC.2023.03.09.

[40] A. Amin, M. Rehman, S. Basri, L. F. Capretz, M. A. S. Goraya, and R. Akbar, "The impact of stressors on the relationship between personality traits, knowledge collection behaviour and programmer creativity intention in software engineering," *Inf. Softw. Technol.*, vol. 163, p. 107288, Nov. 2023, doi: 10.1016/J.INFSOF.2023.107288.

[41] L. Fitzpatrick, "The Role of Emotional Intelligence in Agile Project Management," *PICMET 2022 - Portl. Int. Conf. Manag. Eng. Technol. Technol. Manag. Leadersh. Digit. Transform. - Look. Ahead to Post-COVID Era, Proc.*, 2022, doi: 10.23919/PICMET53225.2022.9882795.

[42] S. Khatun and N. Salleh, "An Empirical Study on the Role of Work Ethics and Emotional Intelligence on Software Engineers' Work Performance and Job Satisfaction," *2022 IEEE 8th Int. Conf. Comput. Eng. Des. ICCED 2022*, 2022, doi: 10.1109/ICCED56140.2022.10010615.

[43] S. M. Sinan, "Effects of Emotional Intelligence in Enhancing Team Effects of Emotional Intelligence in Enhancing Team Collaboration and Conflict Resolution in Agile Project Collaboration and Conflict Resolution in Agile Project Management Management", Accessed: Dec. 07, 2025. [Online]. Available: https://digitalcommons.harrisburgu.edu/dandt

[44] J. Ahmad *et al.*, "Quality Requirement Change Management's Challenges: An Exploratory Study Using SLR," *IEEE Access*, vol. 10, pp. 127575–127588, 2022, doi: 10.1109/ACCESS.2022.3224593.

[45] D. Girardi, F. Lanubile, N. Novielli, and A. Serebrenik, "Emotions and Perceived Productivity of Software Developers at the Workplace," *IEEE Trans. Softw. Eng.*, vol. 48, no. 9, pp. 3326–3341, Sep. 2022, doi: 10.1109/TSE.2021.3087906.

[46] "(PDF) The Impact of Emotional Intelligence on Software Development Team Performance." Accessed: Dec. 02, 2025. [Online]. Available: https://www.researchgate.net/publication/370495288_The_Impact_of_Emotional_Intelligence_on_Software_Development_Team_Performance

[47] M. J. Mvududu, "Can Trait Emotional Intelligence Variables of Well-Being, Self-Control, Emotionality, and Sociability Individually or Collectively Predict a Software Development Engineer's Creativity?," *Dr. Bus. Adm.*, Jan. 2020, Accessed: Dec. 02, 2025. [Online]. Available: https://digitalcommons.georgefox.edu/dbadmin/29

[48] "(PDF) The Impact of Emotional Intelligence on Employees' Attitudes." Accessed: Dec. 07, 2025. [Online]. Available: https://www.researchgate.net/publication/331399331_The_Impact_of_Emotional_Intelligence_on_Employees'_Attitudes

[49] "(PDF) EMOTIONAL INTELLIGENCE AND ITS IMPACT ON AGILE PROJECT LEADERSHIP." Accessed: Dec. 07, 2025. [Online]. Available: https://www.researchgate.net/publication/392267994_EMOTIONAL_INTELLIGENCE_AND_ITS_IMPACT_ON_AGILE_PROJECT_LEADERSHIP

[50] S. A. Haider, S. Tehseen, K. Y. Koay, P. Poulova, and B. Afsar, "Impact of project

managers emotional intelligence on megaprojects success through mediating role of human related agile challenges: Project management as a moderator," *Acta Psychol. (Amst).*, vol. 247, Jul. 2024, doi: 10.1016/J.ACTPSY.2024.104305.

[51] S. Anwer, L. Wen, Z. Wang, and S. Mahmood, "Comparative Analysis of Requirement Change Management Challenges between in-House and Global Software Development: Findings of Literature and Industry Survey," *IEEE Access*, vol. 7, pp. 116585–116611, 2019, doi: 10.1109/ACCESS.2019.2936664.

[52] A. A. Khan, S. Basri, and P. D. D. Dominic, "A propose framework for requirement change management in global software development," *2012 Int. Conf. Comput. Inf. Sci. ICCIS 2012 - A Conf. World Eng. Sci. Technol. Congr. ESTCON 2012 - Conf. Proc.*, vol. 2, pp. 944–947, 2012, doi: 10.1109/ICCISCI.2012.6297161.