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Relationship Management as a Dimension of Emotional Intelligence for Project Value Co-Creation

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Abstract: In recent decades, more and more attention has been paid to Emotional intelligence (EI) in Project management (PM). The increasing necessity to work together with many people representing different organizations and nationalities requires the ability to create and manage relationships. A considerable number of studies prove the huge relevance of soft skills like teamwork, leadership, relationship management and stakeholders' engagement for projects success and its value. Although concepts of EI and Project value co-creation are dynamic research areas widely analyzed by scientific community in the recent years, there is a gap in research works between relationship management as a dimension of EI and project value co-creation. The paper aims to explore how EI competencies, with a particular focus on relationship management recognized as the strongest personnel related competence - foster project value co-creation. The paper introduces a research model that demonstrates how stakeholder relationship management mediates the co-creation of project value with stakeholders and the overall creation of project value. The stakeholders' relationship management is part of a complex project management ecology. In response to the literature review and quantitative research data collected as a case study among project managers at Kaunas University of Technology, Lithuania, the paper debates how project stakeholders' relationship management as part of emotional intelligence concept should be treated as a strategic element for the project value co-creation. This approach broadens the conventional understanding of project stakeholders' relationship management. Consequently, managing project stakeholders' relationship management through the dimensions of emotional intelligence offers new insights into the way how project managers could enhance their skills through engagement with stakeholders in order to create project value in a more efficient way.

Keywords: Emotional intelligence, project management, relationship management, value co-creation.

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1. Introduction

Project managers today have more difficult and demanding jobs. Many projects continue to fail in spite of the large number of research works and theoretical models on project management that are currently available. Research conducted by KPMG, Australian Institute of Project Management (AIPM) and International Project Management Association (IPMA) claims that "only 19% of the organizations interviewed deliver successful projects, at least most of the time" (KPMG, AIPM, and IPMA Global Outlook, 2019). Projects' low success rate has brought researchers to further investigate the effectiveness of project management, evidencing that the most relevant variable in achieving project success is "staff". This calls for a closer look not only at staff training, but also at its internal and external relations. Studies in the field of

project management on emotional intelligence and relationship management have explored various aspects, often linking EI to trust and teamwork, team communication and dynamics, leadership efficacy, and conflict management (Rodrigues and Matos, 2024). According to Meng and Boyd (2017), "project managers are increasingly looking like relationship managers". A number of studies prove the great relevance of teamwork, leadership, relationship management and stakeholders' engagement for projects success and its value (Meng and Boyd, 2017; Ravindranath, 2016; Zuo et al., 2018). In order to be effective managers, they have to understand the value of emotional intelligence and to develop their emotional intelligence by learning about themselves, being able to cope with stress, and also coping with their own and other's emotions (Engle and Nehrt, 2011). Emotionally intelligent leaders improve team behavior and performance (Coronado-Maldonado and Benítez-Márquez, 2023; Watanabe et al., 2024), ensure higher success in projects (Maqbool et al., 2017). High levels of EI in project managers and project staff have been found to have positive effects on different dimensions of projects success and value (Dhrubajyoti, 2016; Maqbool et al., 2017; Doan et al., 2020; Bos-de Vos et al., 2025), as high levels in EI competences show medium to high correlation with relevant soft skills such as teamwork, adaptation to changes, stress management, leadership and many others. Although concepts of Emotional intelligence and Project value co-creation are dynamic research areas widely analyzed by scientific community in recent years, there is a lack of empirical studies and frameworks that analyze direct or mediating effect between relationship management and project value co-creation. Relationship management is known to improve team collaboration and stakeholder engagement, but little research has focused on how these improved relationships translate into project value through co-creation.

The paper aims to investigate how EI competencies, particularly 'relationship management', the strongest personnel related competence, influence project value co-creation. To do this, firstly, literature review on EI and Relationship management as a mediator of project success and value, being a robust indicator of good or high interpersonal competencies in project managers is provided. Next parts present study design and the research results. The final part of the paper provides conclusions and directions for future research works.

2. Literature Review

2.1. Relationship Management as a Dimension of Emotional Intelligence in Project Management

Recently, increasing interest in the role of feelings and emotions in organizational life has emerged (Engle and Nehrt, 2011; Shojaei and Siuki, 2014). Managers, educators and entrepreneurs now more than ever should understand the importance of EI. In its early attempts, EI was formalized by Salovey and Mayer in 1990 (Rodrigues and Matos, 2024). Goleman (1995) popularized EI, and since then, EI started to gain a prominent role in the social sciences, spurring heated debates about its definition, conceptualization and use. In one of their latest formulations, Salovey et al. (2007) define EI as "the ability to perceive and express emotion, assimilate emotion and thought, understand and reason with emotion, and regulate emotion in the self and others". However, this definition is not universally accepted. Other researchers prefer to consider EI as emotional and/or social competencies and skills more than an ability. Bar-On and Parker (2000) propose the concept of Emotional-Social Intelligence (ESI) as a combination of interconnected emotional and social competencies, skills, and enabling factors that influence how effectively we understand and express ourselves, recognize and interact with others, and manage everyday challenges. Other researchers, instead, do not adhere to a precise definition of EI. EI can be described as a process that focuses on uncovering 'socio-emotional variables' that enable managers to influence organizational outcomes and performance (Kaplan et al., 2010; Watanabe et al., 2024). Furthermore, EI fosters decision-making, management of difficult situations, collaborative working environment (Rodrigues and Matos, 2024), well-being and reallife outcomes (Haag et al., 2025). This is particularly important for project managers, as their role requires managing diverse teams and stakeholder expectations for the succes and value of the project (Maqbool et al., 2017; Rahul, 2024; Bosde Vos et al., 2025).

When different individuals work together toward a common goal, high levels of competencies in EI have been proven as beneficial for better team cooperation and performance, decision making, and project success (Rodrigues and Matos, 2024; Rahul, 2024). Several research works analyse the importance of EI for effective leadership (McCleskey, 2012; Coronado-Maldonado and Benítez-Márquez, 2023). McCleskey (2012) provides a literature review on this topic, showing that EI has been researched with regard to theories of organizational and transformational leadership. In these studies, it has been found a positive relationship between EI, improved behaviors, team performance and business results (Coronado-Maldonado and Benítez-Márquez, 2023). Goleman introduced the model that covers four main EI constructs: self-awareness, self-management, social awareness, and relationship management (Kaplan et al., 2010). Serrat (2017), based on Goleman (1998) emotional competence framework, presents areas of EI that include "personal (self-awareness, self-regulation, and self-motivation) and social (social awareness and social skills) competences". According to Goleman's emotional competence framework (Goleman, 1998; Serrat, 2017), social skills or relationship management cover these competences: "influence, communication, conflict management, leadership, change catalyst, building bonds, collaboration and cooperation, and teamwork capabilities". Successful team development and the necessity to collaborate with a variety of people from different organizations and countries demand the skills and capabilities to develop and manage relationships (Engle and Nehrt, 2011).

Previously, relationship management has been defined in different ways: fostering mutual respect and trust, employee orientation, concern for people, social skills, open and acceptable communications, bonds/connections among individuals (Goleman, 1998; Engle and Nehrt, 2011; BarOn and Parker, 2000). Engle and Nehrt (2011) describe relationship management as building reciprocal trust, solidarity and good social relations with team members and coworkers. Relationship management is a multifaceted concept. Despite the complexity of the concept, relationship management is considered a critical dimension of leadership, an integral skill of any successful manager, and a very important behavioral pattern accomplishing goals.

Effective relationship management enhances project outcomes by aligning interests. It is critical for project success as it emphasizes understanding others' emotions, creates an environment of trust, fosters collaborative relationships among project stakeholders, improves communication, reduces conflicts, and increases project stakeholder satisfaction (Daboun et al., 2023; Rehan et al., 2024). As the complexity of a project increases, the number of stakeholders increases, making effective relationship management essential to overcome challenges and deliver the expected value of the project (Shiferaw, 2024).

2.2. Co-Creation of Project Value Outcomes

More recently, project management researchers have been emphasizing the transition from product development to value creation (Smyth et al., 2018). Laursen and Svejvig (2016) define value as the ratio of benefits to costs (or alternatively, the satisfaction of needs to the use of resources), where value is not absolute but relative, and can be perceived differently by various parties in different contexts. Projects are considered as a way to drive change and generate value for organizations. There have been significant study attempts to understand what value is and how it is created in projects and organizations. (Laursen and Svejvig, 2016).

According to Green and Sergeeva (2019), the question of how to measure the success of a project requires discussion. Time, cost and quality as project triangle are used as a criterion to assess project value at front-end and during execution phases (Xue et al., 2013). Adhering to the "iron triangle" has been the traditional approach of PM discipline. The success of a project can no longer be judged solely on the objectives and results achieved, and the costs incurred. According to Green and Sergeeva (2019), project value' can be understood as a social construct which is continuously contested amongst project participants. A project's value is multifaceted concept and can be described in financial, organizational and social aspects (Chih et al., 2019). According to Riis et al. (2019), value can be defined as the outputs produced by projects, such as products or services, which are desired by the beneficiaries of the project. Project success and value creation are linked to revenue creation, cost savings, productivity and quality improvement, risk reduction, compliance, and learning for the project owner organization, as well as economic, social, and environmental advantages for the society. The value of a project, defined as "the net value it offers to the company and its primary stakeholders grows in proportion to its benefits" (Zwikael, 2024). According to Lechler (2010), "the project value mindset (PVM) represents a project manager's approach towards maximizing the value of a project by making value-focused project decisions and discovering and exploiting opportunities beyond the baseline that would result in improved project value". The subjective nature of value necessitates assumptions for analyzing it at the personal and company levels (Lepak et al., 2007). The value of a project is not the result of the individual efforts of an organization or client, value creation requires stakeholders' involvement and engagement (Martinsuo et al., 2019; Riis et al., 2019; Srinivasan and Dhivya, 2020; Vuorinen and Martinsuo, 2019; Aaltonen et al, 2024). Bos – de Vos et al. (2025) highlight that joint value creation is the collaborative process in which multiple stakeholders co-create project value. Economic, environmental, social, technological, political, symbolic, and aesthetic dimensions describe project value (Martinsuo, 2020). Understanding value perception, as well as stakeholder demands, expectations, and behaviours, is a significant challenge. Fuentes et al. (2019) described a four-step process for co-creating value outcomes in project settings: "identifying and envisioning strategic value outcomes, designing and configuring value propositions, refining and delivering value outcomes, and managing and realising emergent value outcomes". Different project stakeholders have different perceptions of project value. Value in use, monetary value and non-monetary value are the most common types that are relevant for project stakeholders. Liu et al. (2019) proposed three types of values (valuein-use): commercial, intellectual and collaborative. Value-in-use occurs when a product or service is utilized by the user. Maximizing value-in-use requires stakeholder engagement and close cooperation in project value creation. Chih et al. (2019) distinguish monetary and non-monetary value for organization. Monetary value is fundamental and is expressed in financial indicators. Non-monetary value relates to business success, therefore enhancing reputation, connections and business opportunities are target indicators and relate to value-in-use.

3. Hypothesis Development

A literature review revealed the critical role of emotional intelligence through enhanced teamwork, leadership, and other aspects in project management ecology. Despite this, a gap in the scientific literature exists focusing on the EI relationship management dimension and the co-creation of project value. The objective of this study is to examine the mediating effect of relationship management in the relationship between the co-creation of project value with stakeholders and project value. The research model presented in Fig. 1. includes co-creation of project value with stakeholders, stakeholder's relationship management, and project value creation.

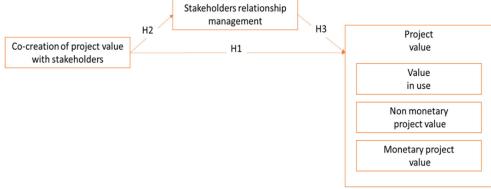


Fig. 1. Research model (Developed by the authors)

Accordingly, based on the research model, this study will explore three hypotheses which address key relationships between:

H1. Co-creation of project value with stakeholders positively affects project value.

The hypothesis assumes that in order to improve project outcomes, co-creation with stakeholders promotes collaborative efforts. For example, effective co-creation in urban development projects incorporates both public and private stakeholders, according to Toukola et al. (2023), greatly influencing project value through shared resources and knowledge.

H2. Co-creation of project value with stakeholders positively affects stakeholders' relationship management.

The second hypothesis is related to Pinho Filho (2022) research results. According to Pinho Filho (2022), co-creation's collaborative aspect strengthens bonds and confidence between project stakeholders. By incorporating the requirements and expectations of different stakeholders into the planning and execution of projects, this practice helps to improve project stakeholders' relationship management.

H3. Stakeholders' relationship management has a mediating effect on the relationship between the co-creation of project value with stakeholders and project value.

Thus, the management of stakeholders' relationships is a crucial strategy that mitigates the effect of co-creation on project value. Smyth et al. (2018) states that stakeholders relationship management techniques are important for matching stakeholder contributions to project objectives and optimizing co-created project value.

The mediating function of stakeholders' relationship management is expanded to value in use (Shahbaz et al., 2018; Cherepovitsyn et al., 2019; Lyulyov et al., 2023) non-monetary and monetary project value (Chih et al., 2019) by three sub-hypotheses. According to Zhang et al. (2020) and Asiedu and Iddris (2022), the mediating effects are most noticeable in projects where a variety of stakeholder inputs directly contribute to both tangible and intangible project outcomes.

- **H3 a.** Stakeholders' relationship management has a mediating effect on the relationship between co-creation of project value with stakeholders and project value in use.
- **H3 b.** Stakeholders' relationship management has a mediating effect on the relationship between co-creation of project value with stakeholders and non-monetary project value.
- **H3 c.** Stakeholders' relationship management has a mediating effect on the relationship between co-creation of project value with stakeholders and monetary project value.

4. Methodology

The research data collection was performed using a quantitative data collection method. The survey was constructed to analyze the personal information of the respondents and the set of the questions to analyze the co-creation of project value with stakeholders (Fuentes et al., 2019), stakeholders' relationship management (Goleman, 1998; Serrat, 2017), and project value (McCleskey, 2012) (Table 1). Stakeholders are vital to the success of university projects as they bring resources and expertise. It allows to ensure the project alignment with both academic and societal needs. The value of university projects mostly is related with research impact, societal relevance, educational benefit, reputation, creation of innovative intellectual products, financial return, sustainability, and institutional alignment, creating a multidimensional approach to project success.

The measurable stakeholders' relationship management variables were grouped according to the overarching themes that reflected on the essential elements of each variable. Project stakeholders' direct interactions, communication, and influence on one another were the focus of communication and influence issues (Müller et al., 2012). Clear messaging and conflict resolution were given particular attention.

Project leaders' roles and actions in managing stakeholders' relationships were highlighted by leadership and change measurable factors (Dvir et al., 2006; Hornstein, 2015; Turner and Müller, 2005), specifically in terms of how leaders and stakeholders motivate each other, promote changes, and cultivate relationships.

The most recent quantitative variables for collaboration and synergy, as outlined by Hoegl and Gemuenden (2001), emphasize the collaborative nature of stakeholder management. The focus is on how team dynamics and stakeholder cooperation contribute to achieving common project goals. By grouping measurable variables, the study provided a clearer understanding of the complex aspects of stakeholder relationship management, ranging from specific communication methods to broader project planning strategies. Multiple questions per construct were used to ensure the reliability and validity of the survey. Using a five-point Likert scale, respondents were asked to indicate how much they agreed with the theoretical construct questions.

The research data was collected through an online questionnaire. The survey was distributed at Kaunas University of Technology among the academia who were employed in the different projects at the university. To ensure data reliability there were distributed 365 invitations to respond the questionnaire. At the end of data collection 245 completed questionnaires were received. The response rate – 67 %. The respondents' profiles are presented in table 2.

Every participant in the research study was connected to the university. In their most recent project, 70% of the respondents were the project manager. Thirty percent were project specialists. In their respective fields, 33% of the respondents have fewer than five years of experience. 38% of the group is the largest and has between 5 and less than 10

years of experience. 10% of the sample is smaller and has ten to fifteen years of experience. Nineteen percent of the participants had worked for more than fifteen years.

Table 1. Research instrument summary

Theoretical model construct	Measurable variables	Source
	Personal information	
Stakeholders' relationship management	Communication and influence [SRM_INFLUENCE_COMMUNICATE] Influence: Wielding effective tactics for persuasion Communication: Sending clear and convincing messages Conflict Management: Negotiating and resolving disagreements Leadership and change [SRM_LEAD_CHANGE] Inspirational Leadership: Inspiring and guiding individuals and groups Change Catalyst: Initiating or managing change Building Bonds: Nurturing instrumental relationships Collaboration and synergy [SRM_COLLABORATE_SYNERGIZY] Collaboration and Cooperation: Working with others toward shared goals	Goleman, 1998; Serrat, 2017; Müller et al., 2012; Dvir et al. 2006; Hornstein, 2015; Turner and Müller, 2005; Hoegl and Gemuenden, 2001
Co-creation of project value with stakeholders	Team Capabilities: Creating group synergy in pursuing collective goals Identify and envision strategic value outcomes [COCREATION_IDENT] Design and configuration value propositions COCREATION_DESIGN] Refine and deliver value outcomes [COCREATION_REFINE] Manage and realize emergent value outcomes	Fuentes et al., 2019
Project value creation	[COCREATION_MANAGE] Value-in use [PVC_VALUE] Non-monetary project value [PVC_NONMONETARY] Monetary project value [PVC_MONETARY]	McCleskey, 2012

Table 2. Respondents profile

Personal information	Measurable variables	Percentage
Type of institution	Education	100%
Type of Education institution	University	100%
Position occupied within the last project	Project manager	70%
	Project expert	30%
Year of experience	Less than 5 years	33%
	5 – less than 10 years	38%
	10 - less than 15 years	10%
	More than 15 years	19%

5. Data Analysis and Results

The research model was tested based on MacKinnon's (2008) recommendation for the mediation analysis in order to ascertain whether the independent variable—co-creation of project value with stakeholders—affects the dependent variable, project value, and whether it influences the mediators' stakeholder relationship management. Additionally, the model aimed to ascertain whether project value is affected by mediator stakeholder relationship management when the independent variable—co-creation of project value with stakeholders—is taken into account. This model states that the path between stakeholders and project value should become relevant if stakeholders' relationship management mediates the relationship between co-creation of project value with stakeholders and project value.

The Partial Least Squares Structural Equation Modelling (PLS-SEM) approach was applied in order to assess the presented hypothesis and to analyze latent and measured variables. In this study, the PLS-SEM model was chosen to investigate the proposed relations and mediating effect through the examination of path coefficients and significance levels.

Regression weights for the correlations derived from the construct variables were obtained by the research. The conventional method for estimating the relationships between the constructs and their variables in PLS-SEM was used to employ correlation weights for reflective measurement models.

According to Aibinu and Lawati (2010), a number of variables used to evaluate the structural model should include individual variable reliability, convergent validity, and discriminant validity. The suitability of the PLS-SEM model was assessed by conducting an analysis of individual item reliability, evaluating the convergent validity of the measures linked to specific latent variables, and examining the discriminant validity of the instruments. Since every measured variable in this study was over this cut off, the latent variables were accurately assessed (see Figure 2).

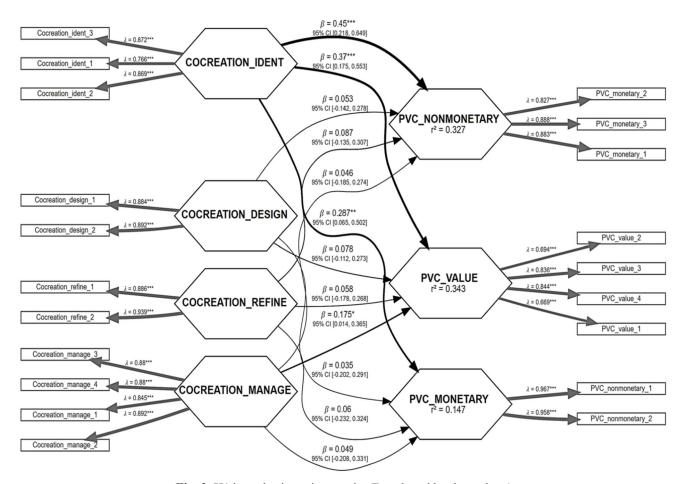


Fig. 2. H1 hypothesis testing results (Developed by the authors)

Assessing the first hypothesis, which states that co-creation of project value with stakeholders positively affects project value, should be considered the relative contribution's significance as shown by the β coefficient. The β coefficients of the variables show a considerable beneficial impact, as seen in Figure 2. In particular, actions taken in conjunction with stakeholders to identify and envision strategic value outcomes add favorably to the project's value, which includes both monetary and non-monetary value components. In a similar vein, managing and realizing emergent value outcomes is crucial to the project value.

The dependence of project value on stakeholder co-creation is emphasized by the r2 values. These findings show that expressing the project vision to stakeholders in an effective manner has a positive weak (r2 values of 0.75, 0.50, and 0.25 can be considered substantial, moderate, and weak (Hair et al., 2019)) explanatory power of the relation to the project value. Project value can be significantly increased by involving stakeholders in the management and realization of emergent value outcomes.

As can be seen in Figure 3, the second hypothesis, which states co-creation of project value with stakeholders positively affects stakeholders' relationship management also displays statistical meaningful results that point to a positive impact.

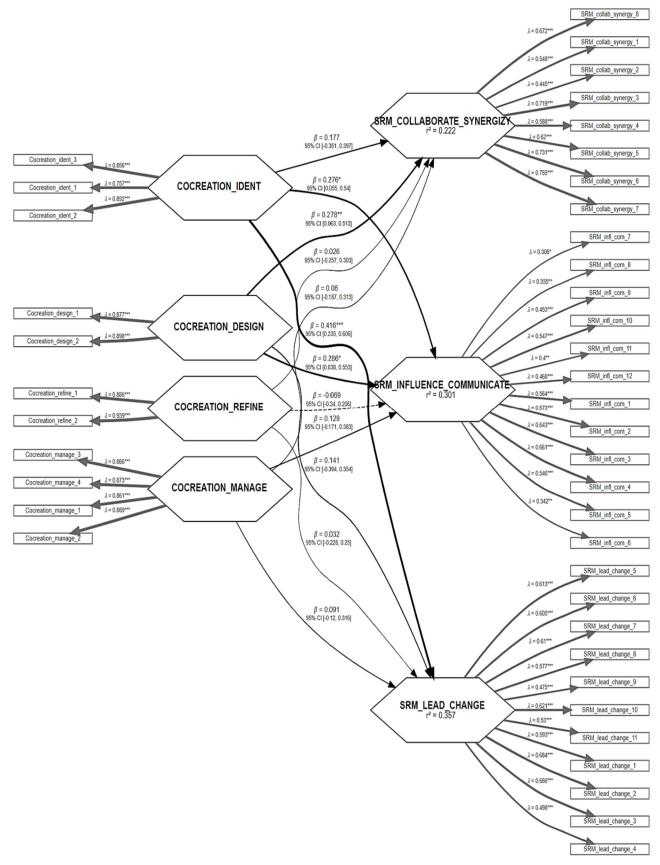


Fig. 3. H2 hypothesis testing results (Developed by the authors)

Significant, positive coefficients demonstrate a beneficial impact of co-creation project value with stakeholders on stakeholder stakeholders' relationship management. Identifying and envisioning strategic value outcomes helps to assure collaboration and influence between stakeholders as well as leadership and projects change management. Designing and configuring project value propositions helps to assure collaboration and synergy, communication and influence between stakeholders. r2 values demonstrates moderate positive explanatory power of the hypothesis testing model.

Testing the last hypothesis Stakeholders' relationship management has a mediating effect on the relationship between co-creation of project value with stakeholders and project value PLS-SEM model is considered, bootstrapping, r2 values (see Figure 4) and mediation effect.

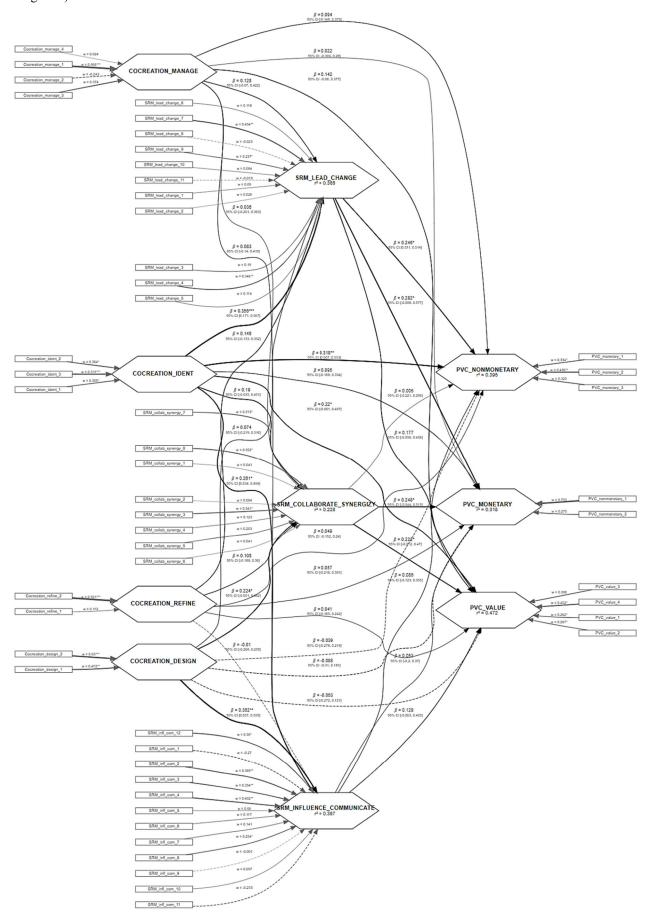


Fig. 4. H3 hypothesis testing results (Developed by the authors)

Testing mediation effect in project management is possible to test mediation as a complementary, competitive, and indirect-only mediation (Dukes et al., 2023) that provides different ways for mediators to affect project outcomes. In this case, "indirect-only mediation" refers to the suggested model in which there is no direct link between the independent and dependent variables (Loeys et al., 2015); instead, the relationship between them is entirely mediated by a third variable. To increase the reliability of the results, an extra test in the field of project management was conducted using the bootstrap method, which used 245 samples and a 95% bias-corrected confidence interval. The fact that the lower and upper bounds of the indirect (mediated) variables did not include zero indicated that the study found strong mediation effects. In particular, these findings illustrated the impact of co-creating project value with stakeholders, which entails figuring out and visualizing strategic goals as well as skillfully handling stakeholder relations. This process included aspects of change management and leadership, such as inspirational leadership, which emphasizes inspiring and directing people and groups, serving as a catalyst for change to start or manage transitions, and fostering strong bonds that are critical to the success of projects.

When taken as a whole, these elements moderate the project's financial worth. Only one of the investigated hypotheses, H3c, was shown to be true. This validation demonstrated the vital role that sophisticated statistical techniques play in project management research by shedding light on the ways in which different project management techniques affect project monetary value. Through stakeholder relationship management, leadership, and change dynamics, the findings imply that specific management procedures and interactions indirectly influence changes in project value. These elements highlight how crucial it is to include stakeholders strategically—not just as participants, but as co-creators as well. This methodology guarantees that the project is in line with overarching objectives and produces results that are acknowledged and approved by all parties involved.

Strong relationship-building, change management, and team-inspiring leadership indicated as critical elements. This kind of leadership contributes to the responsive modification of project objectives as well as the upholding of team spirit and collaboration, all of which serve to augment the project's monetary value. This sophisticated grasp of the mechanics of project management provides useful advice for maximizing project performance as well as financial success.

6. Conclusions

In recent decades, emotional intelligence in project management receives more and more attention. The increasing need to collaborate with diverse individuals across organizational and national borders highlights the importance of building and managing relationships. Numerous studies underscore the significant impact of soft skills such as teamwork, leadership, relationship management, and stakeholder engagement on project success and its value. A literature review has emphasized the essential role of emotional intelligence in strengthening teamwork, leadership, and other aspects of project management.

The study demonstrates that EI, specifically the relationship management component, plays a mediating role in the cocreation of project value with stakeholders. Assessing the H1 hypothesis, which states that co-creation of project value with stakeholders positively affects project value, the relative contribution's significance as shown by the β coefficient was determined. The dependence of project value on stakeholder co-creation is emphasized by the r2 values. These findings show that expressing the project vision to stakeholders in an effective manner has a positive weak power to the project value. Engagement of stakeholders in identifying strategic value outcomes and managing emergent value has a positive influence on both monetary and non-monetary project value. H2 hypothesis, which states that co-creation of project value with stakeholders positively affects stakeholders' relationship management was also confirmed by statistical meaningful results that point to a positive impact. Designing and configuring project value propositions helps to assure collaboration and synergy, communication and influence between stakeholders. r2 values demonstrate moderate positive explanatory power of the hypothesis testing model. The findings indicate that collaboration and communication among stakeholders improves significantly through co-creation practices. Testing the H3 hypothesis that Stakeholders' relationship management has a mediating effect on the relationship between co-creation of project value with stakeholders and project value, PLS-SEM model was considered, bootstrapping, r2 values and mediation effect. To increase the robustness of the results, an extra test in the field of project management was conducted using the bootstrap method, which used 245 samples and a 95% bias-corrected confidence interval. The findings illustrate the impact of co-creating project value with stakeholders, which entails figuring out and visualizing strategic goals as well as skillfully handling stakeholder relations. When taken as a whole, these elements moderate the project's financial worth. Only one of the investigated hypotheses, H3c, was shown to be true. These results emphasize the critical role of effective relationship management in enhancing project outcomes.

The study suggests that through managing relationships with stakeholders, effective leadership, and understanding change dynamics, specific management practices and interactions impact changes in project value. These aspects underscore the importance of involving stakeholders as co-creators of value. Building strong relationships, managing change effectively, and inspiring the team were identified as key factors. This type of leadership enables flexible adjustments to project goals and fosters team morale and collaboration, ultimately enhancing the project's financial value. This insight into project management mechanics offers valuable guidance for optimizing project performance and financial outcomes. The research opens a space for further discussion and future contributions in the fields of relationship management and value co-creation in projects. The study's findings can benefit international readers, researchers, and project management experts, suggesting avenues for additional research in various countries and organizations. The limitation of this paper is that study covered only university projects. Concerning further research, it would be worthwhile to examine how relationship management influences project value co-creation in other areas of activity.

Author Contributions

Rūta Čiutienė contributed to conceptualization, methodology, data collection, draft preparation, manuscript editing and supervision. Ramunė Čiarnienė contributed to data collection, manuscript draft preparation, editing, and visualization. Asta Daunorienė and Evelina Meilienė contributed to methodology, data collection, and manuscript draft preparation. Vida Drąsutė contributed to data collection and manuscript draft preparation. Kristina Šutienė contributed to methodology, software, data validation and analysis. All authors read and agreed with the manuscript before its submission and publication.

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References

- Aaltonen, K, Derakhshan, R. Di Maddaloni, F., and Turner, R. (2024). Stakeholder engagement: Theoretical and methodological directions for project scholarship. *International Journal of Project Management*, 42(7). doi: 10.1016/j.ijproman.2024.102649.
- Aibinu, A. A. and Al-Lawati, A. M. (2010). Using PLS-SEM technique to model construction organizations' willingness to participate in e-bidding. *Automation in construction*, 19(6), 714-724.
- Asiedu, R.O. and Iddris, F. (2022). Value Co-Creation Approach to Management of Construction Project Stakeholders. *Journal of Construction in Developing Countries*, 27(1), 1–23.
- BarOn, R. and Parker, J. D. A. (2000). The Handbook of Emotional Intelligence: Theory, Development, Assessment, and Application at Home, School, and in the Workplace. San Francisco, CA: Jossey-Bass, A Wiley Company.
- Bos-de Vos, M., Martinsuo, M., and Loots, E. (2025). Projecting to promote sustainability transitions through joint value creation. *International Journal of Project Management*. doi: 10.1016/j.ijproman.2025.102692.
- Cherepovitsyn, A.E., Ilinova, A., and Evseeva, O. (2019). Stakeholders management of carbon sequestration project in the state business society system. *Journal of Mining Institute*, 240(6):731-742.
- Chih, Y.Y., Zwikael, O. and Restubog, S.L.D. (2019). Enhancing value co-creation in professional service projects: The roles of professionals, clients and their effective interactions. *International Journal of Project Management*, 37 (5), 599–615.
- Coronado-Maldonado, I. and Benítez-Márquez, M.D. (2023). Emotional intelligence, leadership, and work teams: A hybrid literature review. *Heliyon*, 20; 9(10): e20356.
- Daboun, O., Abidin, N. I., Khoso, A. R., Chen, Z.-S., Yusof, A. M., and Skibniewski, M. J. (2023). Effect of relationship management on construction project success delivery. *Journal of Civil Engineering and Management*, 29(5), 372–397. doi: 10.3846/jcem.2023.18827
- Dhrubajyoti, L. (2016). Better Project Management through Better Emotional Intelligence. *PM World Journal*, V (VIII) http://www.pmworldjournal.net/
- Doan, T., Nguyen, L., and Nguyen, T. (2020). Emotional Intelligence and Project Success: The Roles of Transformational Leadership and Organizational Commitment. *Journal of Asian Finance, Economics and Business*, 7 (3), 223-233.
- Dukes, O., Shpitser, I., and Tchetgen, E. (2023). Proximal mediation analysis. Biometrika, 1-15.
- Dvir, D., Sadeh, A., and Malach-Pines, A. (2006). Projects and project managers: The relationship between project managers' personality, project types, and project success. *Project Management Journal*, 37(5), 36-48.
- Engle, R. L. and Nehrt, C. (2011). Conceptual Ability, Emotional Intelligence and Relationship Management: A Multinational Study. *Journal of Management Policy & Practice*, 12(4), 58-72.
- Fuentes, M., Smyth, H., and Davies, A. (2019). Co-creation of value outcomes: A client perspective on service provision in projects. *International Journal of Project Management*, 37 (5) 696-715.
- Goleman, D. (1995). Emotional Intelligence: Why It Can Matter More Than IQ. Bantam Dell, New York.
- Goleman, D. (1998). Working with Emotional Intelligence. Bantam Books.
- Green, S.D. and Sergeeva, N. (2019). Value creation in projects: Towards a narrative perspective. *International Journal of Project Management*, 37 (5), 636-651.
- Haag C, Bellinghausen L., and Poirier C (2025). Ability emotional intelligence profiles and real-life outcomes: a latent profile analysis of a large adult sample. *Front. Psychol.* 16:1465774. doi: 10.3389/fpsyg.2025.1465774
- Hair, J. F., Risher, J. J., Sarstedt, M., and Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2-24.
- Hoegl, M. and Gemuenden, H. G. (2001). Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. *Organization Science*, 12(4), 435-449.
- Hornstein, H. A. (2015). The integration of project management and organizational change management is now a necessity. *International Journal of Project Management*, 33(2), 291-298.
- Kaplan, S., Cortina, J., and Ruark, G.A. (2010). Oops [. . .] we did it again: industrial-organizational focus on emotional intelligence instead of on its relationships to work outcomes. *Industrial & Organizational Psychology*, 3 (2), 171-177.
- KPMG, AIPM, IPMA (2019). The Future of Project Management: Global Outlook. *Project Management survey 2019*. KPMG, AIPM, IPMA. Available at: https://www.ipma.world/assets/PM-Survey-FullReport-2019-FINAL.pdf
- Laursen, M. and Svejvig, P. (2016). Taking stock of project value creation: a structured literature review with future directions for research and practice. *International Journal of Project Management*, 34 (4), 736-747.
- Lechler, T. (2010). The project value mindset of project managers. *Proceedings of PMI® Research Conference: Defining the Future of Project Management*, Washington, DC. Newtown Square, PA: Project Management Institute.

- Lepak, D.P., Smith, K.G., and Taylor, M.S. (2007). Value creation and value capture: a multilevel perspective. *Academy of Management Review*, 32 (1), 180-194.
- Liu, Y., Marrewijk, A., Houwing, E., and Hertogh, M. (2019). The co-creation of values-in-use at the front end of infrastructure development programs. *International Journal of Project Management*, 37 (5), 684-695.
- Loeys, T., Moerkerke, B., and Vansteelandt, S. (2015). A cautionary note on the power of the test for the indirect effect in mediation analysis. *Frontiers in Psychology*, 5:1549.
- Lyulyov, O., Chygryn, O., Pimonenko, T., and Kwiliński, A. (2023). Stakeholders' Engagement in the Company's Management as a Driver of Green Competitiveness within Sustainable Development. *Sustainability*, 15(9), 7249.
- MacKinnon, D. (2008). An Introduction to Statistical Mediation Analysis, New York, Routledge, 488.
- Martinsuo, M. (2020). The management of values in project business: Adjusting beliefs to transform project practices and outcomes. *Project Management Journal*, 51(4), 389-399.
- Martinsuo, M., Klakegg, E.J., and Van Marrewijk, A. (2019). Editorial: Delivering value in projects and project-based business. *International Journal of Project Management*, 37, 631–635.
- Maqbool, R., Sudong, Y., Manzzor, N., and Rashid, Y. (2017). Project Success: An Empirical Perspective. *Project Management Journal*, 48(3):58-75.
- McCleske, J. (2012). Emotional intelligence and leadership. A review of the progress, controversy, and criticism, *International Journal of Organizational Analysis*, 22 (1), 76-93.
- Meng, X. and Boyd, P. (2017). The role of the project manager in relationship management. *International Journal of Project Management*, 35(5), 717-728.
- Müller, R., Geraldi, J., and Turner, J. R. (2012). Relationships between leadership and success in different types of project complexities. *IEEE Transactions on Engineering Management*, 59(1), 77-90.
- Pinho Filho, T. (2022). Collaborative and adversarial interactions on the project: A conceptually integrated approach to value co-creation. *IPMA Publications*, 90-103.
- Rahul, N. A. (2024). Strategic Alignment of Emotional Intelligence with Project Management: A Framework for Enhancing Project Success and Team Performance. *American Journal of Industrial and Business Management*, 14, 553-577. doi: 10.4236/ajibm.2024.144028.
- Ravindranath, S. (2016). Soft Skills in Project Management: A Review. Journal of Soft Skills, 10(4), 16-25.
- Rehan, A., Thorpe, D., and Heravi, A. (2024). Project success factors for leadership practices and communication: challenges in the construction sector. *International Journal of Managing Projects in Business*, 17(3), 562–590. https://doi.org/10.1108/ijmpb-12-2023-0279.
- Riis, E., Hellström, M.M., and Wikström, K. (2019). Governance of Projects: Generating value by linking projects with their permanent organization. *International Journal of Project Management*, 37, 652–667.
- Rodrigues, N. J. P., and Matos, C. J. V. (2024). The Relationship Between Managers' Emotional Intelligence and Project Management Decisions. *Administrative Sciences*, 14 (12), 318. https://doi.org/10.3390/admsci14120318
- Salovey, P., Brackett, M.A. and Mayer, J.D. (2007). *Emotional Intelligence: Key Readings on the Mayer and Salovey Model*. Dude Publishing, Port Chester, NY.
- Salovey, P. and Mayer, J.D. (1990). Emotional intelligence. Imagination, Cognition and Personality, 9 (3), 185-211.
- Serrat O. (2017). Understanding and Developing Emotional Intelligence. In: Knowledge Solutions. Springer, Singapore.
- Shahbaz, M.S., Chandio, A.F., Oad, M., Ahmed, A., and Ullah, R. (2018). Stakeholders' Management Approaches in Construction Supply Chain: A New Perspective of Stakeholder's Theory. *International Journal of Sustainable Construction Engineering and Technology*, 9(2), 16-26.
- Shiferaw, A. T. (2024). Unlocking project success: The crucial role of interpersonal skills in project management. *Proceedings of IOP Conference Series: Earth and Environmental Science*, Volume 1389, Trondheim, Norway. doi: 10.1088/1755-1315/1389/1/012026
- Shojaei M. R. and Siuki, M.E. (2014). A study of relationship between emotional intelligence and innovative work behavior of managers. *Management Science Letters*, 4, 1449–1454.
- Smyth, H., Lecoeuvre, L., and Vaesken, P. (2018). Co-creation of value and the project context: Towards application on the case of Hinkley Point C Nuclear Power Station. *International journal of project management*, 36(1), 170-183.
- Srinivasan, N.P. and Dhivya, S. (2020). An empirical study on stakeholder management in constructions projects. *Materials today: proceedings*, 21(1), 60-62.
- Toukola, S., Ahola, T., Ståhle, M., and af Hällström, A. (2023). The co-creation of value by public and private actors in the front end of urban development projects. *International Journal of Project Management*, 41(8), 102542.
- Turner, J. R. and Müller, R. (2005). The project manager's leadership style as a success factor on projects: A literature review. *Project Management Journal*, 36(2), 49-61.
- Vuorinen, L. and Martinsuo, M. (2019). Value-oriented stakeholder influence on infrastructure projects. *International Journal of Project Management*, 37, 750–766.
- Watanabe, W. C., Shafiq, M., Nawaz, M. J., Saleem, I., and Nazeer, S. (2024). The impact of emotional intelligence on project success: Mediating role of team cohesiveness and moderating role of organizational culture. *International Journal of Engineering, Business and Management.* https://doi.org/10.1177/18479790241232508
- Xue, Y., Turner, J.R., Lecoeuvre, L., and Anbari, F. (2013). Using results-based monitoring and evaluation to deliver results on key infrastructure projects in China. *Global Business Perspectives*, 1, 85-105.
- Zhang, J., Zhang, Y., Zhang, H., and He, G. (2020). Evaluation of the "Internet +" Environmental Public Welfare Project Based on Value Co-creation. *Proceedings of the 2020 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*, 370-374.
- Zuo, J., Zhao, X., Nguyen, Q.B.M., Ma, T. and Gao, S. (2018). Soft skills of construction project management professionals and project success factors: A structural equation model. *Engineering, Construction and Architectural Management*, 25(3), 425-442.

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