UNIVERSIDADE ESTADUAL DO OESTE DO PARANÁ
PROGRAMA DE PÓS-GRADUAÇÃO EM ADMINISTRAÇÃO
MESTRADO PROFISSIONAL

WESTERN PARANÁ STATE UNIVERSITY
PROFESSIONAL MASTER'S IN ADMINISTRATION

CONFLITO E INOVAÇÃO EM EQUIPES DE PROJETOS MULTIFUNCIONAIS

CONFLICT AND INNOVATION IN MULTIFUNCTIONAL PROJECT TEAMS

[TRADUÇÃO INGLESA]

VANESSA MARQUES DA ROSA

CASCAVEL/PR

2023

Vanessa Marques da Rosa

CONFLITO E INOVAÇÃO EM EQUIPES DE PROJETOS MULTIFUNCIONAIS

COGNITIVE AND INNOVATION IN MULTIFUNCTIONAL PROJECT TEAM

[TRADUÇÃO INGLESA]

> Dissertation presented in partial fulfilment of the requirements for the degree of Master of Science in Administration in the Department of Administration, Western Paraná State University. Dissertation Supervisor: Dr/Dra Ivano Ribeiro
>
> Dissertação apresentada ao Programa de Pós-Graduação em Administração (PPGAdm) – Mestrado Profissional da Universidade Estadual do Oeste do Paraná, como requisito parcial para obtenção do grau de Mestre em Administração. Orientador (a): Dr Ivano Ribeiro

CASCAVEL/PR

2023

VANESSA MARQUES DA ROSA

Conflito e Inovação em Equipes de Projetos Multifuncionais

Dissertação apresentada ao Programa de Pós-Graduação em Administração em cumprimento parcial aos requisitos para obtenção do título de Mestra em Administração, área de concentração Competitividade e sustentabilidade, linha de pesquisa Estratégia e Competitividade, APROVADO(A) pela seguinte banca examinadora:

_____
Orientador(a) - Ivano Ribeiro
Universidade Estadual do Oeste do Paraná - Campus de Cascavel (UNIOESTE)

_____
Claudio Antonio Rojo
Universidade Estadual do Oeste do Paraná - Campus de Cascavel (UNIOESTE)

_____
Renato Penha
Universidade Nove de Julho (UNINOVE)

Cascavel, 29 de novembro de 2023

DEDICATION

I dedicate this Dissertation to my parents, Angela and Custódio (in memoriam), for their unceasing support throughout my educational journey. To my brothers, Vinicius and Gabriel. To my husband, Leandro, for his continued support and for being by my side, especially when I faced doubts and challenges on this journey. To my children, Julia and Rafael, whose enthusiasm inspires the completion of this work. Finally, I thank everyone mentioned above, for the simple fact that they exist, as they are the ones who give purpose to my days.

ACKNOWLEDGMENTS

To God, whose faith I have is fundamental to my existence.

To my mother, my brothers, my husband, Leandro, my children, Júlia and Rafael, my mother-in-law, Teresinha, and all my family, who, with a lot of affection and support, spared no effort to help me achieve this stage of my life.

To Prof. Dr. Claudio Rojo, for his guidance and encouragement for me to join the Postgraduate Administration Program.

To my advisor, Professor Dr. Ivano Ribeiro, I would like to thank you for your patience, availability and support, in addition to the inspiration you provided for the development of my knowledge and concepts, which are fundamental for the completion and completion of this work.

To my colleagues at PPGA, for the experiences exchanged, for the concerns and learning shared, and, in particular, to Ana Cláudia Lustosa de Mello, who stood out as a great friend and companion.

To Mrs. Jaqueline Gurgacz, and my manager, Jerson Krack, for their support and encouragement at times when I needed to adapt my work schedule or take time off to dedicate myself to my master's degree.

To my team and Assistant Manager Jessica, who helped me in times of my absence, replacing me and offering support in the challenges faced during this stage. To my leadership peers, especially Paula, who understood the challenges I faced and encouraged me throughout this journey.

To my friends, I thank you for your understanding, affection and patience during this period of my life, and for your support in cheering me on for completing this work. Finally, I express my deep gratitude to everyone who contributed positively to my life and who, in some way, dedicated a part of themselves to making this work possible: my sincere thanks.

RESUMO

Da Rosa, Vanessa M. (2023). Conflito e inovação em equipes de projetos multifuncionais (Dissertação). Programa de Pós-Graduação em Administração (PPGA), Universidade Estadual do Oeste do Paraná – UNIOESTE, Cascavel, PR, Brasil

Este estudo teve como objetivo analisar o grau da relação entre conflito e inovação em um contexto de equipes de projetos multifuncionais, uma questão essencial no ambiente corporativo mundial. A pesquisa aborda variáveis, como inteligência cultural, elaboração de informação e conhecimento, criatividade, conflitos cognitivos e afetivos, além de liderança do conhecimento, com uma amostra diversificada de 117 profissionais de países, a exemplo do Brasil, Canadá, Espanha, Austrália, Índia, África do Sul, Holanda, Reino Unido e Espanha. Utilizando uma abordagem quantitativa, o estudo desenvolveu nove hipóteses, baseado em uma extensa revisão da literatura. Para a coleta de dados, foram utilizados instrumentos validados que permitiram uma mensuração eficaz dos construtos investigados. As análises foram realizadas por meio da Modelagem de Equações Estruturais, utilizando o método dos Mínimos Quadrados Parciais e o software SmartPLS® 3.0. O estudo revela a importância da criatividade e da capacidade de elaboração de informações para a inovação, enquanto os conflitos afetivos prejudicam a colaboração e inovação. A pesquisa não encontra uma relação direta entre conflito cognitivo, inteligência cultural e liderança do conhecimento com a inovação. O estudo esclarece a inter-relação entre conflito afetivo e inovação em equipes, enfatizando a necessidade de estratégias de gestão de conflitos eficientes para promover a inovação organizacional. Esses insights são fundamentais para líderes e gestores que buscam desenvolver ambientes inovadores nas organizações. Este trabalho representa um avanço significativo no entendimento de como os conflitos internos das equipes podem influenciar a capacidade de inovação.

Palavras-chave: Estratégia; Conflito de tarefa; conflito emocional; inovação organizacional; liderança do conhecimento;

ABSTRACT

Da Rosa, Vanessa M. (2023). Cognitive and innovation in multifunctional project team (Dissertation). Post-Graduate Program in Management (PPGA), State University of Western Paraná – UNIOESTE, Cascavel, PR, Brazil.

This study aimed to analyze the degree of the relationship between conflict and innovation in the context of multifunctional project teams, an essential issue in the global corporate environment. The research addresses variables such as cultural intelligence, information processing and knowledge, creativity, cognitive and affective conflicts, as well as knowledge leadership, with a diverse sample of 117 professionals from countries including Brazil, Canada, Spain, Australia, India, South Africa, the Netherlands, the United Kingdom, and Spain. Using a quantitative approach, the study developed nine hypotheses, based on an extensive literature review. For data collection, validated instruments were used that allowed for an effective measurement of the constructs investigated. The analyses were performed through Structural Equation Modeling, using the Partial Least Squares method and the SmartPLS® 3.0 software. The study reveals the importance of creativity and the ability to process information for innovation, while affective conflicts harm collaboration and innovation. The research does not find a direct relationship between cognitive conflict, cultural intelligence, and knowledge leadership with innovation. The study clarifies the inter-relationship between affective conflict and innovation in teams, emphasizing the need for efficient conflict management strategies to promote organizational innovation. These insights are fundamental for leaders and managers seeking to develop innovative environments within organizations. This work represents a significant advance in understanding how internal team conflicts can influence innovation capacity.

Keywords: Strategy; Task conflict; emotional conflict; organizational innovation; knowledge leadership;

LIST OF FIGURES

LIST OF TABLES

SUMMARY

1 INTRODUCTION

In highly competitive environments, innovation becomes a critical strategic need for organizations. They often choose to form cross-functional project teams to encourage the generation of innovative ideas. As noted by Ren et al. (2023), these teams face significant challenges related to conflicts and tensions, which are considered inherent elements of creative processes.

Cognitive conflicts, characterized by disagreements about goals and strategies, can be catalysts for innovation. Amason & Schweiger (1994), De Dreu & West (2001) and Simons & Peterson (2000) discuss how these conflicts stimulate the generation of new ideas, challenging assumptions and promoting a break with the status quo. These conflicts, therefore, are not only inevitable, but also potentially beneficial to the creative process.

In this scenario, knowledge leadership, as investigated by Zhang & Guo (2019) and Lakshman (2009), plays a decisive role. They point out that effective leadership in information and knowledge management is fundamental to transforming cognitive conflicts into opportunities for innovation, promoting an environment in which continuous learning and the exchange of ideas prevail.

On the other hand, affective conflicts, resulting from interpersonal incompatibilities, can be harmful to team motivation and collaboration (Jehn, 1995). Cultural intelligence, as discussed by Elenkov & Manev (2009) and Ayoko et al. (2022), emerges as a crucial factor. Leaders with high cultural intelligence are better able to manage these differences, mitigating the negative impacts of affective conflict and promoting effective collaboration.

Creativity in cross-functional project teams, highlighted by Jeske and Calvard (2021), is significantly driven by diversity and interaction. These teams, made up of members with varied skills and perspectives, offer fertile ground for generating creative and innovative solutions. Knowledge leadership plays a facilitating role here, helping to develop and integrate these diverse capabilities.

Choi et al. (2022) and Jiang et al. (2018) emphasize the importance of knowledge-based leadership for developing innovative capabilities in multifunctional project teams. They argue that effective leadership, which evaluates information, encourages and uses prior knowledge resources, can play a decisive role in fostering innovation.

Furthermore, cultural intelligence, as investigated by Chen and Lin (2013), plays a key role in effectively managing cultural diversity within teams. Leaders with this competency are able to recognize and deal with cultural differences, facilitating effective interaction and information integration, which is essential for the success of teams in global contexts.

Therefore, the synergy between efficient knowledge leadership, astute cultural intelligence, balanced management of cognitive and affective conflicts, in addition to encouraging creativity and the elaboration of information and knowledge, is fundamental to enhancing innovation in multifunctional project teams. This integrated and holistic approach provides organizations with a robust and adaptable strategy to overcome the challenges inherent to creative and innovative processes in highly competitive market contexts. In this context, we propose an in-depth investigation into how the interaction between conflict and innovation manifests itself in multifunctional project teams, aiming to expand the understanding and effectiveness of these dynamics crucial to organizational success.

1.1   RESEARCH PROBLEM

There is a growing need for organizations to instill innovation in cross-functional project teams to respond to technological changes, competitive pressures and globalization (Binyamin & Carmeli, 2010; Wu, 2022; Zhang & Guo, 2019). Innovation, in this sense, refers to the generation of new and useful ideas for new products, services or processes (George & Zhou, 2001). Although innovation plays a central role in organizational effectiveness, there is a lack of understanding about how to manage processes in cross-functional teams, particularly with regard to knowledge sharing between employees, which can involve conflicting points of view between team members (Wei et al., 2023; Farh et al., 2010; Hoever et al., 2012).

Following the publication of Jehn's (1995) seminal article on types of team conflict, much attention has been paid to the discourse on what types of issues teams should or should not disagree on. The predominant idea in recent decades has been that cognitively rooted task conflict should be promoted and affect-laden relationship conflict should be avoided. Such prescriptions rely on empirical evidence about conflict states to support recommendations regarding necessary conflict processes (Shuffler & Cronin, 2020).

For Adamovic (2022), cognitive conflict can trigger benefits in cooperation and creativity, when managed appropriately, considering the cognitive and emotional skills

necessary to deal with such situations. In the case of process conflict, it is possible to find resolutions through the implementation of agreements that involve the rotation of responsibilities or mutual commitments. On the other hand, it is recommended to avoid emotional conflict in order to promote team performance and satisfaction. It is worth highlighting that cognitive conflict, although it can stimulate the generation of new ideas, can also be challenging, due to the interpersonal pressures and animosities often associated with it (De Dreu & Weingart, 2003; Janssen & Giebels, 2013).

Cognitive conflict increases the creativity potential of cross-functional project teams, but the extent to which this potential is realized depends on the teams' propensity to change the current organizational situation (George & Zhou, 2001), which, in turn, depends on their learning orientation and goal congruence with the organization. The learning orientation of employees in teams speaks to their personal orientation to extend their current knowledge flexibly while also soliciting the experience and skills of others (Dweck, 1986; Wilkens & London, 2006). It can facilitate the conversion of cognitive conflict to creativity because it stimulates the associated ability to generate new combinations of divergent knowledge (Button & Mathieu & Zajac, 1996).

Conflict is an inevitable event in any organization. Organizations have faced structural, personnel and resource distribution problems as a result of industrialization and globalization, resulting in different forms of conflict (Jehn, 1995). Employees participate in different types of confrontation, which wastes organizational capital. The degree to which conflict has a positive or negative effect on an organization is determined by the types of conflict and how it is handled.

Conflict type research is about conflict content (Jehn et al., 2013), whereas conflict management research is about conflict management style (Tjosvold & Sun, 2001). While conflict type research examines the source and level of conflict, conflict management research examines how disputants interact to manage conflict (De Dreu & Weingart, 2003). Surprisingly, there is a lack of integrative research on conflict type research and conflict management style research.

Only a few conflict scholars have attempted to combine the different conflict literatures. Lovelace et al. (2001) found that the negative effects of cognitive conflict on innovation and adherence to constraints disappeared when team members communicated collaboratively. In 2006, Tjosvold, Law, and Sun reported that task and affective conflict were positively related to competitive conflict and negatively related to cooperative conflict. Furthermore, Caputo et al. (2023) reported that successful teams (high performance and high

satisfaction) addressed issues openly and discussed task assignment and workload issues. Successful teams also tried to avoid affective conflicts, while poor teams (low performance/low satisfaction) openly discussed affective conflicts. To resolve process conflict, members of successful teams agreed to alternate responsibilities or tried to find a compromise. Bad teams also applied a prevention approach. Cognitive conflict was openly discussed by successful teams. On the other hand, cognitive conflict in bad teams was treated in a competitive way, with the attempt to convince other members of their opinion, forcing, controlling and dominating other members.

The innovation of multifunctional teams involves an inherent process of conflict management (Al-Ghazali & Afsar, 2021) and often arises at the crossroads of divergent knowledge paths (Amabile et al., 1996). Thus, this research seeks to fill the gap of conflict as an antecedent of innovative task behavior in multifunctional project teams.

This study seeks to contribute to the existing literature on conflict by providing a deeper understanding of the process mechanisms involved and advancing the idea of when and how conflict interferes with team innovation. The choice of the topic is motivated by the need to fill a gap in the existing literature, in addition to providing useful information for researchers and professionals working in multifunctional project teams.

1.1.1   Research Question

What is the relationship between conflict and innovation in multifunctional project teams?

1.2   OBJECTIVES

1.2.1   General

Analyze the degree of the relationship between conflict and innovation in a context of multifunctional project teams.

1.2.2   Specifics

a) Identify the degree of conflict and innovation in a context of multifunctional project

teams.

b) Analyze the moderating role of knowledge leadership in the relationship between cognitive conflict and innovation in multifunctional project teams.

c) Investigate the relationship between the creation of information/knowledge related to innovation in multifunctional project teams.

d) Assess the effect of affective conflict on innovation in multifunctional project teams.

e) Analyze the relationship between cultural intelligence and conflicts in innovation in multifunctional project teams.

1.3   JUSTIFICATION AND CONTRIBUTION OF TECHNICAL PRODUCTION

Conflict is a complex and constantly evolving phenomenon, which involves several dimensions at different levels. The issue under analysis has been widely evaluated by experienced researchers. Jehn (1995), for example, emphasized the multidimensional nature of conflict. On the other hand, Greer et al. (2008) and Jehn and Mannix (2001) highlighted the importance of recognizing the dynamism of conflict, highlighting how it evolves and transforms over time. These fundamental contributions have helped advance the field of conflict study, providing valuable insights into its different dimensions and ever-changing character.

Research, such as that of Weingart et al. (2010) and Zhang et al. (2019), aim to investigate the effects of cognitive conflict on the problem-solving capacity and performance of teams that have functional diversity in innovation processes. Contributing to the literature, this research seeks to advance the understanding of the relationship between conflict and innovation in multifunctional project teams, with the aim of identifying the variables that explain this relationship.

Conflict management plays an important role in promoting innovation within an organization. Leaders' ability to effectively handle conflict related to team tasks can have a significant impact on innovative performance. By facing these conflicts appropriately, leaders stimulate creativity, encourage the exchange of ideas and encourage the search for innovative solutions. In this way, effective conflict management creates an environment conducive to the development of a culture of innovation in the organization (Amabile et al., 1996; Li et al., 2022; Donate et al., 2023).

The practical importance of this study lies in its ability to provide insights for leaders and managers of cross-functional project teams. This information will help you understand how

to deal with conflicts and promote team innovation. As a result, this is expected to drive improvements in team performance and project success.

Business landscapes are rapidly evolving, so cross-functional collaboration has become more important than ever. Leaders in today's increasingly global organizations face the challenging reality that the cultural makeup of work teams and the values of each team member have changed dramatically and must continue to change. Cultural intelligence refers to the ability of individuals to deal effectively with differences in organizational culture. The diversity of these teams provides different resources and information for developing creativity (Hu & Wu & Gu, 2019).

As organizations strive to innovate, adapt, and overcome complex challenges, it is crucial that teams from diverse backgrounds and skill sets work together seamlessly (Wu, 2022). Modern companies have to operate in a rapidly changing environment, therefore, more companies are turning to cross-functional teams in order to promote innovation and remain competitive in the market.

According to research published by Deloitte (2022), cross-functional teams can be valuable sources of innovation and adaptability for an organization. Cross-functional teams can increase an organization's ability to respond to market changes. They have access to a wide range of skills, knowledge and resources, allowing them to tackle a wide range of challenges more quickly than teams made up of professionals with a narrow set of skills. This demonstrates that this study is relevant to the current context, as multifunctional project teams are increasingly common in organizations that seek to innovate and adapt to market changes. Understanding how to deal with conflict in this context can be crucial to the success of the team and the organization.

Although there is previous research on conflict and innovation, there are gaps in the literature on the mechanisms that explain this relationship of conflict and innovation in cross-functional project teams. In this sense, this study seeks to fill this gap and provide new insights on the topic.

Therefore, this work is justified by providing contributions at practical and theoretical levels. From a practical perspective, it can offer insights for professionals who are part of multifunctional project teams, enabling them to manage conflicts more efficiently and fostering the promotion of innovation in their respective teams. On a theoretical level, the study will contribute to a better understanding of the phenomenon of conflict in the context of innovative team work in projects.

1.4   STRUCTURE OF THE DISSERTATION

The present study was divided into 7 chapters. In Chapter 1, there is the introduction, which presents the intro of the research, followed by the research problem, the general objective and the specific objectives; it is concluded by the justification and contribution of the research.

Chapter 2 presents the theoretical framework, which supports the development of the research through a literature review, which identifies the antecedents of the phenomenon of cognitive conflict and innovation that supports the hypotheses presented, being subdivided into nine subsections: 2.1 Innovation and cognitive conflict; 2.2 Knowledge leadership; 2.3 Creativity and cognitive conflict; 2.4 Creativity and innovation; 2.5 The elaboration of information/knowledge; 2.6 Affective conflict and loss of innovation; 2.7 Cultural intelligence and innovation; 2.8 Affective conflict and cultural intelligence; 2.9 Cognitive conflict and cultural intelligence.

In Chapter 3, the methodological aspects are described, as well as the data collection and analysis techniques used in the study. Chapter 4 presents the results of the research, while Chapter 5 presents the discussion about the results. And finally, Chapter 6 highlights the final considerations.

2   THEORETICAL REFERENCE

Increasing competition and rapid changes in the business environment have encouraged organizations to be more innovative in dealing with ill-defined problems (Eisenbeiss et al., 2008). Thus, organizations increasingly rely on cross-functional or project teams rather than individuals (DeChurch et al., 2013).

Organizations capable of deploying cross-functional teams can achieve greater gains in adaptability, innovation and responsiveness, producing lower operating costs and greater profitability. As organizations face a new business environment, they need opportunities to try new things in order to determine what works in that environment. Cross-functional teams allow the company to test and learn in the new environment to help find ways to respond to challenges in an agile way (Eisenbeiss et al., 2008; Kearney and Gebert, 2009; Shin & Zhou, 2007).

Innovation is a term that defies simple definitions, as it encompasses complex and interconnected changes within elaborate systems. In studies ofVlados et al. (2022), is seen as a combination of results, processes and mindsets. As a result, it focuses on what is produced, products and improvements within an organization. In the procedural aspect, it refers to the techniques used to improve these results. And, in terms of mindset, it involves adaptation and incorporation of new perspectives by the parties involved, which is crucial for continued progress.

Team innovation refers to the intentional introduction and application of ideas, processes, products, or procedures that are new to the team and designed to be beneficial (Farh et al., 2010). It consists of both the generation of new ideas, often referred to as creativity (Amabile et al., 1996), and the application of creative ideas in practice (Anderson et al., 2004).

In this context, the impact of cognitive conflict on team creativity has been inconsistent or unclear. It can lead to a debate between different points of view, thus leading to greater team creativity (Farh et al., 2010). Debates can foster organizational communication, exchange of opinions and thoughts related to work. However, a high level of cognitive conflict can be detrimental to team effectiveness (De Dreu et al., 2003).

Difference of opinion, beliefs, views among employees produces cognitive conflict or emotional conflict (Jehn & Bendersky 2003). Emotional conflicts are based on relationship problems, which result from individual differences as well as differences of opinion and interests on issues unrelated to the task, while cognitive conflicts involve differences in views, ideas and opinions in the group on the subject. , objectives or content of the task being performed. Employees often consider conflicts to be "work disagreements," "work conflict,"

and "task problems." Rahim (2022) defined cognitive conflict as "conflict that occurs when two or more members of the organization disagree about their tasks or content issues". However, it has been proven in several studies (Cronin & Bezrukova, 2019; Jehn,1995; Amazon 1996) that its mere presence is not the problem, but how it is managed determines whether the conflict leads to a constructive result or destructive.

2.1   INNOVATION AND COGNITIVE CONFLICTS

Innovation, which refers to the generation and implementation of new and useful ideas, has become increasingly vital for the survival and development of organizations in fiercely competitive global business environments (Zhang et al., 2022). Faced with increasing complexity and competition, teams within organizations are called upon to innovate more than ever. Thus, both scholars and practitioners have paid attention to how to improve team innovation, according to Hughes et al. (2018). Innovation inherently involves conflicting elements such as originality of breaking constraints and usefulness of adhering to them, generation of imaginative ideas, realistic execution, divergent and convergent thinking (Miron-spektor & Erez, 2017).

Innovative organizations tend to have higher levels of productivity and economic growth compared to companies with zero innovation. Companies can acquire and maintain a competitive advantage due to innovative performance. Therefore, much of current research focuses on studying the innovative activity of companies and the factors that could support it.(Jankelová et al., 2021). Studies on innovation management show the positive effect of cognitive diversity in the context of teams' abilities to create innovative solutions (Mitchell et al., 2017). The positive impact of cognitive diversity on innovative behavior lies in the breadth of knowledge found in cross-functional groups, allowing the identification of problems and the implementation of more innovative solutions that lead to process improvements.

The innovation process requires coordinated interaction between all these functions, but they are not ordered in a linear way. Innovation does not come from resources allocated to research and development, followed by production, in turn, by marketing and sales. The process is systemic, full of feedback cycles and surprises (Seravalli, 2011).

With all these processes of organizational change and the search for innovation increasingly common in organizations, project teams began to exist with multifunctional integration, which was defined by Pelathy et al. (2019, p. 5) as "a continuous process of

collaboration, coordination and communication, in which the different internal functions that manage a company's supply chain work together to maximize the results of their exchanges". Cross-functional integration, therefore, describes the degree to which the social dimensions of work, such as interaction, communication, information sharing, coordination, and joint engagement, are present among cooperating business functions (Jeske et al., 2021).

There are a number of potential benefits associated with cross-functional integration according to existing literature. The results of cross-functional efforts have been reported in relation to innovation, innovation management, frequent links, which are also linked to what is done based on creativity (Ng et al., 2012; Lee, 2020; Hausberg & Leeflang, 2019) .

Lee (2020) and Levenson (2012) present, in their studies, other interpersonal and team-focused benefits. Furthermore, they were also reported in relation to better resource management, resource acquisition and conflict management, as well as in relation to skills development and talent management. Cross-functionality can, therefore, contribute to the way employees develop, deliver products and services (Rowee et al., 2005), as well as enhance innovation processes to improve the quality of products/services and management practices. people as well as business performance.

Jankelová et al. (2021) present, in their studies, that team diversity and its effects on performance results demonstrate innovation. This is because it is believed that diverse groups have a broader and richer experience base to stimulate new ideas to solve problems. Also, that there are observable and unobservable types of diversity. The first of these factors includes age, gender, while the last involves beliefs, knowledge or ways of thinking. Furthermore, the relationship between age and sex involves indirect effects on innovation. However, the diversity of knowledge and experiences of employees significantly benefit the innovation area.

Not surprisingly, conflict—that is, perceived incompatibilities or disagreements between exchange partners—is inevitable in such environments (Jehn 1995); This is a common distinction that differentiates between cognitive and affective conflict. In the context of interfunctional collaboration, cognitive conflict concerns disagreements between functional departments about ideas and opinions relating to a particular task and thus captures contrasting perspectives on specific issues (Amason, 1996). In contrast, affective conflict refers to personality clashes between people in different departments and is characterized by negative feelings such as tension, annoyance, frustration, and irritation (Jehn & Mannix 2001).

While traditional conflict management theory considers people involved in conflict situations as problem creators, modern theory shows conflict as a natural and inevitable result

of human interaction, so that conflict situations generally cause the generation of new ideas and changes (Rahim, 2002).

Cognitive conflict, or task conflict, refers to differences in task-related judgments, interpretations, or perspectives on issues such as the nature and importance of group goals, the procedures for accomplishing the task, and the appropriate choice for action.(Bedford et al., 2022).

According to research carried out by Nguyen et al. (2022), Chen et al. (2019) and Cui et al. (2022), it is demonstrated that cognitive conflict and diversity can act as drivers of innovation. However, the effectiveness of these elements is strongly linked to the way conflicts are managed and the level of diversity present. These studies also emphasize the complexity of the relationship between cognitive conflicts and innovation, revealing that the impact of cognitive conflict may be limited or less evident in certain circumstances, such as in situations of poor conflict management or when excessive diversity causes a decrease in cohesion for share knowledge.

Cognitive conflict is generally seen as beneficial to team and organizational outcomes. Through cognitive conflict, perceptual diversity and differences in judgment come to the surface, producing "deep and deliberate processing of relevant information" (Jehn & Bendersky, 2003, p. 209). Exposure to opposing ideas and different possible courses of action allows for a more complete understanding of the issues at stake. This increases the richness and effectiveness of collective knowledge, as well as structures information exchanges between team members(Bedford et al., 2022). Cognitive conflicts enhance divergent cognitive processes and encourage members to consider task issues from new perspectives in order to produce creative ideas.

However, a high level of conflict would reduce workers' motivation to work as a team, which negatively influences the possibility of developing creative solutions to problems (Anderson et al., 2004). On the other hand, the absence of cognitive conflict does not seem recommended, as a certain level of confrontation stimulates discussion and the exchange of ideas, improving innovation processes (Petrou et al., 2019). Based on the arguments discussed in this section, this study proposes the hypothesis:

H1a- Cognitive conflict is positively related to the level of innovation in cross-functional project teams.

2.2 KNOWLEDGE LEADERSHIP

Leadership in cross-functional teams is an important strength in dealing with tensions in innovation (Miron-Spektor et al., 2018, Zhang et al., 2022). Leader behavior is defined as "seemingly competing but interrelated behaviors" of leaders to resolve paradoxes (Zhang et al., 2015, p. 539). For example, leaders rely on personal opinions and, at the same time, learn from subordinates. Leaders take a "both/and" approach to contradictions, that is, they embrace and attempt to manage conflicts within a larger system.

Knowledge leadership, emphasizing the roles of leaders in information/knowledge management, is a potential contingency that allows cognitive conflict to benefit the innovation of cross-functional teams (Zhang & Guo, 2019). Yang et al. (2014), as well as Lakshman (2009) reveal, in their studies, that the role of knowledge leadership is to promote a positive cultural orientation for the acquisition and sharing of knowledge; one that values continuous learning, in which experience, expertise and innovation go beyond hierarchy. Knowledge leadership refers to the constant development and innovation of information resources, individual skills, knowledge networks and learning.

Leaders can increase or decrease organizational creativity and innovation. Lee et al. (2013) analyzed the relationship between abusive leadership and employee creativity, concluding that those who are exposed to very high levels of abusive leadership tend to be less creative. Leadership affects innovation because it can create a work environment in which cross-functional teams are encouraged to discuss freely, try new ideas and different approaches (Amabile et al., 1996), or it can and does exert great pressure on subordinates, which which negatively affects your willingness to suggest new ideas.

In this context, the various functions performed by knowledge leaders have a significant impact on the dynamics of project teams, especially with regard to the production of information and knowledge relevant to the task. According to studies carried out by Zhang & Guo (2019), cognitive conflict has the potential to encourage the team to process information more efficiently, carried out through information exchange, knowledge sharing, mutual learning and productive debates.

Within organizations, project team members constantly face challenging and conflicting situations, often linked to the need for interaction with colleagues and the sharing of knowledge, primarily through knowledge management systems. This scenario reflects the challenges of continuous innovation, essential for maintaining sustainable competitiveness and strategic advantage (Di Vaio et al., 2021). At the same time, the occurrence of conflicts can induce

employees to adopt unproductive behaviors, which tend to compromise the organization's innovative capacity.

In the context of project management, it is well known that leaders often do not have formal positional authority over their teams, making informal authority a crucial element for success, especially, when the project leader has a relatively new hierarchical position, which is evidenced by Baker (2020). Walker et al. (2020) point out that informal authority manifests itself in the influence exercised by individuals over their interlocutors and is achieved based on mutual respect. This respect, essential for effective collaboration, must be both given and received. In this context, collaborative leadership, defined by mutual trust and the joint decision to work collaboratively, becomes necessary to ensure that individual projects are aligned with the objectives of the overall program.

Academic literature defines knowledge-oriented leadership as a synergy of transformational and transactional leadership styles, enriched by communication and motivation skills. These aspects are crucial for creating an enabling environment in which knowledge flows can act as leaders of innovation and organizational creativity (Donate et al., 2022). However, as highlighted by Wagner et al. (2021), the positive impact of leadership in spaces dedicated to knowledge on the advancement of innovation is still an area that requires in-depth investigation.

Effective knowledge management requires effective interaction of knowledge, information resources, individual skills, knowledge and learning networks, which are activated through interaction forums with team members from different functional units, job rotation and personnel transfers , ongoing training and development efforts, as well as knowledge sharing through written documents (Yang et al., 2014; Zhang & Guo, 2019).

The investigations conducted by Choi et al. (2022) and Jiang et al. (2018) jointly emphasize the significance of knowledge-based leadership in developing the innovative capabilities of cross-functional project teams. These studies highlight how varying leadership styles can promote or obstruct the innovation process, in particular, within the context of cognitive conflict and team diversity. This approach requires the support of leaders who can evaluate information, encourage, and utilize prior knowledge resources. In fact, leadership plays a crucial role in this context, being considered an essential and promising contingency that explains the ambiguous impact of cognitive conflict on the creative performance of cross-functional project teams. Based on the arguments discussed in this section, this study proposes the hypothesis:

H1b- Knowledge leadership positively moderates the relationship between cognitive conflict and innovation in cross-functional project teams.

2.3   CREATIVITY AND COGNITIVE CONFLICT

The literature that analyzes the task conflict-creativity duality states that conflicts over how tasks are designed and implemented in the organization can cause alternative cognitive perspectives to be confronted, favoring divergent thinking and creativity, by showing that there are different means to achieve the same objective (Petrou et al., 2019).

When teams are not exposed to different ways of dealing with a problem, it is difficult for them to challenge pre-established assumptions in order to develop creative solutions (Perry-Smith, 2003). Organizations that explore opposing points of view and consider different alternatives for resolving conflicts are able to improve the quality of decisions and generate more creative ideas (Somech, 2006).

As such, creative problem solving focuses on the individual rather than team cognition, but there is now growing recognition of the importance of understanding team cognition (McClurg et al., 2018). Team creativity is related to processes that integrate diverse visions to create useful and innovative solutions. Studies have found that task conflict is positively related to creativity (Kiernan et al., 2020). Task conflict is considered to promote divergent thinking to explore the problem area and broaden the scope of ideas.

Conflict can help foster creativity in project teams, as long as it is a task conflict and not an interpersonal one. Task conflict can increase team members' tendency to examine task issues in more depth, which can lead to new and creative ideas. Furthermore, conflict can stimulate epistemic curiosity, which produces the exploration of contradictory positions, open and impartial deliberation of these positions, which can lead to high-quality solutions accepted by the team. However, it is important to manage conflict effectively to ensure that it does not become detrimental to team creativity or cohesion (Chen & Chang, 2005).

Teams engage in discussions and negotiations to integrate diverse perspectives and ideas; this can cause conflicts (De Dreu & Weingart, 2003; Neale et al., 1999). Task conflict refers to disagreements about the task, including differences in judgments, opinions, and alterative directions.

According to Nagy et al. (2023) and Fahoum (2022), the interaction between cognitive conflict and creativity is defined by its dynamic and complex nature. The authors demonstrate

that this conflict has the potential to both inhibit and facilitate creativity, varying across a range of factors; this includes the individual differences of those involved, group dynamics and the effectiveness with which individuals can manage their thought processes and emotions.

Task conflict has been associated with increased creativity in interorganizational teams (Hu et al., 2017; Lee et al., 2019). Task-related disagreements between team members are a key factor for rich collective knowledge structures that emerge from knowledge exchange, which has a positive influence on team creativity (Gheorghe et al., 2020). Based on the arguments discussed in this section, this study proposes the hypothesis:

H1c- Cognitive conflict is positively related to the degree of creativity of cross-functional project teams.

2.4   CRIATIVITY AND INNOVATION

Seminal research in the field of creativity and innovation, particularly those carried out by Amabile (1988), Amabile et al. (1996), established a fundamental understanding about the interrelationship between creativity and innovation in a team context. These investigations propose that creativity, conceptualized as the generation of both new and useful ideas, constitutes the initial phase of the innovation process, which takes shape in the practical application of these ideas. Furthermore, it is emphasized that the presence of a variety of skills and perspectives in multifunctional teams creates an environment conducive to stimulating creative thinking, a crucial element for achieving innovative results.

West et al. (2002) dedicated themselves to analyzing the dynamics operating in multifunctional teams. The research emphasizes that, due to their heterogeneous composition, such teams are intrinsically predisposed to a heightened potential for creative conflicts and fruitful debates, which are common to innovative solutions. Interaction between members with different backgrounds and specialties fosters a greater diversity of ideas and perspectives. This diversity is considered fundamental for generating an environment conducive to creativity and, consequently, subsequent innovation.

In contemporary studies, Sawyer (2007) highlights the dynamic nature of creativity in collaborative environments, emphasizing how group interaction can generate innovative ideas. Her research is particularly relevant to cross-functional teams, where diversity of knowledge and experience offers fertile ground for generating creative and innovative solutions.

Hill et al. (2014) address leadership and innovation, investigating how leaders can create and nurture organizational contexts that promote creative collaboration. His research suggests that effective leadership is critical to developing a culture in which collective creativity can flourish and drive innovation. These contemporary perspectives reinforce the idea that creativity and innovation are interconnected and dynamic processes, emphasizing the importance of collaborative work environments and empowering leadership to drive innovative success.

Weir (2022) declares that creativity transcends its traditional contribution to human progress and development, extending its value to the universe of entertainment and pleasure. This perspective broadens the understanding of the impact of creativity, limiting it as an influential force in multiple aspects of human activity.

Acar et al. (2019) highlight the importance of creative behavior not only in individuals considered special, but in everyday people, emphasizing the collective contribution in the development of innovative products and disruptive services. This observation is decisive for understanding the democratization of innovation and how it is facilitated by creativity distributed across all social and professional levels. Creativity, therefore, is seen not just as a trait or talent, but as an essential discussion for innovation, fundamental for the continuous evolution of practices and paradigms in different fields. Based on the arguments discussed in this section, this study proposes the hypothesis:

H1d– Creativity is positively related to the level of innovation in cross-functional project teams.

2.5   PREPARATION OF INFORMATION/KNOWLEDGE

Institutions and companies increasingly depend on cross-functional teams to develop innovative solutions. The process of knowledge elaboration is considered from the perspective of cognitive load theory. This theory assumes that knowledge structures available in long-term memory are used to organize and guide cognitive processing in complex learning (Kalyuga, 2009).

Information elaboration in a team involves a process in which active members exchange, discuss, and integrate ideas, knowledge, and perspectives that are relevant to their tasks. On the other hand, knowledge elaboration is a creative process in which new knowledge is generated by combining and transforming existing knowledge, according to Zhang & Guo

(2019). These knowledge elaboration processes expand initial understanding by adding new elements and establishing connections between pre-existing knowledge and newly integrated information.

To manage these elaboration processes, knowledge leadership must provide adequate support for team members to gain access to the necessary information/knowledge resources in order to have rational discussions through well-established socio-cognitive and technical networks. Notably, knowledge management represents the process through which data and information are transformed into knowledge and then disseminated throughout the organization (Lakshman, 2009; Zhang & Guo, 2019).

Jiménez-Jiménez and Sanz-Valle (2011) analyzed how organizational learning influences the organization's innovation activity, as teams that share knowledge and information generate common and new insights. Creative insight is driven by organizational learning that enables the development, acquisition, transformation and extrapolation of new knowledge.

According to Xie et al. (2022) and Deng et al. (2022), it is important to highlight the relevance of knowledge diversity, the elaboration of information as a team and the management of cognitive conflicts to strengthen innovation in multifunctional project teams. These studies also highlight the dynamic interrelationships between these factors and their significant impact on team performance and innovation capabilities.

This perspective is supported by evidence demonstrating that a diversity of knowledge in a team facilitates the generation of a wide range of cognitive resources, essential for decision making, promoting innovation capacity and problem solving (Xie et al., 2022). Furthermore, Deng et al. (2022) emphasize the importance of team information elaboration as a critical mechanism through which information resources can enhance team innovation. Effective management of cognitive conflicts, combined with adequate knowledge leadership, is also seen as fundamental to unlocking the innovative potential of cross-functional project teams.

Successful team cognition is when knowledge is distributed, shared and integrated within a team to make informed assessments, considerations and decisions during problem solving, interconnecting and integrating with their prior knowledge (Kalyuga, 2009). Alternative views and opinions, when solving complex and ill-defined problems, can result in the consideration of a wider range of perspectives and relevant information, which can ultimately result in more informed decision-making. Knowledge leadership, by knowing how to manage the sharing and elaboration of diverse perspectives, can guide group members to

avoid advance agreements, as well as hasty decisions, encouraging divergent thinking to explore alternative requirements and solutions (Kiernan et al., 2020).

Nemeth et al. (2001); Yong et al. (2014) believe that cognitive conflict supports the exchange and integration of distributed information held by each team member, making judgments, decisions and solutions more effective. The benefits of cognitive conflict are associated with constructively challenging the opinions and ideas of others; there is also the encouragement of assertive, independent and impartial thinking, to balance opposing arguments (Nemeth et al., 2001; Yong et al., 2014). These benefits are, however, subject to strong social, communication and collaboration skills, presented in previous literature by Pellathy et al. (2019), as a definition for the existence of a multifunctional project team. Task conflicts are episodes of social interaction that are constructed between team members (Cronin & Bezrukova, 2019).

Alternatively, teams can form an initial consensus in the form of groupthink, where team members opt for cohesion over further examination of problem elements. Creativity and team performance have been shown to benefit from cognitive conflict (De Wit et al., 2012; Bradley et al., 2015; O'neill, 2018).

Well-established knowledge management systems store previously acquired mature experience. In addition, there is knowledge about how to deal with similar conflict events and the information/knowledge needed to perform other tasks (Zhang & Guo, 2019). This promotes team creativity, which is related to processes that integrate diverse views to create useful and innovative solutions (Amabile,1996).

Studies have found that cognitive conflict is positively related to creativity (Farh et al., 2010). Cognitive conflict is considered to promote divergent thinking to explore the problem area and broaden the scope of ideas. Cognitive processes are instrumental for creative problem solving (Kiernan et al., 2020). Creative thinking is divergent, which has the purpose of creating a range of new ideas (Casakin et al., 2010; Montag-Smit et al., 2017). Furthermore, this is related to ideation and brainstorming (Runco et al., 2012). Team creativity refers to the production of new and useful ideas to produce products, processes, and procedures by a team of people working together (Gilson et al., 2004). Teamwork, in this sense, is beneficial for creativity, as groups are able to produce new and creative results due to quality interactions and diverse cognitive inputs from team members (Gheorghe et al., 2020.)

Organizations often rely on cross-functional teams to innovate because the teams' diverse skills and breadth of knowledge increase their creative potential for the task at hand (Amabile, 1996). Cognitive conflict involves active debate and disagreement about what should

be done to achieve team goals (Jehn, 1995). If cognitive conflict completely eliminates incongruence or exacerbates divergence in representations of functional areas, it can undermine innovation. Cognitive conflict must resolve disagreement while preserving differences in functional perspectives; Whether this happens depends on the use of approaches (Weingart et al., 2010).

Information elaboration refers to a process that requires team members to engage in active exchange, debate, and in-depth integration of ideas, knowledge, and perspectives pertinent to the team's tasks (Kiernan et al., 2020). Based on the arguments discussed in this section, this study proposes the hypothesis:

H2 -Aelaboration of information/knowledge relevant to the task is positively related to innovation in multifunctional project teams.

2.6   AFFECTIVE CONFLICTS AND INNOVATION

The central challenge of project teams involves stimulating cognitive conflict (Amason, 1996) while minimizing the presence of dysfunctional (affective) conflict (Jehn, 1995). Team leaders are in a position to exert strong influence in the presence of group conflict (Amason & Mooney, 1999). The ability to stimulate cognitive conflict, while reducing instances of its transmission to affective conflict, may be the key to obtaining the benefits of conflict without the costs (Eisenhardt & Zbaracki, 1992). For Zhang et al. (2022), teams with a high level of knowledge leadership are more likely to reduce the possibility of cognitive conflict evolving into affective conflict, enabling advancement in team innovation.

Although it may seem intuitive that cognitive conflict has positive implications and affective conflict has negative implications, this is not actually the case. What is often lost is the interrelationship between various types of conflicts. Whenever cognitive conflicts arise in teams, one or another member treats it as a personal attack. Furthermore, there may be emotional reactions and disagreements that can eventually worsen existing relationships between teams. Therefore, although cognitive conflict has a positive link to team innovation, it also has a negative indirect contribution to innovation, eventually creating possibilities for affective conflict (Zhang et al., 2022).

The feeling of threat caused by affective conflict causes team members' competitive motivation, while divergent thinking driven by task-related conflict motivates team members to be open-minded (Farh et al., 2010; Li and Yang, 2018). Affective conflict and cognitive

conflict play completely different roles in motivating team members (O'Neille et al., 2018). Affective conflict is seen as a stressful burden on team members' motivation because it induces interpersonal threats (Li et al., 2022), while cognitive conflict motivates members to learn more by helping them draw on more information resources. (Li et al., 2022).

A non-negligible issue is that a high level of cognitive conflict can result in affective conflict. Jehn (1995) argued that it is difficult to increase cognitive conflict and simultaneously avoid affective conflict. In other words, one type of conflict can generate another type of conflict. When affective conflict becomes intense, group members may anticipate competitive and hostile negotiation; thus, they refuse to listen to others' opinions or exchange relevant information openly, which hinders the cognitive flexibility of group members, distracts from the problem and from creative thinking (De Dreu, 2006). Furthermore, affective conflict can exacerbate and prolong cognitive conflict, which hinders members' ability to properly gather, integrate, and evaluate valuable information (De Wit et al., 2012). This author argued that the presence of affective conflict will have a detrimental effect on cognitive conflict and decision-making. In other words, when cognitive conflict gets out of control and turns into other types of conflict, such as affective conflicts, the benefits of cognitive conflict are quickly lost (De Dreu, 2006; Sinha et al., 2016).

This can result in personal incompatibilities and emotional animosity between team members. This affective conflict harms the satisfaction of relationships within the team, as well as reducing the depth and speed of information processing. Specifically, information elaboration and task-related knowledge, which are necessary for team innovation, are negatively affected (Zhang et al., 2022). As a result, innovative production or service alternatives may be blocked and project delivery tends to be delayed. To deal with this situation, it is essential that team members establish an inclusive ideology and avoid misinterpreting or misconstructing the actions of other members in relation to defending points of view. Based on the arguments above, this study proposes the hypothesis:

H3 -Affective conflict compromises the team's ability to collaborate and share information/knowledge.

2.7   CULTURAL INTELLIGENCE AND INNOVATION

Cultural intelligence reflects an individual's adaptability to intercultural contexts, which is defined as "an individual's ability to function effectively in situations characterized by

cultural diversity" (Ang & Van Dyne, 2008). In intercultural environments, cultural intelligence shows an important effect on individual and team performance.

Academic interest in cultural intelligence has grown since the seminal work of Earley and Ang (2003), who defined cultural intelligence as the ability to function in culturally diverse environments. They present a convincing argument that relatively general capabilities, such as cognitive intelligence, emotional intelligence, and social intelligence, which presuppose familiarity with the cultural context – which guides one's cognition and social behaviors – do not apply when individuals are involved with others from different cultural backgrounds.

A culturally intelligent individual will have flexible cognition, that is, he or she can sensitively perceive and understand the differences between different organizational cultures, as well as adjust cognition to suit and adapt to the new work environment; there is also a collaborative motivation to interact with others, that is, they have a collaborative and open mindset when communicating with other employees (Hu et al., 2019). Therefore, cultural intelligence in the context of working in cross-functional project teams is an important capability that can help the leader and employees recognize and deal with organizational cultural differences in order to interact effectively with other members of the organization.

Given the fact that each timeMost project teams are ethnically diverse, including teams from the same country with significant ethnic diversity, as well as global teams that comprise multiple nationalities and worldviews, leaders must be particularly attuned to the cultural nuances represented by their team members (Roberson & Park, 2007).

There are academic studies that present a positive relationship between cultural intelligence and innovation in multifunctional project teams. The research by Li et al. (2021) suggests that cultural intelligence at the individual level can favorably impact sustainable innovative behavior, with knowledge sharing being a significant mediating factor in this relationship. Similarly, Ratasuk and Charoensukmongkol (2020) show that agreements, which teams with high cultural intelligence tend to exhibit, produce more robust knowledge sharing, which, in turn, is associated with higher evaluations of innovative performance. Yoo (2015) highlights the relevance of an environment that favors knowledge sharing and interdisciplinary integration to foster innovation in multifunctional teams. Furthermore, Henderson et al. (2018) found that optimizing cultural intelligence can moderate the interaction between communication norms, clear role definition, and satisfaction and effectiveness in global projects. These studies corroborate the idea that cultural intelligence plays a fundamental role in promoting innovation in cross-functional project teams.

High cultural intelligence can amplify the positive effects of knowledge leadership on organizational innovation. This finding is attributed to the ability of leaders with high cultural intelligence to understand cultural differences, select culturally appropriate behaviors, interact well with employees, and mobilize them for innovation (Elenkov & Manev, 2009).

Team leaders play necessary and specific roles (e.g., building technical networks) to enable team members to search and retrieve information/prior knowledge resources in order to investigate problems, communicate, or explore a sensible solution (Wakefielde et al. , 2008). This requires assessment and development activities that can, in fact, offer a significant competitive advantage to organizations that invest the necessary resources to help leaders understand the complex nuances of cultural awareness and behaviors that are in tune with a diverse workforce.

Although cultural intelligence is recognized for its positive influence on innovation and adaptive behavior in culturally diverse environments, research indicates that its impact is not uniform and can be significantly influenced by a variety of factors. These factors include psychological resilience, work engagement, interpersonal trust, organizational culture, and the general climate of inclusion. Li et al. (2021), Afsar et al. (2020) and Fan et al. (2020) suggest that, although cultural intelligence represents a positive asset for fostering innovation, its effectiveness can be limited or increased, depending on the broader organizational and cultural context. This research points to the specific complexity in the relationship between cultural intelligence and innovation, highlighting the need to consider contextual and environmental variables that can moderate or mediate this relationship.

In modern organizations, employees' creative ideas are not only the result of isolated personal thinking, but also products of social interaction (Perry-Smith & Shalley, 2003). From this perspective, interaction with others plays an important role in promoting employee creativity. Cross-functional project teams involve members from organizations with different organizational cultures. In such teams, the ability to interact becomes important to effectively deal with diverse organizational culture environments in order to successfully acquire informational and affective resources from other members of the organization. Thus, cultural intelligence plays a crucial role in employees' creative performance. Based on the arguments above, this study proposes the hypothesis:

H4a -Cultural intelligence is positively related to innovation in cross-functional project teams.

2.8   AFFECTIVE CONFLICT AND CULTURAL INTELLIGENCE

Affective conflict reflects incompatibilities between team members; thus, tension, annoyance, and animosity can exist among team members (Jehn, 1995). Affective conflict typically provokes distrust, hostility and other negative emotions.

Current academic literature suggests that affective conflict has the potential to significantly impair the ability to collaborate and share information and knowledge in teams. Caputo et al. (2018) investigated cultural intelligence as a moderator in the relationship between individual cultural orientations and conflict management styles. The results of this study indicate that cultural intelligence plays a crucial role in conflict management in diverse international environments.

In a related work, Chen and Lin (2013) explored the direct influence of cultural intelligence on knowledge sharing in culturally diverse teams, identifying the metacognitive, cognitive and motivational facets of cultural intelligence as fundamental elements in this process. More recently, Ayoko et al. (2022) highlighted the importance of communication behaviors in conflicts and cultural intelligence, acting as mediators and moderators in the relationship between conflict and sociocultural adaptation in global employees. These findings, taken together, suggest that cultural intelligence may be a key factor in mitigating the negative impacts of affective conflict on collaboration and knowledge sharing within teams.

Project teams in situations of high affective conflict may struggle to apply and maximize their cultural intelligence in order to acquire affective and informational resources for innovation. Consequently, the relationship between cultural intelligence and creative performance is strengthened. Employees in situations with low emotional conflict are unlikely to activate cultural intelligence. In such situations, employees maintain harmonious interpersonal relationships with colleagues, communicate with each other and integrate diverse information (Martins et al., 2012).

Thus, project teams have adequate resources for innovation. Therefore, they are unlikely to spend their personal resources to activate their cultural intelligence in order to obtain additional resources for innovation (Hobfoll & Shirom, 2001). Based on the arguments above, this study proposes the hypotheses:

H4b -Affective conflict negatively moderates the relationship between cultural intelligence and innovation in cross-functional project teams.

2.9   COGNITIVE CONFLICT AND CULTURAL INTELLIGENCE

The amount of external emotional and informational resources influences the need to activate cultural intelligence in the innovation process of employees in cross-functional project teams. Hochwarter et al. (2006) argued that an incongruity between what is needed and what is provided by the environment encourages individuals to initiate tactics to ensure that important results are achieved. Furthermore, employees tend to conserve their personal resources, such as time and energy, and activate their own skills only when necessary (Hobfoll & Shirom, 2001). In cross-functional teams, employees can obtain sufficient resources for innovation by relying on their cultural intelligence.

Conflict inevitably occurs in teams and organizations due to the complexity and interdependence of organizational activities (Jehn, 1995). In particular, employees on cross-functional project teams inevitably encounter more conflict due to organizational differences related to organizational goals and climates (Fey & Beamish, 1999). Affective and cognitive conflicts are also likely to occur in the organizational environment (Rose & Shoham, 2004). Affective conflict is defined as perceived or recognized interpersonal incompatibilities within groups, which are based on friction and personality clashes. On the other hand, cognitive conflict is defined as perceived or recognized disagreements within a group about the tasks to be performed and focuses on differences in judgment about the best way to achieve common goals (Rose & Shoham, 2004).

In project teams with high emotional conflict, the relationship between employees becomes considerably tense. Thus, employees are not willing to demonstrate altruistic behaviors towards coworkers (Chen et al., 2011); subsequently, they have difficulty obtaining emotional comfort from coworkers. Furthermore, incompatible interpersonal relationships inhibit employee interaction and hinder effective communication between them. Affective conflict can also limit the sharing and processing of task-relevant information because employees expend substantial energy on personal antagonisms rather than on the task itself (Simons & Peterson, 2000; Gil et al., 2005).

Cognitive conflict occurs when disagreements arise about the content of the task at hand and when the views, ideas and opinions among team members are different (Jehn, 1995). Cognitive conflict encourages divergent thinking, thereby allowing employees to consider task-related issues from multiple perspectives; therefore, cognitive conflict results in value-added information sharing (Panteli & Sockalingam, 2005). Activating cultural intelligence is unnecessary when cognitive conflict is high. Situations of high cognitive conflict provide

sufficient informational resources for employees to propose creative ideas. Employees can express their opinions openly, deeply understand others' ideas and the current task, and obtain and integrate beneficial information to improve performance (Huang, 2009).

Low cognitive conflicts increase the need to activate cultural intelligence. Employees in low cognitive conflict situations rarely discuss relevant work problems and neglect information compared to those in high cognitive conflict situations (Shaw et al., 2011). The lack of informational resources forces employees to apply and maximize their cultural intelligence to acquire the resources essential for innovation. Based on the arguments above, this study proposes the hypotheses:

H4c -Cognitive conflict positively moderates the relationship between cultural intelligence and innovation in cross-functional project teams.

The next chapter details the entrepreneurial method for the practical execution of the study, with the aim of clarifying the steps taken and facilitating possible reproductions of the work. This chapter focuses on the proposed scheme, the methodological structure considered and the techniques used both to obtain and evaluate the data.

3 TECHNICAL PRODUCTION RESEARCH METHOD AND TECHNIQUES

This chapter describes the methodological path adopted in the research. It starts with the developed model, which was built based on the formulated hypotheses, originating from the proposed objectives and studies carried out in the relevant literature; the model is presented in Figure 1.
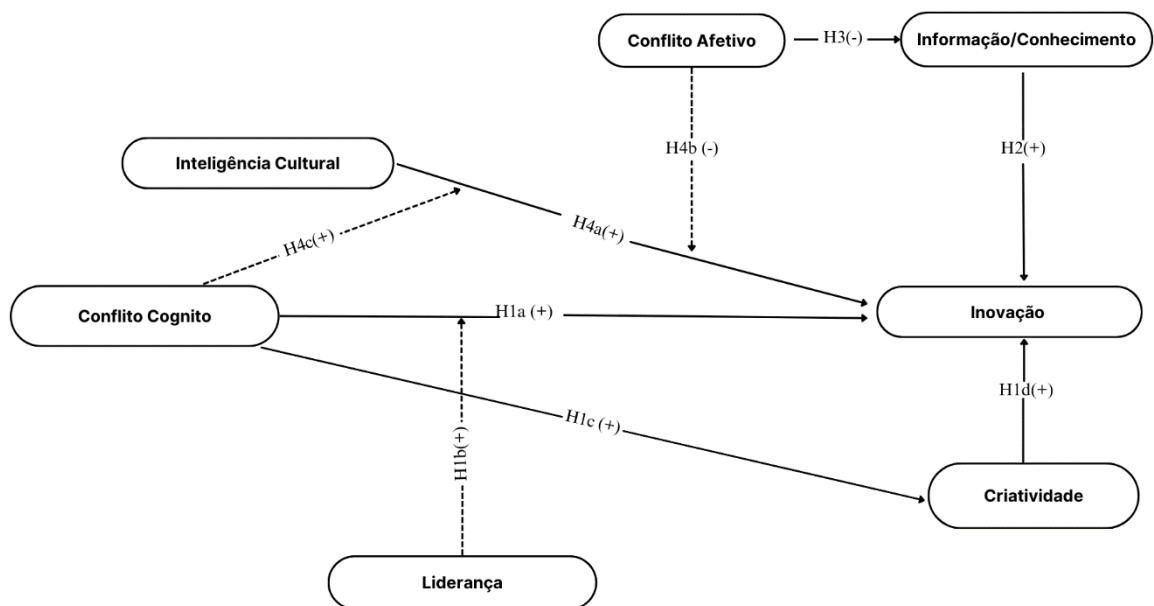
Figure1- Suggested model

Source: Prepared by the author, 2023.

3.1 RESEARCH DESIGN

The research methodology used in the development of this study consists of a quantitative approach, focused on the analysis of several variables. This strategy made it possible to characterize these variables through the study of their frequencies, averages and interrelationships, in addition to encouraging the quantification of the dependent variable (innovation in times of projects with multiple functions). Using this technique, it was feasible to examine theoretical assumptions about existing connections in order to provide an accurate and well-founded assessment of the findings (Crewell, 2007).

Regarding the objectives of the study, it was outlined as exploratory and theoretical, involving the gathering, examination and dissemination of the data obtained. This process allowed the researcher the opportunity to reveal insights into the reasons and methods for carrying out the research, promoting a more detailed understanding of the topic in question (Malhotra, 2012). The exploratory study helped to clarify, for other academics, the importance and need for the research in question.

The study also used a theoretical model, so that works by renowned authors were consulted to discuss and encourage questions in the selected field of study. The literature review provided a critical analysis of the approaches and findings of previous research. Such a review was essential for the researcher to determine the reliability and relevance of studies already carried out, in addition to considering the limitations and trends of previous research (Creswell, 2010). To add more consistency to the theoretical arguments, a bibliometric analysis related to the topic in focus was carried out.

3.2   VARIABLES AND DATA COLLECTION INSTRUMENT.

Obtaining information for the study was carried out based on two main approaches: researching bibliographic materials and collecting empirical data. The bibliographic search, essential for formulating hypotheses and structuring a conceptual model, involved an extensive survey of relevant literature. This process aimed to build a solid theoretical basis, which would facilitate the analysis and understanding of the researched phenomena.

After completing the bibliographical research and establishing a solid theoretical basis, two research instruments were developed, one in Portuguese and the other in English, to obtain empirical data, as detailed in Appendix A and B. These instruments consisted of 40 questions each , so that they were structured to achieve the objective established in the study and are organized into 8 sections, which analyze the variables.

In this study, a robust and well-established scale was used to measure key variables in cross-functional project teams. The main independent variable, 'cognitive conflict', was measured with a four-item scale, based on the model developed by Jehn (1995). This scale has been extensively validated in previous research, ensuring its reliability and relevance in the context of team conflicts.

As for the dependent variable, 'innovation in cross-functional project teams', we employed a three-item scale, originating from the work of Eisenbeiss et al. (2008), a measure recognized for its applicability in innovative multifunctional environments.

Mediating variables received special attention with developed and specific scales. 'Elaboration of task-related information and knowledge' was measured by a six-item scale, adopting approaches from Kearney et al. (2009) and Kalyuga (2009). This choice reflects the need for an in-depth analysis of these aspects in project teams. 'Affective conflict' was assessed using a four-item scale, developed by Jehn (1995), which is specific to team contexts and well established in the literature.

'Creativity' was measured by a four-item scale from Chen and Chang (2005), chosen for their selection in assessing creativity in organizational contexts. Finally, 'cultural intelligence' was measured with a three-item scale from Ang et al. (2008), reflecting its importance in distributed teams.

The moderating variable 'knowledge leadership' was measured by a multidimensional scale by Yang et al. (2014), including three dimensions: leadership skills (three items), cooperation and trust (four items), as well as knowledge integration and innovation (four items). This scale, totaling 11 items, is recognized for its ability to address complex aspects of leadership in knowledge and innovation environments.

For the constructs and their respective scale items, a 5-point Likert frequency scale was used, ranging from 1 (never) to 5 (very often).

3.3 DATA AND SAMPLE COLLECTION PROCEDURE

Data collection occurred through a cross-sectional survey, using a structured questionnaire made available for completion via the web, on the GoogleForms platform, which, in addition to serving as a dissemination and access engine for completing the questionnaire, also served as data storage. Participants responded to questionnaires assessing cognitive conflict, task-related information/knowledge elaboration, affective conflict, knowledge leadership and team innovation. In addition, information was collected about project characteristics, its complexity, type and size of the team.

Initially, companies that developed projects with multifunctional teams were selected and contacted, requesting their participation in the research. Where necessary, telephone contact was made with participants to explain the research and its objectives. In addition to contact with

project organizations, the selection also took place through the online professional platform LinkedIn, Instagram, Whatsapp® messaging application, inviting groups of professionals in the field of management and project management (Project Management) to participate in the research . The questionnaire was applied in Brazil, Canada, Spain, Australia, India, South Africa, the Netherlands, the United Kingdom and Spain. Data collection for the research took place between September 22nd and November 12th, 2023. There was a total of 126 questionnaires, of which 9 were excluded for presenting atypical values (outliers), in a final sample of 117 completed and validated questionnaires.

To estimate the power of this sample size, the G* Power software was used, which aims to perform sample calculations with high reliability. As can be seen in Figure 2, using a median effect (f 2) of 0.15 with a significance level of 0.95 (ß) and sampling error of 5%, for the questionnaire in question, which is composed of 5 independent variables, the minimum number for the sample was 110 respondents. Therefore, the number of 117 responses achieved in the field research proved to be adequate for the tests to be carried out through Structural Equation Modeling.

Figure 2- Sample calculation
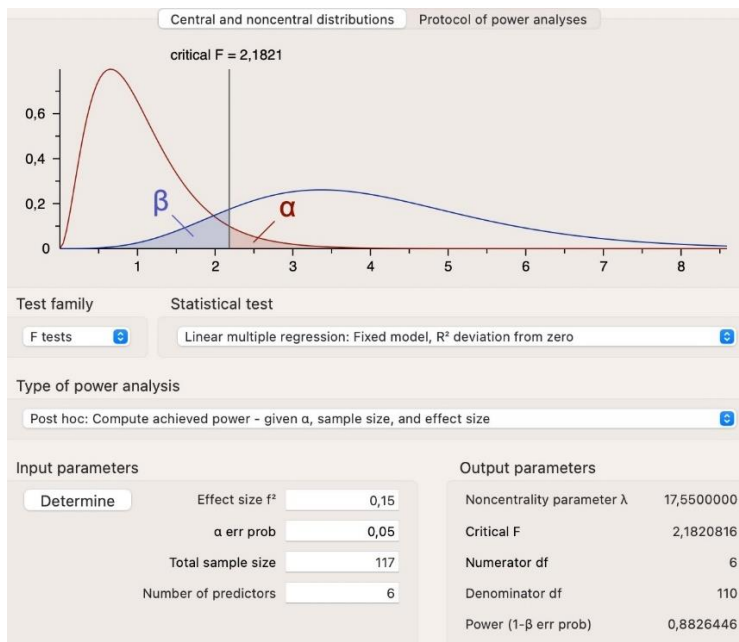
Source: G* Power Software v. 3.1(2023)

The demographic analysis of the group of respondents shows an average age of 45 years, signaling a combination of maturity and professional experience that has the potential to positively influence the dynamics and capacity for innovation in multifunctional teams. The

gender distribution appears to be relatively balanced, with a small female predominance (46.61%), which illustrates the presence of different gender perspectives that can enrich interactions and the creative process within teams. This balance suggests that teams have a rich diversity of views and experiences, potentially favoring a collaborative and innovative environment.

However, when trying to correlate the size of the organization with the roles performed in the teams, no significant insights were observed, which may indicate the complexity of organizational dynamics and the need for more refined analysis methods to understand how these variables interact. This situation highlights the importance of considering multiple dimensions when analyzing cross-functional project teams, where the diversity of experiences and professional backgrounds offers fertile ground for innovation, but also introduces challenges in analyzing how specific demographic and organizational variables impact effectiveness. team's. Thus, the demographic composition reveals a panorama of diversity and experience that can be crucial for the success and innovation of teams, while at the same time pointing to the complexity inherent in the analysis of such phenomena in organizational contexts.

3.4   DATA ANALYSIS PROCEDURE

Structural Equation Modeling (SEM) using the Partial Least Squares method (PLS-SEM) was used to evaluate the theoretical model. This method is commonly used in business and management research (Hair et al., 2014). PLS-SEM solves several covariance-based structural equation modeling problems. First, PLS-SEM provides accurate model estimates for small sample sizes (Hair et al., 2014). The recommended minimum sample size for PLS-SEM, according to Chin and Newsted (1999), is 30 to 100. Secondly, unlike CB-SEM, which is based on maximum probability, PLS-SEM is a non-parametric method, which does not assume that the data is normally distributed.

In the structural model, the analysis occurs in two distinct stages. In the first phase, the measurement model, relationships between the indicators (questionnaire questions) and their respective constructs are verified. In this phase, the convergent validities, discriminant validities and composite reliability of the model are observed. Then, in the structural model, it is possible to describe the relationships between the constructs (model dimensions). This approach allows the analysis of the fit of theory to data, that is, the comparison between reality and the proposed

theoretical model (Hair Jr. et al., 2016), thus making it possible to confirm or refute research hypotheses (Anderson & Gerbing, 1988).

4   RESULTS

In data analysis, Structural Equation Model Analysis (SEM) was used with the Partial Least Squares (PLS) method, using the SmartPLS 2.0 software. This method is effective for examining relationships between several variables, whether latent or observed, offering important insights into the reliability and validity of models (Hair, Hult, Ringle & Sarstedt, 2013; Malhotra, 2012). SmartPLS was chosen due to its ability to provide estimates that maximize the explained variance of the models, as evidenced by Hair, Ringle and Sarstedt (2011). Furthermore, PLS is preferable in scenarios without assumptions of normal data distribution or use of interval scales (Mateos-Aparicio, 2011).

The initial phase of the analysis focused on the measurement model, evaluating convergent and discriminant validity. We seek to understand the relationship between latent constructs and observed variables, ensuring that the latter accurately represent the former (Hair et al., 2014, 2012). Convergent validity was verified through the analysis of Factor/External Loads, Average Variance Extracted (VME), Cronbach's Alpha and Composite Reliability (CC), with the recommendation that factor loads be greater than 0.7 to ensure convergence . Furthermore, the statistical significance of all factor loadings constructed was a requirement to confirm the reliability of the indicator. In this study, it is assumed that the model converges to a satisfactory result, as all evaluated criteria are within adequate values, as shown in Table 1.

Table1-Cronbach's Alpha, Composite Reliability and Average Variances Extracted.

Variables	Cronbach's alpha (AC)	Composite Reliability (CC)	AVEs
Affective conflict	0.795	0.879	0.708
Cognitive conflict	0.785	0.901	0.821
Creativity	0.827	0.885	0.658
Information	0.871	0.903	0.609
Innovation	0.630	0.843	0.729
Cultural intelligence	0.749	0.837	0.563
Leadership	0.943	0.951	0.664

Source: Research data (2023).

Convergent validity was assessed by Average Variance Extracted (AVE), Cronbach's Alpha and Composite Reliability (CC), these indicators being fundamental in determining the quality of the constructs evaluated (Hair, Black, Babin, & Anderson, 2019). Cronbach's Alpha was applied to estimate the internal consistency of the items of each construct, so that values

above 0.7 indicate reasonable reliability (Henseler, Ringle, & Sinkovics, 2009). All constructs in the present analysis surpassed this threshold, reflecting good internal consistency.

Composite Reliability, in turn, is a more robust metric than Cronbach's Alpha, as it takes into account the different item loadings, so that values greater than 0.7 are considered critical (Peterson & Kim, 2013). The results show that all constructs met these criteria, which suggests adequate internal reliability.

As for AVE, a minimum value of 0.5 is expected to confirm that most of the variance of the indicators is explained by the constructs, which supports convergent validity (Hair et al., 2019). In analyzing the question, most constructs exhibited an AVE above this cutoff value, demonstrating that they captured the variation in their indicators.

Considering the reported values and in alignment with the conditional guidelines by authors of quantitative research methods, it is concluded that the analyzed constructs demonstrate satisfactory convergent validity (Hair et al., 2019; Henseler et al., 2009; Peterson & Kim (2013). The data reveal that both Cronbach's Alpha and Composite Reliability exceed the recommended limit of 0.7; the Average Variance Extracted (AVE) for most constructs exceeds the cutoff point of 0.5, corroborating the adequacy of the measures used and the integrity of the constructs within the proposed model.

In the phase following model evaluation, a discriminant validity analysis was undertaken. This step is essential to confirm how distinctive each construction is in relation to the others. High discriminant validity suggests that the construct has a unique characteristic, capturing specific aspects that are not measured by other constructs.   Within the scope of this research, a Fonell-Larcker approach was proposed for such assessment, which consists of comparing the square roots of the AVE values of each construction with the Pearson correlations between the latent variables. This technique is a key indicator to confirm that each construction maintains its individuality within the structural model as a whole (Hair et al., 2014).

Table2-Discriminant Validity.

	Affective conflict	Cognitive conflict	Creativity	Information	Innovation	Cultural intelligence	Leadership
Affective conflict	**0.841**						
Cognitive conflict	0.538	**0.906**					
Creativity	-0.190	-0.021	**0.811**				
Information	-0.279	-0.070	0.666	**0.781**			
Innovation	-0.040	0.111	0.695	0.575	**0.854**		
Cultural intelligence	-0.282	-0.074	0.531	0.606	0.415	**0.750**	
Leadership	-0.137	-0.071	0.471	0.464	0.509	0.547	**0.815**

Note. The values in bold (diagonally) are the square root of the AVE, the other values are the correlations between the variables.

Source: Survey results (2023)

To assess discriminant validity based on Table 2, the Fornell and Larcker classifications were used, which compare the square roots of the Average Variance Extracted (AVE) of each construct with the correlations between constructs. The values on the main diagonal, which represent the square roots of the AVEs, must be greater than the values outside the diagonal to confirm discriminant validity. Below is the analysis based on the data provided.

The "Affective Conflict" construct has a square root AVE of 0.841, which is higher than its correlations with other constructs, with the highest being 0.538 with "Cognitive Conflict", demonstrating adequate discriminant validity. "Cognitive conflict" presents the square root of the AVE of 0.906, which is higher than all its correlations with other constructs, guaranteeing a guaranteed discriminant validity.

For "Creativity", the square root of the AVE is 0.811, which exceeds its correlations with other constructs, with the highest brightness being -0.021 with "Cognitive conflict", attesting to discriminant validity. The "Information" construct has a square root AVE of 0.781, greater than any of its correlations with other constructs, the highest being 0.666 with "Creativity", which confirms its discriminant validity.

"Innovation" shows a square root of AVE of 0.854, which exceeds all its inter-construct correlations, the highest being 0.695 with "Creativity", which validates the discrimination between constructs. "Cultural Intelligence" has a square root AVE of 0.750, which is greater than its correlations with other constructs, the highest being 0.606 with "Information", which supports discriminant validity.

Finally, "Leadership" has a square root of AVE of 0.815, above all its correlations with other constructs, the highest being 0.547 with "Cultural Intelligence", which highlights its adequate discriminant validity. The results indicate that all constructs present adequate discriminant validity, according to the Fornell and Larcker premiums, since the square roots of the AVEs are greater than the interconstruct correlations for each consolidated construct.

Path coefficients in a structural equation model quantify the effect that an exogenous construct has on an endogenous construct; thus, it represents how much of the dependent variable is expected to change with a one-unit increase in the independent variable (Hair et al., 2014). The process of interpreting these results involves carrying out statistical tests to determine the significance of the relationships proposed in the model. These tests are based on the values of our associated p-values. Furthermore, it is essential to consider the magnitude of effects that are statistically significant, as this is crucial for formulating pertinent conclusions. To guarantee the security of relationships at the 95% level, it is expected that the t-Student values exceed 1.96 and the p-values are lower than 0.05 (Hair et al., 2014). In Figure 03, the final structural model can be seen.
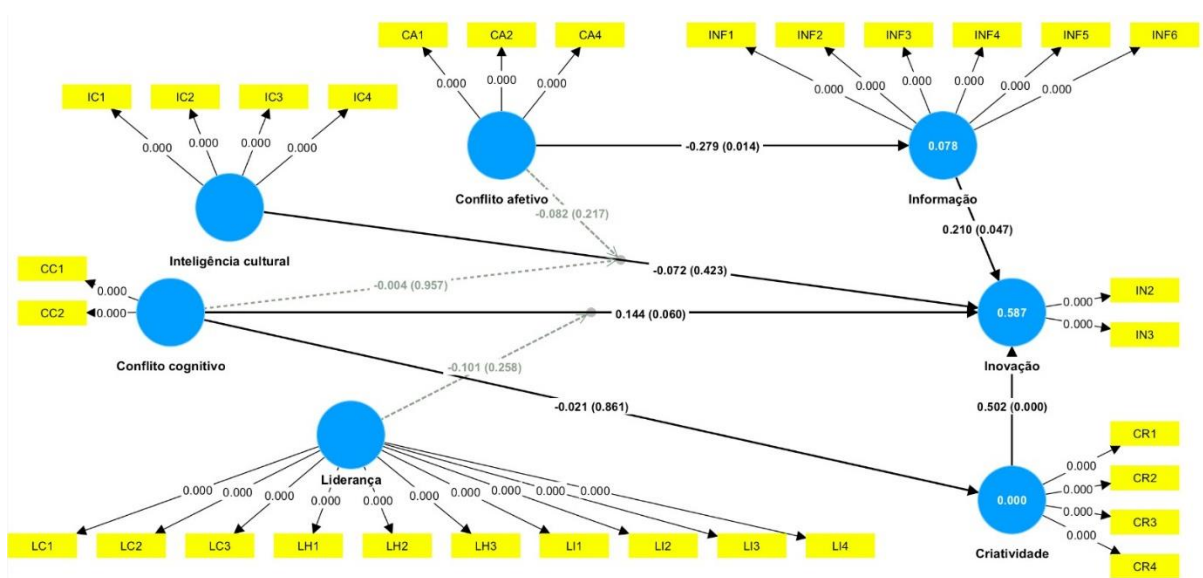
Figure3-Final research analysis structure

Source: Research data (2018).

The results presented in Table 03 indicate that hypotheses H1a) Cognitive conflict is positively related to the level of innovation in multifunctional project teams; H1b) Knowledge leadership positively moderates the relationship between cognitive conflict and innovation in multifunctional project teams; H1c) Cognitive conflict is positively related to the degree of

creativity of multifunctional project teams; H4a) Cultural intelligence is positively related to innovation in multifunctional project teams; H4b) Affective conflict negatively moderates the relationship between cultural intelligence and innovation in multifunctional project teams; and H4c) Cognitive conflict negatively moderates the relationship between cultural intelligence and innovation in cross-functional project teams - were not supported by research.

As for the hypotheses, H1d) Creativity is positively related to the level of innovation in multifunctional project teams; H2) The elaboration of information/knowledge relevant to the task is positively related to innovation in multifunctional project teams; and H3) Affective conflict compromises the team's ability to collaborate and share information/knowledge - were supported by the hypothesis test.

Table3-**Hypothesis test result**

	Variables	Path coefficient	T statistics	P values	Conclusion
H1a)	Cognitive conflict -> Innovation	0.134	1,341	0.180	Not Supported
H1b)	Leadership x Cognitive conflict -> Innovation	-0.101	1,131	0.258	Not Supported
H1c)	Cognitive conflict -> Creativity	-0.021	0.175	0.861	Not Supported
H1d)	**Creativity -> Innovation**	**0.502**	**5,377**	**0.000**	**supported**
H2)	**Information -> Innovation**	**0.210**	**1984**	**0.047**	**supported**
H3)	**Affective conflict -> Information**	**-0.279**	**2,466**	**0.014**	**supported**
H4a)	Cultural intelligence -> Innovation	-0.072	0.802	0.423	Not Supported
H4b)	Affective conflict x Cultural intelligence -> Innovation	-0.082	1,234	0.217	Not Supported
H4c)	Cognitive conflict x Cultural intelligence -> Innovation	-0.004	0.054	0.957	Not Supported

Source: Research data (2023).

After presenting the results, the following chapter discusses the results found in this study.

5 DISCUSSION OF RESULTS

Hypothesis H1a suggests that there is a positive relationship between cognitive conflict and the level of innovation in multifunctional project teams. This assumption stems from the idea that cognitive conflict can enrich decision-making and stimulate innovative solutions by introducing different perspectives and information to the discussion. Contrary to this expectation, data from the current research indicate that hypothesis H1a does not find empirical support, pointing to a more complex interaction between cognitive conflict and innovation than the initial prediction. This conclusion contrasts with the findings of previous studies, such as those by Jehn (1995), Zhang et al. (2022), Lee (2020), Bedford et al. (2022). On the other hand, research by Nguyen et al. (2022), Chen et al. (2019) and Cui et al. (2022) demonstrate that the impact of cognitive conflict can be restricted or less restricted in certain situations, especially in cases of poor conflict management or in contexts of excessive diversity.

Hypothesis H1b investigates the impact of knowledge leadership in modulating the dynamics between cognitive conflict and team innovation. She proposes that effective leadership can direct cognitive conflict to trigger innovation. However, the results of the study do not confirm this theory, indicating that the moderating influence of leadership in this context may not be as significant as previously proposed by Zhang and Guo (2019), Yang et al. (2014) and Choi et al. (2022). Furthermore, Wagner et al. (2021) indicate that studies on knowledge leadership are still recent and require more elaborate analyses.

Hypothesis H1c proposed a positive relationship between cognitive conflict and team creativity, based on the theory that differences in task-related judgments or viewpoints could stimulate creative thinking in cross-functional project teams. However, the empirical data obtained contradict this expectation. The literature by Kiernan et al. (2020), Jehn (1995), Amabile et al. (1996) and Chen and Chang (2005) suggest that cognitive conflict could foster constructive debates and generate diversity of perspectives as well as new ideas, thus contributing to creativity. The empirical results point to the complexity of the factors that influence creativity in teams, highlighting the need to reevaluate the way in which cognitive conflict is perceived and managed in multifunctional contexts, where diverse knowledge and perspectives are a constant.

Hypothesis H1d states that creativity is positively related to innovation levels in multifunctional project teams. This hypothesis is based on the premise that creativity, as the generation of new and useful ideas, is a critical precursor to innovation, which involves the implementation of those ideas. The theoretical foundation presented by Amabile et al. (1996),

West et al. (2002) and Acar et al. (2019) supports this hypothesis, showing a direct connection between the creativity of teams and their capacity for innovation.

The results of the study provide empirical support for these hypotheses, highlighting the great importance of creativity in facilitating innovation in teams, particularly in multifunctional contexts, in which the fusion of different creative contributions is decisive to generate innovative results. The study also emphasizes the need for organizations to foster creative skills and create an environment that favors creative expression, as a means of contributing to innovation.

Hypothesis H2 proposes that the in-depth elaboration of information and knowledge related to tasks in project teams is directly associated with an increase in innovation. This approach is founded on the idea that efficient processing and utilization of knowledge is essential to achieving innovative results in team environments. The evidence obtained by the research corroborates these hypotheses, revealing that teams that carry out in-depth investigations and presented analyzes of information relevant to the tasks have greater potential to develop innovative solutions. The elaboration process includes not only the sharing of information, but also its integration and recombination, favoring the emergence of new insights and ideas, as indicated by Jiménez-Jiménez and Sanz-Valle (2011).

However, effectiveness in knowledge elaboration depends on specific conditions, such as the existence of a climate of trust and open communication within the team, as highlighted by Kiernan et al. (2020). Thus, teams that cultivate an environment in which members feel comfortable sharing and questioning ideas can maximize the use of this diversity of perspectives, improving their innovative capacity, as evidenced in studies by Keearneye et al. (2009) and Kalyuga (2009). This element of team dynamics emphasizes the relevance of efficient management and the implementation of standards that promote a constructive and productive exchange of information and knowledge.

Hypothesis H3 postulates that affective conflict has a detrimental effect on the team's collaborative capabilities and knowledge sharing. Jehn (1995) and Zhang et al. (2022) suggest that when team members experience interpersonal incompatibilities and emotional tensions, it creates an environment that is not conducive to open communication and trust, which are essential for effective collaboration. Li et al. (2022) indicate that affective conflict can undermine team cohesion and impede the flow of information, thus harming team performance.

The data presented in the research empirically supports this hypothesis, indicating that affective conflict is in fact inversely related to the team's innovation capacity. This is an important finding as it highlights the negative impact of emotional conflict on processes that

are vital to innovation, such as collaborative engagement and knowledge exchange. It highlights the need for teams to develop conflict management strategies that can mitigate the impact of affective conflict, thus safeguarding the collaborative climate and maintaining the team's innovative capacity.

Hypothesis H4a investigates the intelligence connection between culture and innovation in multifunctional project teams, assuming that cultural intelligence - the ability to act effectively in different cultural contexts, according to Ang and Van Dyne (2008) - enhances the contribution of members of cross-functional teams for innovative results. Hu et al. (2019), Li et al. (2021), Fan et al. (2020) support the idea that cultural intelligence is a vector for understanding and assimilating different perspectives, essential for the innovative process. However, research reveals that this direct relationship is not empirically supported. The results indicate that, despite its benefits in multicultural environments, the direct influence of cultural intelligence on innovation is more complex and can be overcome by other mediating factors, possibly related to the specificities of the team or the organizational context, which are more determining in converting cultural intelligence into innovative results.

In hypothesis H4b, it is postulated that affective conflict acts as a negative moderator in the relationship between cultural intelligence and innovation in teams. According to this perspective, high levels of cultural intelligence in individuals cannot be sufficient to counterbalance the adverse effects of affective conflict - characterized by personal and emotional animosity, as described by Jehn (1995) -, since environmental factors nullify its positive impacts on innovation. , damaging the dynamics and cohesion of the group (Ayoko et al., 2022).

The lack of empirical support for H4c in research suggests that the interaction between cultural intelligence and affective conflict is more complex than initially anticipated. Although Martins et al. (2012), as well as Jehn (1995) recognize that affective conflict is generally detrimental to team functioning, the findings imply that cultural intelligence does not necessarily protect teams against the negative effects of such conflict on innovation. This points to the potential need for additional research to explore how cultural intelligence can be effectively harnessed in the presence of affective conflicts to sustain innovation.

Hypothesis H4c proposes that cultural intelligence exerts a positive influence on the relationship between cognitive conflict and innovation in teams. This conjecture is based on the idea that team members with high cultural intelligence are better able to manage the complexities associated with cognitive conflict, facilitating the transformation of a diverse spectrum of ideas into concrete innovations (Panteli & Sockalingam, 2005; Huang, 2009).

Academic literature reinforces this view, indicating that individuals with high cultural intelligence are effective in overcoming differences and fostering more constructive dialogue (Shaw et al., 2011). However, contrary to the required theoretical basis, the data obtained do not confirm the H4c hypothesis. This unexpected finding requires a careful review of how cultural intelligence operates in the context of conflict and innovation, reducing the fact that intermediate factors, such as the nature of the conflict or the existence of supportive leadership, may be decisive in determining the impact of cultural intelligence. in the dynamics between cognitive conflict and innovation.

5.1   LIMITATIONS AND FUTURE RESEARCH

The study conducted an in-depth investigation into innovation in multifunctional project teams, however, some relevant limitations are highlighted. Firstly, a final sample of 117 questionnaires is considered relatively small, which may limit the generalizability of the results to broader contexts. Although the study covered a diverse range of international participants, representativeness and statistical power may be compromised by sample size. This suggests that future research could benefit from a larger sample to improve the robustness and generalizability of the results.

Although this study provided important insights for innovation, it revealed a significant gap: the model's inability to establish a direct connection between cultural intelligence, leadership and innovation. This finding highlights a substantial opportunity for future investigation. Subsequent research could focus on more incisively examining the impact of cultural intelligence and diverse leadership styles on innovation in organizational contexts. It would also be relevant to analyze how these factors interact with contextual variables, such as the specific nature of the tasks and the internal dynamics of the teams, requiring more detailed investigation.

Furthermore, applying the model to a diverse range of organizational and cultural contexts in future studies would be advantageous. This approach would not only contribute to validating and improving the applicability of the model, but would also facilitate a more detailed understanding of the subtleties that influence the interaction between leadership, cultural intelligence and innovation in various environments.

In summary, the present research provides a robust foundation for understanding how leadership and cultural intelligence can affect innovation in cross-functional teams. However,

there is considerable scope for further research in this area, particularly in relation to the direct connection between these elements and innovation. Such exploration could offer significant contributions to both organizational theory and practice.

6 CONCLUSION

The present study corroborates a finding of notable significance: the presence of affective conflicts in work teams has an adverse and substantial impact on innovation processes. This finding constitutes a finding of singular relevance, as it sheds light on the complex interaction between affective dimensions and the innovative capacity of work groups. The research reinforces the premise that emotions and interpersonal tensions, often neglected, can play a determining role in driving innovation in organizational contexts.

From a practical perspective, the results of this study point to the imperative need for organizations to undertake effective conflict management strategies, in order to mitigate the negative effect of these emotional interactions on innovation processes. At the theoretical level, the research offers a substantial contribution to the field of knowledge, enriching the understanding of the complex dynamics between affective conflict and innovation in teams. The emphasis on analyzing emotional and interpersonal components in the context of work teams allows for new perspectives and explores a more holistic approach to innovation management.

The unique merit of this work lies in its innovative approach and the incorporation of the affective dimension as a preponderant factor in innovation processes. By highlighting the importance of managing emotional conflicts, the study offers a relevant contribution to both academia and the corporate world, outlining a path to promoting work environments that are more conducive to innovation. In this sense, this research is relevant to understanding the complex relationships between emotional aspects and innovation in organizations.

REFERENCES

Acar, O. A., Tarakci, M., & van Knippenberg, D. (2019). Creativity and Innovation Under Constraints: A Cross-Disciplinary Integrative Review. Journal of Management, 45(1), 96-121.

Adamovic, M. (2022). Taking a conflict perspective to explain an employee's creativity. International Journal of Conflict Management, 33(4), 714–737.https://doi.org/10.1108/IJCMA-09-2021-0152

Afsar, B., Al-Ghazali, B. M., Cheema, S., & Javed, F. (2020). Cultural intelligence and innovative work behavior: the role of work engagement and interpersonal trust. European Journal of Innovation Management, 24(4), 1082–1109.

Al-Ghazali, B. M., & Afsar, B. (2021). Investigating the mechanism linking task conflict with employees' innovative work behavior. International Journal of Conflict Management, 32(4), 599–625.https://doi.org/10.1108/IJCMA-07-2020-0119

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the Work Environment for Creativity. The Academy of Management Journal.39.5.

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. Academy of Management Journal, 39, 123–148.

Amason, A.C., & Mooney, A.C. (1999). The Effects Of Past Performance On Top Management Team Conflict In Strategic Decision Making. The International Journal of Conflict Management, 10, 4.

Amason, A. C., & Schweiger, D. M. (1994). Resolving The Paradox Of Conflict, Strategic Decision Making, And Organizational Performance. The International Journal of Conflict Management, 5, 3.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. Phychological Bulletin, 103(3), 411–423.

Anderson, N., De Dreu, C. K. W., & Nijstad, B. A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. Journal of Organizational Behavior. 25, 2, p. 147–173.

Ang, S., & Van Dyne, L. (2008). Conceptualization of Cultural Intelligence: Definition, Distinctiveness, and Nomological Network. In S. Ang & L. Van Dyne (Eds.), Handbook on cultural intelligence: theory, measurement and applications (pp. 3–15). New York: ME Sharpe.

Baker, B. (2020). Power, Leadership and Culture as Drivers of Project Management. American Journal of Management, 20(1)

Bedford, D.S., Bisbe, J., & Sweeney, B. (2022). The joint effects of performance

measurement system design and TMT cognitive conflict on innovation ambidexterity. Management Accounting Research, 57, 100805.

Bradley, BH, et al., When conflict helps: Integrating evidence for beneficial conflict in groups and teams under three perspectives. Group Dynamics: Theory, Research, and Practice, 2015. 19(4): p. 243.

Button, SB, Mathieu, JE and Zajac, DM (1996) Goal Orientation in Organizational Research: A Conceptual and Empirical Foundation. Organizational Behavior and Human Decision Processes, 67, 26-48.

Caputo Andrea, Oluremi B. Ayoko, Nii Amoo (2018). The moderating role of cultural intelligence in the relationship between cultural orientations and conflict management styles, Journal of Business Research, 89, Pages 10-20.

Caputo, A., Kargina, M., & Pellegrini, M. M. (2023). Conflict in virtual teams: a bibliometric analysis, systematic review, and research agenda. International Journal of Conflict Management, 34(1), 1–31.https://doi.org/10.1108/IJCMA-07-2021-0117

Casakin, H., N. Davidovitch, and RM Milgram, Creative thinking as a predictor of creative problem solving in architectural design students. Psychology of aesthetics, creativity, and the arts, 2010. 4(1): p. 31.

Chen, G., Sharma, P. N., Edinger, S. K., Shapiro, D. L., & Farh, J.-L. (2011). Motivating and demotivating forces in teams: Cross-level influences of empowering leadership and relationship conflict. Journal of Applied Psychology, 96(3), 541–557.

Chen, Mei-Liang & Lin, Chieh-Peng. (2013). Assessing the Effects of Cultural Intelligence on Team Knowledge Sharing From a Socio-Cognitive Perspective. Human Resource Management. 52.

Chen, M.&Chang, Y.(2005), "The Dynamics Of Conflict And Creativity During A Project's Life Cycle: A Comparative Study Between Service-Driven And Technology-Driven Teams In Taiwan",International Journal Of Organizational Analysis, 13, 2,127-150.

Chen, X., Liu, J., Zhang, H., & Kwan, H. K. (2019). Cognitive diversity and innovative work behavior: The mediating roles of task reflexivity and relationship conflict and the moderating role of perceived support. Journal of Occupational and Organizational Psychology, 92(3), 671–694.

Choi SB, Jung KB and Kang SW (2022) What hinders team innovation performance? Three-way interaction of destructive leadership, intra-team conflict, and organizational diversity. Front. Psychol. 13:879412

Creswell, J. W. (2010). Research design: qualitative, quantitative and mixed methods. Porto Alegre: Bookman.

Creswell, J. W., & Tashakkori, A. (2007). Different perspectives in mixed methods research. Journal of Mixed Methods Research, 1(4), 303-308.

Cronin, M. A., & Bezrukova, K. (2019). Conflict management through the lens of system dynamics. Academy of Management Annals, 13(2), 770–806.https://doi.org/10.5465/annals.2017.0021

Cronin, M.A., & Weingart, L.R. (2019). Conflict across representational gaps: Threats to and opportunities for improved communication. Proceedings of the National Academy of Sciences of the United States of America, 116(16), 7642–7649.https://doi.org/10.1073/pnas.1805866116

Cui, G., Wang, F. & Zhang, Y. Buffer or boost? the role of openness to experience and knowledge sharing in the relationship between team cognitive diversity and members' innovative work behavior. Curr Psychol 42, 25233–25245 (2022)

De Dreu, C. K. W. (2006). When too little or too much hurts: Evidence for a curvilinear relationship between task conflict and innovation in teams. Journal of Management, 32(1), 83–107.

De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. Journal of Applied Psychology, 88(4), 741–749.https://doi.org/10.1037/0021-9010.88.4.741

De Dreu, C. K. W., & West, M. A. (2001). Minority dissent and team innovation: The importance of participation in decision making. Journal of Applied Psychology, 86, 1191–1201.

De Dreu, CKW and Weingart, LR (2003), "Task versus relationship conflict, team performance and team member satisfaction: a meta-analysis", Journal of Applied Psychology, Vol. 88 No. 4, pp. 741-749.

De Wit, F.R.C., Lindred L., G., & Karen A. Jehn. (2012). Supplemental Material for The Paradox of Intragroup Conflict: A Meta-Analysis. Journal of Applied Psychology.https://doi.org/10.1037/a0024844.supp

DeChurch, L. A., Mesmer-Magnus, J. R., & Doty, D. (2013). Moving beyond relationship and task conflict: Toward a process-state perspective. Journal of Applied Psychology, 98(4), 559–578.https://doi.org/10.1037/a0032896

Deloitte, 2022. Cross-functional teams can boost innovation, adaptability. Available at: https://action.deloitte.com/insight/1892/cross-effective-teams-may-boost-innovation-adaptability Accessed on: June 6, 2023.

Deng, Y., Lin, W. & Li, G. When and How Does Team Task Conflict Spark Team Innovation? A Contingency Perspective. J Bus Ethics 181, 745–761 (2022).

Di Vaio, A., Palladino, R., Pezzi, A., & Kalisz, DE (2021). The role of digital innovation in knowledge management systems: A systematic literature review. Journal of Business Research, 123, 220–231.

Di Vaio, Assunta & Palladino, Rosa & Pezzi, Alberto & Kalisz, David. (2021). The role of digital innovation in knowledge management systems: A systematic literature review.

Journal of Business Research. 123. 220-231.

Donate, M.J., Guadamillas, F., & González-Mohíno, M. (2022). Solving task management conflict in hotel establishments through knowledge management tools: effects on innovation capabilities. Journal of Knowledge Management, 27(11), 157–186. https://doi.org/10.1108/JKM-10-2022-0852

Dweck, C. S. (1986). Motivational processes affecting learning. American Psychologist, 41, 1040-1048.

Earley, P. C., & Ang, S. (2003). Cultural Intelligence: Individual Interactions Between Cultures. Stanford, California: Stanford University Press.

Eisenbeiss, S. A., van Knippenberg, D., & Boerner, S. (2008). Transformational Leadership and Team Innovation: Integrating Team Climate Principles. Journal of Applied Psychology, 93(6), 1438–1446. https://doi.org/10.1037/a0012716

Eisenhardt, K. M., & Zbaracki, M. J. (1992). Strategic decision making. Strategic Management Journal, 13(S2), 17-37.

Elenkov, D. S., & Manev, I. M. (2009). Senior expatriate leadership's effects on innovation and the role of cultural intelligence. Journal of World Business, 44(4), 357–369. https://doi.org/10.1016/j.jwb.2008.11.001

Fahoum N, Pick H, Ivancovsky T, Shamay-Tsoory S. Free Your Mind: Creative Thinking Contributes to Overcoming Conflict-Related Biases. Brain Sci. 2022 Nov 17;12(11):1566.

Fan, P., Song, Y., Nepal, S., & Lee, H. T. (2020). Can Cultural Intelligence Affect Employee's Innovative Behavior? Evidence From Chinese Migrant Workers in South Korea. Frontiers in Psychology, 11.

Farh, J. L., Lee, C., & Farh, C. I. C. (2010). Task Conflict and Team Creativity: A Question of How Much and When. Journal of Applied Psychology, 95(6), 1173–1180. https://doi.org/10.1037/a0020015

Fey, C. F., & Beamish, P. W. (1999). Strategies for managing Russian international joint venture conflict. European Management Journal, 17(1), 99–106.

Flick, U. (2013). Introduction to research methodology: a guide for beginners. (1st ed.) Porto Alegre: I think.

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. Journal of applied psychology, 86(3), 513.

Gheorghe, A., O. Fodor, and A. Pavelea, Ups and downs on the roller coaster of task conflict: the role of group cognitive complexity, collective emotional intelligence and team creativity. Psihologia Resurselor Umane, 2020. 18(1): p. 23-37

Gil, F., Alcover, C.-M., Peiró, J.-M., Margarida Passos, A., & Caetano, A. (2005). Exploring

the effects of intragroup conflict and past performance feedback on team effectiveness. Journal of Managerial Psychology, 20(3/4), 231–244.

Gilson, LL and CE Shalley, A little creativity goes a long way: An examination of teams' engagement in creative processes. Journal of management, 2004. 30(4): p. 453-470.

Greer, L. L., Jehn, K. A., & Mannix, E. A. (2008). Conflict transformation: A longitudinal investigation of the relationships between different types of intragroup conflict and the moderating role of conflict resolution. Small Group Research, 39(3), 278–302. https://doi.org/10.1177/1046496408317793

Hair, JF, Hult, GTM, Ringle, CM et al. (2016). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (2nd ed.). Los Angeles: SAGE Publications.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A primer on partial least squares structural equation modeling (PLS-SEM). Los Angeles.

Hair, J., Hult, T., Ringle, C., & Sarstedt, M. (2013). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Thousand Oaks, CA

Hair, J., Ringle, C. and Sarstedt, M. (2011) PLS-SEM: Indeed a Silver Bullet. Journal of Marketing Theory and Practice, 19, 139-151. https://doi.org/10.2753/MTP1069-6679190202

Hair, JF, Black, WC, Babin, BJ and Anderson, RE (2010) Multivariate Data Analysis. 7th Edition, Pearson, New York.

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, pp. 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hausberg, JP and Leeflang, PSH (2019), "Empirical evidence on the mediating role of absorptive capacity between functional-/cross-functional integration and innovation performance", International Journal of Innovation Management, Vol. 23 No. 6.

Hedlund, J., Ilgen, D. R., & Hollenbeck, J. R. (1998). Decision Accuracy In Computer-Mediated Versus Face-To-Face Decision-Making Teams. Organizational Behavior And Human Decision Processes, 76.1.

Henderson S, Horne M, Hills R, Kendall E. Cultural competence in healthcare in the community: A conceptual analysis. Health Soc Care Community. 2018 Jul;26(4):590-603

Henseler, J., Ringle, CM and Sinkovics, RR (2009), "The use of partial least squares path modeling in international marketing", Sinkovics, RR and Ghauri, PN (Ed.) New Challenges to International Marketing,Advances in International Marketing, 20, pp. 277-319.https://doi.org/10.1108/S1474-7979(2009)0000020014

Hill, L. A., Brandeau, G., Truelove, E., & Lineback, K. (2014). Collective Genius: The Art

and Practice of Leading Innovation. Harvard Business Review Press.

Hobfoll, S. E., & Shirom, A. (2001). Conservation of resources theory: Applications to stress and management in the workplace. In RT Golembiewski (Ed.), Handbook of organizational behavior (pp. 57–80). New York: Marcel Dekker.

Hobfoll, S. E., & Shirom, A. (2001). Conservation of resources theory: Applications to stress and management in the workplace. In RT Golembiewski (Ed.), Handbook of organizational behavior (pp. 57–80). New York: Marcel Dekker.

Hochwarter, W. A., Witt, L., Treadway, D. C., & Ferris, G. R. (2006). The interaction of social skill and organizational support on job performance. Journal of Applied Psychology, 91(2), 482–489.

Hoever, I.J., van Knippenberg, D., van Ginkel, W.P., & Barkema, H.G. (2012). Fostering team creativity: Perspective taking as key to unlocking diversity's potential. Journal of Applied Psychology, 97(5), 982–9.

Hu, N., Wu, J., & Gu, J. (2019). Cultural intelligence and employees' creative performance: The moderating role of team conflict in interorganizational teams. Journal of Management and Organization, 25(1), 96–116. https://doi.org/10.1017/jmo.2016.64

Huang, C.-C. (2009). Knowledge sharing and group cohesiveness on performance: An empirical study of technology R&D teams in Taiwan. Technovation, 29(11), 786–797.

Hughes, D. J., Lee, A., Tian, A. W., Newman, A., & Legood, A. (2018). Leadership, creativity, and innovation: A critical review and practical recommendations. The Leadership Quarterly, 29(5), 549–569.https://doi.org/10.1016/J.LEAQUA.2018.03.001

Jankelova, Nadezda & Joniaková, Zuzana & Misun, Juraj. (2021). Innovative Work Behavior—A Key Factor in Business Performance? The Role of Team Cognitive Diversity and Teamwork Climate in This Relationship. Journal of Risk and Financial Management. 14. 185.

Janssen Onne & Giebels Ellen (2013) When and why creativity-related conflict with coworkers can hamper creative employees' individual job performance, European Journal of Work and Organizational Psychology, 22:5, 574-587.

Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. Administrative Science Quarterly, 40, 256-282

Jehn, K. A., & Bendersky, C. (2003). Intragroup Conflict in Organizations: A Contingency Perspective on the Conflict-Outcome Relationship. Research in Organizational Behavior, 25, 187-242.

Jehn, K. A., & Bezrukova, K. (2004). A field study of group diversity, workgroup context, and performance. Journal of Organizational Behavior, 25(6), 703–729.

Jehn, K., Rispens, S., Jonsen, K., & Greer, L. (2013). Conflict contagion: A temporal perspective on the development of conflict within teams. International Journal of

Conflict Management, 24(4), 352–373. https://doi.org/10.1108/IJCMA-05-2011-0039

Jehn, K. A., & Mannix, E. A. (2001). The Dynamic Nature of Conflict: A Longitudinal Study of Intragroup Conflict and Group Performance. Academy of Management Journal, 44, 238-251.

Jehn, Karen & Northcraft, Gregory & Neale, Margaret. (1999). Why Differences Make a Difference: A Field Study of Diversity, Conflict and Performance in Workgroups. Administrative Science Quarterly, 44. 741-763. 10.2307/2667054

Jeske, D., & Calvard, T. S. (2021). A review of the literature on cross-functional integration (2010–2020): trends and recommendations. International Journal of Organizational Analysis 29, 2, p. 401–41.

Jiang, Y., & Chen, C. C. (2018). Integrating Knowledge Activities for Team Innovation: Effects of Transformational Leadership. Journal of Management, 44(5), 1819-1847.

Jiménez-Jiménez, D., & Sanz-Valle, R. (2011). Innovation, organizational learning, and performance. Journal of Business Research, 64(4), 408–417.

Kalyuga, S. (2009). Knowledge elaboration: A cognitive load perspective. Learning and Instruction, 19(5), 402–410. https://doi.org/10.1016/j.learninstruc.2009.02.003

Kearney, E., & Gebert, D. (2009). Managing diversity and enhancing team outcomes: the promise of transformational leadership. The Journal of applied psychology, 94 1, 77-89 .

Kiernan, L., Ledwith, A., & Lynch, R. (2020). Comparing the dialogue of experts and novices in interdisciplinary teams to inform design education. International Journal of Technology and Design Education, 30(1), 187–206. https://doi.org/10.1007/s10798-019-09495-8

Lakshman, C. (2009). Organizational knowledge leadership: An empirical examination of knowledge management by top executive leaders. Leadership and Organization Development Journal, 30(4), 338–364. https://doi.org/10.1108/01437730910961676

Lee, E. K., Avgar, A. C., Park, W.-W. and Choi, D. (2019), "The dual effects of task conflict on team creativity: Focusing on the role of team-focused transformational leadership", International Journal of Conflict Management, Vol. 30 No. 1, pp. 132-154.

Lee, HW (2020), "The cost and benefit of interdepartmental collaboration: an evidence from the US federal agencies", International Journal of Public Administration, Vol. 43 No. 4, pp. 294-302

Lee, S., Yun, S., & Srivastava, A. (2013). Evidence for a curvilinear relationship between abusive supervision and creativity in South Korea. The Leadership Quarterly, 24(5), 724-731. doi: https://doi. org/10.1016/j.leaqua.2013.07.002l

Levenson, A. (2012), "Talent management: challenges of building cross-functional capability in highperformance work systems environments", Asia Pacific Journal of Human

Resources, 50, 2, pp. 187-204

Li J, Wu N, Xiong S (2021) Sustainable innovation in the context of organizational cultural diversity: The role of cultural intelligence and knowledge sharing. PLoS ONE 16(5): e0250878. https://doi.org/10.1371/journal.pone.0250878

Li, B., Chen, W., He, C., & Zhang, Y. (2022). Team autonomy, information exchange and team innovation performance: the moderating role of team conflict. International Journal of Conflict Management, 33(5), 860–881. https://doi.org/10.1108/IJCMA-01-2022-0012

Li, Y. and Yang, B. (2018), "When is task conflict translated into employee creativity? The moderating role of growth need strength", Journal of Personnel Psychology, 17. 1, pp. 22-32.

Lovelace, K., Shapiro, DL and Weingart, LR (2001), "Maximizing cross-functional new product teams' innovativeness and constraint adherence: a conflict communications perspective", Academy of Management Journal, 44,4, pp. 779-793.

Ma, L., Yang, B., Wang, X. and Li, Y. (2017), "On the dimensionality of intragroup conflict: An exploratory study of conflict and its relationship with group innovation performance", International Journal of Conflict Management , Vol. 28 No. 5, pp. 538-562.

Malhotra, N. (2012). Marketing research: an applied orientation. (6th ed.). Porto Alegre: 63 Bookman

Martins, L.L., Schilpzand, M.C., Kirkman, B.L., Ivanaj, S., & Ivanaj, V. (2012). A contingency view of the effects of cognitive diversity on team performance: The moderating roles of team psychological safety and relationship conflict. Small Group Research, 44(2), 96–126.

Mateos-Aparicio, G. (2011) Partial Least Squares (PLS) Methods: Origins, Evolution, and Application to Social Sciences. Communications in Statistics-Theory and Methods, 40, 2305-2317.

Miron-Spektor, E., & Erez, M. (2017). Looking At Creativity Through A Paradox Lens: Deeper Understanding And New Insights. OxfordUniversity Press.

Miron-Spektor, E., Ingram, A., Keller, J., Smith, W. K., & Lewis, M. W. (2018). Microfoundations of organizational paradox: The problem is how we think about the problem. Academy of Management Journal, 61(1), 26–45. https://doi.org/10.5465/amj.2016.0594

Montag-Smit, T. and CP Maertz Jr, Searching outside the box in creative problem solving: The role of creative thinking skills and domain knowledge. Journal of Business Research, 2017. 81: p. 1-10

Nagy, B., Czigler, I., Csizmadia, P., File, D., Fáy, N., & Gaál, ZA (2023). Investigating the involvement of cognitive control processes in innovative and adaptive creativity and their age-related changes. Frontiers in Human Neuroscience, 17.

Nemeth, CJ, et al., Improving decision making by means of dissent Journal of Applied Social Psychology, 2001. 31(1): p. 48-58.

Ng, PK, Jee, KS and Anuar, NI (2012), "The role of cross-functional teamwork in developing creativity: a review", 3rd International Conference on Engineering and ICT (ICEI2012), 4-6 April 2012, Melaka, pp. 43-47

Nguyen, P.T., Sanders, K., Schwarz, G.M., & Rafferty, A.E. (2022). The linkage between cognitive diversity and team innovation: Exploring the roles of team humor styles and team emotional intelligence via the conservation of resources theory. Organizational Psychology Review, 12(4), 428-452.

Oluremi B. Ayoko, Yue Zhang & Julie Nicoli (2022) Conflict and sociocultural adaptation: the mediating and moderating role of conflict communication behaviors and cultural intelligence, The International Journal of Human Resource Management, 33:17, 3451-3491

O'Neill, TA and MJ McLarnon, Optimizing team conflict dynamics for high performance teamwork. Human Resource Management Review, 2018. 28(4): p. 378-394

Onne Janssen & Ellen Giebels (2013) When and why creativity-related conflict with coworkers can hamper creative employees' individual job performance, European Journal of Work and Organizational Psychology, 22:5, 574-587, DOI: 10.1080/1359432X.2012.669524

Panteli, N., & Sockalingam, S. (2005). Trust and conflict within virtual inter-organizational alliances: A framework for facilitating knowledge sharing. Decision Support Systems, 39(4), 599–617.

Pellathy, DA, Mollenkopf, DA, Stank, TP and Autry, CW (2019), "Cross-functional integration: concept clarification and scale development", Journal of Business Logistics, Vol. 40 No. 2, pp. 81-104.

Perry-Smith, J.E., & Shalley, C.E. (2003). The social side of creativity: A static and dynamic social network perspective. Academy of Management Review, 28(1), 89–106.

Peterson, R. A., & Kim, Y. (2013). On the relationship between coefficient alpha and composite reliability. Journal of Applied Psychology, 98(1), 194–198. https://doi.org/10.1037/a0030767

Pitelis, Christos & Wagner, Joachim. (2018). Strategic Shared Leadership and Organizational Dynamic Capabilities. The Leadership Quarterly. 30

Rahim, M. A. (2002). Toward A Theory Of Managing Organizational Conflict. The International Journal Of Conflict Management,13, 3.

Ratasuk, A., & Charoensukmongkol, P. (2020). Does cultural intelligence promote cross-cultural teams' knowledge sharing and innovation in the restaurant business? Asia-Pacific Journal of Business Administration, 12(2), 183–203.

Ren, X., Xu, J., Hao, Y., & Wang, S. (2023). The effectiveness of relationship quality on knowledge transfer in project teams: the roles of project organizational structure. Kybernetes. https://doi.org/10.1108/K-10-2022-1394

Ritter, T., & Gemünden, H.G. (2004). The impact of a company's business strategy on its technological competence, network competence and innovation success. Journal of Business Research, 57(5), 548–556. https://doi.org/10.1016/S0148-2963(02)00320-X

Robb, A., Rohrschneider, M., Booth, A., Carter, P., Walker, R., & Andrews, G. (2022). Enhancing organizational innovation capability–A practice-oriented insight for pharmaceutical companies. Technovation, 115, 102461.

Roberson, Q.M., & Park, H.J. (2007). Examining the link between diversity and firm performance: The effects of diversity reputation and leader racial diversity. Group & Organization Management, 32(5), 548–568.

Rose, G. M., & Shoham, A. (2004). Interorganizational task and emotional conflict with international channels of distribution. Journal of Business Research, 57(9), 942–950.

Rowe, F., El Amrani, R., Bidan, M., Marciniak, R. and Geffroy-Maronnat, B. (2005), "Does ERP provide a cross-functional view of the firm? Challenging conventional wisdom for SMEs and large French firms", ICIS 2005 Proceedings, p. 43, available at: http://aisel.aisnet.org/icis2005/43

Runco, MA and GJ Jaeger, The standard definition of creativity. Creativity Research Journal, 2012. 24(1): p. 92-96.

Rupcic, N. (2023), "Means to improve organizational learning capacity", The Learning Organization ,30 .1.

Sawyer, K. (2007). Group genius: The creative power of collaboration. Basic Books

Seravalli, G. (2011). Scientific Papers (www.scientificpapers.org) Journal of Knowledge Management, Economics and Information Technology Conflict, Contract, Leadership and Innovation: An Interdisciplinary View. www.scientificpapers.org

Shaw, J. D., Zhu, J., Duffy, M. K., Scott, K. L., Shih, H.-A., & Susanto, E. (2011). A contingency model of conflict and team effectiveness. Journal of Applied Psychology, 96(2), 391–400.

Shin, S. J., & Zhou, J. (2007). When is educational specialization heterogeneity related to creativity in research and development teams? Transformational leadership as a moderator. The Journal of applied psychology, 92 6, 1709-21.

Shuffler, M. L., & Cronin, M. A. (2020). The challenges of working with "real" teams: Introduction to the second installment. Organizational Psychology Review, 10, 2, p. 57–61.

Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust. Journal of applied psychology,

85(1), 102.

Sinha, R., Janardhanan, NS, Greer, L.L., Conlon, DE, & Edwards, J.R. (2016). Skewed task conflict in teams: What happens when a few members see more conflict than the rest? Journal of Applied Psychology, 101, 1045–1055.

Sirmon, D. G., & Lane, P. J. (2004). A model of cultural differences and international alliance performance. Journal of International Business Studies, 35(4), 306–319.

Thayer, A.L., Petruzzelli, A., & McClurg, C.E. (2018). Addressing the paradox of the team innovation process: A review and practical considerations. American Psychologist, 73(4), 363–375

Tjosvold, D., & Sun, H. F. (2001). Effects Of Influence Tactics And Social Contexts In Conflict: An Experiment On Relationships In China. The International Journal Of Conflict Management, 12.3.

Tjosvold, D., Law, K. and Sun, H.F. (2006), "Effectiveness of Chinese teams: the role of conflict types and conflict management approaches", Management and Organization Review, 2, 2, pp. 231-252

Todorova, G., Goh, K. T., & Weingart, L. R. (2022). The effects of conflict type and conflict expression intensity on conflict management. International Journal of Conflict Management, 33(2), 245–272. https://doi.org/10.1108/IJCMA-03-2021-0042

Vlasov, M.; Polbitsyn, SN; Olumekor, M.; Oke, A. The Influence of Socio-Cultural Factors on Knowledge-Based Innovation and the Digital Economy. J. Open Innov. Technol. Mark. Complex. 2022, 8,194.

Weingart, L. R., Todorova, G., & Cronin, M. A. (2010). Task Conflict, Problem-Solving, and Yielding: Effects on Cognition and Performance in Functionally Diverse Innovation Teams. Negotiation and Conflict Management Research, 3, 312–337.

Weir, K. (2022, April 1). The science behind creativity. Monitor on Psychology, 53(3)

Wu, T. (2022). Digital project management: rapid changes define new working environments. Journal of Business Strategy, 43(5), 323–331. https://doi.org/10.1108/JBS-03-2021-0047

Xie, X.Y., Ling, C.D., Liu, W., & Wei, J. (2022). Inter-team coordination, information elaboration, and performance in teams: The moderating effect of knowledge integration capability. Journal of Business Research, 149, 149–160.

Yang, L. R., Huang, C. F., & Hsu, T. J. (2014). Knowledge leadership to improve project and organizational performance. International Journal of Project Management, 32(1), 40–53. https://doi.org/10.1016/j.ijproman.2013.01.011

Yong, K., SJ Sauer, and EA Mannix, Conflict and creativity in interdisciplinary teams. Small group research, 2014. 45(3): p. 266-289.

Yoo, DK, "Innovation: Its Relationships with a Knowledge Sharing Climate and Interdisciplinary Knowledge Integration in Cross-Functional Project Teams", 2015 48th Hawaii International Conference on System Sciences, Kauai, HI, USA, 2015, pp. 3750-3759

Zhang, L., & Guo, H. (2019). Enabling knowledge diversity to benefit cross-functional project teams: Joint roles of knowledge leadership and transactive memory system. Information and Management, 56(8). https://doi.org/10.1016/j.im.2019.03.001

Zhang, M.J., Zhang, Y., & Law, K.S. (2022). Paradoxical Leadership and Innovation in Work Teams: The Multilevel Mediating Role of Ambidexterity and Leader Vision as a Boundary Condition. Journal: Academy of Management, 65, 1652–1679.

Zhang, S. J., Chen, Y. Q., & Sun, H. (2015). Emotional intelligence, conflict management styles, and innovation performance: An empirical study of Chinese employees. International Journal of Conflict Management, 26(4), 450–478. https://doi.org/10.1108/IJCMA-06-2014-0039

APPENDIX A– RESEARCH QUESTIONNAIRE APPLIED

Initial Questions – Sociodemographic characteristics of the interviewees.
What is your gender?

( )Female( )Male( )I prefer not to say( )Other
How old are you?_____
Municipality where you live: _____
What is the size of the organization where you work?

( )Up to 19 employees( )From 20 to 99 employees( )From 100 to 499 employees( )More than 500 employees
What is your role in the team?_____

( )Leader( )Member
How many members does your team have?_____
How long has your team been in existence?_____
How long has the oldest team member been on the team?___
How long has the youngest team member been on the team?____

CONSTRUCTO	QUESTÕES	ESCALA	LEGENDA
Conflito Cognitivo	Os membros de minha equipe discordam sobre as ideias do projeto que está sendo realizado	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Há conflitos de ideias em minha equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Há diferenças de opiniões em minha equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Há conflitos sobre o trabalho realizado em minha equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
Conflito Afetivo	Existe atritos entre os membros de minha equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Os conflitos de personalidade são evidentes em minha equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Existe tensão entre os membros de minha equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Existe conflito emocional entre os membros de minha equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
Inovação de equipe de projetos multifuncional	Minha equipe desenvolve ideias sobre novos produtos e serviços ou melhorias de serviços ou produtos	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Minha equipe desenvolve novas ideias com valor prático	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Geralmente as ideias sobre melhorias de novos produtos ou serviços são implementadas	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
Criatividade	A equipe geralmente propõe ideias criativas e úteis	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	A equipe produz conhecimento que não existia antes da formação da equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	O novo produto/tecnologia/serviço que a equipe desenvolve atende as exigências do mercado	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	O novo produto/tecnologia/serviço que a equipe desenvolve alcança a satisfação do cliente	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente

CONSTRUCTO		QUESTÕES	ESCALA	LEGENDA
Elaboração/intercâmbio de informações/ conhecimentos relacionados à tarefa		Os membros da equipe se complementam compartilhando abertamente seus conhecimentos	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		Os membros da equipe consideram cuidadosamente todas as perspectivas em um esforço para gerar soluções ideais	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		Os membros da equipe consideram cuidadosamente as informações exclusivas fornecidas por cada membro da equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		Os membros da equipe consideram cuidadosamente as novas ideias e soluções geradas	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		Como equipe, qualificamos cuidadosamente as novas ideias e soluções geradas por conhecimento prévio dos membros	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		Como equipe, geramos ideias e soluções muito melhores do que as que poderíamos desenvolver individualmente	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
Liderança do conhecimento	Habilidade de liderança	O gerente de projeto entende a importância e valoriza a diversidade de conhecimentos	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		O gerente de projeto tenta adquirir novos conhecimentos e dar o exemplo para os outros	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		O gerente de projeto demonstra excelentes habilidades de liderança	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Cooperação e confiança	O gerente do projeto produz um ambiente de confiança e cooperação	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		O gerente do projeto compreende as necessidades e expectativas dos membros da equipe, esforçando-se para disponibilizar os recursos necessários	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		O gerente de projeto e os membros da equipe cooperaram para resolver problemas	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
	Integração de conhecimento e inovaçã	O gerente de projeto incentiva os membros da equipe a compartilhar e aplicar diversos conhecimentos	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		O gerente de projeto frequentemente integra experiência prática de outras áreas para criar novos conhecimentos	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		O gerente de projeto adota medidas visando potencializar a capacidade inovadora dos membros da equipe	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		O gerente de projeto lidera os membros da equipe para executar ideias inovadoras	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
Inteligência Cultural		A equipe compreende as implicações de lidar com indivíduos de diferentes culturas em um projeto	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		A equipe está familiarizada com os diferentes estilos de trabalho das pessoas envolvidas em um projeto	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		A equipe demonstra prontidão constante para se comunicar com indivíduos externos à equipe e organização	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente
		A equipe pode mudar os comportamentos não-verbais para se adaptar aos contextos específicos do projeto	1 - 2 - 3 - 4 - 5	1 = discordo totalmente 5 = concordo totalmente

APPENDIX B – QUESTIONNAIRE IN ENGLISH applied

Initial Questions - Socio-demographic

What is your gender?

( )female( )Male( )Prefer not to say( )other

What is your age? _____

Country of residence:_____

What is the size of the organization you work for?

( )up to 19 employees( )20 to 99 employees( )100 to 499 employeesption 3( )more than 500 employees

What is your role in the team?_____

( )Leader( )Member

How many members are there in your team?_____

How long has your team existed?_____

How long has the oldest member of your team been on the team?___

How long has the newest member of your team been on the team?____

Constructs	Questions	Scale	Legend
Cognitive conflic	Members of my team disagree on the project ideas being carried out.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	There are conflicts of ideas in my team	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	There are differences of opinions in my team	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	There are conflicts about the work being done in my team.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
Affect conflict	There are tensions among the members of my team.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	Personality conflicts are evident in my team.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	There is tension among the members of my team.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	There is emotional conflict among the members of my team.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
Cross-functional team innovation	My team develops ideas for new products and services or improvements to existing services or products.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	My team develops new ideas with practical value.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	Ideas for improvements to new products or services are generally implemented by the team.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
Creativity in teams	The team generally proposes creative and useful ideas.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	The team produces knowledge that did not exist before the team was formed.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	The new product/technology/service developed by the team meets market demands	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	The new product/technology/service developed by the team achieves customer satisfaction.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree

Constructs		Questions	Scale	Legend
Elaboration of task-related information/knowledge		Team members complement each other by openly sharing their knowledge.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		Team members carefully consider all perspectives in an effort to generate optimal solutions.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		Team members carefully consider the unique information provided by each team member	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		Team members carefully consider new ideas and solutions generated.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		As a team, we carefully evaluate new ideas and solutions based on the prior knowledge of team members.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		As a team, we generate ideas and solutions that are much better than what we could develop individually.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
Knowledge leadership	Leadership skill	The project manager understands the importance and values the diversity of knowledge.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The project manager strives to acquire new knowledge and sets an example for others.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The project manager demonstrates excellent leadership skills.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	Cooperation and trust	The project manager creates an environment of trust and cooperation.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The project manager understands the needs and expectations of team members, making an effort to provide the necessary resources.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The project manager and team members cooperate to solve problems.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
	Knowledge integration and innovation	The project manager encourages team members to share and apply diverse knowledge.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The project manager often integrates practical experience from other areas to create new knowledge.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The project manager takes steps to enhance the innovative capacity of team members.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The project manager leads the team in executing innovative ideas.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
Cultural intelligence		The team understands the implications of dealing with individuals from different cultures in a project.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The team is familiar with the different working styles of people involved in a project.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The team demonstrates a constant readiness to communicate with individuals outside the team and organization.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree
		The team can adapt non-verbal behaviors to specific project contexts.	1 - 2 - 3 - 4 - 5	1 = strongly disagree 5 = strongly agree