UNIVERSIDADE DO VALE DO RIO DE SINOS - UNISINOS
UNIDADE ACADÊMICA DE PESQUISA E PÓS-GRADUAÇÃO
PÓS-GRADUAÇÃO EM ENGENHARIA DE PRODUÇÃO E SISTEMAS
NÍVEL DE DOUTORADO

MARCELLA SOARES PICCOLI

HOW TO IDENTIFY THE STRATEGIC ALIGNMENT OF TEAMS WITH RESPECT TO PROJECT TIMEFRAME

A Belief System Approach for Project-Based Alliances

Porto Alegre
2024

P591h Piccoli, Marcella Soares.

How to identify the strategic alignment of teams with respect to project timeframe : a belief system approach for project-based alliances / Marcella Soares Piccoli. – 2024.

150 f. : il. ; 30 cm.

Tese (doutorado) – Universidade do Vale do Rio dos Sinos, Programa de Pós-Graduação em Engenharia de Produção e Sistemas, 2024.

“Orientador: Prof. Dr. Carlos Alberto Diehl”

Dados Internacionais de Catalogação na Publicação (CIP)

(Bibliotecária: Silvana Dornelles Studzinski – CRB 10/2524)

Marcella Soares Piccoli

HOW TO IDENTIFY THE STRATEGIC ALIGNMENT OF TEAMS WITH RESPECT TO PROJECT TIMEFRAME

A Belief System Approach for Project-Based Alliances

Thesis Project presented as a requirement for obtaining the title of Doctor in Engineering of 'Production by the Graduate Program in Production Engineering of the University of Vale do Rio dos Sinos - UNISINOS

Tutor: Prof. Dr Carlos Alberto Diehl

Porto Alegre

2024

ACKNOWLEDGEMENT

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

I would like to express my deepest gratitude to my tutor, Professor Carlos Alberto Diehl, for his invaluable guidance, support, and encouragement throughout the research process. His expertise and dedication were crucial to the completion of this study.

I extend my sincere thanks to CONTEST research group for their insightful feedback and contributions. Their constructive criticism and support were invaluable.

Additionally, I would like to thank the CREW research group from Greenwich Business School for hosting me as a visiting researcher during the year 2020. Their support and the collaborative environment greatly enriched my research experience.

I am also immensely grateful to my family for their unwavering support and patience during these years. Their encouragement and understanding provided me with the strength to persevere through the challenges of this journey.

TABLE OF CONTENTS

ABSTRACT

This research explores the complex and dynamic world of Project-Based Alliances in the construction industry, unveiling a revolutionary artefact rooted in Robert Simons' Levels of Control, with a special focus on the Belief System to drive strategic team alignment. This qualitative study offers a unique perspective, delving into the intricate interplay between organisational beliefs and project timeframes, and their profound impact on long-term project success.

This research stands out by deeply analysing three diverse, globally-spanning projects, showcasing the universal applicability and transformative potential of strategic alignment. The insights gathered reveal that aligning organisational beliefs with team strategies significantly offsets the benefits of diverse team compositions or geographic considerations in ensuring project success. Intriguingly, we highlight a prevalent industry oversight—prioritising short-term goals at the expense of long-term strategic alignment, thus uncovering a critical area for improvement.

Utilising the Design Science Research (DSR) methodology, we developed and validated our artefact through iterative cycles of design, evaluation, and refinement. This approach ensured the practical relevance and rigour of the artefact, which was tested in real-world settings to assess its effectiveness in enhancing team alignment and project outcomes.

The study not only bridges the gap between theory and practice but also introduces an innovative framework for continuous assessment and enhancement of team dynamics. By focusing on belief systems, we provide organisations with a powerful tool to navigate the complexities of temporary alliances, ensuring shared understanding and strategic vision alignment throughout all project stages. Future research should explore the impact of technological advancements and cultural diversity on team alignment within Project-Based Alliances. Social implications of this research include fostering a collaborative culture, promoting ethical practices, and supporting sustainable development in the construction industry.

Keywords: Strategic Team Alignment, Project-Based Alliances, Construction Industry, Belief Systems, Long-Term Organisational Strategy.

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

ABNT	Brazilian Association of Technical Standards
NBR	Brazilian Regulatory Standards
LOC	Levels of Control
DSR	Design Science Research
PBA	Project-Based Alliance
AQ	Assessment Questionnaire

1 INTRODUCTION

Strategic alliances aim at knowledge sharing to solve common dilemmas (Gereffi et al., 2005; Kumar, 2019). Strategic alliances also have the stated intent to incorporate intangible resources, such as people and relevant information (Henricks, 1991), achieve growth and improve competitiveness (Spekman & Sawhney, 1990, Roberts, 1992), spread financial risk and share costs (Spekman & Sawhney, 1990). Strategic alliances represent an increasingly important form of investment decision to expand capabilities and expertise, promote innovation and improve the overall performance of the organisation (Rapaccini et al., 2019).

Strategic alliances are also created for temporary projects aimed at a final and specific product, such as Project-Based Alliances (Jefferies et al., 2014). Project-Based Alliances were first developed through the Portland Division of the US Army Corps of Engineers, and since then, this type of Alliance has gained acceptance by many industries worldwide, especially within the construction industry. (Green & Lenard, 1999; Jefferies et al., 2014)

A Project-Based Alliance is defined as an alliance between a group of companies, such as a consortium, with a target cost and an agreement between organisations that includes profit margins. The agreement between parties involves a shared responsibility in a win-win contract, considering all the project aspects (Ross, 2003).

In the UK, for example, Project-Based Alliances have become part of building guidelines and legislation in the British Standards Institution (2010). The government also published an Alliance Code of Practice to develop a smooth procurement route due to behaviour and cultural change. In addition to that, forms of contracts were also designed to support this type of alliance in the construction industry, such as NEC4 Alliance Contract.

The Project-Based Alliance is temporary and prevails while the project is being executed. The formation of the alliance is vital for the exchange of knowledge and practical techniques between parties during project execution, sharing risks to better develop relationships and integrating the team to maximise project performance. The formation of the Alliance also goals litigation risk reduction and limiting cost overruns

and delays through enhanced control (Cheung et al., 2005; Kwok & Hampson, 1997; Walker et al., 2002; Walker & Rowlinson, 2008).

However, the implementation of such alliances invariably receives greater resistance from employers. This is because of the uncertainty that may be encountered due to divergences in culture, work practices, and national or regional boundaries. Therefore, this could result in a lack of commitment from employees, influencing the organisation's success and the achievement of the desired alliance strategy.

Strategy analysis for temporary projects has become essential and is frequently considered by organisations when making business decisions, as the market changes over time and past decisions may no longer be applicable. Usually, a temporary project relies upon strategies regarding the quality of the services and delivery time, in addition to available resources, solution fit and cost reduction. However, researchers have been bringing attention to organisations regarding the incorporation of team alignment tools in the business, as it becomes a great ally for achieving those desired strategy (Chou et al., 2013; Tabassi et al., 2017; Wenzel et al., 2020), contributing to the mains goals stated for Project-Based Alliances. As the project and organisation achievements are dependent on the collaboration of the team, the alignment between the teams responsible for delivery should be analysed when defining the business strategy to contribute to the overall objectives. (Tabassi & Bakar, 2009).

With the perception of the team through the chain as a strategy tool, governments started to broaden their attention regarding team alignment. Even if it was already perceived as important in 1994, to Latham in his report, just recently, European countries have adopted regulatory measures concerning the improvement of team integration in the Construction Industry, with the introduction of Action Construction Planning (2020), for example.

Even so, this understanding is often overlooked by organisations, whereby the focus is often on cost reduction within the supply chain, which results in negative relationships (Crespin-Mazet & Ghauri, 2007). The concept of teamwork within the organisation is treated as a peripheral theme (Tabassi et al., 2012) even though it is conceptualized as the backbone of the organisation (Tabassi et al., 2017). Thus, it is notable that temporary projects fail to understand the importance of team alignment to the strategy of the organisation.

This difficulty in creating teams that collectively add greater value to the business stems mainly from the temporary nature of the business, with the following

factors considered central. A temporary project usually has a high turnover (Lim & Alum, 1995), making it challenging to find a strategic alignment of the team. In addition, projects COULD take place in remote locations, whereby workers must be recruited within that region, thus introducing cultural aspects that may explain the lack of alignment. Some projects also utilize numerous subcontractors, sub-subcontractors and so on, introducing ever more significant complexities when considering the integration of teams.

Further, the significant number of projects in the organisation could result in allocating employees into projects without prior analysis (Raidén & Dainty, 2006). In Project-Based Alliances, leaders and teams are often frequently transferred between old and new projects (Turner et al., 2008) due to location, duration, the industry segment, projects delays, quality issues and so on. As such, the teams are usually not the same throughout and the time for alignment is constantly reset. These teams bring their values and memories as practices (Stanske et al., 2019), which may or may not be compatible with the current values of the new team.

The composition of an ideal team is also significantly influenced by interorganisational dynamics. Achieving team alignment with specific contextual elements pertinent to the project's location, such as regional culture, political landscape, and local procedures, holds the potential to strengthen overall strategic success. The establishment of robust interorganisational relationships can be perceived as a distinct competitive advantage, enhancing the efficacy of commercial resolutions.

Interorganisational relationships have a substantial influence on team formation strategies. When teams are aligned with the unique characteristics of the project's operating environment, including cultural nuances, political intricacies, and procedural characteristics at the regional level, a synergetic effect is often observed. This alignment not only enhances project execution efficiency but also fosters a deeper resonance with the local context, potentially leading to improved outcomes. For instance, a team well-adjusted to the regional culture and well-experienced in navigating local administrative procedures could navigate challenges more accurately, resulting in smooth operations and timely deliverables (Jones et al., 2019)

Time variation, which could last for years due to project changes, ineffective management and poor communication, causes both the demotivation of the teams themselves and the unpredictability of costs for the companies involved (Borcherding

et al., 1980). Also, the time variation could contribute to a high turnover and an increased difficulty to align teams during the project execution. And finally, the mix of organisational beliefs that a Project-based Alliance is subjected to as it presents a significant challenge for leaders, with an estimated 60% of strategic alliances failing to achieve their goals because of unresolved perceived beliefs (Slocum & Hellriegel, 2011).

In this context, it is possible to introduce the Levers of Control Framework, by Simons (1995a, 1995b). This iconic research published on 1995, was introduced as a Management Control Systems tool to drive strategic renewal on organisations. The LOC framework is constituted by four blocks: Belief Systems and Interactive Control systems creating positive forces, and Boundary Control Systems and Diagnostic Control Systems creating negative forces. It must be noted that positive/negative forces are not considered as good/bad forces but as diverse types of forces that must be balanced to achieve proper business strategy. The concept of balance or dynamic tension is central to the proper use of the tool.

The Beliefs Systems, by Simons, is associated to the core values of the organisation. Such core values are usually stated by the mission and the vision and set the purpose and the direction in which the objectives should be pointed, creating the called positive forces to inspire teams. The number of citations gives Simons' LOC framework a consolidated position within Management Control Systems literature, with more than 6,324 on Google Scholar so far.

In that way, the strategic importance of team alignment within Project-Based Alliances stands as a critical challenge and opportunity, particularly when viewed through the lens of the Belief System context. With its potential to drive collaborative advantage, mitigate risks, and foster shared success, team alignment takes on a improved significance within organisations.

1.1 Problem Awareness and Research Question

Creating teams with strategically aligned beliefs within Project-Based Alliances often lacks prioritisation. Present-day organisational strategies frequently emphasize cost control, timeframe, and ensuring quality management (Hoon & Jacobs, 2014). However, in projects involving numerous stakeholders, such as the construction industry, the focus tends to revolve around these three variables, neglecting robust

team development. This emphasis appears to stem from organisations' contentment with achieving satisfactory results and short-term targets, rather than striving for excellence through comprehensive, long-term strategies.

This discrepancy raises the question of whether organisational beliefs act as a moderating variable influencing project success - an area that remains underexplored. While these beliefs guide teams towards specific objectives like quality, deadlines, or cost, they also reflect the core aspirations of the organisation. Simons' seminal research accentuates the significance of achieving a balance between opposing forces, which contribute, to varying extents, to the success of the overall business strategy. Strengthening alignment among teams potentially advances key organisational objectives, including cost reduction, shortened timelines, and heightened quality.

Considering the temporal aspect as a pivotal factor in developing shared beliefs (Parent & Macintosh, 2013), it becomes evident that projects with tight schedules tend to disregard individual alignment (Sydow & Braun, 2018). Such neglect is driven by the perception that socialization time is limited and, consequently, aligning beliefs is undervalued. On the contrary, in extended or more unpredictable projects, strategic alignment emerges as a vital factor, fostering value generation and mitigating losses during project execution. Interestingly, extended projects may introduce "stress" within teams, a phenomenon that often manifests only towards the project's end. This latent stress could contribute to a lack of organisational commitment to team alignment and potential setbacks in meeting timeline-driven deliverables.

Researchers emphasize the necessity of exploring team adaptation and the project timeframe, both of which remain insufficiently investigated (Parent & Macintosh, 2013). Future research possibilities should explore into dynamics of temporary projects (Bakker et al., 2012), encompassing the interplay between team cohesion and performance. This involves incorporating diverse variables, such as time and trust among individuals (Tabassi et al., 2017). Consequently, unravelling the role of individuals demands further analysis (Denicol et al., 2020), potentially encouraging organisations in informed decision-making regarding team formation, thereby optimising value creation in temporary projects.

Moreover, studies suggest that beliefs can evolve during project execution, primarily catalysed by the project timeframe. This shift in attitudes reflects an open-minded approach to new ideas and experimentation. Lamming (1993) argues for such

an attitude shift to overcome a traditional fixation on process ownership and immediate cost reductions.

These theories collectively underscore the crucial role of leadership in shaping organisational beliefs. However, many organisational strategies remain impenetrable to leaders (Hoon & Jacobs, 2014), and some beliefs might be overlooked due to limited comprehension time (Collins, 2009).

Considering these premises, a focus on Simons' Belief System during project execution gains significance as a potential enhancer of team alignment and, subsequently, project outcomes. This contemplation leads us to the central research question: "How can Project-Based Alliances effectively assess and promote team alignment by considering the project timeframe and the Belief System, leading to improved business strategy outcomes?"

1.2 Objectives

1.2.1 General objectives

The main objective of this research is to develop an artefact, inspired by Robert Simons' Levels of Control, focusing particularly on the Belief System and the strategic alignment of teams within Project-Based Alliances. This artefact will serve as a tool for organisations, particularly in the construction industry, to evaluate and enhance team alignment, thereby optimising project outcomes. It seeks to offer organisations a practical approach to foster efficiency, quality, and adherence to project schedules, considering the distinctive beliefs that influence team dynamics. This study is supported by the conviction that strategic alignment, timed effectively, can catalyse superior project performance across various dimensions.

1.2.2 Specific objectives

The objective proposed by this work is subdivided into specific objectives as bellow:

- To explore the influence of strategic team alignment on achieving better outcomes in terms of cost, quality, and project timeframe within PBAs,

examining how a well-aligned team contributes to improved project performance.

- To develop a comprehensive framework through a literature review and project participation that evaluates belief systems throughout the project timeframe within Project-Based Alliances, aiming to provide a structured approach for organisations on when to assess and enhance the strategic alignment of their teams for improved outcomes.
- To empirically validate the proposed framework by conducting focus groups/meetings with leadership within Project-Based Alliances, assessing its effectiveness in enhancing team alignment, strategic integration, and project outcomes across diverse industry contexts.
- To provide practical recommendations and guidelines for organisations participating in Project-Based Alliances, offering insights into the optimal timing and approach for investing in strategic team alignment and highlighting the significance of belief systems in influencing team dynamics and project success.
- To contribute to the existing body of knowledge by advancing the understanding of the role of team alignment and belief systems in the context of Project-Based Alliances.

1.3 Rationale

The establishment of a Project-Based Alliance between organisations requires them to embrace the ‘change’ management process. Therefore, without the commitment from management and employees of the organisations involved, a strategic alliance will not be effective. The commitment between parties in those alliances could be improved with the alignment between teams and a better focus on a common Belief System.

In this manner, the research is justified by the fact that Project-Based alliances fail to understand and practice the strategic alignment of their teams, and although perceived as important, is still unexplored by researchers. The alignment of the team within the strategies pursued by the organisations contributes to the improvement of the intended objectives – on the other hand, has many barriers to its effectiveness. These barriers, as described above, when analysed and collated in an artefact as

suggested, will help organisations and communities in general to achieve better results. Thus, the rationale is divided into three major topics as per below i.e. academic, in which it shows research already carried out but with a theoretical gap with a pending investigation and elucidate the Levels of Control by Simons; social, Project-Based Alliances have a great impact on communities e.g., environmental, infrastructure and quality of life in general, in which investigation on how the Belief System will help the overall strategy will bring significant benefits to society; and management, in addition to the academic nature, develop usable tools and not only theories.

1.3.1 Academic

Acknowledging the efficacy of Simons' framework underscores the centrality of belief alignment as an indispensable underpinning for achieving the Belief System and team alignment strategies that have gained considerable research attention. As evidenced by the current literature, the concepts of 'team alignment' and the 'Belief System' have garnered significant scholarly interest. A keyword search for 'team alignment' on Google Scholar returns over 500 thousand documents within the last decade, with 50 thousand produced in just the past two years. Similarly, on platforms like ScienceDirect, the keyword 'Belief System' give up over 6 thousand research articles, further substantiating their significance in contemporary organisational discourse.

But even with all the research on strategic alignment and the importance of the Belief System for organisations, few are empirical and encompass the various variables that a Project-Based alliance has. The characteristics of the final product and the temporary aspects of the projects contribute to this. The current main topics found englobe classification, frameworks and critical factors of success or fail in Project-Based alliances, but still, no tool that would connect research to practicality on organisations. Although the importance of alignment is evident, Project-Based alliances have much of the evaluation of culture match, trust and similar concepts performed on a “gutfeel” basis and further research into what parameters may affect such perceptions contributing to increased success in making such evaluations.

Ken Wilber in 1996 and a later modified study by Richard Barrett in 2006, for example, explored the shifts that exist in the team alignment process. They identified four quadrants in a model that represents areas of the team-system development, and

these are (i) personal alignment (ii) values alignment (iii) structural alignment and (iv) mission alignment. These are part of values and behaviours that could be individual or collective. The first part would require strengthening self-awareness and individual learning to create a stronger “putting the words into action”, mostly achieved by a strong and honest feedback process. A second and important topic is the value of leadership. An individual’s values are the keys to unlocking the corporate black box of effective leadership, for this can only take place if each leader acts in line with his or her values and aspirations. The third topic is focused on team alignment where the team must be collectively responsible for developing and executing market strategies. And finally, the “into action condition”, concentrate on creating a shared vision and mission for the organisation and focus on future strategies.

Furthermore, many authors focus their works on analysing success factors of Project-Based Alliances and suggestions on how to improve overall performance. Even with the author's observation about the benefits of the strategic alignment of teams for projects, few studies propose tools for it to reduce the gap between theory and practice. For example, Jefferies et. al. (2006) following many other researchers, identified success factors for Project-Based alliances through a case study of construction projects in Australia. They compared the case study to past research with the same objective. Most of the factors cited by the authors include in some way the contribution of team alignment, whether in the formation of a single entity, an attitude of the teams in focusing on what is best for the project, characteristics of the ally, open-book nature, etc.

Rohaniyati Salleh's 2009 research identifies several key factors contributing to delays in construction projects, emphasizing the complexity of construction project management. The study categorizes these factors into different sources and nature, but notably highlights those that are particularly impactful, such as legal disputes, inadequate project definitions, and ineffective delay penalties under project-related factors; delays in progress payments and poor communication under owner-related factors; and financial difficulties and poor site management under contractor-related factors.

These factors underscore the necessity of comprehensive planning, effective communication, and proactive risk management. Effective team alignment within Project-Based Alliances, which is guided by the organisation's belief system and strategic prioritization of project objectives, is crucial for efficiently addressing these

critical issues. For instance, effective alignment can mitigate the impacts of factors like financial difficulties and poor communication by ensuring that all team members are on the same page and can anticipate and manage potential setbacks proactively.

Moreover, the project timeframe plays a critical role in these dynamics. Projects with tight schedules often face greater challenges in managing these delays, emphasizing the importance of aligning team members' efforts and beliefs from the outset. Extended or unpredictable projects provide an opportunity to develop and reinforce this strategic alignment, enabling teams to adapt to challenges and mitigate potential delays more effectively.

This comprehensive view, informed by Salleh's findings, emphasises the necessity of fostering well-aligned teams guided by a strong belief system across the project lifecycle. Such an approach not only addresses the complex causes of project delays but also embeds strategic intent and collaborative advantage into the fabric of project management practices, leading to more resilient and successful construction projects.

Srivastava and Sushil in 2017 performed the research entitled "Alignment: The Foundation of Effective Strategy Execution," where they delved into the intricate dynamics of strategic alignment within organisations, focusing on the infrastructure sector in India. They articulate the criticality of both strategy formulation and its subsequent execution, proposing a structured model derived from extensive literature review and empirical evidence. The investigation employs a mixed-methods approach to discern the various components and interrelations that constitute strategic alignment. However, the study's outcomes are contingent on the particular organisational contexts examined, the limited sample size, and the potential for bias inherent in the survey methodology, which suggests that the findings may not be extrapolable without further empirical substantiation.

Recognising its constraints, the study by the authors in 2017 suggested a significant need for expanded research within the strategic alignment domain. Methodological limitations, particularly the use of a majority view in the Total Interpretive Structural Modeling (TISM) to resolve respondent disagreements, may have circumscribed the depth of the insights gained. Therefore, future research endeavors are encouraged to incorporate iterative consensus-building techniques and explore a more diverse array of organisational environments. Such efforts would not only test the validity and applicability of the existing model but could also contribute

new perspectives to the evolving discourse on strategic alignment in both established and emerging economies.

The 2019 study by Pekka Valkama, Lasse Oulasvirta, and Ilari Karppi explores the alliance model in urban infrastructure projects, identifying it as a collaborative concept beneficial for technically complex and large publicly funded projects. They highlight the development phase as critical for building team spirit and joint goals. Limitations include the model's novelty and lack of familiarity in European contexts, suggesting future research should examine the model's applicability across different settings and project types to validate findings and explore its broader utility.

Later on, Zagzoog and Alsereihy, 2020, published their work on critical success factors in Project Organisation. They cited previous research regarding the formation of knowledge sharing and organisational cultural formation. The authors concluded that strategy formulation, the presence of an appropriate and encouraging cultural environment, knowledge sharing, and creation, innovation and other factors are extensively covered in previous academic research and practical studies, but not enough studies explore proper linkages between technology and the decision-making process.

The same year, Denicol, Davies and Krystallis (2020) explored the causes for poor megaproject performance through a literature review analysing more than 6,000 titles and abstracts, identifying 18 causes and 54 cures to address poor megaproject performance. The authors suggested six themes with concepts contributing to their performance across the project lifecycle: Decision-Making Behaviour; Strategy, Governance, and Procurement; Risk and Uncertainty; Leadership and Capable Teams; Stakeholder Engagement and Management; and Supply Chain Integration and Coordination. Future research may help understand how the different dimensions work together to achieve performance improvements. New research and theory building are required to identify how different elements impacting megaproject performance interrelate and work together to achieve a project's goals and deliver valuable outcomes. The consideration of their interdependencies may inform discussions on how megaprojects could be more comprehensively studied to improve the understanding of topics, such as the creation of value, its evolution, extent, organisational boundaries, and transferability across the ecosystem (JACOBIDES et al., 2018).

And finally, the 2020 study by Kaouther Ben Jemaa-Boubaya, Cheriet Foued, and Ali Smida examined how objective alignment impacts strategic alliance instability. The authors found that misalignments in partners' goals and structures contribute to instability, suggesting the need for adaptable governance mechanisms to manage these differences. Limitations include a focus on specific contexts that may not generalize across all strategic alliances, pointing towards future research opportunities in diverse settings and industries to further validate and extend these findings.

In conclusion, the construction industry demands a solid team alignment for success. Simons' Levels of Control framework, with its emphasis on belief alignment, provides a strategic path. A shared Belief System propels decision coherence, fosters commitment, and forges resilient project cultures. While research grow rapidly, the nexus between theory and practice remains a challenge. Ken Wilber and Richard Barrett's models underscore personal values, structural, and mission alignment as crucial facets. Leadership, collective responsibility, and shared vision amplify alignment's potency. Addressing these dimensions and interdependencies holds the key to comprehensive Project-Based Alliance performance improvement.

1.3.2 Managerial

Even with the awareness that team alignment is significant for project success, the perception of alignment by leaders is still an ambiguous factor (Denicol; et al., 2020). Understanding team alignment should be clear to organisations and their leaders to achieve better outcomes. Alignment takes time and research, involves cost spending, and unfortunately, the Project-Based Alliances avoid expenses regarding strategy during project execution, resulting in a poor alignment between teams. Considering large-scale projects, strong team alignment could result in significant cost savings and improved product.

Another fact is that large or long projects are characterised by a 'mixture' of autonomous organisations that are usually difficult to manage. These strategic organisations also represent an increasingly important form of the investment decision-making process to expand new capabilities and knowledge, promote innovation, and improve overall performance. The challenges for management could be explained through the different ways of working in each organisation, as well as the variety of procedures, cultures, and teams with divergent values. The union of these companies

portrays the combination of knowledge, which is essential to solving common dilemmas. Often the incorporation of intangible resources, such as people and relevant information, as well as professional training to solve technical issues (Rapaccini et al., 2019) are priorities for the parties involved in major projects. However, with little attention to team alignment, achieving these goals becomes unclear.

Leadership has a fundamental role in strategic alignment (Kopaneva, 2019) as it directly influences team behaviours. It is their responsibility to analyse and understands the core beliefs of the company to lead the successful implementation of the strategy (Simons, 1995) as well as inspire and direct the search for new opportunities for the team (Dumitraşcu & Feleagă, 2019). Instead, some executives devote little time to understanding and sharing these beliefs between teams, as well as creating alignment across them (Collins, 2009).

The execution of large projects also provides a mixture of organisational beliefs. The sharing of these beliefs can result in a hostile work environment (Barik, 2012). Simons portrays leadership as the carrier of beliefs, although in Project-Based Alliances, the importance of beliefs and alignment expands to all team members as they all impact directly on project performance. Team alignment can lead the company to the positive engagement of its workers, with a significant impact on employee attitudes, as well as long-term organisation success (Branson, 2008; Jackson, 1966; Locke, 2003).

In this way, this research contributes to the industry in identifying how to act during the project lifespan regarding team alignment, which is a powerful tool for organisational decision–making.

1.3.3 Social

It is understood that people aligned in an environment perform better in their tasks and contribute to better results (Naney et al., 2012). It is possible to imply that teams in Project-Based Alliances aligned with the organisation's expectations perform better. If the alliance seeks to improve processes, methods and/or technologies to achieve better results and bring gains to society, organisations should also focus on the human concept.

Research in team alignment considering Belief Systems in the construction industry holds the promise of substantial social benefits that extend beyond the

immediate project contexts. These interconnected research areas can foster collaboration, ethical practices, and sustainable development, ultimately contributing to the well-being and progress of society as a whole.

Effective team alignment research in the construction industry can lead to improved project outcomes and enhanced collaboration among diverse stakeholders. As teams align around shared goals and strategies, communication and coordination become smoother, leading to reduced conflicts and increased productivity (Walker et al., 2018). This synergy can translate into timely completions, minimizing disruptions and inconveniences to society. Additionally, strong team alignment nurtures a positive work environment, promoting job satisfaction and reducing turnover rates (Chan & Chan, 2004), which in turn contributes to economic stability and a higher quality of life for construction workers and their families.

Exploring Belief Systems in construction has the potential to elevate ethical practices and transparency. A robust Belief System fosters a culture of honesty, responsibility, and accountability among project participants. When ethical values are ingrained in project operations, societal trust in the construction industry is enhanced, strengthening relationships between stakeholders and benefiting the broader community (Singh et al., 2021). Ethical construction practices also lead to the creation of infrastructure that aligns with community values, promoting social harmony and inclusiveness.

Furthermore, research in these areas can drive sustainable development in the construction sector. Effective team alignment ensures that all stakeholders, including architects, engineers, contractors, and clients, work together seamlessly toward shared objectives. This collaboration can lead to the incorporation of sustainable practices in design and construction, resulting in environmentally friendly buildings and infrastructure (du Plessis, 2007). Aligning teams around sustainability goals benefits society by reducing resource consumption, lowering carbon emissions, and contributing to a healthier environment for current and future generations.

The integration of these research areas also fosters knowledge sharing and skill development. Effective team alignment promotes the exchange of expertise and best practices among project members, nurturing a culture of continuous learning and improvement (Caldas et al., 2018). This knowledge transfer has a ripple effect on society, as skilled professionals contribute to enhanced project outcomes and innovations that can be applied in various sectors beyond construction.

The Berlin Brandenburg Airport (BER) project exemplifies the profound impact that management issues, lack of team alignment, and problematic Belief Systems can have on construction projects and their broader societal context. Initially intended to modernise and consolidate Berlin's air traffic, the project had significant delays and mismanagement, leaving a lasting negative impression on the construction industry and the city's inhabitants. Frequent changes in leadership, poor decision-making, and inadequate oversight have led to escalated costs and substantial financial losses, undermining public trust in the construction sector's capacity to deliver key infrastructure punctually. The project also highlighted the critical role of ethical Belief Systems in construction, as issues such as bribery, corruption, and a general lack of accountability not only fuelled public outrage but also underscored the need for a strong ethical foundation to guide decision-making and promote a culture of transparency and integrity (Drews & Schmidt, 2018).

1.4 Research Boundaries

This research focuses on team alignment with Project-Based Alliances. In this research, Project-Based Alliances (PBAs) are defined as a long or short-term relationship formed between two parties (or more) operating at the same level in the supply chain to develop mutually agreed strategies in terms of goals and objectives for the involved parties to pursue jointly, e.g., consortiums, joint ventures, and sisters' companies. This study considers the construction sector, as they have a temporary character and are composed of strategic alliances as defined previously. Also, construction sector has a great interaction between teams, thus becoming an excellent case study for defining a strategic alignment model considering the project timeframe. Furthermore, the term 'strategic partnering' or 'Project-Based Alliance' can be found in studies of major construction bodies, including the National Economic Development Council, Construction Industry Institute and Construction Industry Board (Matthews et al., 1996).

Teams in the construction sector are defined as non-manual or at a managerial level, as it is the relationships within various levels of management that are understood to have the most significance (Druker & White, 1995). The following segments are understood as part of construction projects, i.e., project development, civil, composed

of construction of buildings; and infrastructure, composed of highways and railways, among others.

The interviews will be structured following the interview protocol provided in the APPENDIX A, centring on discussions concerning current projects and past experiences. The overarching objective is to establish a distinctive model with broader applicability, extending beyond the confines of a single project to offer insights relevant to diverse construction endeavours.

The temporal duration of the project assumes a pivotal role within the scope of this research. Analogously, ongoing projects will be subject to examination, albeit with the limitation that their analysis will be truncated before their end due to temporal constraints stemming from their prescribed duration. In essence, these projects may encompass extended temporal trajectories, thereby rendering a comprehensive analysis impracticable. Furthermore, it is imperative to impose temporal limitations on the information development process, given the dynamic and variable nature of attitudes toward risk preferences, confidence levels, and environmental uncertainty. The prevalence of significant turnover rates during construction projects further underscores the necessity of implementing such temporal parameters. (Buchko, 1994; Ring & van de Ven, 1992).

For the proposed theoretical structure, a systematic literature review will be undertaken based on research published until 2021 about team management, strategic alliances, Simons Belief System, and its application within Project-Based Alliances.

2 THEORETICAL BACKGROUND

This research considered a literature review over the past 15 years, focused on specific keywords and online databases such as Science Direct and Google Scholar. As Science Direct is the world's leading source for scientific, technical, and medical research, with well-known and high-impact journals, Google Scholar is widely regarded as a valuable platform for finding research due to its comprehensive coverage of academic literature across various disciplines.

Google Scholar offers several advantages that make it a preferred choice for researchers and academics, e.g. broad coverage: indexes a vast range of scholarly content, including articles, theses, conference papers, patents, and more (Shultz, 2007); and it is easy of use: simple and intuitive interface makes it easy for researchers

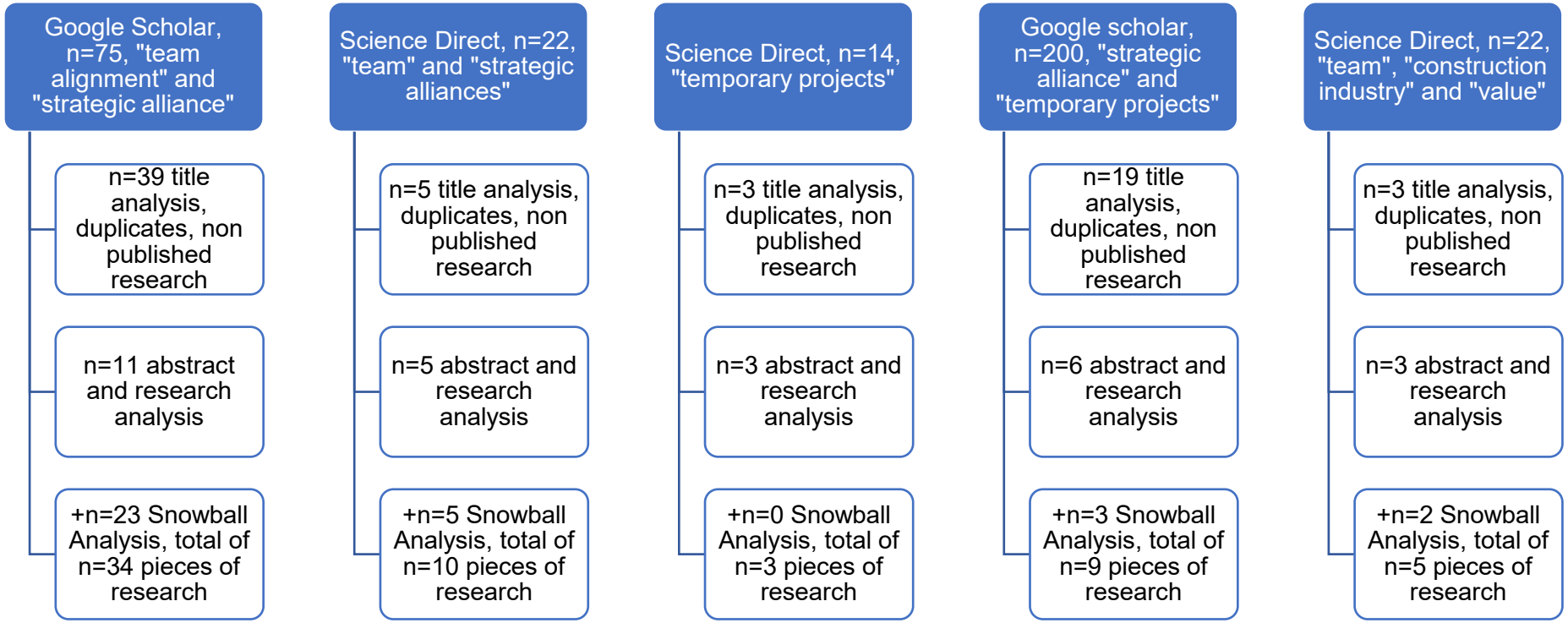
to quickly search for and access relevant scholarly information (Haddaway et. al, 2015).

On the other hand, with a more compact database, Science Direct offers an extensive collection of high-quality scientific literature across various disciplines, has rich and diverse content (Abdekhoda et al. 2016) and hosts content from renowned publishers and scholarly societies, ensuring access to high-quality research from reputable sources (Chavarro et al., 2010).

Through those online platforms, keyword searches were carried out in the title and abstracts. A rigorous analysis was performed reducing the number of papers. This analysis considered a theme, publication, duplicity, number of citations, and theoretical contribution. The snowball method was also considered to identify more relevant studies. The snowball method is a widely used qualitative research technique that involves recursively identifying new sources by mining references from existing literature, progressively expanding the research scope (Biernacki & Waldorf, 1981). This research summary can be visualized in Figure 1, within a total of 61 pieces of research analysed.

The research conducted revealed that the primary articles related to temporary organisations and team alignment were published in the International Journal of Project Management (IJPM). These articles delve into the dynamics of temporary project structures and emphasise the significance of achieving effective alignment within teams. The IJPM serves as a central platform for scholars and practitioners to explore and contribute to the understanding of temporary organising and team cohesion..

Figure 1 – Literature Review Steps



Source: Developed by the author

2.1 Simons' Levels of Control Framework and Subsequent Research Explorations

Robert Simons' "Levers of Control" (1995a, 1995b) framework is a seminal contribution that offers a structured approach to aligning strategic goals with operational execution. Simons' framework posits four distinct levels of control - diagnostic, interactive, belief, and boundary systems - that organisations can employ to navigate the complexities of decision-making, communication, and alignment.

Simons' framework (1995a, 1995b) begins with the diagnostic control system, which focuses on measures and key performance indicators to monitor and assess organisational performance. The interactive control system, in contrast, emphasises open communication and dialogue to foster alignment and adaptability. The belief control system centres on shared values, ethical principles, and organisational culture to guide decision-making and behaviours. Lastly, the boundary control system sets parameters and limits within which employees operate, promoting accountability and risk management.

Subsequent researchers have extended Simons' framework by examining the interplay between control and employee empowerment. It has been suggested that belief control, which emphasises shared values, can be leveraged to empower employees and enable autonomous decision-making. This perspective views alignment as a means to empower employees to make informed choices aligned with organisational values (Malmi & Brown, 2008). Researchers have also investigated the behavioural implications of Simons' framework, particularly in the context of ethical decision-making. Studies have explored how belief control can influence ethical behaviours by creating a shared moral compass among employees, thereby fostering ethical decision-making (Vinkenburg et al., 2011).

Furthermore, some scholars have examined how Simons' framework interacts with innovation and creativity within organisations. The interactive control system's emphasis on open communication and dialogue can facilitate the exchange of innovative ideas, leading to a more dynamic and innovative organisational culture (Langfield-Smith, 2007).

Finally, researchers have explored how Simons' framework operates in different cultural contexts. It has been argued that belief control may vary in its effectiveness

across cultures due to variations in shared values and beliefs (Yun et al., 2019). This highlights the need to understand the framework's applicability in diverse organisational settings. With the advent of digitalisation and technology, researchers have examined how Simons' framework adapts to the digital age. The boundary control system, for instance, has gained relevance in managing digital risks and cybersecurity in organisations (Gillet et al., 2019).

2.2 Strategic Alliances

Many definitions of strategic alliances have been discussed by different authors over the last decade. Those definitions incorporate mostly elements such as cooperation between parties, objectives, and mutual goals (Jefferies et al., 2014).

Kwok and Hampson (1997) define an Alliance as a cooperative arrangement between two or more organisations. These organisations pursue a major common goal and objectives for a specific project, and the formation of the alliance contributes to their overall strategy. Green and Keogh (2000) define an alliance as a collaborative partnership between companies in their research. Ross (2003), uses the expression ‘Project Alliancing’ to reflect the temporary characteristic of the collaboration. Ross defined Alliance as a relationship between a team of companies with a target cost. Furthermore, Jefferies et al. (2006) define an Alliance as a combination of providers i.e., architects, builders, sub-contractors, and suppliers. These providers should work as a team to deliver a specific product/project. Also, there is a contract framework involved that reflects their commercial interests and assures their alignment of them, corroborating a mutual goal.

As a concept, this research considers a Project-Based Alliance to be a partnership between parties with a temporary nature (Cheng et al., 2004). Owing to the requirement for team integration, the value of the industry economically, and the temporary project-based nature of partnerships, this research specifically considers projects in the construction industry.

2.3 The Project-Based Alliance in the Construction Industry

The Construction Industry greatly represents the economy (Chang et al., 2018; Chopdat et al., 2019; Huang et al., 2018; Latham, 1994). And its growth reflects the

continuous development of capabilities and tools to become differentiated in the market. Many discussions regarding the advancement of technology in the industry mostly define the future of the construction sector and its benefits, including increased competitiveness. Hammes et al. (2020) portray aspects of reverse logistics and the improvement of construction performance; Nnaji et al., (2020) focused on the use of new technologies to improve security; and Vorakulpipat et al. (2010) addressed the importance of the construction industry and its migration to a culture of knowledge and value creation, whereby technology assets and social networks must be combined successfully and aligned with strategy. The construction itself as a product is often unique and focused on a specific purpose, usually not repetitive and standardized, in which still significant solutions are defined during the project execution. The final product's performance, quality and cost characteristics result from the interaction of capabilities of all parties involved in the project (Martek & Chen, 2016) and represent a complex partnership due to the team interaction.

The Construction Industry is one of the most active, complex, and dynamic environments (Bresnen, 1990; Loosemore et al. 2003). It raises interesting managerial issues and presents a challenging context for leadership phenomena (Bresnen, 1990; Tuuli et al., 2012). It’s characterized by Project-Based Alliances and complex team integration. There is a lot of effort to deliver successful projects that have become ever more complex due to time pressures and cost reduction (Shenhar & Dvir, 2007). Moreover, organisations are found to spend even more time focusing on time reduction and alternative technologies despite developments in the professionalization of project management (Bakker et al., 2012; Pinto & Morris, 2004).

The construction industry is also characterized by its intricate interplay of relationships, cultural influences, and management practices. According to Naoum (2013), the impact of national culture on management strategies within the construction sector, particularly in the United Arab Emirates, demonstrates a distinctive blend of Western and Eastern management principles. This integration focuses on developing human resources, enhancing teamwork, and adopting decentralized decision-making processes. This unique management style not only adapts to local cultural norms but also incorporates broad managerial principles that contribute to enhancing operational efficiency and workforce motivation within the construction industry.

Naoum's (2016) subsequent studies further enrich our understanding of the operational complexities in construction. In 2016, he identified various factors that

critically affect productivity on construction sites, such as the experience of site and project managers, design buildability, project planning, and leadership styles. These elements underscore the managerial and leadership challenges that directly influence site productivity, offering valuable insights for developing performance-enhancement strategies (Naoum, 2016).

2.4 How to be a Successful Project-Based Alliance?

Several authors portray the factors that corroborate the Project-Based Alliance's failure and emphasise the inadequate inter-firm collaboration and lack of attention to its social dynamics (Galvin et al., 2021). Other factors include the lack of commitment from the partners during the project timeframe (Galvin et al., 2021), the overwhelming pressure on formal techniques such as contracts and tools, a lack of attention to collaboration practices, the dynamics of relationships among different individuals within and between different organisations, and the lack of communication and conflict resolution strategy (Chang et al., 2018). Furthermore, Suprapto; Mooi and Bakker (2012), developed a comparative table describing elements contributing to a collaborative relationship on Project-Based Alliances. The authors portray the importance of team interaction when the parties work together as an integrated team. This is reflected through joint efforts in decision-making, problem-solving, and continuous improvement. The authors also emphasise the shared mission, vision, and objectives that every party’s interest will be best served by working towards the overall success of the project for the best value and mutual benefits. In light of this, it is possible to analyse the aspects regarding team alignment and the success variables for Project-Based Alliances and relate them to the organisation's intended objectives. The team alignment would contribute to the success of many of those variables portrayed by Chang et al. (2018).

Jefferies et al., (2014) identified in their research five factors that contribute to Project Alliances' success i.e., the use of an integrated alliance office; the staging of project and stretch targets; establishing project specific KPI’s; facilitating ongoing workshops that include site personnel; and the integration of a web-based management program. They also stated that careful team selection, alignment and the formation of a single entity are success factors founded on the case study performed. In a further case study, Jefferies et al. (2014) additionally identified the following factors

for a Project-Based Alliance success: attitude, early commercial development, participants with past working relationships, awareness of project aim, objectives and charter and an open book nature between parties.

2.5 Team Alignment: An Organisation Implicitly Gain

'The team' is equivalent to 'the role system' of a project (Latham, 1994). The team is responsible for project delivery. The alignment of the team members needs to develop and improve over time to optimize the collaboration between parties improving project outcomes. Effective alignment could contribute to fewer conflicts, greater communication, and improved coordination. The perfect alignment would result in commonly held beliefs being represented throughout the organisation, whereby the team makes long-term commitments to effective co-working and practices. In general, the greater the alignment between team members, the better the chances of high performance.

In the context of Project-Based Alliances, applied research suggests that teams should be chosen based on the ‘best person for the job’ rather than the company’s structures and be allocated to the same office to enforce face-to-face communication (Knott, 1996). This reinforces the idea of a single unit when companies create a new temporary institution with shared beliefs.

‘Integration’ is an expression found in research to contribute to the alignment LL required to achieve better alignment and, as a result, the success of alliances with different goals and cultures, wherein the companies merge into a single cohesive and mutually supporting unit (Baiden & Price, 2011). In addition, integration means that there is no duplicate role, as organisations part of the alliance would mix their teams and create a new single company. However, another challenge within Project-Based Alliances is the conflict with the project team that results in an acceptance of the new mission and vision rather than compliance with leadership. The new beliefs created on the project base are often imposed by the terms of the contract (Alshawi & Faraj, 2002; Ankrah et al., 2009; Samuel, 1996). These new beliefs could be responsible for conflict, especially in the initial stages of the project.

Ultimately, ‘teamwork’, also used by researchers to describe ‘a better alignment’, helps to improve many aspects of a team, such as coordination, innovation, horizontal communication, and flexibility (Nurmi, 1996). Integration helps to improve a

team’s effectiveness (Baiden & Price, 2011; Egan, 2003). However, it does not provide everything required to establish a team’s effectiveness.

A few models have been created to explain the importance of team alignment and how to align the teams to obtain better outcomes. Ken Wilber (1996) developed his theory, further modified by Barrett (2006). This model presents the shifts that take place in the alignment process and describes interventions that could be applied for the alignment of teams as (i) creating more substantial personal alignment by matching an individual’s internal drivers with outer behaviours, (ii) focusing on the congruency between values and mission of the team; and (iii) creating the necessary structures and actions to support the desired contribution to the outside world. Some authors and construction experts also imply that a top team alignment occurs through a process over 6 to 12 months (Van Meer, 2009), but nothing has been proven. Also, it is reflected by experts that each team member should be oriented towards their own goals (through personal development and achievements), thereby increasing the team's capabilities in line with the company’s beliefs.

In a study by Weijermars (2012), a comprehensive framework was introduced, focusing on team alignment and its role in optimising project outcomes. The framework developed the importance of alignment, categorised into three fundamental factors: culture, skills, and goals. The author reflects on effective teamwork mitigating non-alignment, as misalignment results in wasting valuable resources. Furthermore, Weijermars highlights that alignment is positively influenced by the collaboration of team members, leading to several guiding principles:

Optimising Team Effectiveness: Once team members are selected, the primary mechanism for enhancing team performance resides in the degree of team alignment. A higher degree of alignment corresponds to optimised team outcomes.

Maximising Collaborative Alignment: To maximise team performance, it is essential to promote team members' collective skills and talents by fostering collaborative alignment.

Enhancing Success Potential: The prospects of team success are reinforced through a dual approach: individual learning to enhance team members' skills and team learning to strengthen shared values and vision.

Balancing Costs and Quality: While the cost of teamwork may rise over time, this is counterbalanced by the quality and value of the anticipated project outcome. Team efforts are most effective when team members succeed in optimising alignment.

Weijermars (2012) emphasises that a successful team should initially prioritise shared values and people-oriented dynamics, which gradually transition to becoming more task-oriented as social stability layers are established. In effective teams, members share cultural values and cultivate social bonds through mutual trust and acceptance.

Geraldi et al. (2010) supports these notions, identifying responsive and functioning structure, good interpersonal relationships, and competent individuals as key components of effective teams.

2.5.1 Trust in Project-Based Alliances

Team alignment, a foundation of successful project outcomes, is connected with trust between team members within PBAs. Mutual trust and acceptance form social and cultural alignment, encouraging a more effective team and enhancing the likelihood of achieving organisational success (Baiden & Price, 2011). The formation of trust operates as a catalytic force that propels teams toward common objectives, connecting alignment and project achievement (Baiden & Price, 2011).

Meyerson et al. (1996) assert that trust formation in such alliances deviates from conventional processes due to increased reliance on personal interactions. Team members, often unfamiliar with one another, create expectations to bridge the gap and cultivate trust during uncertainty. This strategy of importing expectations serves as a mechanism to mitigate risk enabling partners to execute complex tasks effectively.

The trajectory of trust development within Project-Based Alliances appears to develop over the project life cycle, with social interaction emerging as a pivotal catalyst. While some scholars emphasise the influence of tender procedures on trust (Egan, 2003; Latham, 1994), the alignment of project teams emerges as a crucial tool for creating trust throughout the project duration. This alignment, added to organisational expectations, reflects on the overall performance (Baiden & Price, 2011).

Project vision among team members is fundamental to organisational success (Baiden & Price, 2011). The concepts of mission, vision, and objectives converge to guide project trajectories, to achieve organisations goals.

Despite the importance of trust in enhancing team alignment, it faces challenges with the tight deadlines of temporary projects. Project teams that work across different functions struggle with the limited time available, which can prevent the formation of

strong working relationships. The previous interactions and connections between team members are crucial as they significantly affect the ability to build trust quickly.

Research has shown that existing relationships among team members help quickly establish effective teamwork practices. These relationships encourage sharing a common vision, promoting open communication, and clarifying everyone's roles early on. This method helps to build trust from the beginning of the project and highlights how closely team alignment and trust are linked in the fast-paced environment of project-based alliances.

Ultimately, trust acts as a crucial component that strengthens team alignment in Project-Based Alliances. The combination of aligned goals shared beliefs, and trust is central to successful collaboration, leading to the achievement of project objectives and overall organisational goals.

2.5.2 The Belief System

The Belief System, proposed by Simons (1995a, 1995b), reflects a tool of managerial control based on the beliefs of the organisation and describes how to disseminate these values among teams through their leadership. Beliefs include group norms and power patterns that influence and affect internal process decisions. They are communicated to the organisation through documents, e.g., mission, vision, and statements of purpose, to disseminate the core beliefs of the organisation and the adoption of the principles defined by the workforce (Diehl, 2009; Fauzi & Rahman, 2008; Simons, 1995). It should be used to improve the interaction between organisational strategy and culture (Jarratt & Stiles, 2010). The use of the Belief System to manage business strategies can be verified through new opportunities emerging from people's commitment to the organisation (Fauzi & Rahman, 2008).

The Belief System has implications for organisational culture and claims related to the sharing of mission statements and benefits, as well as inspiring and motivating employees. The idea is to reinforce fundamental beliefs, as well as formalise the mission and business vision to decrease doubts and engage teams (Lundin et al., 2015; Simons, 1995). Groups formed and surrounded by the same beliefs contribute to a higher degree of business strategies and increase competitiveness (Simons, 1995). Examples of teams that may contain differences in beliefs are found in multiple business units under the same corporate management, or strategic alliances, resulting

in the difficulty of individuals to understand the purpose and direction of the organisation (Simons, 1995).

Simons (1995) also reflects on the need to balance the competing tensions between freedom and restriction, in which leaders must be able to act to deliver on business objectives and ensure competitiveness. These tensions are revealed to align an organisation, its strategy and human behaviour. Whilst the relationship between companies can be defined as complex, the sharing of common beliefs could help to align the company's strategy and human behaviour, thereby reducing indirect costs. It is also expected that managers communicate and reinforce these definitions to their subordinates formally and systematically, thus contributing to their continued commitment (Simons, 1995).

In addition to organisational beliefs, the leadership also carry personal beliefs that are transposed into their daily attitudes. Measure beliefs are not easy, and various research has explored how to analyse both personal values (Schwartz, 1992). and organisational values (Hofstede, 1997, 2015; Oliveira & Tamayo, 2004; Tamayo & Gondim, 1996). It is possible to combine significant issues that organisations face during the share of the desired strategy to solve the tension between individuals on their teams and develop a structure that ensures the functioning of the organisation (Tamayo et al., 2000).

The Belief System holds a paramount role in shaping the dynamics and outcomes of construction projects. It encompasses the shared values, norms, and beliefs that underpin the interactions and decisions of project participants. Just as a solid foundation is essential for a stable structure, a cohesive Belief System is crucial for the success of complex construction endeavours.

A well-defined Belief System fosters effective communication and collaboration among diverse stakeholders, including clients, designers, contractors, and suppliers. When individuals share a common understanding of project goals and principles, it creates a platform for open dialogue and mutual trust (Walker et al., 2018). This sense of alignment leads to improved information sharing, quicker conflict resolution, and enhanced decision-making processes.

Research underscores that a strong Belief System contributes to risk management in construction projects. When project participants hold congruent beliefs about potential challenges and strategies for mitigation, it promotes a proactive

approach to identifying and addressing risks (Aaltonen et al., 2020). This proactive stance can significantly reduce the likelihood of disruptions and costly delays.

Furthermore, the Belief System enhances adaptability in the face of uncertainties. In an industry with unexpected changes, a shared Belief System provides a stable reference point that guides responses to evolving circumstances (Müller & Turner, 2019). It encourages a collective commitment to project objectives while allowing flexibility in execution methods.

The influence of the Belief System becomes especially pronounced in geographically dispersed or multicultural project teams. A strong shared Belief System transcends cultural differences, bridging gaps and promoting a sense of unity (Zhu et al., 2018). This unity creates a conducive environment for effective teamwork, fostering collaboration and knowledge exchange.

2.5.3 The Project Timeframe

The leadership and their teams involved in the project have diverse backgrounds and represent the beliefs and values of their leading company. Therefore, the mix of expectations and ways of working is inevitable. The ability of the team to adapt is necessary to develop the project objectives and align with the temporary organisation's beliefs. Furthermore, projects with a short schedule usually do not focus on alignment between organisations, which is often difficult to achieve (Sydow & Braun, 2018). It is more likely that the leading companies choose the leaders who have know-how and are more compatible with the project's development and expectations, not the most flexible leader. However, research shows that a more flexible and decentralised social structure can facilitate adaptation in complex environments (Burns & Stalker, 1961).

Another essential point to consider is that a Project-Based Alliance is a new legal entity created to deliver a temporary project in the Construction Industry. This industry is characterised by the high importance of on-time delivery, as well as external factors such as change requests by clients and internal issues during the project development cycle (Müller-Seitz & Sydow, 2015). Moreover, some construction projects extend well beyond the scheduled delivery date due to technical problems during project execution. In this context, the project time has a direct influence on cultural definition and alignment between teams (Parent & Macintosh, 2013). Thus,

time is critical in project development (Sydow & Braun, 2018), as well as for the teams' adaptation.

It is already known that starting project teams off with a people-oriented approach rather than a goal-oriented approach increases their probability of success for an optimum project outcome. In this way, relating the timeframe and the alignment of beliefs between teams and organisations could directly influence project success (Chang et al., 2018). Successful teams need a core of people that already hold shared values from the outset, and team leaders should act mostly in a people-oriented way, subsequently becoming more task-oriented, and building social bonds between people and organisations (Chang et al., 2018). In this way, top management, responsible for the sharing of beliefs, also forms part of the team, practising the shared missions and vision statements.

2.6 The Leadership in Project-Based Alliances

One crucial consideration to make is that leadership has not only organisational beliefs but also personal ones, according to which they conduct most of their activities throughout the project. That is important in the analysis of leadership beliefs and how they flow to the new entity. Regardless of the value that the organisation presents in its mission and vision, the human value of each person who is part of the organisation has specific characteristics that may or may not be shaped by those proposed by the company. According to Schwartz (1992), human value could be defined as (i) emotion-related beliefs that, when activated, generate positive and negative feelings; (ii) a motivational construct; (iii) specific actions, differentiating themselves from attitudes and social norms, in addition to guiding people in various contexts; (iv) selection and evaluation of actions that compose criteria for judgments; and (v) the relative importance given to the other values and thus forming an ordered system of priorities.

Therefore, the leadership carries core beliefs from their institution, as well as their own beliefs that were developed throughout their lives, i.e., core beliefs from their institution and their own beliefs that were developed throughout their lives, to the Project-Based Alliance. Those personal beliefs are essential constructs in psychosocial concepts considered central to the prediction of attitudes and behaviours (Schwartz, 1994). This could impact their compatibility within the Project-Based Alliance (Kristof, 1996). Therefore, the organisation is expected to select the

professional who is best aligned with its beliefs. Also, it is essential to sustain the relationship between the organisation's strategy and the leaders, reinforcing the organisation’s identity (Schultz & Hernes, 2019).

2.7 First Literature Framework and Categories

This initial framework seeks to start the exploration of relationships between organisational beliefs, team alignment, project success, and the project timeframe within the context of PBAs in the construction industry utilising all the literature reviewed so far. The initial framework is reflected in Table 1.

.

Table 1 – Framework from Literature

Category	Description	Understand/Evaluate	Authors
Organisational Beliefs	Organisational beliefs encompass shared values, ethical principles, and cultural norms guiding decision-making and behaviors, foundational for team alignment.	Explore the origin and propagation of organisational beliefs through interviews and document analysis to understand how these beliefs permeate team dynamics and influence communication and collaboration.	Simons (1995), Jarratt and Stiles (2010), Diehl (2009), Fauzi and Rahman (2008)
Team Alignment Dynamics	Team alignment dynamics refers to the alliance's responsiveness to changing circumstances, facilitated by Simons' interactive control system emphasizing communication and dialogue.	Investigate the link between interactive control systems (e.g. strategy meetings, tools to involve managers actively and regularly in decision-making processes) and team alignment via interviews, focusing on how open communication contributes to alignment with evolving project goals.	Simons (1995), Malmi and Brown (2008), Langfield-Smith (2007)
Project Success and Alignment Strategies	Success is influenced by collaboration, communication, and adherence to shared objectives, with guidance from the belief control system for ethical decision-making and problem-solving.	Define and measure project success through interviews and document analysis, examining the alignment of behaviors with organisational beliefs.	Simons (1995), Vinkenburg et al. (2011), Denicol et al. (2020)
Project Timeframe and Alignment	The project timeframe influences team dynamics and alignment strategies, affecting decision-making speed and integration depth of shared beliefs.	Discuss project timeframes in interviews, asking about motivation and demotivation factors, and plan repeated sessions to track alignment over time.	Sydow and Braun (2018), Parent and MacIntosh (2013)
Integration of Modern Technology	Modern technology adoption impacts alignment through the boundary control system, enhancing secure communication and data-driven decision-making.	Conduct document analysis on technology integration and its role in enhancing alignment within the organisation. Analyse during interviews and organisation analysis if technology improve communication, and discuss control of information.	Gillet et al. (2019), Simons (1995)
Dispersed Teams	Cross-cultural considerations and geographic dispersion impact alignment dynamics, necessitating an understanding of belief control across different contexts.	Conduct a multicultural team study, investigating two different nonrelated organisations from different countries involved in a joint venture. Analyse interaction, cultural impacts and differences on team alignment,	Zhu et al. (2018), Yun et al. (2019)

Source: Created by the author

3 RESEARCH METHOD

Research methodology serves as the proposal and guiding framework for conducting systematic investigations aimed at acquiring new knowledge and understanding. It encompasses the principles, techniques, and strategies used to gather, analyse, and interpret data, ensuring that research endeavours are rigorous, reliable, and meaningful.

3.1 The Qualitative Approach

Qualitative research aims to address questions concerned with evolving an understanding of the meaning and experience dimensions of social science. Qualitative research aims to understand a phenomenon in which the researcher gets involved in the researched environment and understands the people's perspective, considering all relevant points of view and variables. The research includes observation, interviews, questionnaires, focus groups, participant observation, recordings made in natural settings, documents, and artefacts.

Qualitative research is "an interdisciplinary field that advocates a multimethodological approach, a naturalistic perspective and an interpretive understanding of human nature" (Anadón, 2006). Qualitative research works with complex issues, valuing the subjectivity of researchers and subjects; it combines various techniques of data collection and analysis (Anadón, 2006). Moreover, the qualitative approach aims to develop sensitive concepts, describing multiple realities, with a reasoned theory leading to improved understanding (Bogdan & Biklen, 1994).

Qualitative research is concerned with the qualitative phenomenon. For instance, when we are interested in investigating the reasons for human behaviour (i.e., why people think or do certain things), we quite often talk of 'Motivation Research', an important type of qualitative research. Qualitative research is especially important to analyse behavioural motivations.

Considering the research objectives, there is a movement toward a qualitative approach, which is explained by the way teams behave during the project execution and the incorporation of the beliefs desired by the organisations involved in a Project-Based Alliance. The analysis included an understanding of the perspectives of the

teams involved during the project time and their beliefs within the context of project circumstances and the organisation's desired strategy. The understanding of this phenomenon results in distinct categories that must be considered by organisations during the project timeframe. Additionally, qualitative research methods have found important applications in engineering research, although their use in it has not always been widely accepted.

3.2 Design Science Research

Traditional qualitative methodologies focus on explaining, describing, exploring or predicting phenomena and their relationships, but they do not contribute to reducing the distance between theory and practice. The Design Science Research (DSR) methodology was chosen precisely because contributes to the construction and creation of an artefact, guiding the research to the solution of the problem and not only the development of a theory.

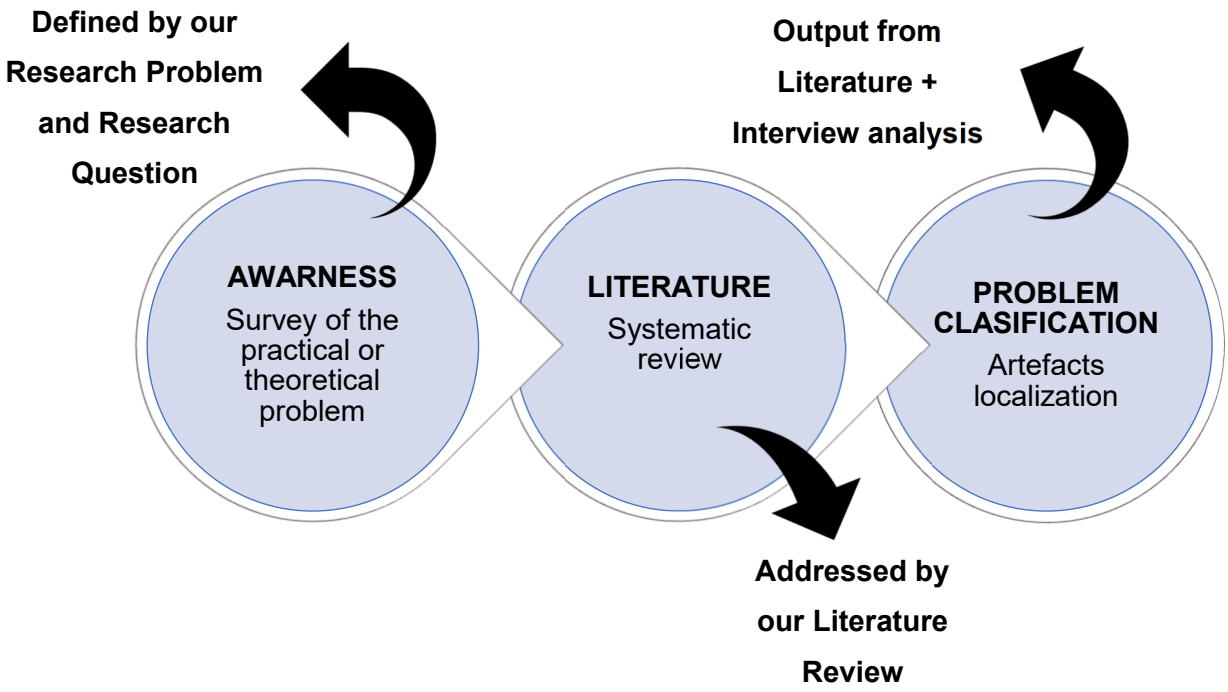
DSR is part of a qualitative research approach in which the object of study is the design process. It differs from explanatory research whose goal is to describe, understand and eventually predict the phenomenon of a particular field. Alternatively, the goal of DSR is to develop scientifically grounded solutions that can solve real-world problems with the creation of an artefact. In that way, the DSR was chosen as a research methodology for this study.

A DSR approach is followed by three main steps, where (i) the design objective is to raise awareness of the problem or theory gaps, (ii) the constructed and finally (iii) the artefact is evaluated by an argumentative discussion concerning technological constraints, ethical and social aspects.

Furthermore, DSR seems to be an appropriate approach for conducting research in construction management. According to AlSehaimi et al. (2012), such an approach can assist in the development and implementation of innovative managerial tools, tackling different managerial problems of construction. The same authors further argue that in so doing, constructive research will better connect research and practice, and thus strengthen the relevance of academic construction management. Nonetheless, few studies explore how such an approach can be pursued in construction management.

Good DSR often begins by identifying and representing opportunities and problems in an actual application environment. DSR is about potentiality, meaning the identification of new opportunities to improve practice before any problem is recognized. Thus, the relevance cycle initiates DSR with an application context that not only provides the requirements for the research (e.g., the opportunity/problem to be addressed) as inputs but also defines acceptance criteria for the ultimate evaluation of the research results. The results of the field testing will determine whether additional iterations of the relevance cycle are needed in DSR.

Figure 2 – Problem classification steps



Source: Developed by the author

Problem classification is a pivotal step that guides the entire research endeavour, ensuring a focused and systematic approach to addressing complex challenges. Problem classification involves the meticulous identification, analysis, and grouping of problems to provide a structured foundation for designing effective solutions.

To create problem classification, the starting point is to develop a comprehensive exploration of the problem domain. This entails engaging in literature reviews, conducting interviews with stakeholders, and scrutinizing real-world instances to gain a holistic understanding of the complex issues at hand. Once a clear grasp of

the challenges is attained, the next phase involves dissecting these problems into discernible categories based on shared attributes and underlying causes.

Categorisation enables researchers to navigate the intricacies of diverse problems efficiently. Each problem category becomes a distinct entity that can be comprehensively analysed, leading to the formulation of targeted and relevant solutions. This process streamlines resource allocation, ensures a cohesive research direction, and enhances the alignment of the proposed artefacts with the identified problem spaces.

Regarding artefacts, March and Smith (1995) on their research defined them as constructs, models, methods, and instantiations. Constructs constitute the ‘language’ to specify problems and solutions. Models use this language to represent problems and solutions. Methods describe processes that guide how to solve problems and instantiations are problem-specific aggregates of constructs, models, and methods.

The developed artefact must precede a high level of academic rigour in order to ensure its validity. It must also be constantly evaluated during the process in order to have the generation of unique and generalised knowledge. As forms of evaluation, the table below describes methodologies applied for this.

Table 2 - Techniques for Artefact Evaluation

Evaluation Method	Proposal Techniques
Observational	Elements of the case study: study the existing or created artefact in depth in the organisation environment. Field study: monitoring the use of the artefact in multiple projects
Analytics	Static analysis: Examine the structure of the artefact for static qualities. Architecture analysis: to study the fit of the artefact in the technical architecture of the general technical system. Optimisation: Demonstrate the optimal properties inherent in the artefact or demonstrate the optimisation limits on the artefact's behaviour. Dynamic analysis: studying the artefact during use to evaluate its dynamic qualities (e.g., performance).
Experimental	Controlled experiment: studying the artefact in a controlled environment to verify its qualities (e.g., usability). Simulation: running the artefact with artificial data.
Test	Functional testing (black box): Run the interfaces of the artefact to discover possible flaws and identify defects. Structural testing (white box): Perform coverage tests of some metrics for artefact implementation (for example, execution paths).
Descriptive	Informed argument: Using information from knowledge bases (e.g., relevant research) to construct a compelling argument about the artefact's usefulness. Scenarios: Build detailed scenarios around the artefact to demonstrate its usefulness.

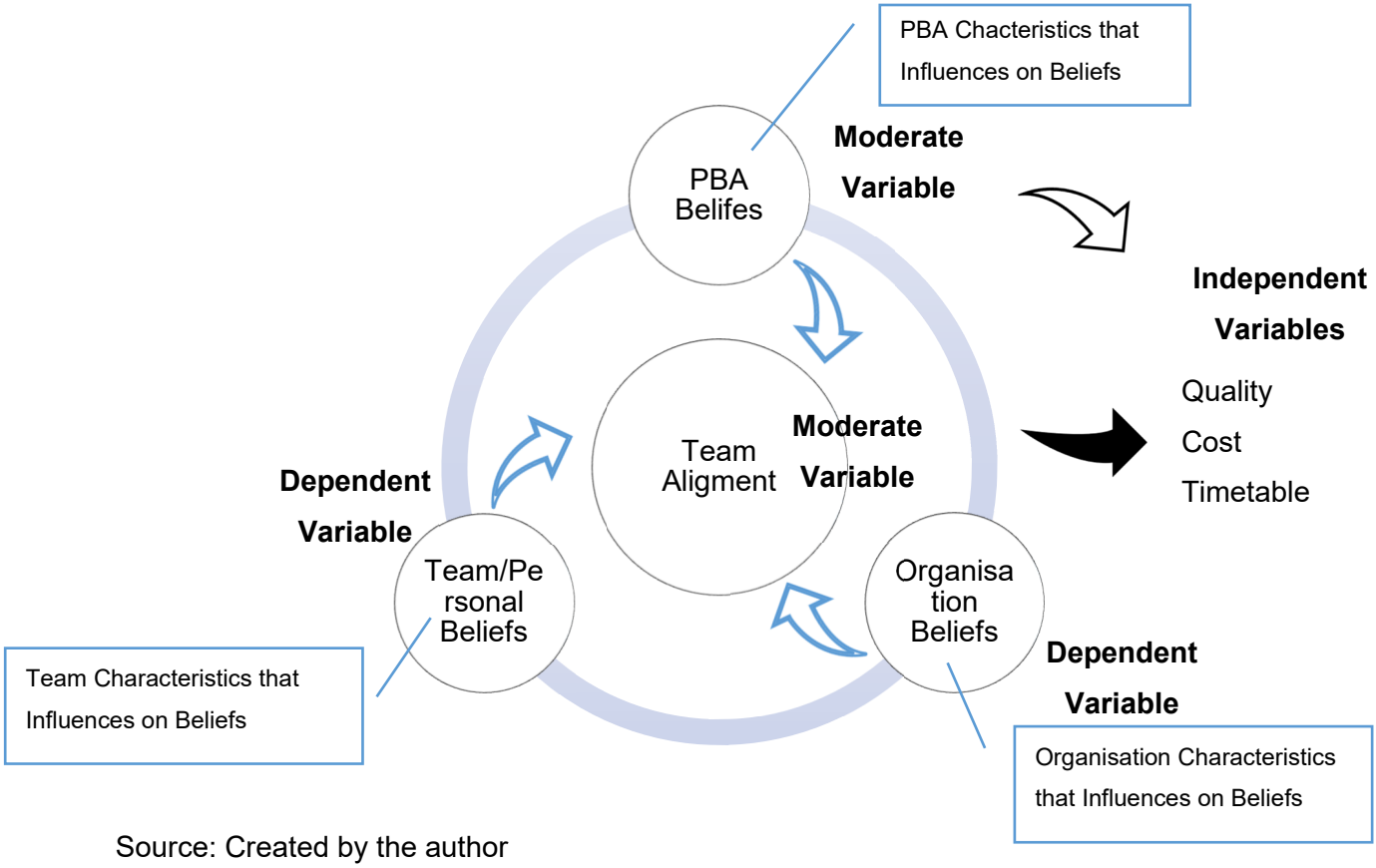
Source: Hauner et al. (2004)

3.4 Study Proposition

After the discussion proposed in the previous chapters, it is possible to elaborate on a research proposition that will be verified throughout this study and contribute toward model creation involving a Project-Based Alliance. It is also possible for the identification of the main variables to be analysed during the DSR application.

As mentioned before, time is crucial for Project-Based Alliances. The timeframe is essential for self-immersion in tasks, knowing the team and individual abilities, learning, and sharing new goals and knowledge (Bakker et al., 2012). Time works as a catalyst for integration and could contribute to the better alignment of teams, providing benefits to Project-Based Alliances since team alignment is one of the most critical steps in the formation of alliances (Ross, 2003).

Figure 3 - Ideal Alignment to Achieve the Desired Strategy: First Research model Overview



Source: Created by the author

On the other hand, if the project is too short, it could also limit the time for leaders and their teams to adapt, which could result in a lack of alignment. Also, the team's integration could be affected, thereby impacting the project's overall performance, as teams are responsible for project management (Nguyen et al., 2004; Piccoli et al., 2023). Hence, Proposition 1 can be inferred:

P1: There is an ideal timeframe for a Project-Based Alliance that could benefit the team's Beliefs alignment.

Thus, considering time as a critical element to adaption and change (Park & Russo, 1996), leadership's core beliefs can have a better or worse alignment depending on the project timeframe.

The project timeframe may therefore be responsible for workers' demotivation. It is possible to imply that longer projects could contribute to team demotivation due to poor management. This is usually a result of project changes that create rework and extend the project further than expected. Team motivation is a key process

performance factor, and time losses are the most significant demotivators for Project-Based Alliances (Ng et al., 2004).

The organisation's beliefs should be transmitted between teams to achieve the business strategy. The Belief System should also be clear to employees and reflect their own, strengthening the strategic alignment and dissemination of the strategy in all areas of company operations. An alignment of Beliefs would result in fruitful employee engagement, with a significant impact on employees' attitudes as well as long term business success (Anthony & Tripsas, 2016; Branson, 2008; Jackson, 1966; Locke, 2003). A good team relationship is becoming essential to gain greater trust with clients, as well as within the organisation itself (Vorakulpipat et al., 2010). As such, it is evident that team alignment is an essential component of business strategy (Garavan, 1997) and working cooperatively motivates the team and adds value to the business (Vorakulpipat et al., 2010).

As team alignment is important for achieving organisation strategy, selecting the right participants is one the most important parts of developing an alliance (Sakal, 2005). One important factor influencing this is the project location, particularly when organisations need to select new teams based on an inability to easily relocate existing staff. This reinforces the importance of a selection process and training that guides leaders and teams to the desired strategy.

Leaders are the primary authorities responsible for the success of a team. All leadership must analyse and understand the company's core beliefs, such as its mission, vision and values, to conduct a successful implementation of the strategy, as well as inspire and direct the search for new opportunities for all employees (Dumitraşcu & Feleagă, 2019; Simons, 1995). Also, leaders play an essential role since maintaining beliefs under challenging times could build great future opportunities for organisations (Warrick, 2017). Instead, it is found that executives devote little time to understanding and sharing the organisation's core beliefs, thereby ignoring their role in creating team alignment (Collins, 2009). Proposition 2 arises from this discussion:

P2: The alignment of an organisation's core beliefs, including mission, vision, and values, with team members' personal values enhances team alignment and contributes to successful project outcomes.

Trust is also an important topic to raise when discussing team alignment. Mutual trust is considered a fundamental variable for successful team alignment (Weijermars, 2012) and could be created by personal interaction. In this case, the timeframe has an

important role in the development of trust between teams, helping organisations to perform their desired strategy more adequately. In this way, we can infer the below research proposition: Consequently, Proposition 3 can be formulated:

P3: Mutual trust among team members is a critical factor for team alignment in Project-Based Alliances. Personal interaction over a suitable timeframe fosters mutual trust and strengthens alignment, ultimately supporting effective strategy execution.

3.3 Our research project “Step by Step”

This research employs the Design Science Research (DSR) methodology due to its suitability for investigating the complex social aspects and diverse scenarios within Project-Based Alliances. The following step-by-step illustrates the intended research methodology to achieve the primary objective:

- **Literature Review**: Initiate the research process by conducting an extensive literature review to comprehensively grasp existing theories and concepts related to organisational beliefs, team adaptation, project success, and the influence of project timeframes on team dynamics and performance in Project-Based Alliances. This review will identify key studies, models, and frameworks that address the strategic alignment of beliefs and its impact on various facets of project management.
- **Theoretical Framework Development**: Building on insights from the literature review, develop a comprehensive theoretical framework that delineates the interconnectedness between organisational beliefs, team alignment, project success, and the project timeframe. Integrate relevant theories, such as Simons LOC Framework, to conceptualise how organisational beliefs guide team behaviours and subsequently influence project outcomes. Also propose methodologies for evaluation and understanding.
- **Research Methodology Design:** Utilize DSR approach. Employ deep interviews and document analysis to gather data from three distinct Project-Based Alliances. These methods will provide profound insights into organisational beliefs, team dynamics, and project success.

- **Artefact Development:** DSR theoretical artefact by defining its components and dimensions. This stage encompasses the categorisation and integration of the project timeframe as a significant component. This will provide a clear tool and guidance for PBAs on team alignment.
- **Artefact Refinement and Iteration:** Develop an initial artefact and have feedback from leaders, and stakeholders to determine areas necessitating refinement and improvement. Iteratively enhance the artefact based on received feedback, ensuring its accuracy in describing the intricate relationships between organisational beliefs, team dynamics, project success, and the project timeframe.
- **Empirical Validation:** Through a group discussion analysis, the objective it to capture nuanced dimensions enhancing the validation process.
- **Interpretation and Discussion:** Interpret findings within the context of the research question. Analyse how the strategic alignment of organisational beliefs influences team alignment and project success while considering how the project timeframe interacts with this alignment to impact key project objectives.
- **Implications and Recommendations:** Investigate the implications of research findings for both theory and practice. Discuss how the developed artefact can enrich the understanding of team dynamics, project success, and the role of organisational beliefs in Project-Based Alliances. Offer practical recommendations for organisations and project managers on strategically aligning team beliefs and effectively managing the project timeframe to attain desired outcomes.
- **Conclusion:** Summarize key findings, insights, and implications of the research concisely and comprehensively. Reflect on the study's significance in advancing knowledge about team alignment, Belief Systems, and project success within Project-Based Alliances.
- **Future Research Directions:** Identify potential areas for future research based on uncovered limitations and gaps.

- **Communication of Results:** Identify suitable journals for publication of research outcomes.

3.4 Researcher Engagement and Ethical Research

The engagement with multiple PBAs was extensive, key for both the collection and analysis of data and the development and refinement of an artefact designed to enhance strategic alignment within these complex environments. Throughout the research, were performed a deeply involvement in the projects, participating actively rather than merely observing. This immersion allowed an experience to the day-to-day operations and strategic challenges, providing a rich context for my research. My comprehensive involvement included attending numerous meetings where I contributed to discussions, bridging theoretical knowledge with practical application. This active participation was instrumental in building trust with project teams, facilitating an open exchange of information.

Part of this research involved conducting structured interviews with various project stakeholders. These interviews were pivotal for gathering qualitative data on strategic alignment practices and the challenges faced by project teams. The organisations granted permission to record these interviews, ensuring that detailed data could be preserved for thorough analysis. Each interviewee signed a consent form which clarified the scope of the research, the voluntary nature of their participation, and the confidential handling of the information shared.

The organisations involved provided extensive access to critical internal documents, including minutes of meetings and value and mission statements.This access was essential for understanding the Organisational context in which the projects operated, allowing for a deeper analysis of how strategic alignment was communicated and enacted within the teams. The confidentiality agreement signed by all parties ensured that the information would be used solely for academic purposes, safeguarding the organisations' proprietary and sensitive information.

Moreover, the organisations did not permit the disclosure of any sensitive data or the naming of clients, which shaped the way findings were reported. This confidentiality extended to the treatment of all data collected, ensuring that it was anonymized and used in a way that respects the privacy and confidentiality agreements in place.

The research was submitted to an ethics committee for evaluation. Although the research did not involve medical or sensitive data and did not require CONEP approval, it was important to address potential risks to human participants. The committee's review resulted in a formal opinion from the Committee for Ethics in Research (CEP), which was subsequently integrated into the research process. The ethics committee emphasised addressing potential psychological and social risks that could arise from the intensive interview processes and the strategic evaluations within the Organisational settings. A few strategies were employed to minimize these risks:

Informed Consent: Ensuring that all participants were fully aware of the research scope, their role, and their rights to withdraw from the study at any point without any consequences (these were informed during the recorded interviews).

Debriefing Sessions: Offering debriefing sessions to participants to discuss the research findings and any concerns they might have about the process or the outcomes.

The artefact is intended to enhance strategic alignment within PBAs. This artefact was iteratively refined through feedback gathered in project meetings and evaluations of its applicability. This refinement process was vital for ensuring that the artefact not only met the theoretical objectives of my research but also addressed the practical needs of the organisations involved. The evaluation of the artefact's effectiveness involved detailed discussions with stakeholders, analysis of past project outcomes and how the artefact could contribute for it.. This continuous feedback loop allowed for further refinements of the artefact.

3.5 Categories and Interpretation Criteria

As a result of our comprehensive literature review and the examination of previous tables within this study, we have identified the key categories for analysis. We have enhanced our categories, explored the interpretation criteria and established an updated evaluation methodology, which is presented in table 3. The three levels were defined as critical for team alignment, therefore this research delineated as Organisation Level (encompass organisation beliefs), Team level (encompass Personal Beliefs), and Project Level (encompass Project Timeframe), respectively, form the basis of our analysis due to their profound impact on the independent

variables of quality, cost, and timeframe, which in turn determine the success of project deliverables.

Throughout the research process, the possibility of introducing new categories remains open, and this table will be further enriched through the analysis of interviews. It was possible to develop also questions to guide the detailed analysis of different aspects affecting team and organisational alignment within Project-Based Alliances, aiding in a comprehensive evaluation of strategic alignment impacts.

In line with these findings, this table has been designed as an initial framework for analysing qualitative data, particularly from interviews, within the context of PBAs. The focus is on understanding how strategic alignment at various levels (organisation, team, and project) influences project outcomes.

Table 3 - Categories and Interpretation Criteria

Level	Categories	Interpretation Criteria	Evaluation Methods	Guide Questions
Organisation Level (Organisation Beliefs)	Organisational Beliefs and Team Alignment	Organisational beliefs are reflected in the vision, mission, and value statements, shared by senior managers to provide direction. Alliance size and organisation size can influence alignment.	Interviews with senior managers, document analysis, project statements, contracts, and websites, researcher perception, description of the organisation analysed.	- What is the size of your organisation (number of employees)? - How do senior managers share and enforce the organisation's mission, vision, and values? -How many organisations in a PBA? -Mission and Vision Organisation vs Mission and Vision Leadership? -Mission and Vision PBA and Mission and Vision Organisation?
	Dispersed Teams	Alignment dynamics across diverse teams, challenges, and strategies for alignment in different cultural contexts.	Interviews with senior managers, document analysis, project statements, and websites, researcher perception, project description and analysis.	- What specific challenges do leaders face in managing team alignment across different geographic locations? - What specific strategies are used to manage cultural differences?
	Integration of Modern Technology	Impact of technology integration on communication enhancement, data sharing, risk management, and effectiveness of boundary control system.	Interviews with senior managers, document analysis, project statements, and websites.	- What specific technologies are integrated to enhance communication and data sharing? - How do leaders measure the effectiveness of these technologies in managing risks?
Team Level (Personal Beliefs)l	Team Alignment and Dynamics	Agility, adaptability, open communication practices, interactive control mechanisms. Cultural cohesion, common values, and mutual trust contribute to alignment.	Interviews with senior managers, document analysis, project statements, and websites.	- How are agility and adaptability encouraged among team members? - How do common values and cultural cohesion manifest in team dynamics?
	Resource Utilisation	Resource allocation efficiency, cost management practices, and the contribution of aligned team behaviours to resource optimisation.	Interviews with senior managers, document analysis, project statements, contracts, and websites.	- What methods are used to ensure efficient resource allocation and cost management? Problems/Difficulties? - How is team alignment linked to resource optimisation?
	Team Skills and Roles	Relevance of team members' skills and roles to project tasks, impact on alignment and workflow	Interviews with senior managers, document analysis, project statements, contracts, interviews with employees, and websites.	- How are team members' skills and roles aligned with project tasks? - What process do you follow to assign roles based on project demands?
	Leadership Profile	Influence of leadership attributes on team alignment, coordination, communication, conflict resolution	Interviews with senior managers, document analysis, project statements, contracts, and websites.	- What are the key leadership qualities that influence team dynamics? - How do leaders manage conflicts within the team?
Project Level (Project Beliefs)	Project Success and Alignment Strategies	Project objectives, collaboration patterns, communication channels, and adherence to project goals.	Interviews with senior managers, document analysis, project statements, contracts, and websites.	- How to define project success in terms of team alignment and collaboration? - What communication channels are most effective for maintaining project alignment?
	Project Timeframe	Alignment patterns over different project timeframes, the influence of project duration on alignment dynamics. Alignment phases are observed at the beginning, middle, and end of the project.	Interviews with senior managers, repeated interviews, researcher perception during project participation, past experiences from team members.	- What are the different phases of team alignment observed throughout the project timeframe? - How does the duration of the project affect team dynamics and alignment? - What long-term changes have you observed in organisational culture due to alignment strategies? - How are knowledge and skills transferred as a result of sustained alignment? - Time vs Demotivation? Time vs Alignment?
	Long-Term Impact of Alignment Strategies	Organisational culture shifts, knowledge transfer mechanisms, and collaboration opportunities resulting from sustained alignment strategies.	Interviewees perceptions, and past experiences on projects.	- What long-term changes could be observed in organisational culture due to alignment strategies? - How are knowledge and skills transferred as a result of sustained alignment?

Source: Created by the author

3.6 Problem Classification

The process of DSR begins with identifying a problem space, which is framed within a specific context and classified into a problem class. This chapter explores the concept of problem classification within DSR, drawing on insights from key authors such as Van Aken (2005), Lacerda et al. (2013), and Gregor & Hevner (2013).

3.6.1 Overview

In DSR, problem classification involves categorising problems into broader classes to facilitate the creation and evaluation of artifacts. Van Aken (2005) suggests that the nature of artifacts can significantly influence the classification of problems, which are practical groupings guiding the trajectory of research and development.

Although there is no official definition of problem classes in the literature, they are generally described as collections of related theoretical or practical problems characterised by common artifacts offering methods for designing diverse solutions within an organisation (Lacerda et al., 2013). Problem classification aims to:

- Identify Common Features: Grouping problems by shared characteristics allows researchers to leverage existing knowledge and methodologies.
- Facilitate Solution Design: Understanding commonalities within a problem class enables the design of more effective and generalized solutions.
- Enhance Knowledge Transfer: Categorizing problems allows the application of solutions and knowledge across similar contexts and scenarios.

Artifacts play a crucial role in defining and classifying problems in DSR. The nature and functionality of these artifacts help delineate different problem classes. Van Aken (2005) emphasises that artifacts are not only solutions but also mechanisms that define problem boundaries and characteristics. For example, in the context of construction project alliances, artifacts such as project management frameworks, communication protocols, and team alignment strategies can define distinct problem classes.

The process of generalisation in DSR involves identifying contributions that can be applied across various problem types. This generalisation is essential for advancing knowledge within the field. Lacerda et al. (2013) argue that problem classes should organise knowledge generated from DSR, thus facilitating the generalisation and application of findings.

Gregor & Hevner (2013) propose that the classification of problem classes in DSR can occur based on the purpose and scope of the artifact to be developed. This classification helps define the boundaries of any design theory and provides clarity on the research's contribution. The criteria for classifying problems include:

- Scope and Purpose: The intended application and goals of the artifact.
- Nature of the Problem: Whether the problem is theoretical or practical.
- Organisational Context: The specific Organisational environment where the problem exists.
- Type of Artifact: The specific kind of solution being developed, such as frameworks, models, or tools.

3.6.2 Team Alignment in the Construction Industry

This research identifies key challenges that can be explored as problem classes. The main problem classes encountered in this research, which contribute to the development of our artifact, are described below.

Table 4 – Problem Classes Classification

Problem Class	Description	Artifacts	Supporting Authors
Collaborative Communication Strategies	Problems related to communication breakdowns in project-based alliances significantly impact project success. These issues often stem from diverse backgrounds and organisational cultures, leading to misunderstandings and inefficiencies.	Standardised reporting tools, communication software, meeting schedules, and protocols for regular updates and feedback mechanisms.	Tabassi et al. (2017); Chang et al. (2018)
Strategic Alignment	Problems involving misalignment of team goals and objectives can hinder project execution effectiveness. Strategic alignment ensures all team members work towards the same objectives, despite differences in their individual organisational cultures and practices.	Team-building exercises, alignment workshops, leadership training programs, and tools for tracking and measuring alignment progress.	Srivastava & Sushil (2017); Tabassi et al. (2017)
Trust and Relationship Management	Building trust in project-based alliances is critical for fostering collaboration and achieving project goals. Trust issues can arise from past negative experiences, cultural differences, and lack of transparency.	Trust-building workshops, transparent communication platforms, conflict resolution mechanisms, and regular team bonding activities.	Weijermars (2012); Baiden & Price (2011)
Leadership and Governance	Effective leadership is essential for guiding project teams toward successful outcomes. Leadership challenges include managing diverse teams, aligning organisational goals, and ensuring consistent governance practices.	Leadership training programs, governance frameworks, decision-making protocols, and leadership evaluation tools.	Yang et al. (2011); Denicol et al. (2020)

Source: Created by the author

4. EXPLORING ORGANISATIONAL ENVIRONMENTS: PROJECT 1, 2 AND 3 ASSESSMENTS

This study examined the environments of three Project -Based Alliances to address the main objective: the development of an artefact. Mission and Vision statements were also examined for each organisation. This exploration resulted insights into their foundational values, strategic aims, and long-term goals. Furthermore, various internal communications, including minutes from meetings with clients and suppliers, were analysed, which offered a distinctive view on external collaborations and stakeholder interactions. Access was also extended to records of internal meetings and observations within office settings, thereby deepening our comprehension of the organisational culture, operational processes, and the internal mechanisms managing decision-making. This comprehensive analysis enabled us to capture a holistic picture of how these organisations align their strategic initiatives with their operational practices and engage with key partners.

4.1 Brazilian Alliance’s Mission and Values

The examination of the Brazilian organisation OA, with its expansive history in the construction and infrastructure sector, provides a unique lens through which to analyse team environments and alignment within large-scale operations. OA's structure, comprising three distinct subsidiaries (OA1, OA2, and OA3), each focusing on different aspects of construction and infrastructure, offers a complex scenario for team dynamics and inter-departmental cooperation.

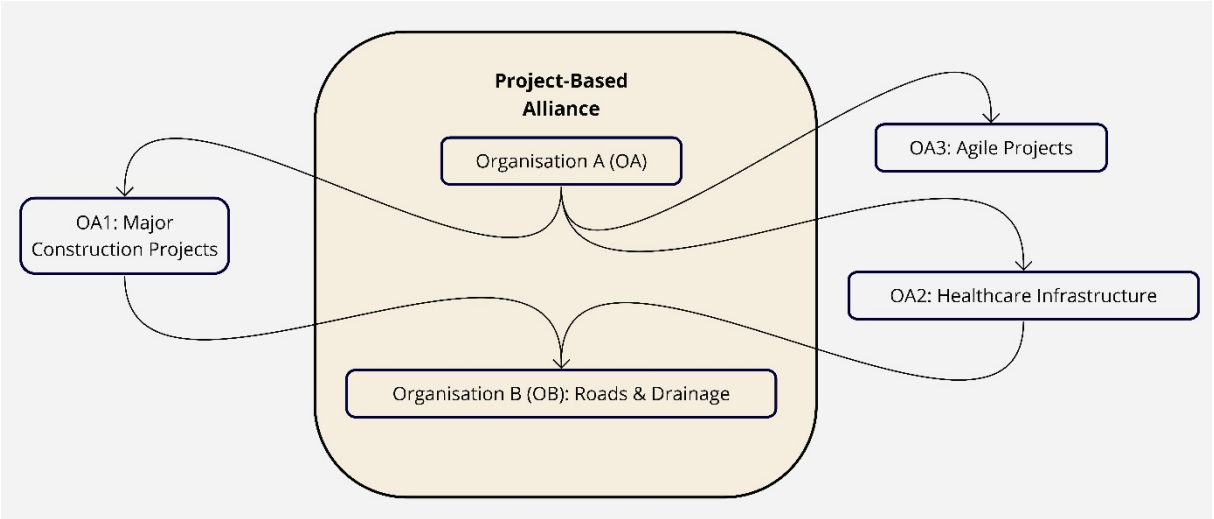
OA1's role in major construction projects, OA2's focus on healthcare infrastructure, and OA3's dedication to smaller, agile projects across the country present varied operational environments (not participated in this research). This diversity raises critical questions about how teams within and across these subsidiaries align their goals, share knowledge, and manage resources. The diverse nature of these projects - ranging from large-scale constructions to healthcare facilities and smaller ventures - requires not only distinct technical skills but also varied approaches to team management and communication.

The organisation's approach to employee autonomy, especially in financial decision-making and project execution, suggests an environment that values empowerment and decentralisation. However, this model also necessitates a deeper analysis of how such autonomy impacts team cohesion, accountability, and the alignment of project objectives with the overall strategic goals of the organisation. The effectiveness of communication channels and decision-making processes within this structure is crucial for maintaining a harmonious and productive work environment.

Moreover, the integration of Organisation B (OB) into the consortium with OA1 and OA2 for a major project in Brazil adds an additional layer of complexity. OB's expertise in infrastructure projects, specifically in roads and drainage, and its distinct corporate culture and operational style, pose interesting challenges for team integration and alignment. The dynamics of this partnership, especially in the context of a large-scale and high-impact project, provide rich ground for analysing how different organisational practices and team environments converge and adapt.

In this context, examining how these diverse teams navigate the challenges of collaboration, maintain alignment with overarching objectives, and handle the pressures of varied project demands becomes essential. This analysis offers insights into the intricacies of team environments within large, complex organisations and highlights the importance of effective leadership, clear communication, and a strong organisational culture in ensuring successful project outcomes and team satisfaction.

Figure 4 - Integrated Structure of Consorcium: Organisation A and B



Source: Created by the author on Miro©. (2022)

4.2 European Organisational Mission and Values

An European Joint Venture (OC) has developed into a prominent consultancy firm, focusing on urban planning, infrastructure, and design. It stands as a prime example of strategic alignment within complex environments, such as project-based alliances, making it an exemplary case for this research. OC's dedication to creating sustainable and liveable urban spaces underscores the essence of our study, illustrating how organisations navigate and align strategic objectives in challenging settings.

OC's mission and vision are based on sustainability and innovation, driving the firm to seek solutions that balance human well-being with ecological sustainability. This approach has positioned OC as an expert on developing resilient and vibrant cities.

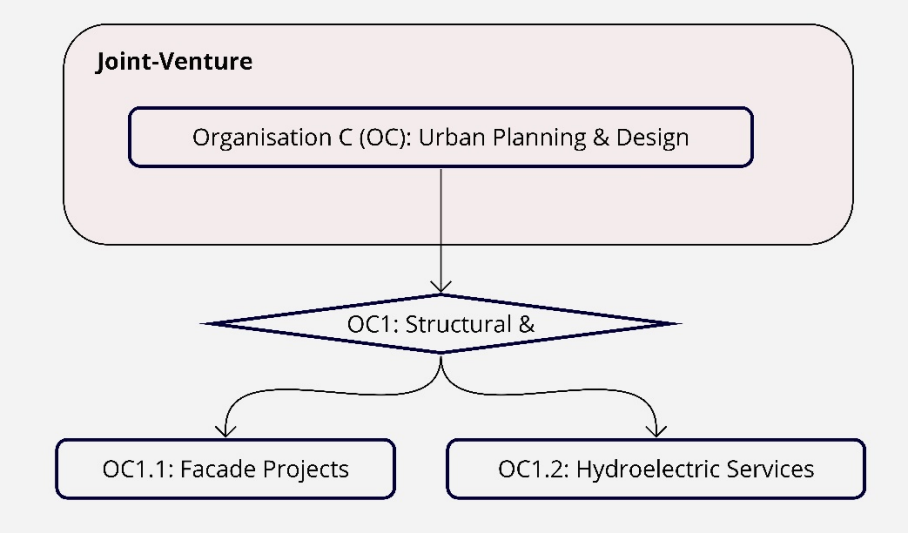
Central to OC's operations are its sister organisations, OC1, OC1.1, and OC1.2 (organisations part of this research), each bringing specialised expertise to the consortium. OC1, renowned for its innovative structural and civil engineering solutions, exemplifies the integration of artistic vision with scientific precision. This entity's contribution to the field, particularly in pushing the boundaries of structural engineering, reflects a commitment to excellence and innovation.

OC1.1 and OC1.2, specialised arms within the group, focus on façade projects and hydroelectric services, respectively. OC1.1 enhances the aesthetic and functional aspects of urban environments, while OC1.2 sustainable energy solutions, emphasizing the importance of renewable resources. The collaboration among these entities showcases the power of synergy in addressing the complex challenges of team alignment.

An analysis was conducted focusing on OC1, OC1.1, and OC1.2, leveraging available interviews and material analysis. This investigation revealed significant contributions to team alignment within the construction industry during the initiation and planning phases, highlighting how these organisations collaborate under a unified mission and vision statement. The study of OC1 and its sister companies offers insights into strategic alignment in project-based alliances, following their commitment to innovation, sustainability, and collaborative excellence, and also providing an excellent case study to understand the mix of cultures and different geographic locations. Such practices serve as benchmarks in urban development and provide lessons for entities in complex project environments. This comprehensive understanding underscores the

critical role of strategic alignment in achieving goals and the transformative potential of collaborative networks in the construction and urban planning sectors.

Figure 5 - Joint Venture (OC)



Source: Created by the author on Miro©. (2022)

4.3 Analysis Summary

As previously mentioned, this research follows a Design Science Research (DSR) methodology, analysing three Project-Based Alliances (PBAs). These three temporary projects encompass seven organisations which six of them participates in this reserach. Project 1, part of the healthcare/commercial group, consists of two organisations (OA2 and OA1) within the same joint venture, combining expertise to execute a highly complex hospital project in Brazil. Project 2, in the infrastructure/commercial sector, involves three organisations and forms a consortium. OA2 and OA1, along with another organisation from a different part of Brazil, OB, have joined forces to execute this complex project. The third project, in the hospitality/commercial area, is located in Asia and involves numerous companies from different parts of the world, although those analysed are European. A European joint venture, consisting of three companies with specialties in structural, mechanical-electrical, and hydraulic projects, and another in facade solutions.

The table below summarises the project details, participating organisations, type of alliance, project duration, where the interviews were conducted and recorded, the researcher's analysis time on the project. The subsequent table summarises the

mission, vision, and values of each organisation, as well as those of the PBA, with the final column offering the researcher's insights on important topics and complexities in team alignment, project duration, and belief systems within each. Project 1 lasted three years, Project 2 lasted four years, and Project 3 required the companies for two years, although the total project duration from start to finish was five years.

Table 5 – Project Details

Project Number	Sector	Organisations (size)	Alliance Type	Project Duration	Interview Details	Project Phase Analysis
Project 1	Healthcare / Commercial	OA1 (~500 people), OA2 (~200 people)	Joint Venture	2-3 years	Conducted and recorded in Brazil/On-line	Execution / Closure
Project 2	Infrastructure / Commercial	OA1, OA2, OB (~200 people)	Consortium	4 years	Conducted and recorded in Brazil/On-line	Planning / Execution / Closure
Project 3	Hospitality / Commercial	OC1, OC1.1, OC1.2 (total ~160 people)	Joint Venture	2 years (Total 5 years)	Conducted and recorded in Europe/ On-line	Planning / Execution

Source: Created by the author

Table 6 – Project Mission and Vision

Project Number	Organisation's Mission, Vision and Values	PBA's Mission, Vision, Values	Researcher's Insights on Alignment and Beliefs
1	OA1 and OA2 focuses on quality within a rigorous timescale, is client-oriented, and promotes innovative, sustainable construction practices to expand healthcare access and facilities. The approach is client-oriented and cost management	The PBA aims to integrate the strengths of each organisation to establish a seamless and efficient operation supporting the healthcare sector's expansion in Brazil. The joint mission and vision prioritise delivering complex projects with precision, timely completion, and sustainability.	Insights on team dynamics, belief systems complexities, and the impact of project duration. Timeliness was crucial as the hospital remained operational during construction. Suppliers from various parts of Brazil emphasised the need for meticulous planning. The project involved teams from different regions of Brazil, which required careful staff allocation and leadership changes to better align with organisational objectives and client expectations. Previous leader lacked client approval and proper discussion.
2	As described in Project 1 for OA1 and OA2. OB with additional focus on sustainability and planning. The emphasis is on teamwork and societal impact as a whole.	The PBA's mission is to deliver high-impact infrastructure projects serving as benchmarks for quality and innovation. The vision highlights collaborative excellence and strategic alignment for large-scale commercial and infrastructure projects.	Insights on cross-organisational collaboration and cultural challenges. The project began with significant difficulties, including trust issues and operational challenges. Despite many socialisation events designed to foster team integration, criticism of others' work exist.
3	The European Joint Venture (OC1, OC1.1, and OC1.2) focuses on urban planning and infrastructure, emphasising sustainability and innovation. Each company contributes specialised structural, hydraulic, and façade engineering skills to create resilient and vibrant urban environments.	The PBA's mission is to create sustainable, high-quality urban spaces that reflect the joint capabilities of the European companies involved. Their vision promotes a collaborative approach to urban development, prioritising innovative solutions and sustainability.	Insights on managing multinational team dynamics, alignment phases, and the influence of project duration. Internal communication was challenging, leading to unclear roles and responsibilities, poor project management, and stress. These issues, combined with a reluctance to address and correct errors, led to increased costs for the organisation.

Source: Created by the author

5 BUILDING TEAMS: PROJECT CASE STUDIES

This chapter will describe a study of three projects in the construction industry, each serving a different segment of the industry, contributing to this research. The approach includes an analysis of the PBAs, beginning with thorough descriptions of each project phase. The incorporation of in-depth interviews provides a complex view of the projects' progress and challenges. A discussion and analysis of the interviews conducted will be presented, with a specific focus on team alignment and the management of project timeframes. By employing Badin's methodology for discourse analysis, communications and interactions within project teams are explored. The chapter concludes with a comprehensive analysis of the interview data, offering also the researcher's perspective on team dynamics and project efficiency, contributing to our categories previously elaborated.

Table 7 summarises the key details of the recorded interviews conducted as part of the research. The table captures interviews from four distinct organisations, three of which are based in Brazil and one in Europe. For each organisation, the table outlines the number of interviewees, the total duration of the interviews, and the departments involved. It also outlines a short description to help understand their structure. This summary provides a concise overview, highlighting the diverse perspectives and insights gathered from different areas within these organisations. The table below shows data from recorded interviews, not all the conversations and participation of the researcher in context.

All information is confidential; therefore, extra measures have been taken to avoid any details that could identify the organisations. Following the terms of research agreed upon by all organisations, which were formalised through signed agreements, and the confidentiality agreement between the researcher and the interviewees, all available in the APPENDIX B, C and D.

Table 7 – Recorded Interview Summary

Organisation	Sub-Organisation	Specialisation	Number of Interviewees	Total Interview Duration (Hours)	Department
Joint Venture A (Brazil)	OA1	Mega Project Construction and Management: High-Rise Buildings, Commercial, and Residential Developments	6	8	Engineering, Project Management, Quantity Surveying, Human Resources, Security, and Quality Control
	OA2	Healthcare Infrastructure: Construction and Management of Hospital Projects	7	9	Engineering, Project Management, Quantity Surveying, Human Resources, Security, and Quality Control
	OA3	Agile Construction: Small-scale, Rapid Deployment Projects	0	0	Not Applicable
Organisation B (Brazil)	OB	Infrastructure Development: Roads, Drainage, and Bridge Construction	5	6	Engineering, Project Management, Quantity Surveying, Human Resources, Security, and Quality Control
Joint Venture C (Europe)	OC1	Structural Engineering: Rapid Growth and International Expansion in Europe, Asia, and the Americas	5	5.5	Project Management, Quantity Surveying, Engineering, Cost Control
	OC11	Façade Engineering: Specialised Construction with a Focus on Aesthetic and External Building Features	3	3	Engineering, Project Management
	OC12	Specialised Technical Services: Electrical, Hydraulic, and Mechanical Engineering Projects	2	2	Engineering, Project Management

Source: Created by the author

5.1 First Project Overview: Execution and Closure Phases

This first project explores a project on the industrial/segment healthcare, including a new emergency department. Situated in a hospital complex, the department spans more than 2,000 square meters and individual patient compartments, specialised isolation units, and enhanced outpatient care capacity, reflecting the dynamic needs of modern healthcare services and construction complexities.

The project is a collaborative effort between two organisations within a Joint Venture, OA1 and OA2, and has seen OA2 taking a pivotal role since its inception in 2019, leveraging its expertise in healthcare construction. Their collaborative efforts covered construction phases, including land preparation and the establishment of structural foundations. Financial arrangements between the organisations were based on predefined scopes, influencing profit sharing.

OA1 primarily managed procurement and cost control, with OA2 providing support, a potential source of friction due to procedural dependencies. OA2 also led site-specific activities, benefiting from its specialised knowledge in healthcare construction. The project required OA1 to relocate staff from the west to the south of Brazil, emphasising the logistical challenges involved.

The project's scope was extensive, including various specialised equipamnets and materials, highlighting the complexity of integrating new constructions into operational hospital settings. This complexity underscored the necessity of continuous communication among OA1, OA2, and hospital teams to navigate changes and align with client expectations.

This research aims to investigate team alignment within this PBA, focusing on the interplay between key participants and their collaborative dynamics. By conducting interviews and analysing the project's final phase, the study seeks to find insights into effective collaboration and achieving unified objectives in this complex project environment.

5.1.1 Interview Descriptions and Analysis

A total of eight in-depth interviews were arranged with key leadership. These leaders represented various domains: quality security, production, cost control, technical control, and human resources. The interviewee was allowed to explore the theme, talk about past experiences, reflect on them, and feel comfortable explaining the project's successes, failures, and team relationships. The interview process was a critical mechanism for explaining the essential strengths and weaknesses of team alignment, describing the hierarchical priorities in team formation, uncovering the factors contributing to project failures, exploring the dynamics within teams, and enhancing our comprehension of the framework's categorisations. Such a methodical approach enables a comprehensive analysis of the complex dimensions of team collaboration and strategic alignment, thereby facilitating the identification of insights to enhance project outcomes within PBAs.

Structured interviews we performed, using a pre-defined set of questions, as detailed in APPENDIX A. The questions were developed during the interviews to kept the essence of the interviewees' experiences and insights, with a focus on the project's final phase. The emphasis on this phase was determined by the accessibility of team members and the project's overarching timeline.

Extending over 40 minutes to an hour, these interviews allowed participants to articulate their viewpoints on the trajectory of the project, the depth of alignment within their respective teams and concerning their organisation, and their relationships with other entities within the Joint Venture.

5.1.2 A Discussion Through the Data

The analysis of the interviews provides insights into the strategic alignment of teams within the construction industry, focusing on the essential elements of values, trust, team dynamics, and the broader organisational culture. These insights are critical for understanding the flow of belifes on project-based alliances and contribute to our framework. These also shows great contribution to our pre defined study propositions.

Organisation Level (Beliefs and Dispersed Teams): An interviewee from OA2 highlighted the differences in organisational cultures and values between partnering companies, stating, "*In our partnership with OA1, we've realised that even*

though we aim for the same project success, our organisational cultures and values are quite different. This has its advantages but requires management to align our efforts, you know? OA1 sometimes appears slower in its procedures and processes." This statement underlines the necessity of managing diversity effectively. It also shows a misalignment due to different work practices and a certain level of missing communication.

Organisation Level (Integration on Modern Technology/Communication): In the context of modern project management, especially within PBAs, the integration and communication facilitated by modern technology is an important element for ensuring alignment and facilitating knowledge sharing. Despite the potential benefits, it's observed that information often remains within specific projects, with teams showing reluctance to share it more broadly across the organisation. This reflects a feeling of “ownership” from some leaders. Also, this resistance can stem from concerns over financial implications or the desire to avoid certain procedures.

As articulated by a leader from OA2, navigating the shift from a traditional, approach to a more transparent and collaborative process presents both challenges and opportunities: "*The first obstacle is the barrier of the construction site wanting to be a black box, right? […] What happens here dies here, here we make a blood pact. But so, when you have to share your process, the process is the same for everyone, construction site and office […] But when you're going to do something with someone? You can't draw it down on a napkin, you have to be. It has to be weighed, it has to be on the network. So, it's this improvement in the quality of information that he's working on in the group, which is not physically together. So, the point that was overcome was this barrier. Here in my construction, only I see, no one puts their spoon in, you know? So, this no, it's not your construction. By opening ourselves to the company, we are a piece of the process and a part of the process and we will act together.*"

This reflection brings the "black box" mentality where information and processes are carefully guarded. Overcoming this mindset requires a shift towards more open communication channels and a cultural transformation within the organisation, moving from secrecy to shared responsibility and from isolation to integration. This statement reflects also the lessons learned through the phases of the project.

The leader also emphasises the need for sharing processes and information across all levels of the project, from the construction site to the office, highlighting the role of compliance and formal approvals. The transition to a more open, transparent

approach necessitates moving away from informal, communication methods towards structured, documented, and accessible information sharing through digital and networked resources.

Achieving this shift represents a significant milestone in project management, signalling a departure from isolated practices to a model characterised by transparency, accountability, and inclusivity. It reflects an organisational evolution towards recognising that every team and individual contributes to a larger process, with success hinging on collaborative effor ts and the collective ownership of processes and outcomes.

Team Level (Dynamics, Skills and Roles): Further elaborating on the theme of strategic team alignment, an interviewee discussed the essence of an optimal team: "*An optimal team for us involves members who are fully integrated, committed to a common goal, communicate, and understand their roles and responsibilities clearly*." This shows the importance of integration, shared objectives, effective communication, and clarity in roles and responsibilities as foundational elements for creating an ideal team.

Project Level (Timeframe, Long-Term Impact on Alignment) and Team Level (Beliefs): The impact of project timeframes on team motivation was also a significant point of discussion. A Project Manager from OA2 observed, "*Extended timelines can really test the team's motivation. We've noticed a drop in enthusiasm when projects stretch beyond their expected completion dates*." Additionally, an interviewee from OA1 shared their personal experience with prolonged projects, "*when the project extends beyond two years, it's not good... my longest project was five years. I couldn't look at the project anymore; you just do it to close it as quickly as possible*." These insights suggest that project durations exceeding initial expectations can lead to a decline in team motivation, highlighting the critical role of managing project timelines effectively. Also, the Project Manager has defined two years as an optimal project duration for learning, developing, creating team bonds, and then transitioning to new opportunities. The team emphasised that personal beliefs are significant, but they also acknowledged a broader understanding of PBAs' beliefs that should be addressed throughout the project. As highlighted by one leader, the timeframe is crucial for maintaining motivation, suggesting that personal beliefs, if not aligned with project goals over time, could lead to demotivation.

Team Level (Beliefs, Trust) and Project Level (timeframe): The development of trust within project-based alliances was identified as a crucial factor for successful collaboration. An interviewee remarked, "*Trust grows as we work together and see each other's commitment and integrity in action, as we socialise, we understand each other. It's not immediate but develops over time*." This indicates that trust is a gradual process, built on the foundation of shared experiences and observed commitments.

Organisation and Team Levels (Beliefs and Communication): The interviews also delved into the tension between the company and personal values, with one interviewee expressing, "*There's often a tension between the company's emphasis on financial outcomes and my personal values regarding well-being... I usually eat my lunch at my desk while looking at my computer*." Another added, "*I have a family, and, you know, is the most important thing to me, but sometimes you need to stay late, especially on these complex projects*." These reflections reveal the potential conflicts between organisational objectives and individual well-being, emphasising the need for a balanced approach that respects both personal values and project goals.

Regarding company values, a Leader from OA1 stated: ”*I believe that the current values are indeed very much focused on financial outcomes. So, when we were addressing the previous issues, sustainability and well-being are present. This is about mutual value creation, right? There's a significant focus on generating financial results. And this ends up being something that, of course, I see the importance of. I believe it needs to be economically sustainable for the organisation to exist*.” The interview reflects on investment in sustainability that is limited due to financial effort, and even though the company has this as a main belief, the project team does not focus on it as it is seen as an expense.

Also, a Leader from OA1 reflected “*I see that the company believes in very clear and direct communication, and I think that works well for me too. I believe it keeps everyone on the same page and is a positive thing. And considering another belief, I think a personal belief of mine is that it's very important to build good, positive relationships with people who are part of my professional environment and to have an environment that allows and encourages these relationships to be built in a positive way as well. And I see that this is not something in the company's belief. No. There's also no concern about this. Again, it's very focused on each delivering what they need to achieve that financial outcome target, not something bigger in that regard*". In these sentences the leader emphasises the value of clear and direct communication within

the company, appreciating its effectiveness in keeping team members aligned. However, they express a personal belief in the importance of building positive relationships in the professional environment and fostering an atmosphere that encourages such relationship-building. This aspect, according to the leader, seems to be overlooked by the company, which remains more focused on achieving financial targets rather than cultivating a supportive relationship. This observation points to a discrepancy between the leader's values and the company's operational focus, underscoring a broader concern for the need to balance financial objectives with the well-being and relational aspects of the workplace.

Team Level (Leadership and Decision Making): Leadership plays a pivotal role in setting the direction for project success, with decision-making processes being primarily influenced by the company's leadership. This aspect of leadership and decision-making underscores the importance of clear goals and metrics for guiding project outcomes and aligning team efforts. Leader from OA2 highlighted the importance of leveraging diverse team strengths, stating, "*So, how do we get a diverse team to row in the same direction? By reinforcing the common goal and aligning different profiles, not trying to negate the differences but knowing how to take advantage of what each one does best to add to the group. This one is better at design, the other is better at composition, another is better at drafting the technical proposal. It's about assembling the puzzle with the best of each one and each thing, shedding light on what is good and trying to improve what is not so good*." By acknowledging and leveraging individual talents -such as design, composition, and technical skills - the leadership can create a cohesive unit that capitalises on the best attributes of each member. This approach to assembling the team, similar to putting together a puzzle, not only highlights each person's strengths but also focuses on improving areas of weakness. The essence of this statement is about the strategic integration of diverse skills and personalities under a unified vision, facilitated by insightful and adaptive leadership.

Project Level (Overall Project Success Criteria) and Team Level (Leadership Profile): Finally, the interviews underscored the definition of project success as meeting or exceeding planned expectations, with a particular emphasis on financial viability, adaptability, and team alignment. The successful alignment of teams is highlighted as a key contributor to resolving problems and facilitating effective information sharing, ultimately leading to project success. Leader from OA1 elaborated

on the essence of project success, "*I think what makes a project successful are the people. So, the main thing is to value people and the relationships between people. And if I were to speak in terms of something, it would be trust itself. Trust in the leader and lead by example; it's no use if I say one thing and do another, right? So, we're all in the same boat, everyone is a colleague despite us having different positions, everyone is an employee and is aiming for the goal. For me, that's it. A silver team is a successful project.*" The statement underlines the importance of valuing team members and their interpersonal relationships, with trust being critical. Trust in leadership, coupled with the leader's ability to lead by example, fosters a collaborative environment where everyone views themselves as colleagues working towards a shared goal despite hierarchical differences. This perspective suggests that the foundation of a successful project is not just the achievement of objectives but the cultivation of a supportive and trust-based team environment, where the collective effort and mutual respect drive the project forward.

The interviews offer valuable perspectives on the strategic alignment of teams, cultivating trust, and balancing values within project-based alliances in the construction industry. These insights form a foundational framework for understanding the dynamics at play in such collaborations and underscore the importance of careful management and leadership in achieving successful project outcomes.

5.1.3 The Researcher's Position and Argument

The standard determinant of project success within the construction industry's PBAs is the strategic alignment of teams coupled with the capacity for adaptive changes throughout the project's lifecycle.

These interviews corroborate the initial framework that prior collaborations and familiar leadership significantly contribute to achieving superior outcomes and eliciting positive feedback from clients. Such achievements not only elevate project quality but also enhance financial returns, underscoring the critical interplay between team alignment, adaptability, and leadership shifts. These elements are paramount for ensuring project excellence, client satisfaction, and organisational profitability, resonating with the theoretical underpinnings presented in the dissertation concerning team dynamics and strategic decision-making.

The importance of aligning an organisation's mission, vision, and core beliefs cannot be overstated. By integrating Simons' belief systems framework, it becomes evident that aligning these elements is crucial for fostering a cohesive team environment. This alignment not only drives immediate project success but also contributes to long-term organisational objectives, enhancing overall strategic outcomes.

Another pivotal aspect of this discussion centres on the implications of local hiring practices. While local hires bring indispensable insights and expertise essential for project execution, they simultaneously introduce challenges in harmonising diverse team compositions. Effective communication, cultural sensitivity, and inclusive leadership emerge as foundational pillars for aligning these varied teams with overarching project objectives. Organisational support becomes particularly pronounced in facilitating the smooth integration of new team members. An interviewee’s observations underscore the necessity of an efficient onboarding process and comprehensive training programmes, which are vital for quick alignment within the construction industry’s fast-paced environment.

Additionally, the research highlights profiles and characteristics of leaders, with a special focus on gender dynamics. It was noted that women may encounter more challenges related to travel or relocation due to family commitments, a disparity less frequently faced by male leaders within the construction sector. This finding points to the need for more gender-sensitive policies and support mechanisms to ensure equitable opportunities for leadership roles across genders. This contributes to a Team Level development category, regarding leader profile and dynamics. Aligning these policies with the organisational belief system can further reinforce the strategic alignment of teams.

Investigation further showed a tendency among employees to incline towards the management styles and cultural norms of their parent companies, especially if they have been in the organisation for a long time. This tendency was evident in meetings and interviews, where leadership appeared to align more closely with their original company's principles rather than adopting a unified approach across the PBAs (new unique organisation). For example, a leader commented on how the PBA emphasises cost-cutting over sustainability. This focus, possibly aimed at maintaining company loyalty, could block communication and overall performance if team members value their company's goals more than the project's collective goals. It has been noted that

while social activities help close cultural divides, the key to better team unity is through improved communication and clear processes. Integrating Simons' belief system into these processes can create a more unified approach, aligning personal and organisational goals for broader, long-term success.

Considering these findings, the research shows that team strategic alignment in PBAs is a complex construct, influenced by factors such as leadership styles, timeframe, organisational beliefs, diversity, and cultural integration. It is possible to enhance the main categories by introducing subcategories that contribute to and characterise the topics to be evaluated during the project timeframe, focusing on team alignment and beliefs. By leveraging Simons' belief system framework, organisations can better navigate these complexities, ensuring that their mission and vision are consistently aligned with their strategic objectives, leading to sustained success and long-term benefits.

5.1.4 Insights from First Project Overview

Integrating our study propositions with findings from interviews within the context of the first project overview reveals the complexity of strategic alignment, team dynamics, and project characteristics. The proposition that there exists an ideal timeframe for PBAs to benefit team beliefs alignment is connected in certain way to the project's complexity. The first project, involving the inauguration of a new emergency department, presented a complex interplay of logistical, technical, and interpersonal dynamics. Interviews highlighted the importance of ongoing communication and collaboration between OA1 and the hospital teams, underscoring the necessity for a timeframe that allows for deep integration of team members' beliefs and values. This aligns with the proposition, suggesting that short and prolonged projects can affect team alignment by limiting the depth of integration or inducing demotivation due to extended timelines.

Interviews from the first project underscored the critical role of aligning organisational core beliefs with team members' personal values for enhancing team alignment and contributing to successful project outcomes. Discrepancies between the company's focus on financial results and individual values, particularly regarding sustainability and well-being, highlighted potential misalignments. This tension between company and personal values reflects the emphasis on the necessity for a

coherent value system that resonates both organisationally and personally to foster a motivated and aligned team.

As discussed in interviews on previous topic, the development of mutual trust among team members emerged as a pivotal factor for team alignment in PBAs. Building trust through personal interaction over a suitable timeframe was seen as foundational for strengthening team alignment and supporting effective strategy execution. Insights from the interviews revealed that trust could evolve organically over the project's course, indicating the importance of an adequate project duration to foster such interpersonal dynamics.

As we conclude the analysis of the project during its execution closing phase, it is evident that alignment is crucial and is enhanced by the project timeframe and create opportunities for integration. Leadership should be more adaptive and better integrated with team and organisational values, as well as accommodating any disparities in location or the need to reallocate or hire locally. During the closing phase, we have examined the lessons learned, noting the benefits of increased integration and enhanced support through training. A particular highlight was the analysis of female leaders who could not relocate; their experiences shed light on significant challenges. Additionally, the flow of beliefs needs improvement, as it was observed that while teams were clear on their focus, their responsibilities, and client expectations, there were also awareness of cost implications and the primary objectives of the PBA. Despite the project’s moderate to high complexity, attributable to industry demands, as time progressed, the team appeared well-adapted, organised, and capable of handling challenges.

5.2 Second Project: Consortium Analysis OA1 OA2 and OB

Initiated in March 2018, the infrastructure expansion works encompassed a series of adaptations and projects. This expansion and modernisation project stands as a testament to collaboration, innovation, and dedication, fostering economic growth, competitiveness, and enhanced connectivity for the people. Importantly, this project also serves as an ideal case study for ongoing research on team alignment within PBAs. Interviews were conducted with project teams during 2020 and were followed by subsequent interviews upon project completion, allowing for a comprehensive exploration of team alignment dynamics and its evolution throughout the project lifecycle. These interviews encompassed Initiation, Execution/Closure phases of construction.

The insights gathered from these interviews have culminated in a research publication in the European Business Review, exploring the effects of belief systems in temporary organisations. The study, conducted by Piccoli, Diehl, and Nascimento (2023), delves into the profound impact of belief systems on team alignment within project-based alliances, providing valuable insights for the field of project management and collaboration, and developed three propositions that are part of this research.

5.2.1 Interview Descriptions and Analysis

Series of interviews have been conducted to ground our empirical investigation into the strategic alignment of teams within a consortium setting. Each interview, lasting approximately 40 minutes, was conducted in person, allowing for an in-depth exploration of non-verbal cues such as gestures and engagement levels, which are indicative of participants' attitudes and alignment towards the consortium's objectives. Second round of interviews have been taken on-line. Following the structured protocol outlined in APPENDIX A, this approach facilitated open discussions on a excess of topics, including current project dynamics, team collaboration, and individual experiences with the company and colleagues.

5.2.2 A Discussion Through the Data

Organisatio Level (Beliefs) and Team Level (Dynamics, Skills and Roles): It was verified by one of the leaders of company OA1 that '*teams are divided by technical skills […] they <speaking about the mains company> are defined to create teams by technical skills <speaking about different leaders from different companies have different skills> […] however, if we put two skilled people from both companies together, there would inevitably be a dispute between them*'. The observation that teams are segregated by technical skills raises questions about the effectiveness of such divisions for achieving strategic alignment. The interviewee's comment that placing two skilled individuals from different companies together might lead to disputes underscores the potential pitfalls of merely aligning technical skills without considering interpersonal dynamics and cultural fit. This emphasises the importance of not only aligning technical skills but also fostering a culture of communication and mutual respect among team members.

Organisation Level (Beliefs): It was possible to conclude that the leaders took their principles and beliefs from the parent company. Through the document-based research from Companies OA1 and OA2, prioritisation on delivery and stakeholder management has been recognised. The companies understand that the deadline is an essential factor in achieving customer's satisfaction. The client expects the project to be completed to achieve a return on its investments as soon as possible. Companies OA1 and OA2 also bring in a commitment to projects in their belief systems, giving the leadership considerable autonomy to decide purchases, contracts, etc. However, it also emphasises the importance of maintaining the economic health of stakeholders.

Regarding Company OB, organisation beliefs are focused on developing technical engineering solutions aimed at sustainability. The company makes it very clear in its mission, vision and organisation value that aspects of sustainability are preached and reinforced within the organisation. According to the statement, they bring the emphasis 'national reference in the infrastructure segment, with sustainable development'. The values are expressed with a focus on mutual trust and a sharing of responsibilities among employees, creating concepts of 'owner spirit'.

In this case, leaders from OB had the most similar views to that of the new organisation since the company has beliefs more compatible with the new organisation. Leaders from companies OA1 and OA2 prioritise the client, quality,

delivery of services, and speed of transactions, which directly impacts stakeholder profit. The leader of OA1 said that: *'[…] the company understands the importance of delivery issues. Usually, when you seek a professional in the market, it has to be who delivers the most*'. Another leader from OA1 also said that '*meet the deadlines that were proposed in the contract, meet the client requirements and the deadline proposed, so here we work hard to meet the client requirements, even if we are not ready for this […] we are somehow meeting the clients' expectations*. A leader OA1 said that *'[…] our mission is to serve the customer and our priority is always the customer, delivering the best services, meeting deadlines, meeting their cost targets, meeting the customer's expectations regardless of everything. We make our customer happy and do as much as possible to meet his requests […]*'. Further to this, the leader OA2 provided complimentary remarks: '*I value the professional life […] I was educated to meet the client requirements and more professionally, to do the best, in the best way, in the best timeframe; that is what satisfies me […]*'.

Team Level (Trust, Ethics): Leaders from company OB emphasise the project delivery; however, they emphasise personal values, trust, and compromise. For example, leader OB said, *'[…] you are not obliged to promise, but you should have to comply if you promised. If you promised, you should make it, and you should give all your strength to deliver because you promised you to have to keep your promise, you have to keep your promise […]*'. A leader OB emphasised the societal considerations *'[...] we need to meet the expectations of society [...] society has expectations of the project […] concerning sustainability and other factors [...]*'. Although leaders from OA1 also cited ethics, not so much emphasis was placed on this factor by the other respondents. Due to the greater alignment of companies OA1 and OA2, explained by its capital structure and the fact that they have willing control systems and compliance procedures more evolved than company OB, it was not a surprise that they did not emphasise the concepts of ethics and organisation integrity (Simons, 1995). It is justified by the fact that corporate control systems portray the way managers ensure that their results are obtained (Anthony and Govindarajan, 2001) and increase the confidence in leaders.

Project Level (Timeframe): As the main feature of the construction project, the deadline is fundamental and can result in significant fines for the companies involved. In this sense, without executive projects and ideal investigation of the site, given the grandiosity of the work, the companies carried out the entire process of defining

methodologies, standards, studies, and leadership at the same time as they executed the project. This is a pervasive problem in construction, in which time is critical and becomes a priority in the leaders' eyes. In this context, aligning the organisation's belief system strategies was not an item of immediate importance for the directors. Contributing to this affirmation, leader OB reflected on how demotivating one of its projects was *'[...] there was a project that I participated in for seven years that I felt was never going to end [...].'*

Leaders acknowledged that time-bound projects could be beneficial for the alignment of the teams. Despite the leaders reflecting on how demotivating a long project could be, however, during a second round of the interview process, it was possible to conclude that teams got closer and mutual understanding improved throughout the project. This was reflected by leader OB *'[…] awareness takes time, becoming aware is not an overnight activity; this takes time; this is long term […]'. The leader from OA1 said 'it is different to work with <company OB>; I know people from <company OA1>, I am working with people that I knew, so I favoured the relationship […] <company OB> brought many people whom I had previously had no contact with, at first we had a little bit of I am from <company OA1> and I am from <company OB>; I do not see this anymore. Today, we talk more about the Consortium […] people say I am part of the consortia'. Although people who do not align with the company principles could leave the project, as mentioned by OA1, '[…], he had a different view than the company and me <speaking about a past leader>. Nowadays, he is not even in the company anymore […]'*.

Also, it is essential to emphasise that some projects are longer than others. The feeling of abandonment is likely when leadership is inserted into the project without internal alignment. This contributes to the affirmation that the beliefs from the leadership reflect their leading company. Therefore, it is essential to consider that time has great importance in the alignment of these teams (Sydow and Braun, 2018). However, the limited project duration cannot be conducive to inter-organisational alignment. Dissatisfied people do not stay for long without expressing this feeling. Somehow, they can spill or even leave the project. Also, dissatisfaction and the feeling of abandonment can influence how the other parties perform their activities. As said for leader OA1 '*I think the project can not spend two and a half years; when the project starts, everyone is giving their best, then I think people become complacent […]*

because the construction projects do not have a career plan […] it is not like the industry that you are operating in has a development or training plan to motivate you'.

Project Level (Project Success and Alignment, Project Timeframe) Organisation Level (Technology/Data sharing): The Consortium prioritises social and ethical responsibilities as core values. The merger of organisations and the concepts of transparency in information between the parties and mutual trust can also be reflected in the human behaviour between employees since companies tend to protect their specific knowledge through safeguards. The leading companies try to impose safeguards, but, at the same time, the core values are centred around transparency and learning. Since the new company is temporary and assumes its values, it is interesting to consider the extent to which knowledge can be provided to or captured from the temporary organisation.

Organisation Beliefs: Sustainability and environment, although they were referred to in the interviews as necessary for leaders of companies OA1 and OA2, the leaders maybe not be very emphatic about this value. Even when they mentioned it as an essential value, they did not develop enough arguments to demonstrate this point of view. On the other hand, leaders from company OB showed more significant concern for the environment and social problems. For example, a leader OB said, *'[…] the world that we live in today is focused on sustainability, we cannot live without it. No longer exist a construction company that comes out destroying the environment that does not have environmental concerns. The company from the 21st century must worry about the environment!*'

Organisation Level (Data Sharing/Technology) and Team Level (Dynamics): Regarding innovation, the leaders, in their entirety, believe that the Consortium is an opportunity for learning and sharing experiences, besides reporting some flexibility in the implementation of procedures and forms of work, which, in the leading company, is not evident. They also associate an increase in responsibility with an increase in flexibility. This information opposed previous research that mentions the constant tension between information coding and innovation since leadership in the Consortium is concerned with maintaining the leading company's knowledge, which did not influence the perception of flexibility and innovation. Leader OA2 said that *' […] the employees' could work the way they want to work. I implemented lots of new procedures to achieve my goal; we set up the flows and the work methodologies; today we do not have a standard because you do not have a rule in several areas.*

Sometimes can do the same thing differently […].' The flexibility in implementing novel workflows and methodologies suggests that the Consortium serves as a platform for experimenting with and integrating new technologies and practices that may not be prevalent in the leading organisation. This experimental approach allows for a more dynamic project environment where technology and innovative processes can be tested and optimised. Also, the Consortium appears to foster an environment where knowledge exchange and collaborative learning are encouraged, contributing to better team alignment and a more cohesive project approach. The flexibility in work procedures mentioned by the leaders further enhances this dynamic, as it allows team members to adapt to the most effective working styles suited to their tasks and goals.

Team Level (Beliefs and dispersed teams): It was also possible to identify personal values during the interviews. The leaders of the Consortium have different cultures due to the diversity of states in Brazil, which influences the principles that leadership brings (Beugelsdijk, 2007). The leaders of company OB showed great emphasis during the interviews on family values and financial stability concepts. They also value safety as a fundamental value, prevailing the traditional habits of their culture. According to leader from OB '*had many ambitions while I had no son. Nevertheless, then, you have a son; you think differently, right? I have twins already, 19 years old, so today my priority is only them; my wife and the two children; we both work hard to ensure a better future for them […] our mission is to share ethical values with our children, so they do not get lost'*.

Personal values are important to leadership from OB. Work is a stable form of sustenance for these leaders and their families. The family relationship is significant, which can conflict with the fact that the stability generated by work is also essential. Conversely, companies OA1 and OA2 appear to place a greater emphasis on work over their personal life. This is most likely due to the inter-relatedness of Companies OA1 and OA2. The leader from OA1 said *'adapting our personal life with the professional is difficult. I am seeing a psychologist find a balance between the professional and personal life because today we are much more focused on the professional than the personal and end up forgetting about personal life'*.

Team Level (Skills, Roles): The document analysis identified the real motivation of the Consortium in placing its various leaders in different positions in the new organisation. The idea was to create an equal and trusting environment between parties under new values. However, given the size of the project and the companies

involved, this proposal for power distribution can create divergences in administrative issues (Park and Ungson, 2001). For example, it was verified by one of the leaders of company OA1 that ‘teams are divided by technical skills *[…] they <speaking about the mains company> are defined to create teams by technical skills <speaking about different leaders from different companies have different skills> […] however, if we put two skilled people from both companies together, there would inevitably be a dispute between them’*.

Team Level (Communication, Data sharing, Dynamics): Another counterpoint was the creation of safeguards to establish a specific control between the parts of the Consortium. As mentioned before, very well-designed contracts and data protection systems for non-identification of strategic partners are examples of measures taken between parties. Furthermore, within the Consortium, a compliance department was created. In addition to exposing the unique mission and value as a new organisation, they were responsible for controlling possible irregular practices in hiring suppliers. Further to this, through the interviews, it was possible to identify a lack of information shared between parties, mainly because companies OA1 and OA2 have different procedures to that of OB. This lack of information could cause conflict between leaders. As interviewer from OA1 said, *“It has not been shown how people from <company OB> present information to <company OB>. I know what I need to send to <company OA1>, and I will send them the specific information about the project, and for sure the <company OB> do the same, but I do not know which information they prioritise. The information is unique, but the prioritisation of information is unknown, creating friction between leaders*. The leader from OA1 reflected on the information-sharing aspect; *‘we could have invested more in dynamics between the departments, trying to show how difficult it is <reflecting that people did not know and did not integrate with the other departments>’*.

5.2.4 The Researcher's Position and Argument

In PBAs where diverse organisations converge to achieve shared objectives, the alignment of beliefs, values, and strategies is a pivotal determinant influencing the success and unity of these partnerships. Observations during Project 2 have provided deep insights into how these elements interact within a complex project environment.

One notable aspect during the research participation was the observation of the cost orientation of organisations OA1 and OAB. Leaders within these organisations emphasised cost control during interviews, highlighting that expenses were carefully counted, and monthly budget meetings were frequent. These discussions also reflected a lack of trust between OAs and OB, particularly during meetings where OB demanded detailed cost control justifications from OAs, sometimes leading to disputes over who was responsible for cost overruns. This tension underscores the importance of aligning organisational beliefs and values, particularly around cost management, to foster a unified approach. By leveraging Simons' belief systems, organisations can bridge gaps in trust and create a cohesive financial strategy that supports broader project objectives.

This tension highlights issues with alignment between leadership roles, where leaders from different parts of Brazil were brought together to achieve the main objectives of the PBAs. However, many roles overlapped, and there were unclear procedures and roles between parties. This caused stress during the project, especially when site managers needed materials but were unsure of the correct procedures, leading to breakdowns in communication with suppliers who then failed to provide necessary cost control information. Clear alignment of roles and procedures, guided by a shared belief system, is crucial to avoid such breakdowns and ensure seamless operations.

Furthermore, a specific case highlighted issues with cost allocation among leaders from different states. It was reported that costs exceeded the planned budget due to leaders relocating their families, which included expenses for cars, apartments, and salary increases to facilitate the move. Additionally, provisions were made for these leaders to return to their hometowns once a month, further escalating costs.

Despite these challenges, efforts were made to foster a more unified team environment. The project's initial stages were difficult, but various socialisation activities such as barbecues, football games, and team dinners were organised. These social events played a crucial role in bringing team members closer together, enhancing their understanding of each other, and gradually improving inter-team relationships during time. These activities underscore the importance of fostering a shared organisational culture and belief system. By aligning socialisation activities with the organisation's core values, it is possible to build stronger, more cohesive teams that are better equipped to handle project challenges.

These observations underscore the complex interplay of cost management, trust, leadership alignment, and team dynamics within PBAs. The initial lack of trust and communication issues posed significant challenges to project success. However, the deliberate creation of social environments helped mitigate some of these issues by enhancing interpersonal relationships and fostering a better understanding among team members. By integrating Simons' belief systems into these efforts, organisations can create a stronger, more aligned team culture that supports long-term success and broader organisational objectives.

5.2.5 Insights from Second Project: Consortium OA1 OA2 and OB

The interviews from the second project provide a rich context for evaluating the research proposition regarding the optimal timeframe for PBAs. This proposition suggests that time is a critical factor in promoting team integration, aligning beliefs, and ultimately contributing to the success of alliances. The qualitative data drawn from these discussions offer insights into how different aspects of team dynamics and organisational strategies are affected by the project's duration, reinforcing the framework posited in earlier research.

Firstly, the proposition that an ideal timeframe exists for alliances, which facilitates belief alignment and team cohesion, is strongly supported by the responses from leadership within the consortium. Leaders emphasised the importance of sufficient time for team members to immerse themselves in tasks, understand each other's abilities, and share goals. For instance, one leader highlighted that extended timeframes allowed for deeper personal interactions, which not only improved understanding but also helped in the smooth adoption of new organisational values. This supports Proposition 1, suggesting that there is indeed an optimal timeframe that benefits belief alignment within PBAs.

On the other hand, the discussions also illuminated the challenges posed by shortened project durations. Leaders expressed concerns that limited timeframes could hinder the ability of teams to adapt and integrate effectively, leading to potential misalignments and operational inefficiencies. The need for a balanced approach that avoids overly compressed schedules is crucial to avoid the pitfalls of insufficient alignment and integration.

The alignment of organisational beliefs with the personal values of team members, as discussed by leaders, directly relates to Proposition 2. It was evident that leaders who had a clear understanding and alignment with the organisational mission, vision, and values were more effective in fostering a positive team environment. This corroborates research by Anthony and Tripsas (2016) highlighting that a well-aligned belief system enhances employee engagement and contributes to long-term organisational success. The interviews underscored that when leaders and teams share a common set of values and goals, it significantly boosts trust and cooperation, which are essential for achieving strategic objectives.

Regarding Proposition 3, the role of trust in enhancing team alignment was a recurring theme. Leaders noted that mutual trust, developed through prolonged personal interactions, was vital for successful team dynamics. This observation is supported by Weijermars (2012), who identified trust as a fundamental component of effective team alignment. The data suggest that an appropriate project duration is critical for allowing time to build this trust, which in turn supports the effective execution of strategy within PBAs.

5.3 Third Project Overview: European Organisation

This project located in Asia, encompasses a high number of organisations around the world. This project aims build top global tourist spot, offering special experiences for people from all over the world. It covers a variety of landscapes, including beautiful coastlines, clear waters, colourful coral reefs, and stunning desert views.

The mission and vision are all about responsible tourism and taking care of the environment. The goal is to protect and support the unique plants and animals in the region. This means using eco-friendly building methods, using renewable energy, and managing waste properly. Sustainability is important at every step of the project, trying to balance economic growth with taking care of nature. A big part of the initiative is creating high-end places to stay that also fit well with the natural surroundings. The plan is to build luxury resorts that match the environment.

Working together with Organisation OC1 and sisters' companies a well-known European group with experience in various projects, this project started a partnership during the planning phase to develop villas for this unique hotel. This collaboration is

a great example of how different groups work together and how their ideas change over time. It's a mix of different cultures and ways of working, which adds a lot to the project's success and unique character.

5.3.1 Interview Descriptions and Analysis

For this project, interviews were conducted during the planning/execution phase of the project, end of 2022 and the beginning of 2023. The interviews were carried out via Microsoft Teams, accommodating the geographical dispersion of teams and the ongoing reliance on technology post-COVID-19. Additionally, the frequent need for team members to travel internationally for project checks, tests, and other primary scope tasks made in-person interviews challenging to manage. Each interview lasted about 40 minutes or more, during which we explored various project topics and the past experiences of the leaders involved. Given the sensitive nature of the information and in compliance with NDA agreements, we adhered to the same strict protocol as in previous projects described here, minimising data exposure. The interviews allowed participants to reflect on team alignment and the organisation's belief system, examine past experiences in projects and teams, and discuss how timeframes could influence the alignment of beliefs and the quality of deliverables. We also explored themes related to project successes and failures.

5.3.2 A Discussion Through the Data

Team Level (Leadership Profile): In multicultural teams, the alignment of belief systems is paramount. These systems consist of the diverse values, norms, and practices that each team member contributes, significantly affecting project outcomes. One interviewee underscores the necessity of strong leadership: “*How would I define a perfect team? So a strong leader, you need a focal point of the team especially in construction.*” This highlights the need for a central leadership figure to guide the diverse team toward common objectives (Simons, 1995), enhancing project quality by reducing misunderstandings and conflicts, and improving efficiency, thus positively impacting the project's cost and duration.

Furthermore, effective leadership is crucial for navigating cultural complexities and ensuring the team aligns with the project's goals. An interviewee describes: “*And*

we'll always relay back and forth. He's quite young, still though. He's early 30s and he's really good. He helps the whole team," emphasising that a younger, more adaptable mindset can facilitate better team connections, in contrast to potentially more close-minded older leaders.

Team Level (Dynamics, Skill and Roles, Resource Planning): Managing PBAs require strategic planning around team composition and workload management, ensuring that transitions do not adversely affect the project's progress or outcomes. As stated by an Interviewee from OC1 *"when I started the project, it was already underway, and we spent over a year without any changes, with no one leaving or joining. It was a very good time. For a year, it was the same people, the same work rhythm, and so on. Now, towards the end, the team began to disband a little because the project is almost finished. Then it started to get a bit chaotic because it ended. The task that one person did was left to those who remained, and it got a bit overwhelming."* The reflection on a period of over a year with no changes in the team composition underscores the value of stability and continuity in project management. During this phase, the team benefitted from a consistent work rhythm and familiar interpersonal dynamics, which likely contributed to a more efficient and harmonious work environment. This stability can be crucial in PBAs, where the alignment of team members' skills and understanding of project goals is essential for smooth operation and success.

The latter part of the statement highlights a common challenge in PBAs - the disruption caused by changes in team composition towards the project's conclusion. As team members begin to leave, either because their part in the project is complete or due to the winding down of the project itself, the remaining members are often required to take on additional responsibilities. This can lead to increased workload and potential chaos, as the finely tuned balance and rhythm established over many months are disrupted. Such changes can strain the remaining team members and reduce the overall efficiency of the project. The phase of scaling down the team as a project nears completion is particularly challenging. Careful management is required to ensure that the knowledge and responsibilities of departing team members are adequately transferred and that the remaining team members are not overloaded. This transitional phase can be critical for the project's final quality and timeliness.

Team Level (Beliefs, Trust): Trust is described as the backbone of successful collaborations within these settings, influencing project quality through improved

communication and task execution. As reflected in an interview: "*The trajectory of trust development within our project appears to unfold over the project life cycle with social interaction*." This form of trust minimises the overhead associated with managing cultural misunderstandings, thereby favorably influencing cost management and adherence to project timelines

Leadership's role in nurturing such an adaptable and aligned team environment is also pivotal. One interviewee also reflected, "*I think a perfect team is made of a variety of levels... and people that you can trust*." Trust within a team, facilitated by effective leadership, is a cornerstone of strategic alignment. It shapes the team's collective ability to navigate the ebb and flow of project dynamics and ensures a responsive and coordinated effort towards project objectives.

Project Level (Timeframe): The project's duration significantly influences the urgency and approach to team alignment. In multicultural projects, where alignment processes are inherently complex, the project's timeframe dictates the employed strategies. Reflecting the urgency to meet deadlines, an interviewee notes, "*So I think the timescale of the project, this sort of end date is always important… It's always in people's minds at the minute*." Short project timelines often compel teams to rapidly align, sometimes sacrificing long-term integration benefits, thus affecting the overall project quality and efficiency.

Another interviewee highlighted "*the timeframe was very challenging, because there was a turnover of people during the time that the project was completed because it took more than two years. So people were coming, were going, it was COVID time. And as well, a lot of information got lost because people just moved company and there was not a proper handover, maybe. And also, of course, when you change the team, there's a change of structure of the project as well. So the main challenge that I faced was not even like the design part, but it was the document controlling part because every time it was changing and we have to re upload all the drawings multiple times and that was from our side, a big waste of time. And I also think from the side of the client, it was very challenging every time to recheck all the drawing that we were submitting."* The challenges faced in the project highlight critical areas for improvement in managing PBAs, particularly in terms of handling resources and information flow efficiently amidst unforeseen disruptions like the COVID-19 pandemic. The experience shared about the project illustrates the necessity for PBAs to develop flexible yet robust

systems for information management and team integration that can adapt to changes without compromising the project's strategic goals and timelines.

Team Level (Skills, Role): The importance of clear system flow and role clarity in project management is emphasised by a speaker: *“Everyone knows their roles, everyone knows the deadlines, everyone knows where they need to be*.” This clarity is essential for the smooth execution of project tasks boosting efficiency and reducing the potential for conflicts and misunderstandings.

Continuous learning and adaptation within the project are also crucial: "*You don't want someone just to pick up something from day one, and that's all they do right to the end.*" This statement resonates with the belief system and development within PBAs, where learning and professional growth are encouraged throughout the project lifecycle, fostering innovation and problem-solving skills essential for addressing inevitable project delays/problems.

The approach to problem-solving that involves external experts presenting their products and providing insights is a proactive and collaborative strategy. It ensures that the best solutions are identified and integrates knowledge from outside the immediate project team, enhancing the quality of decision-making. This method was described by an interviewee: “*we brought <organisation> into present their products of what they could provide for each part of the site. And again, we found problems with them, with each part of them. And when you narrow it down with different companies and try and use different products, gain more information, I think that was a way that we work around it, making, bringing people, outsourcing people in to give presentations, understand a bit more of what they can provide for the job*.”

Team Level (Leadership Profile): Lastly, a reflection from an interview highlights challenges related to leadership and accountability: “*Probably when I was working back at <organisation> before <organisation>, we worked on sites, whether that be section 38 or two, seven, eight jobs. And again, this is where I was working with someone who's been doing it for probably 50, 60 years, and he was on the edge of retirement, didn't really care about the job, didn't really care about helping people learn, even though he had all this information. And unfortunately, he sort of lied about the work he was doing, wasn't putting in the amount of work he said he was doing. And when he left, it all come to unravel that everything he'd done was wrong in regards to level design, drainage design. The budget had been blown out of the water, and it was sort of high time that we had to tell the client what was going on. That was the time*

where it was just like, right, we've got to do all this work for free, basically, and as quick as possible now. So there's been other jobs, jobs. You can always stress out on some jobs, but I think that was the time where it was just I finally clashed with someone because they were not interested at all."

Team Level (Communication): Furthermore, one interviewee reflected "*People leave everything to the last minute; there isn't much conversation, so they don't communicate*", this brings to the forefront a challenge endemic to PBAs: the tendency to procrastinate and the subsequent breakdown in communication. This concern emphass the critical role of proactive communication in fostering team alignment. Such communication is essential for ensuring that team members are not only aware of but also invested in the project's goals, missions, and performance standards. Furthermore, the interviews reveal that project timeframe is a constant undercurrent affecting team dynamics and alignment. The belief that "*A project where teams talk, they prioritise the project, the client, the delivery dates*" reflects an understanding that timeframes, when well-managed, can enhance team performance.

Team Level (Communication): Yet, the very essence of adaptability is challenged when misalignments occur, such as the one mentioned: "*And on the last day, one person has one piece of information, and another has something different*". This highlights the dynamic nature of projects and the need for a team's agility in adjusting to changing conditions to maintain alignment with project goals.

5.3.3 The Researchers Position and Argument

The findings from the interviews highlight the importance of active communication and establishing common values in PBAs. Common issues in project management include delays and poor communication, which can result in misalignment and inefficiencies. This supports the necessity for well-defined organisational beliefs and alignment within teams.

Also, leadership highlighted that a balanced team with diverse skill levels reinforced by trust is ideal. This concept aligns with the leadership qualities identified, which influence team alignment, coordination, and conflict resolution.

The duration of the project is recognised as influencing team motivation and cohesion. Effective time management, sticking to deadlines, and managing team

alignment during long projects are major challenges. This emphasises the relationship between the length of the project and team dynamics.

5.3.4 Insights from Third Project

The interviews conducted during the planning and execution/closure phases of the project provided substantial insights into how team and leadership dynamics directly impact project outcomes, addressing the core propositions of the research. Throughout the discussions, the critical role of time in team alignment and belief integration was emphasised. Interviewees reflected on how different timeframes influence their ability to adapt and align with project goals and team members. This aspect of the interviews highlights the practical implications of Proposition 1, which posits that an ideal project timeframe exists that optimally benefits the alignment of team beliefs, crucial for achieving project success.

Leadership's role in fostering an environment conducive to effective teamwork and project alignment was another significant focus of the interviews. Leaders discussed various styles and approaches, from directive to participative leadership, and their impact on team motivation and engagement. These discussions underscore the importance of Proposition 2, which suggests that the alignment of an organisation's core beliefs with team members' personal values enhances overall team alignment and project outcomes. The interviews provided real-world examples of how leadership directly influences team dynamics and the integration of organisational values, which are essential for strategic alignment and the successful execution of project goals.

The interviews also delved into the importance of trust among team members, reflecting on how trust develops through interactions over the project's lifecycle. This aligns with Proposition 3, which identifies mutual trust as a critical factor for successful team alignment in PBAs. The narratives shared by participants illustrated how trust, cultivated through continuous and meaningful interaction. This trust is pivotal in ensuring that the team functions cohesively and remains aligned with the project's strategic objectives.

Moreover, the discussions highlighted how project timelines and the management of transitions - such as changes in team composition towards the project's conclusion - affect team dynamics and the continuity of project goals. Interviewees pointed out the challenges and disruptions caused by inadequate

handling of these transitions. These insights are crucial as they offer practical examples of how managing these elements effectively is vital for maintaining project quality and efficiency. They directly tie back to the research propositions that emphasise the importance of strategic alignment, time management, and trust in achieving successful project outcomes in PBAs.

5.4 Comprehensive Analysis of the Interviews

This section presents a research analysis, covering all project perspectives investigated. Initially focuses on project size and how these insights enhance the framework, illustrated with examples from specific project cases. Then a discussion on project timeframes and insights gathered from interviews were presented. Subcategories were defined following the interviews. Starting from categories identified in the literature and using a codebook along with the researcher's perception, it was possible to refine these into subcategories. These subcategories help pinpoint critical moments of team alignment during team assessments, contributing to artefact creation. A codebook, an essential tool in this process, helps analyse the team alignment. Subsequently, an analysis was performed of the advantages and disadvantages related to team alignment efforts. This analysis is based on the perceptions of project participants and data gathered, providing a comprehensive view from both the data and the researcher's perspective, enhancing frameworks and contributing to artefact development.

5.4.1 Project Timeframe and Project Size

During this investigation of various projects, the project timeframe and scale were identified as factors influencing team alignment in PBAs. The intricacies of each project's timeframe and size revealed profound insights into how alignment efforts are both shaped and challenged by these variables. The interviews underscored the necessity of aligning team beliefs and strategies with project durations and scopes to ensure seamless operations.

The first project, conducted within an operational hospital, required teams to adapt their operations meticulously to avoid negatively impacting patients. Challenges such as power outages, dust, and noise had potential consequences on client

perception, public satisfaction, and health, underscoring the importance of maintaining a positive relationship with the client for effective planning and management of deliverables. Additionally, the project demanded the integration of various hospital machinery and systems, necessitating effective coordination among different suppliers. Although teams originated from two different organisations within the same country, thereby minimising major geographical impacts, notable differences in work practices, particularly between sectors like cost control and site engineering, emerged. In this context, Simons' belief systems framework becomes pivotal. Ensuring that all team members share a common belief in the project's goals and ethical standards can mitigate disruptions and enhance coordination.

In contrast, our second project presented a different set of complexities. Despite managing a vast array of participants and the project's extensive area, the primary challenge was team management. Communication issues were significant, as reflected in leader sentiments during interviews and meetings. Implemented safeguards inadvertently fostered a sense of distrust among teams, adding to the project's complexity. Here, the misalignment of beliefs and lack of trust underscored by Simons' interactive control system highlighted the importance of open communication and shared values to bridge gaps and foster collaboration.

Third project, part of a major hotel initiative in Asia, highlighted cultural differences as the predominant complexity factor. Language barriers sometimes led to misunderstandings during meetings, though technology such as AI systems for meeting translations and recordings helped mitigate these challenges. Nonetheless, establishing trust across cultural divides proved inherently complex. This project was further complicated by tight deadlines, requiring teams to work extended hours. The client approved an acceleration package to reduce the timescale, intensifying the pace and adding pressure on teams. This situation was exacerbated by differing time zones, workdays, public and religious holidays, and varying rules and construction standards. These factors required meticulous planning and coordination to navigate the intricate international landscape of regulations and cultural norms. Simons' belief system again becomes crucial here, as fostering a shared understanding and respect for diverse cultural norms can enhance team integration and reduce friction, even under tight deadlines.

Post-interviews, it is possible to discuss project timeframes categorised into short-term, medium-term, long-term, and very long-term durations based on the

analysis performed in this research. These categorisations help in understanding the varying degrees of alignment and strategic approaches required for successful project management. Integrating Simons' belief systems with these categorisations can provide a more nuanced approach to team alignment, ensuring that the core values and strategic objectives are maintained regardless of the project's duration.

Short-term Projects (<1 year): Characterised by focused objectives and tight deadlines, these projects demand quick team formation, rapid decision-making, and efficient communication.

Medium-term Projects (1-2 years): These projects introduce a higher level of complexity and require a balance between flexibility and structured planning to accommodate changes while maintaining progress towards the project goals.

Long-term Projects (2-5 years): Involving extensive planning, significant resource allocation, and sustained collaboration, these projects often result from integrating multiple stakeholders, evolving technologies, and regulatory landscapes. Effective resource planning and the use of technical training and socialisation tools are essential.

Very Long-term Projects (>5 years): Characterised by their complex scope, these are often large-scale infrastructure or technological development efforts to extended deadlines and increased risk of delays. Meticulous team alignment and motivation strategies are crucial to keep the project on track and the team focused throughout its long duration.

5.4.2 Codebook

The data analysis conducted on the interviews with project leaders and team members, as detailed in the previous section, has provided important insights to this research. These insights are documented in the codebook presented in table 7. Throughout our analysis, tools such as Microsoft Word and the Happy scribe platform were utilised for the transcription of interviews. This process emphasises the role of the codebook as more than a mere categorisation tool; it serves as a dynamic instrument reflecting the evolving understanding and alignment of team beliefs and strategies, in line with Simons' frameworks.

The codebook aligns with the Bardin methodology (1977), a base of content analysis that assists researchers in identifying patterns, themes, and main meanings from their data. Bardin's methodology encompasses the coding of data, categorising codes into themes, and deriving insights based on the themes' frequency and context.

A codebook was constructed around three principal levels - Organisation Level, Team Level, and Project Level - as delineated by our project categories. Each level is comprised of specific units of analysis, expressions or codes drawn from the data, and criteria for interpretation. This structured approach provides a clear and comprehensive framework for interpreting the qualitative data pick up from the interviews.

5.4.3 Analysis of Pros and Cons on team Alignment o PBAs: Interview Insights

For successful team alignment, the organisation will need to dedicate significant effort to achieve project goals. However, these efforts come with their own set of advantages and disadvantages that impact project execution and outcomes. Figure 4 illustrates a comprehensive view of the pros and cons associated with team alignment efforts in construction projects found during the interviews. A closer examination of these benefits and drawbacks offers valuable insights into the complexities of team alignment.

Enhanced Teamwork and Collaboration: Efforts toward team alignment can significantly improve teamwork. As team members understand their roles and the common objectives, collaboration is naturally fostered, leading to enhanced

deliverables and an overall improvement in quality. This synergy not only drives innovation but also boosts team morale, creating a conducive environment for project success.

Effective Risk Management: One of the critical advantages of a well-aligned team is the early identification of risks and the implementation of effective risk mitigation strategies. This proactive approach allows for better management of project complexities, leading to a reduced timetable and potential cost savings.

Client Satisfaction and Organisational Benefits: Aligned teams are more likely to meet, if not exceed, client expectations, thus improving client satisfaction. Moreover, successful project execution contributes to enhanced organisation image/marketing, employee retention, and the attraction of qualified staff, ultimately enhancing profit margins.

Complexities and Costs: Conversely, efforts toward alignment can introduce complexities in coordination, particularly in PBAs characterised by diverse and geographically dispersed teams. The logistical challenges and time spent on achieving alignment may increase project costs, including administrative HR and increased training costs, especially when adapting to new procedures.

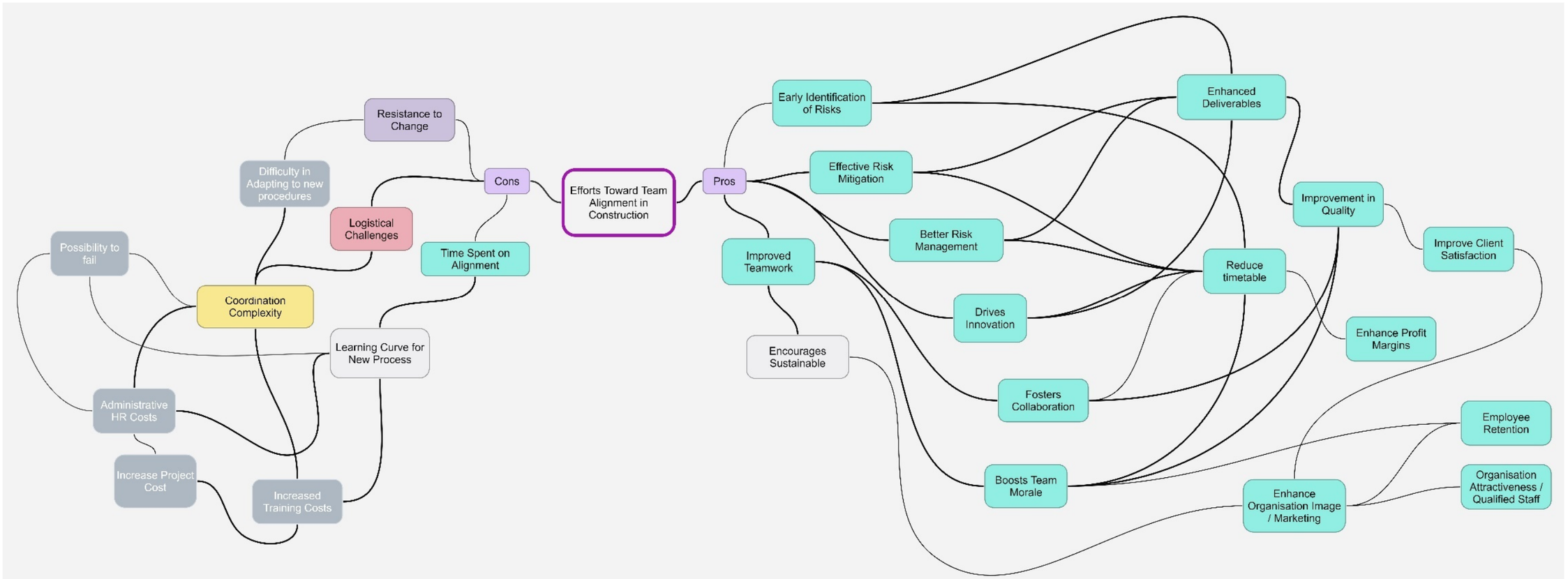
Resistance to Change and Potential Failures: There can be resistance to change, particularly from seasoned professionals near retirement who may not be inclined to adopt or mentor others, as described in one of the interviews. This resistance can create a learning curve for new processes, and if not managed effectively, can lead to project failures or the possibility of failing to achieve the desired alignment. Leveraging Simons' belief systems to address these challenges involves fostering a culture of continuous learning and openness to change, aligning individual and organisational values to overcome resistance and enhance team cohesion.

Table 8 – Codebook

Level	Analysis Unit (Categories)	Expressions / Codes	Example Phrases from Interview
Organisation Level	Organisational Beliefs and Team Alignment	Shared Values; Ethical Principles; Cultural Norms; Open Communication; Collaboration; Mutual Understanding.	*"I think our values are really all about chasing the financially outcomes."* *"It feels like we're all on the same page, aiming for something bigger than just profits."* *"When we talk about what we believe as a company…"*
	Integration of Modern Technology	Communication Enhancement; Data Sharing; Risk Management.	*"We've seen significant improvements in project timelines and cost management since integrating BIM into our processes".* *"Our project meetings have gotten so much smoother with these new digital tools."* *"Data sharing's a breeze now, it's like everyone's in the loop instantly."*
Team Level	Team Beliefs	Shared Values; Ethical Principles; Cultural Norms; Open Communication; Collaboration; Understanding.	*"Had many ambitions while I had no son. Nevertheless, then, you have a son; you think differently, right? I have twins already, 19 years old, so today my priority is only them; my wife and the two children; we both work hard to ensure a better future for them […] our mission is to share ethical values with our children, so they do not get lost"*
	Team Alignment and Alignment Dynamics	Agile; Open Communication.	*"Feels like when we're all pulling in the same direction, there's nothing we can't do."* *"Having open chats has really broken down the walls between us."* *"It's all about understanding each other, like really getting where the other person is coming from."*
	Dispersed Teams	Cultural Context; Geographical Disparities.	*"Tinha Tinha porque trabalhava bastante com a consolidação e com o reporte."* *"Our organisation has people from everywhere; we speak more than 100 different languages."* *"…like virtual meetups, where we learn and laugh in dozens of accents."*
	Resource Utilisation	Resource Allocation; Allocation Efficiency: Cost Management.	*"Thanks to agile resource management, we quickly shuffled our budget around when the project scope threw us a curveball, making sure our team's work stayed in sync with what we had to work with."*
	Team Skills and Roles	Skill Diversity; Role Appropriateness; Clear Role Definitions; Role Interdependencies; Effective Use of Individual Skills; Training; Gap.	*"Having team members who could seamlessly shift roles based on project needs was a game-changer for us."*
	Leadership Profile	Directive; Participative; Motivation; Conflict Resolution; Encouragement, Professional Growth.	*"How would I define a perfect team? So, a strong leader, you need a focal point of the team especially in construction"*
	Team Development	Skills Enhancement; Continuous Learning; Opportunities; Career Path Support; Feedback; Role Clarity; Goals.	*"Develop new skills and stay updated with the latest industry trends".* *"I think feedback is important, but we don't have it here, it is not real feedback, it is more a meeting and then you don't know what impacted on your bonus"*
Project Level	Project Success and Alignment Strategies	Collaboration; Communication; Shared Objectives.	*"A successful project is all about hitting those goals we set out at the start, no surprises."* *"It's like we're all singing the same tune, working together…"* *"The project not only succeeded but also left a lasting impact on our team's approach to collaboration"*
	Project Timeframe and Alignment	Project Duration; Short Project; Long Project.	*"I think that when the time extends far beyond the average, yes, it starts to have a demotivating effect on people.* *"Dragging a project too long definitely starts to kill …"* *"It's crucial keeping everyone engaged and excited."* *"Learning and growing together…"*
	Long-Term Impact of Alignment Strategies	Culture shifts; Knowledge transfer; C2ollaborations.	*"Having a hobby is more limited to the professional environment…"* *"…we're a whole new company…"*

Source: Created by the author

Figure 6 – Mind Map Pros and Cons on Team alignment on PBA



Source: Created by the author on Miro©. (2022)

6 ARTIFACT DESIGN AND DEVELOPMENT

Through the insights from this research, document analysis, interviews, and years of participation in the projects under study, it becomes clear that a framework is an ideal tool to address the complex interplay of factors in PBAs. This framework guides organisations and contributes significantly to team alignment by factoring in belief systems and timeframes.

The development of this framework was enhanced through continuous input from leadership. Building on a previous framework developed during this research, including a literature review and interview analysis, the framework was refined by adding subcategories per the codebook. In meetings with leadership, there was a prioritisation of the main categories and timeframes to shape a general tool that could later be tailored specifically for the organisation. Throughout its development, leaders were consulted to gather their ideas, procedures, and contributions, ensuring that the framework was well-rounded and effective for team alignment in PBAs.

This framework further was developed into an Assessment Questionnaire (AQ) for the organisations participating in this research, detailed in APPENDIX F. This questionnaire is designed to systematically collect data and feedback, contributing to the continual refinement and application of the strategic framework within the participating organisations. This development process highlights the collaborative nature of creating tools that are theoretical, practical, and directly applicable to real-world project management scenarios.

6.1 Category Definition: Weekly Meetings Input

Through the insights from this research, document analysis, interviews, and years of participation in the projects under study, it becomes clear that a framework is an ideal tool to address the complex interplay of factors in PBAs. This framework guides organisations and contributes significantly to team alignment by factoring in belief systems and timeframes.

The development of this framework was enhanced through continuous input from leadership. Building on a previous framework developed during this research, presented in Table 1, including a literature review, the framework was refined by adding

subcategories per the codebook from interview analysis. Weekly meetings during research and development ensured continuous feedback and refinement of the framework.

In these meetings, leadership prioritised the main categories and timeframes to shape a general tool that could later be tailored specifically for the organisation. Throughout its development, leaders were consulted to gather their ideas, procedures, and contributions, ensuring that the framework was well-rounded and effective for team alignment in PBAs.

6.1.1 First Meeting Discussions and Framework Analysis

In the initial meeting, the framework derived from the literature review and additional information from interviews and documents was discussed. The aim was to refine the framework to ensure it effectively addressed the different levels of project-based alliances: organisational level, team level, and project level. This division is crucial as it helps tailor alignment strategies to the specific dynamics and needs of each level, facilitating better integration and performance.

The meeting was conducted online via Microsoft Teams and included key stakeholders such as the Project Manager, Studio Directors, Technical Director, MEP Director, HR Analyst, and Design Director.

The framework's connection to Simons' belief system was emphasised, highlighting the need for shared values and ethical principles across all levels. This alignment ensures that the organisation's mission and vision are consistently reflected in project execution.

At the organisational level, the focus is on aligning the overarching organisational values and strategies with the project goals. Leaders highlighted the importance of open communication and mutual understanding, with one leader stating, "Clear communication and shared values at the organisational level set the tone for successful project execution."

The team level addresses the dynamics within individual project teams. Categories such as cultural norms, shared values, and open communication were discussed. For instance, the HR Analyst suggested, "Understanding and integrating different cultural norms within teams can significantly enhance collaboration and reduce conflicts."

At the project level, the focus is on practical aspects such as resource allocation, project timelines, and collaboration strategies.

Some key suggestions were made and analysed, such as emphasising the integration of modern technology to facilitate communication and collaboration, particularly for geographically dispersed teams, and developing detailed subcategories under each level to address specific alignment challenges and strategies.

6.1.2 Second Meeting Overview: Refined Framework and Definitions

The second meeting focused on refining the framework and defining the subcategories more clearly. This was again conducted online via Microsoft Teams with participation from the same group of stakeholders.

Several discussion points were made. Each category was broken down into subcategories to provide a more detailed approach to team alignment and project management. At the organisational level, the subcategories included cultural norms, shared values, open communication, and mutual understanding. At the team level, categories were expanded to include skill diversity, role appropriateness, clear role definitions, and effective use of individual skills. At the project level, the focus was on collaboration, communication, adherence to objectives, and alignment with project timelines.

During the meeting, there were discussions regarding assessments and action plans. It was suggested to implement regular workshops and training sessions to ensure all team members understand and align with the organisational values. Additionally, developing a feedback mechanism to continuously improve the alignment strategies based on real-time project data and team feedback was highlighted.

6.1.3 Final Meeting (n): Approval of Final Categories and Definitions

In the final meeting, the framework's categories and definitions were reviewed and approved. The discussion revolved around finalising the framework and ensuring it is robust enough to handle various project scenarios. This meeting included all previous participants and was also conducted online via Microsoft Teams.

The framework was finalised with detailed subcategories at the organisational, team, and project levels. The categories below were discussed to create a better understanding of the framework:

Organisational Level:

- Cultural Norms and Shared Values: Emphasised the integration of these elements to ensure strategic alignment across all departments. The HR Analyst mentioned, “Cultural norms and shared values must be clearly communicated and upheld to maintain consistency and direction in our projects.”
- Open Communication: Highlighted as crucial for maintaining transparency and trust within the organisation.
- Mutual Understanding: Encouraged to foster collaboration and reduce conflicts across departments.

Team Level:

- Team Dynamics: Focused on how teams operate internally, including cultural norms, shared values, and open communication.
- Skill Utilisation and Role Clarity: Ensured that each team member’s skills are appropriately utilised and roles are clearly defined to avoid overlaps and inefficiencies. The Design Director stated, “Clear roles and responsibilities help streamline our processes and improve accountability.”

Project Level:

- Resource Allocation: Addressed practical aspects of project management, including effective resource distribution and cost management.
- Adherence to Timelines: Ensured project milestones are met, which is critical for overall success.

Regarding Diverse and Geographically Dispersed Teams, it was discussed that organisations often have employees from various parts of the country, different regions, and even different countries, each with unique working styles and personal aspects. This category was created based on the multicultural and international vision that organisations increasingly adopt. As observed in Project 2, the consortium experienced alignment challenges even when moving between states. This impacted

the strategic alignment of the consortium and was a topic of much discussion regarding team alignment.

For this category, the subcategories discussed include:

- Geographical Disparities: This subcategory addresses the challenges and opportunities when team members are located in different regions. Organisations need to understand that geographical disparities can affect communication styles, work practices, and team interactions. Implementing strategies such as using technology to facilitate communication and collaboration across distances, and creating policies that consider different time zones and regional cultural practices, are crucial. This ensures that all teams, regardless of location, can work effectively and align with project goals.
- Cultural Context: Each organisation's cultural context significantly influences how its members interact, make decisions, and resolve conflicts. Understanding and integrating these cultural contexts within the PBA is essential to creating a cohesive and productive work environment. Organisations should promote cultural sensitivity and adaptation by offering intercultural training and socialisation opportunities among members from different backgrounds. This helps build mutual understanding and respect, reducing cultural conflicts and promoting more harmonious and effective collaboration.

Also, for Diverse and Geographically Dispersed Teams is a category present in both organisation and team level and this was discussed during the final meeting. Discussion around distinct approaches are required at both the organisational and team levels to ensure effective communication, collaboration, and alignment.

At the Team Level, the focus is on maintaining continuous communication and adapting to time zone differences to foster a sense of unity and collaboration among team members. For instance, holding frequent virtual meetings is essential for dispersed teams to ensure that everyone remains aligned and informed about the project's progress. These regular meetings, facilitated by effective video conferencing tools, help overcome the barriers of distance, creating a cohesive team environment despite geographical separation. By maintaining a regular communication, teams can address issues promptly and ensure that all members feel included and valued.

Additionally, adopting flexible working hours is crucial to accommodate team members across different time zones. This flexibility allows individuals from various regions to participate in important meetings and collaborate effectively, ensuring that the team can function smoothly despite the time zone differences. By implementing flexible schedules, teams can optimise productivity and ensure that all members can contribute efficiently, enhancing overall project performance.

At the Organisational Level, broader strategies and policies are necessary to support a diverse and geographically distributed workforce. Implementing comprehensive inclusion and diversity policies is a fundamental approach. These policies promote the hiring of a workforce that is diverse in terms of geography and culture, ensuring that all employees feel valued and included, regardless of their location. Such policies help build a cohesive organisational culture that respects and leverages diversity, which in turn enhances performance and fosters innovation.

Investing in technological infrastructure is another critical approach at the organisational level. This involves providing video conferencing platforms, project management software, and cloud collaboration tools that facilitate effective communication and collaboration across different regions. A strong technological foundation enables seamless interaction among dispersed teams, ensuring efficient project execution and alignment with the organisation’s strategic goals.

Moreover, an idea of implementing global rotation programmes can significantly benefit the organisation. These programmes allow employees to work in different locations of the company for set periods, promoting a deeper understanding of various organisational cultures and building a global network of contacts within the company. Such programmes foster knowledge sharing, cultural sensitivity, and a broader perspective, which are beneficial for both personal and organisational growth. Employees who participate in these rotations gain valuable insights and experiences, which they can bring back to their home offices, enhancing overall organisational capability and cohesion.

The Organisational Beliefs and Team Alignment category reflects the beliefs an organisation brings into the PBA, influencing team interactions and project execution. The discussion around this category included the following subcategories:

- Cultural Norms: The behavioural standards an organisation adheres to and expects from its members. Ensuring these norms align with other organisations in the alliance fosters a harmonious work environment and

reduces cultural conflicts. This was observed in Project 2, where differing cultural norms impacted collaboration.

- Shared Values: These represent the core beliefs and priorities guiding an organisation’s decisions and actions. When aligned with other organisations in the PBA, they enhance cohesion and mutual understanding, facilitating smoother collaboration.
- Open Communication: Involves the free exchange of information and ideas within a team. Open communication is crucial for effective collaboration, problem-solving, and ensuring all team members are on the same page.
- Mutual Understanding: Refers to the degree to which team members understand and respect each other’s roles, perspectives, and contributions. It improves teamwork and reduces conflicts.
- Ethical Principles: Moral guidelines governing individual behaviour within an organisation. Adopting ethical principles builds trust and integrity within the team.

It was possible to discuss differences between applying these categories at the team level and the organisational level. At the team level, the focus is narrower, aimed at the internal dynamics and specific objectives of a working group. This level concentrates on the immediate tasks and interactions within the team, ensuring that all members are aligned towards achieving specific project goals.

In contrast, at the organisational level, the scope is broader, encompassing the company's overall vision and strategic goals. Actions and interactions at this level have a more extensive impact, influencing corporate culture, the company's reputation, and overall operational effectiveness. It involves aligning various teams and departments with the organisation's mission and strategic objectives, creating a cohesive and unified direction for the entire organisation.

Integration at the team level is about how members collaborate on specific projects. It focuses on the detailed aspects of teamwork, such as role clarity, skill utilisation, and direct communication. At the organisational level, integration involves a more complex process of ensuring that different teams and departments work together harmoniously towards the broader strategic goals. This includes developing systems and processes that facilitate communication and collaboration across all hierarchical levels and functions within the organisation.

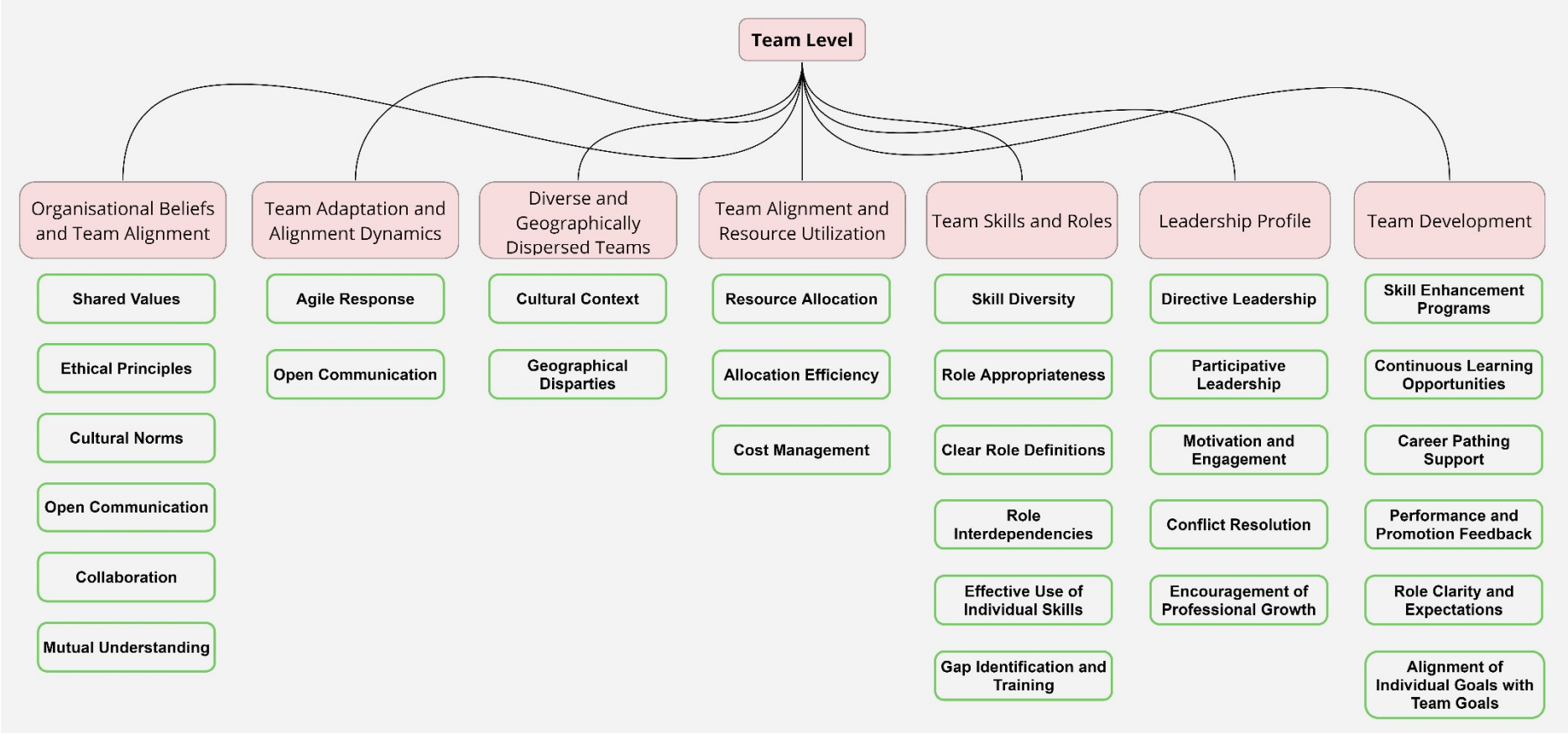
While both levels value open communication and collaboration, the approach differs significantly. At the organisational level, these concepts involve structured systems and processes that enable effective communication and coordination throughout the entire organisation. In contrast, at the team level, the emphasis is on daily interaction and direct collaboration among team members, fostering a more immediate and hands-on approach to achieving project goals.

Team Dynamics and Roles category was discussed and addresses the internal dynamics of the team, focusing on how roles are defined, skills are utilised, and team members collaborate. The subcategories include:

- Skill Diversity: The variety of skills present in the team, enabling it to tackle different challenges effectively.
- Role Appropriateness: Ensuring team members are in roles that match their skills and competencies.
- Clear Role Definitions: Avoiding role overlap and ensuring everyone knows their responsibilities.
- Role Interdependencies: Understanding how roles are interconnected and dependent on each other for project success.
- Effective Use of Individual Skills: Maximising the utilisation of each team member’s skills for project performance.

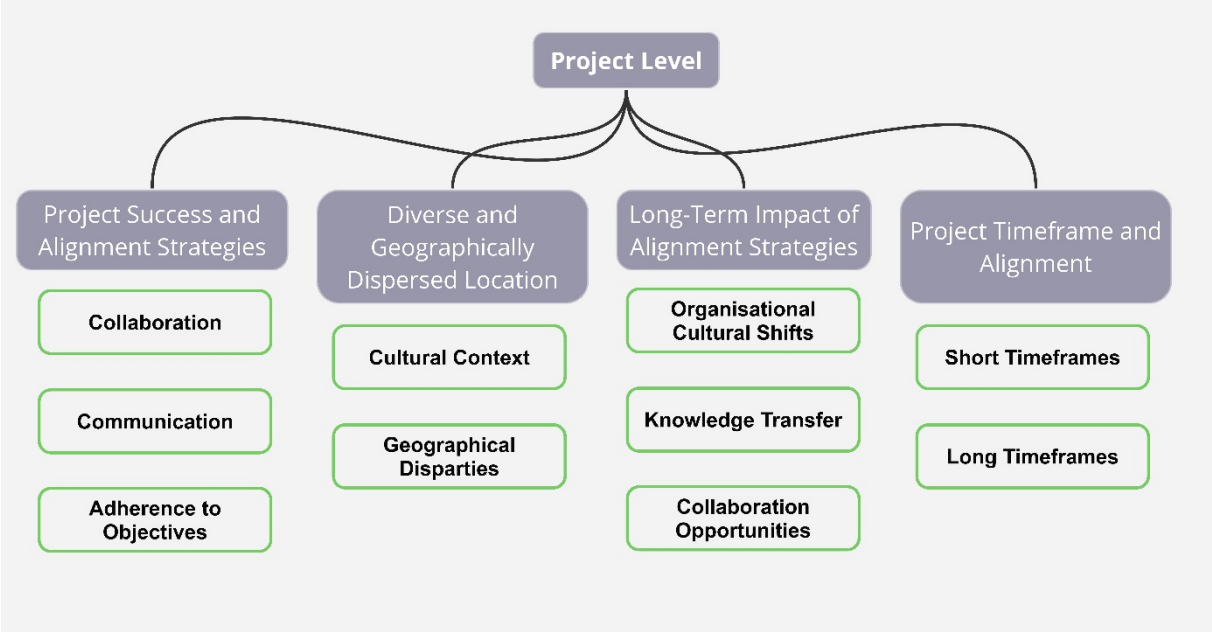
To conclude, the final approach is represented in the Figures 1, 2 and 3 and Table 8, 9 and 10 presents the overall definition of each category and subcategory.

Figure 7 – Team Level Categories and Subcategories Definition



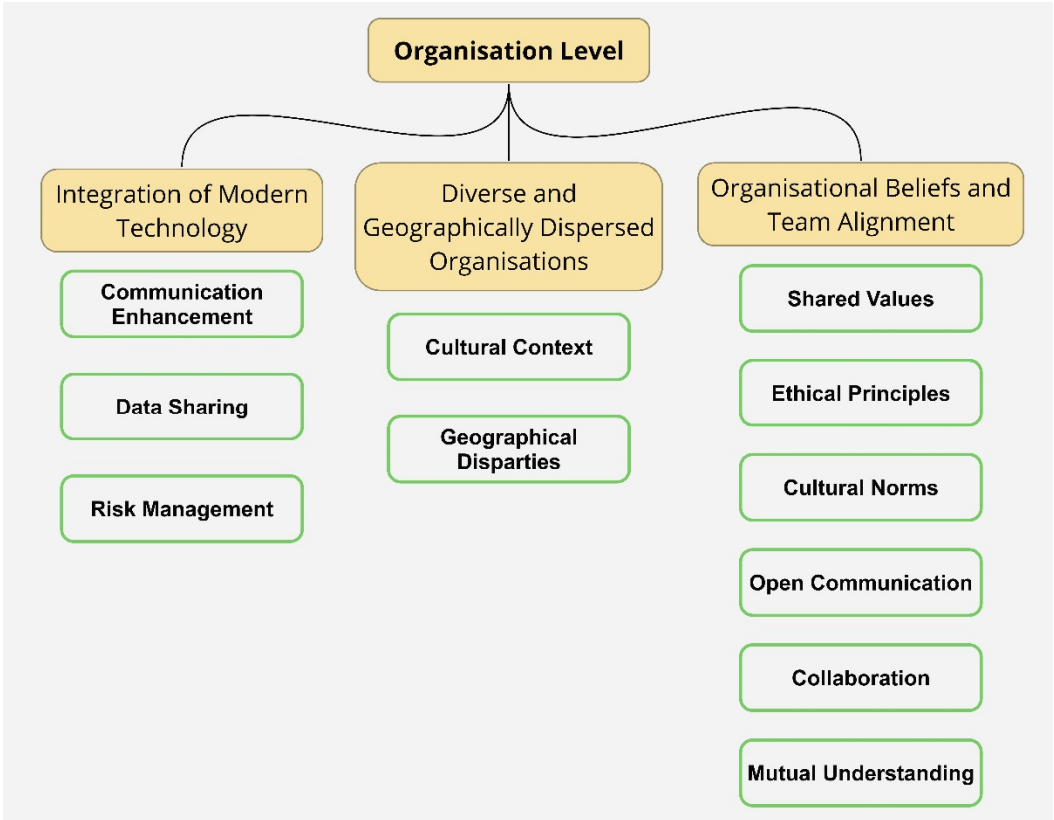
Source: Created by the author on Miro©. (2022)

Figure 8 – Project Level Categories and Subcategories Definition



Source: Created by the author on Miro©. (2022)

Figure 9 –Organisation Level Categories and Subcategories Definition



Source: Created by the author on Miro©. (2022)

Table 9 – Organisation Level Definitions

Level	Overall Definition Level	Analysis Unit (Categories)	Definition Analysis Unit	Sub Categories	Definition Sub Categories	Relation with Belief System
Organisation Level	Ensures overall strategic alignment and integration across the entire organisation to support project success. At this level, the focus is on embedding a unified set of core values, mission, and vision throughout the organisation. This ensures that all departments and units are working towards common goals, facilitating cohesive decision-making and strategy implementation. The belief system at this level plays a crucial role in establishing a strong organisational culture that aligns with the strategic objectives, fostering an environment of trust, motivation, and commitment across the entire workforce. Dividing it at this level helps in setting a solid foundation for all subsequent actions and decisions within the organisation, ensuring that everyone is on the same page and working towards the same objectives.	Integration of Modern Technology	Incorporating advanced technological tools and systems to enhance efficiency and communication within the organisation.	Communication Enhancement	Improving communication tools and platforms to facilitate better interaction and collaboration among teams.	Enhances transparency and trust, core components of belief systems, by facilitating open and efficient communication.
				Data Sharing	Implementing systems and protocols for secure and efficient data sharing across different departments and teams.	Promotes a culture of openness and knowledge sharing, reinforcing trust and mutual understanding.
				Risk Management	Identifying, assessing, and mitigating risks associated with technology integration to ensure smooth operations.	Aligns with the principle of ethical responsibility and preparedness, fostering a sense of security and trust within the organisation.
		Organisational Beliefs and Team Alignment	Aligning organisational values, ethics, and cultural norms to foster a cohesive and productive work environment.	Shared Values	Core beliefs and priorities that guide the organisation’s decisions and actions, ensuring consistency and direction.	Reinforces common goals and values, promoting unity and coherence within the organisation.
				Ethical Principles	Moral guidelines that govern the behaviour of individuals within the organisation, promoting integrity and trust.	Establishes a foundation of trust and ethical behaviour, critical for maintaining a strong belief system.
				Cultural Norms	Standards of behaviour expected from team members, fostering a harmonious and respectful work environment.	Cultivates a consistent and respectful environment, essential for aligning individual and organisational beliefs.
				Open Communication	Ensuring the free exchange of information and ideas within the organisation to promote transparency and collaboration.	Enhances mutual understanding and trust, key elements in reinforcing belief systems.
				Collaboration	Encouraging teamwork and cooperative efforts to achieve common goals and improve project outcomes.	Promotes shared goals and collective efforts, strengthening the sense of community and shared beliefs.
				Mutual Understanding	Promoting an environment where team members understand and respect each other’s roles, perspectives, and contributions.	Fosters a deeper connection and alignment of beliefs through mutual respect and understanding.
		Geographically Dispersed Teams	Managing the dynamics of teams spread across different regions to ensure effective collaboration and alignment.	Cultural Context	Understanding and integrating diverse cultural backgrounds within the organisation to foster inclusivity and cohesion.	Recognises and respects diverse beliefs, integrating them into a unified organisational culture.
				Geographical Disparities	Addressing the challenges and opportunities presented by having team members in different geographical locations.	Ensures alignment and cohesion despite physical distances, maintaining a consistent belief system across locations.

Source: Created by the author

Table 10 - Team Level Definitions

Level	Overall Definition Level	Analysis Unit (Categories)	Definition Analysis Unit	Sub Categories	Definition Sub Categories	Relation with Belief System
Team Level	Focuses on the internal dynamics, roles, and interactions within individual teams to ensure effective collaboration and alignment with project goals. At the team level, the emphasis is on ensuring that team members' values and beliefs are aligned with those of the organisation and the specific project goals. This involves fostering open communication, mutual trust, and a shared understanding of roles and responsibilities. The belief system at this level helps in building a cohesive team culture, where members are motivated to collaborate effectively, innovate, and support each other towards achieving project milestones. Dividing it at this level allows for a deeper focus on interpersonal relationships and team dynamics, which are essential for effective collaboration and project success.	Organisational Beliefs and Team Alignment	Ensuring that team values and cultural norms align with the overarching organisational beliefs to foster unity and productivity.	Shared Values	Core beliefs that guide the team's decisions and actions, promoting a unified approach to achieving goals.	Aligns team goals with organisational beliefs, enhancing coherence and collective purpose.
				Ethical Principles	Guidelines that govern team members' behaviour, ensuring integrity and ethical conduct within the team.	Strengthens ethical behaviour and integrity within the team, reinforcing a strong belief system.
				Cultural Norms	Expected standards of behaviour within the team, promoting a respectful and collaborative environment.	Establishes a consistent and respectful team culture, aligning with broader organisational beliefs.
				Open Communication	Facilitating the free flow of information and ideas within the team to enhance transparency and collaboration.	Promotes openness and trust within the team, essential for a strong belief system.
				Collaboration	Encouraging teamwork and collective efforts to achieve team objectives efficiently and effectively.	Enhances collective efforts and shared goals, aligning team members with organisational beliefs.
				Mutual Understanding	Ensuring that team members understand and respect each other's roles and contributions, enhancing teamwork.	Fosters mutual respect and understanding, critical for aligning team beliefs with organisational values.
		Team Alignment and Alignment Dynamics	Adapting quickly to changes and ensuring continuous alignment within the team to meet project demands.	Agile Response	The ability of the team to adapt rapidly to changes and challenges, maintaining project momentum and success.	Supports a flexible and responsive belief system, encouraging adaptability and resilience.
				Open Communication	Continuous and transparent communication within the team to address issues promptly and maintain alignment.	Ensures ongoing alignment and trust within the team, reinforcing a dynamic belief system.
		Geographically Dispersed Teams	Managing the dynamics of geographically dispersed teams to ensure effective collaboration and alignment with project goals.	Cultural Context	Integrating diverse cultural backgrounds within the team to promote inclusivity and effective collaboration.	Promotes cultural sensitivity and inclusivity, aligning diverse beliefs within the team.
				Geographical Disparities	Addressing challenges related to different geographical locations and ensuring smooth collaboration.	Maintains alignment and cohesion despite geographical distances, reinforcing a unified team belief system.
		Team Alignment and Resource Utilisation	Efficiently managing and utilising resources to support team performance and project success.	Resource Allocation	Distributing resources effectively to ensure all team members have what they need to perform their roles.	Ensures equitable distribution and support, fostering trust and fairness within the team.
				Allocation Efficiency	Maximising the effective use of allocated resources to avoid wastage and improve productivity.	Promotes efficient use of resources, aligning with organisational values of efficiency and responsibility.
				Cost Management	Managing costs associated with resource utilisation to maintain budgetary control and project feasibility.	Aligns financial management practices with ethical and responsible use of resources, reinforcing organisational beliefs.
		Team Skills and Roles	Ensuring that team members' skills are effectively utilised and roles are clearly defined to enhance performance.	Skill Diversity	Having a variety of skills within the team to tackle different challenges and enhance innovation.	Encourages a culture of learning and adaptability, aligning with dynamic and innovative belief systems.
				Role Appropriateness	Ensuring team members are assigned roles that match their skills and competencies for optimal performance.	Promotes role clarity and competence, reinforcing a structured and efficient belief system.

				Clear Role Definitions	Defining roles clearly to avoid overlap and ensure everyone understands their responsibilities.	Enhances understanding and reduces conflicts, aligning team roles with organisational expectations.
				Role Interdependencies	Understanding how roles are interconnected and dependent on each other for project success.	Fosters collaboration and mutual support, reinforcing interconnected and supportive beliefs.
				Effective Use of Individual Skills	Maximising the utilisation of each team member's skills to enhance team performance.	Encourages individual contribution and recognition, aligning personal and organisational goals.
				Gap Identification and Training	Identifying skill gaps and providing training to ensure all team members are equipped for their roles.	Promotes continuous improvement and development, aligning with growth-oriented beliefs.
		Leadership Profile	Developing leadership styles that support team motivation, engagement, and conflict resolution.	Directive Leadership	Providing clear and direct guidance to team members to ensure alignment and direction.	Ensures strong leadership and direction, fostering a clear and unified belief system.
				Participative Leadership	Encouraging team involvement in decision-making to enhance engagement and ownership.	Promotes inclusivity and shared responsibility, reinforcing democratic and inclusive beliefs.
				Motivation and Engagement	Keeping the team motivated and engaged with the project objectives.	Ensures high levels of engagement and commitment, aligning personal and team beliefs with project goals.
				Conflict Resolution	Effectively managing and resolving conflicts to maintain team harmony and focus.	Maintains a harmonious and collaborative environment, essential for a cohesive belief system.
				Encouragement of Professional Growth	Supporting the professional development of team members to enhance their skills and career progression.	Promotes continuous development and career growth, aligning with a supportive and growth-oriented belief system.
		Team Development	Fostering continuous learning and development opportunities to enhance team capabilities and performance.	Skill Enhancement Programs	Offering programs to improve team members' skills and competencies.	Encourages ongoing learning and improvement, aligning with a belief in continuous development.
				Continuous Learning Opportunities	Providing ongoing education and development opportunities to ensure continuous improvement.	Supports a culture of learning and adaptation, reinforcing dynamic and evolving beliefs.
				Career Pathing Support	Helping team members plan and develop their careers within the organisation.	Aligns individual career goals with organisational growth, fostering mutual commitment.
				Performance and Promotion Feedback	Providing regular feedback on performance and opportunities for promotion.	Ensures clarity and fairness in career progression, reinforcing trust and motivation.
				Role Clarity and Expectations	Ensuring team members understand their roles and what is expected of them.	Promotes clear understanding and accountability, aligning roles with organisational goals.
				Alignment of Individual Goals with Team Goals	Ensuring individual goals align with team objectives to promote unified efforts.	Aligns personal ambitions with team objectives, fostering a unified and committed belief system.

Source: Created by the author

Table 11 - Project Level Definitions

Level	Overall Definition Level	Analysis Unit (Categories)	Definition Analysis Unit	Sub Categories	Definition Sub Categories	Relation with Belief System
Project Level	Focuses on the overall success and alignment of project-specific strategies, ensuring that project goals are met efficiently and effectively. At the project level, the alignment of strategies and actions with the project's objectives is critical. This involves integrating the belief systems of all stakeholders involved in the project, including external partners and contractors, to ensure a unified approach towards project execution. The belief system here facilitates the alignment of project-specific goals with the broader organisational strategy, ensuring that all efforts contribute to the overall success of the project. Dividing it at this level is important for tailoring strategies to the unique requirements and challenges of each project, ensuring that specific project goals are met while maintaining alignment with the organisation's strategic objectives.	Project Success and Alignment Strategies	Ensuring project activities are aligned with strategic goals to achieve project success.	Collaboration	Promoting effective teamwork and cooperation to achieve project objectives.	Enhances collective efforts and shared goals, aligning project activities with organisational beliefs.
				Communication	Ensuring clear and efficient communication within the project team and with stakeholders.	Promotes transparency and mutual understanding, essential for cohesive belief systems.
				Adherence to Objectives	Ensuring all project activities are aligned with the set objectives to achieve desired outcomes.	Reinforces commitment to organisational goals, aligning project activities with strategic beliefs.
		Diverse and Geographically Dispersed Location	Managing projects across different geographical locations to ensure smooth operation and alignment.	Cultural Context	Integrating diverse cultural perspectives to enhance project collaboration and success.	Promotes cultural sensitivity and inclusivity, aligning diverse beliefs within project teams.
				Geographical Disparities	Addressing the challenges posed by geographical differences to ensure effective project execution.	Maintains alignment and cohesion despite geographical distances, reinforcing a unified belief system.
		Long-Term Impact of Alignment Strategies	Assessing the long-term effects of alignment strategies on organisational culture and performance.	Organisational Cultural Shifts	Monitoring and adapting to cultural changes within the organisation to support long-term alignment.	Ensures adaptability and resilience, aligning organisational culture with evolving beliefs.
				Knowledge Transfer	Facilitating the transfer of knowledge across the organisation to enhance learning and innovation.	Promotes continuous learning and innovation, reinforcing dynamic and evolving belief systems.
				Collaboration Opportunities	Creating opportunities for collaboration within the organisation to enhance performance and innovation.	Encourages collective efforts and shared goals, aligning collaborative activities with organisational beliefs.
		Project Timeframe and Alignment	Ensuring that project timelines are aligned with organisational and team strategies for optimal performance.	Cultural Context	Aligning cultural context with project timelines to ensure cohesive and effective collaboration.	Ensures cultural alignment and understanding throughout the project, maintaining cohesive belief systems.
				Geographical Disparities	Managing the challenges of different geographical locations within project timelines to ensure smooth execution.	Ensures geographical alignment and understanding throughout the project, maintaining cohesive belief systems.

Source: Created by the author

6.2 Beliefs Flow during Project Timeframe

It was possible to analyse the flow of belief systems during project stages, considering the project timeframe. This analysis reflects the interviews conducted at various stages and the researcher's perception of the project teams during these phases.

For short projects, belief system alignment needs to be established quickly but does not necessarily develop depth due to time constraints. The flow begins moderately, increases as the project progresses, and reduces slightly at closure. This perception was developed by the researcher's insights and past experiences with teams.

Conversely, for longer projects, belief systems have more time to develop and integrate deeply. This integration is crucial as projects span multiple years and require sustained alignment with the evolving project scope and external factors. This is primarily due to the socialisation of teams, but it could be enhanced with management tools to improve it.

In very long projects, the flow of belief systems starts at a lower level as these projects may involve more stakeholders and complex structures, such the consortia analysed, necessitating more time to align beliefs initially. Over time, these systems are refined and adjusted to maintain coherence over the extended project duration.

Regarding alignment dynamics for shorter projects, the formation and alignment of teams need to be agile as there is less time to address misalignments. The focus is on rapid deployment and execution. Tools that facilitate easy access for teams aligned with the projects are essential in the initial stages.

For medium/long projects, team dynamics allow for the development and evolution of team roles and relationships over a more extended period, which is reflected in higher weights during the execution phase.

On very long projects, maintaining team coherence and motivation over many years becomes challenging, making the management of team dynamics complex but crucial. Changes in team composition are also more likely, necessitating ongoing alignment efforts.

Regarding resource utilisation, for short projects, it must be very efficient from the start due to the shorter timelines. There is less room for error in planning and execution, which is why the weight remains relatively high throughout.

In medium/long projects, resources need careful management over longer periods, with strategic planning in the early phases and heightened efficiency during execution and closure.

However, in very long projects, resource utilisation is crucial throughout, especially as the project may span various phases of funding, staffing changes, and strategic shifts. Efficient use throughout is necessary to ensure that resources do not become a limiting factor over time.

Lastly, Alignment Strategies in short projects must be effective immediately, with a focus on clear communication and collaboration from the start to ensure that project goals are met quickly.

For medium/long projects, there is more opportunity to refine and adapt strategies throughout the project's lifecycle, with a significant emphasis on maintaining alignment during the execution phase when most of the project activity occurs.

On the other hand, strategies in very long projects must be incredibly adaptable, capable of evolving to meet long-term goals and responding to external changes and pressures. The emphasis remains high throughout to keep the project on track.

Overall, shorter projects demand a more intense and immediate focus on all factors right from the beginning due to limited timeframes. In contrast, medium and very long projects allow for more gradual development and refinement of processes and strategies. However, the prolonged duration also requires continuous monitoring and adaptation to align with changing conditions and goals over time.

6.2.1 Organisation Level

Combining above information and researcher experience during projects phases, categorisation and prioritisation, a framework has been developed to guide organisations though a better team alignment regarding beliefs on PBAs, improving cost, quality and timeframe. Below opening by project timeframe structure:

Short-Term Projects (<1 year): Initial assessment crucial during project initiation with periodic checks in execution. Emphasis on quick integration of technologies and rapid establishment of shared communication channels and risk management

protocols. The rapid completion of this projects requires immediate and clear alignment of organisational beliefs and strategic objectives to ensure efficient execution aligned with organisation expectations.

Medium-Term Projects (1-2 years): Strong focus during initiation and detailed planning. Regular assessments at major milestones to ensure that organisational beliefs remain aligned with evolving project demands. These projects offer more scope for adjustment and evolution of strategies. Regular assessments help maintain alignment with evolving project demands, organisational growth and changes on teams. One great example was during the interview's leaders related past experiences on reassessing strategies due to change of market conditions or client requirements. These focused on cost and impacted on reassessing the team's structure.

Long-Term Projects (2-5 years): Continuous and detailed assessments throughout all phases. As projects evolve, reassessments of risk management strategies and technological integrations become critical to adapt to external and internal changes. Long-term projects face varying external and internal changes over their duration. Continuous assessments are crucial for adapting and refining strategies, ensuring long-term success and sustainability. This is supported by experiences shared in interviews, where teams often change during these projects due to the dynamics involved. Additionally, there is a need to recruit individuals from various regions to complement the teams, owing to the geographical spread of the projects. These assessments ensure that communication is maintained during these transitions to hand over work tasks, reassess training, align organisational values with new team members, and evaluate productivity and other aspects.

Very Long-Term Projects (>5 years): Ongoing, deep evaluations, with potential realignments during each phase, especially as organisational shifts occur over time. Long-term data sharing and communication strategies are vital for sustained collaboration. The extended duration increases the likelihood of significant strategic, technological, and market changes. Deep, ongoing evaluations allow for timely realignment and adaptation to these changes.

6.2.2 Project Level

Short-Term Projects: Quick setup and rapid execution mean that roles and resources must be very clearly defined from the start. Agile responses and open communication are critical to adapt quickly to any project shifts.

Medium-Term Projects: There is more room for role evolution and professional growth opportunities. Continuous learning and skill enhancement programs can be more robust and aligned with individual career paths. Regular evaluations during major milestones to ensure collaboration and communication.

Long-Term and Very Long Projects: These projects can suffer from team fatigue and role stagnation. Regular project assessments, alongside clear feedback mechanisms, help maintain team vitality and alignment with project goals. Additionally, the implementation of well-defined communication channels during all project phases is essential to ensure information is preserved and efficiently shared throughout the project.

6.2.3 Team Level

Short-Term Projects: Emphasise rapid role definition and quick skill deployment. Agile responses and effective communication are critical due to the condensed timeframe. This should be implemented during Initiation and Planning.

Medium-Term Projects: Regular evaluations during major milestones to ensure roles are clear and skills are appropriately utilised; training and development should adjust to project needs.

Long-Term and Very Long Projects: Continuous learning and professional growth should be integrated into regular workflows to maintain team alignment and adaptability. Long-term projects allow for deeper development of individual and team capabilities, aligned with the project's evolving goals. This would be important during Execution and Closure phases.

Figure 10 outlines our framework for assessing Project-Based Alliances (PBAs) across various timeframes to enhance team alignment of beliefs and propel organisations towards improved outcomes. This framework ensures that projects are conducted and standardised efficiently. Additionally, the framework has led to the development of an Assessment Questionnaire for one of the organisations involved in

this research. This questionnaire was developed in collaboration with leaders to ensure alignment and verify any constraints before execution, thus minimising problems related to belief alignment, communication, and resources. This Assessment Questionnaire can be found in APPENDIX F

6.3 Strategic Alignment Assessments Across Different Project Phases and Timeframes: Approved Framework

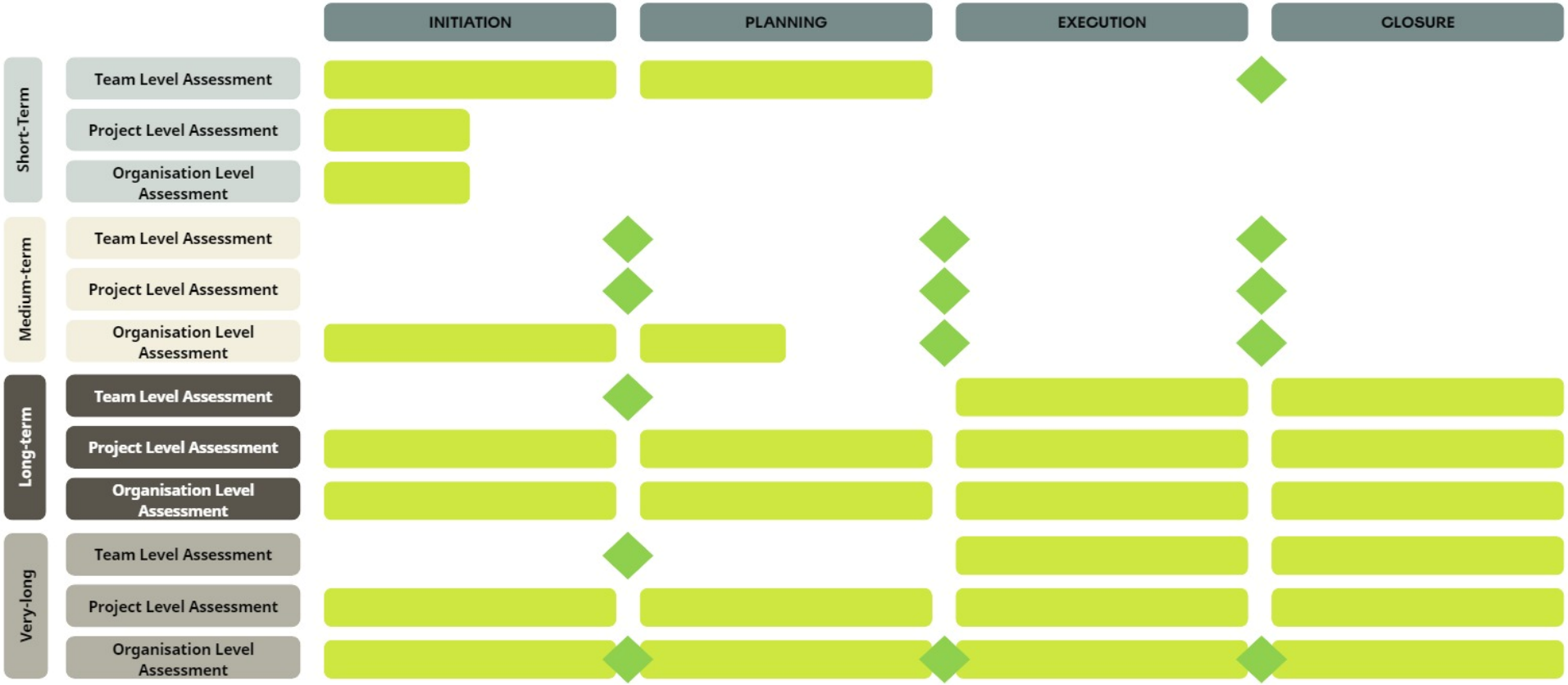
The development of a strategic framework to address team alignment in Project-Based Alliances (PBAs) is pivotal for managing the intricate interplay of factors influencing project success. This framework, final presented in Figure 10, shaped by extensive research, document analysis, interviews, and years of practical experience, provides a structured approach to ensuring that organisational and team dynamics are effectively aligned with project objectives. By integrating belief systems and timeframes, this framework facilitates a comprehensive understanding of how to maintain alignment throughout the project's lifecycle.

Central to this framework is Simons' belief system, which underscores the necessity of shared values, ethical principles, and mutual understanding across all levels of the organisation. This belief system serves as the foundation for aligning the overarching organisational values and strategies with specific project goals. At the organisational level, the framework emphasises the importance of open communication and mutual understanding, ensuring that the organisation's mission and vision are consistently reflected in project execution. By fostering an environment where shared values are upheld, the framework promotes a cohesive and unified direction for the entire organisation.

The framework also addresses the dynamics within individual project teams, focusing on cultural norms, skill utilisation, and role clarity. By understanding and integrating different cultural norms within teams, the framework enhances collaboration and reduces conflicts, as highlighted by leadership during the framework's development. This approach ensures that team members are well-positioned to leverage their skills effectively, fostering an environment of open communication and collaboration. The practical aspects of project management, including resource allocation and adherence to timelines, are also meticulously considered to maintain strategic alignment throughout the project's duration.

Additionally, the framework's assessment component is crucial for continuous improvement and adaptation. Regular evaluations at key milestones ensure that alignment strategies remain effective and responsive to the evolving demands of the project. This iterative process allows organisations to collect real-time data and feedback, further refining and tailoring the framework to specific needs. By emphasising the integration of modern technology and the strategic use of assessments, the framework provides a robust tool for navigating the complexities of PBAs and achieving long-term project success.

Figure 10 – Final Framework: Strategic Alignment Assessments Across Different Project Phases and Timeframes



Source: Created by the author

7 FURTHER RECOMMENDATIONS AND ACTION PLAN

Ensuring the strategic alignment of teams in Project-Based Alliances (PBAs) requires a multifaceted approach. Organisations need to consider various factors such as organisational beliefs, team alignment, project timeframes, integration of modern technology, and leadership development. Here. This research offers a structured action plan based on insights from the research and the developed framework, aimed at fostering better team cohesion and achieving strategic goals across different organisational settings.

7.1 Comprehensive Team Assessment

At the beginning of every project, it's crucial to establish a baseline for team alignment and belief systems. This involves a comprehensive team assessment process to identify areas needing immediate attention. For quick projects lasting a year or less, this initial assessment should be followed by immediate action plans to address any identified misalignments. Recommendations to organisations include:

- **Initial Workshops**: Conduct workshops at the start of the project to understand team dynamics, individual strengths, and potential areas of misalignment. These workshops should facilitate open discussions about team roles, project goals, and organisational values. For example, a workshop could involve team-building activities and discussions on the project's vision to align everyone's understanding and expectations.
- **Personal Interviews**: Carry out one-on-one interviews with team members to gain deeper insights into their professional backgrounds, personal beliefs, and expectations for the project. This can reveal individual motivations and potential conflicts, enabling proactive management. For instance, interviewing a team member might uncover their previous project experiences, which can be leveraged to enhance current project strategies.
- **Group Discussions**: Organise group discussions to encourage team members to voice their opinions and concerns, fostering an environment of open communication and collaboration. An example could be a

brainstorming session where team members suggest innovative solutions to anticipated project challenges.

For longer projects, particularly those lasting two years or more, a mid-project assessment is essential. This mid-point check helps in adjusting team alignment according to the project's evolving needs and challenges. High-risk or complex projects, especially those involving multiple organisations and geographically diverse teams, should have assessments at both the start and the mid-point to ensure ongoing alignment. Strategies and recommendations for mid-project assessments include:

- **Surveys and Questionnaires:** Deploy surveys to gauge team satisfaction, alignment with project goals, and areas needing improvement. For example, a mid-project survey could ask team members to rate their agreement with the project's direction and provide suggestions for adjustments.
- **Follow-up Interviews:** Conduct follow-up interviews to delve deeper into any issues raised in the surveys. This allows for more personalised feedback and the development of tailored action plans. For instance, interviewing a project manager might highlight specific resource constraints that need addressing.
- **Mid-Project Workshops:** Hold workshops to review progress, re-align goals, and re-energise the team. These sessions can be used to address any misalignments and re-commit to project objectives. An example could be a strategic planning workshop where new challenges are discussed, and solutions are collaboratively developed.

In projects extending over five years, annual assessments are necessary to accommodate changes in team composition and project dynamics. This regular assessment ensures that the team remains aligned with the project's goals and objectives throughout its duration. Annual assessments can include:

- **Annual Performance Reviews**: Conduct comprehensive performance reviews that include feedback on team alignment and individual contributions to project goals. For example, an annual review might highlight a team member's growth and areas for development.
- **Long-term Strategy Workshops**: Organise workshops to reassess and adjust the long-term strategy based on the evolving project landscape

and team dynamics. These workshops can address shifts in project scope or market conditions, ensuring the project remains relevant and aligned with organisational goals.

7.2 Actions Based on Assessment Results

If assessment results indicate minimal or slight alignment, this should trigger an immediate review by the project team. This review should be followed by a strategic planning session approved by senior directors, resulting in a detailed action plan to address the identified gaps. For example, if a TAQ assessment reveals low scores in team cohesion, a strategic planning session could involve setting specific goals for improving communication and collaboration, along with designated accountability measures.

A flowchart can visually represent the decision-making process based on assessment results. This flowchart will include pathways for action planning, review cycles, and approval processes, indicating when and how interventions should be applied based on project timeframe and complexity. For example, the flowchart might show that for projects with a complexity score above a certain threshold, additional assessments and more frequent reviews are necessary.

7.3 Action Plan

This action plan provides general recommendations to foster better team cohesion and adaptability in PBAs. These recommendations are designed to be adaptable to future developments and challenges.

Articulating and Understanding the Team's Mission: Conduct workshops at the start of the project to clearly define and communicate the team's mission. Ensuring every team member understands their role in achieving this mission is crucial for alignment and motivation.

Aligning with and Committing to Shared Goals: Establish clear, shared goals at the project's start and review them regularly. This practice ensures that the goals remain aligned with project objectives and team capabilities, allowing for necessary adjustments over time.

Agreement and Involvement in Setting Goals: Facilitate open discussions to gain consensus on team goals and address disagreements immediately. Encouraging participative goal setting where all team members contribute to defining objectives enhances commitment and ownership.

Encouraging Best Efforts and Shared Performance Standards: Recognise and reward efforts and achievements to create a supportive environment. Define clear standards for quality, timeframe, and cost at the project's beginning and regularly assess performance against these standards.

Sharing Information and Utilising Technology: Implement robust communication channels and regular update meetings to ensure effective information sharing. Leverage modern communication and project management tools, providing necessary training to team members to enhance alignment and streamline communication.

Resource Allocation and Adapting to Changing Conditions: Conduct resource planning sessions to align resources with project objectives and regularly review allocations to address any gaps. Establish a flexible management approach to adjust to changes in project conditions or goals.

Impact of Geographical Dispersion and Efficient Resource Use: Use technology to bridge geographical gaps and schedule regular meetings to maintain team cohesion. Efficient resource allocation is critical for ensuring that resources are used optimally throughout the project.

Clear Roles, Responsibilities, and Meetings: Clearly define roles and responsibilities to ensure productive meetings with clear agendas and follow-ups. Empower team members to make decisions related to their roles and establish a clear escalation path for higher approvals.

Leadership Style and Team Training: Leaders should adopt a flexible style that promotes alignment and open communication. Providing continuous training on tools and techniques for effective information sharing and encouraging continuous learning are essential for maintaining team alignment.

8 CONCLUSION

This research developed an artefact inspired by Robert Simons' Levels of Control (1995a, 1995b), with a particular focus on the Belief System and strategic team

alignment within Project-Based Alliances (PBAs). The aim was to create a tool that organisations, especially those in the construction industry, could use to evaluate and enhance team alignment, thereby optimising project outcomes in terms of efficiency, quality, and schedule adherence, considering timeframe and project stages.

The study successfully proposed an artefact that identifies and aligns the belief systems of teams within PBAs, serving as a framework. This tool assists in determining when and how teams should align their strategies to enhance project performance, particularly focusing on the dynamic and often complex environment of the construction industry.

To achieve the main objective of this research, several steps were undertaken. A literature review and investigation were conducted on how integrated teams influence project deliverables and outcomes, affirming that cohesive teams significantly enhance project quality and success. This led to an initial framework on Team Alignment for PBAs.

Through project participation and weekly meetings, the initial framework was refined to evaluate belief systems across project timeframes, providing a structured method for ongoing team assessment. Meetings with project leaders were conducted to validate the categories and the framework, demonstrating its effectiveness in improving strategic integration and team alignment. These meetings, held online during the Research and Development sessions of the organisation group, highlighted the organisation's recognition of the need for assessment during project stages.

The final framework, shown in Figure 10, provides a structured approach to understanding and enhancing alignment within PBAs. It includes levels of assessment throughout project stages, considering the timeframe to achieve better outcomes. The framework, focused on the Belief System, helps organisations navigate the complexities of temporary alliances, ensuring that teams share a common understanding of tactical objectives while aligning with the strategic visions of the collaborating entities. When assessments reveal gaps or issues, the organisation can act accordingly to minimise impact and contribute to the final delivery.

Applying this framework involves a proactive assessment of existing belief systems across the organisational spectrum involved in the PBA. Leaders must facilitate discussions that align these systems with the project’s strategic goals, adjusting them in real-time as project demands evolve. This dynamic process adapts

to project phases and external pressures, thereby supporting the project's resilience and success.

The study propositions were central to guiding the research and were addressed throughout the study. The research confirmed that time is a critical element for the alignment of beliefs within PBAs. An optimal project timeframe allows for the immersion of teams into tasks, understanding individual and team capabilities, and the sharing of goals and knowledge. Projects with an ideal timeframe facilitated better alignment of beliefs, enhancing integration and performance. Conversely, projects with too short a timeframe faced challenges in achieving adequate alignment, affecting overall project performance.

The research also found that aligning an organisation's core beliefs, including mission, vision, and values, with team members' personal values significantly enhances team alignment and contributes to successful project outcomes. Leaders who effectively communicate and embody these core beliefs foster a cohesive team environment, driving alignment and improving project performance.

Mutual trust among team members was identified as a critical factor for team alignment. The study highlighted that personal interaction over a suitable timeframe fosters mutual trust, which in turn strengthens alignment and supports effective strategy execution. Teams that developed trust through consistent interaction and shared experiences demonstrated higher alignment and better project outcomes.

This research has improved the understanding of team alignment and belief systems within PBAs, enriching academic research and offering new perspectives for organisations. The initial part of this research was published in the European Business Review, a high-impact journal, that contributes to knowledge sharing and the academic field, where our propositions were confirmed.

Academically, the study enriches the existing literature by detailing the interactions between team alignment, belief systems, and project success within PBAs. Practically, it provides a tested framework and actionable strategies that organisations can implement to foster better project outcomes.

The study acknowledged limitations such as the scope of project types analysed, the geographic focus primarily on the construction industry, and the potential variability in the effectiveness of the proposed framework across different cultural contexts. The impact of technological advancements on team communication and

alignment was not deeply explored. Future studies should investigate how technology can facilitate team dynamics in PBAs.

High turnover rates in PBAs also pose a significant challenge to maintaining team alignment. Frequent changes in team composition disrupt the continuity of alignment efforts, making it crucial to develop strategies that can quickly integrate new members into the aligned team culture. Additionally, intercultural aspects play a vital role in PBAs, especially in global projects. Cross-cultural differences can affect belief alignment and trust development. Therefore, future research should focus on strategies to manage cultural diversity and leverage it for enhancing team alignment.

Legal aspects of different countries, including visa regulations, labour laws, and compliance requirements, significantly influence the belief systems and alignment within PBAs. Visa problems can cause delays in team member deployment, hindering the timely integration and alignment of international teams. Differing labour laws and employment regulations can create discrepancies in work practices, compensation, and employee rights, further complicating the alignment process. These legal constraints necessitate a nuanced approach to aligning belief systems, as teams must navigate not only cultural differences but also legal compliance in multiple jurisdictions. Effective leadership in PBAs must, therefore, include strategies for addressing these legal challenges to maintain alignment and cohesion across geographically dispersed teams, however these weren't considered in this research. Addressing these legal aspects would provide a more comprehensive understanding of the challenges and solutions for maintaining alignment in global Project-Based Alliances.

Unexpectedly, the study revealed the need for deeper exploration into how enhancements in technology for team communication, especially due to the pandemic scenario, could contribute to team dynamics and alignment in the context of PBAs, where in-person integration is highlighted as important for creating bonds. Reflections on gender in teams and alignment were also considered, considering the availability of resources.

The research identified how strategic team alignment affects project outcomes, and then we generalised these findings to suggest potential applications in other sectors facing similar alignment challenges.

The insights into team prioritisation and alignment strategies could be applicable in other sectors that rely on temporary strategic alliances. Industries such as software

development, event management, and consulting could benefit from our framework for evaluating and prioritising team tasks and objectives developed in this research.

The study contributes to the body of knowledge by integrating concepts from strategic management and project management within the DSR framework. It addresses a gap in existing research concerning the systematic evaluation and prioritisation of team activities in project-based environments considering timeframe.

The practical applications of this research are vast, offering project managers and team leaders a validated framework to assess and prioritise team functions effectively. This framework helps in aligning team efforts with strategic project objectives, enhancing communication and collaboration, and ensuring successful project delivery.

REFERENCES

Aaltonen, K., Kujala, J., & Artto, K. (2020). Beliefs and project performance: a literature review. International Journal of Project Management, 38(4), 87-97.

Alshawi, M., & Faraj, I. (2002). Integrated construction environments: technology and implementation. Construction Innovation.

Anadón, M. (2006). La recherche dite « qualitative »: de la dynamique de son évolution aux acquis indéniables et aux questionnements présents. Recherches Qualiatives, 26(1), 5-31. http://www.recherche-qualitative.qc.ca/Revue.html

Anthony, C., & Tripsas, M. (2016). Organisational identity and innovation. The Oxford handbook of organisational identity, 417-435, 2016.

Baiden, B. K., & Price, A. D. F. (2011). The effect of integration on project delivery team effectiveness. International Journal of Project Management, 29(2), 129-136, 2011.

Bakker, R. M. et al. (2012). It's Only Temporary: Time Frame and the Dynamics of Creative Project Teams. British Journal of Management, 24(3), 383-397.

Barik, N. (2012). Takeover Defenses and Corporate Governance. SSRN Electronic Journal.

Bausch, T., Bieker, T., & Ritschl, S. (2015). Berlin Brandenburg Airport: a case study of stakeholder influence and media monitoring. Engineering Project Organisation Journal, 5(2-3), 67-77.

Borcherding, J. D., Sebastian, S. J., & Samelson, M. (1980). Improving motivation and productivity on large projects. Journal of the Construction Division, 106(1), 73-89, 1980.

Branson, C. M. (2008). Achieving organisational change through values alignment. Journal of Educational Administration, 46(3), 376-395, 2008.

Bresnen, M. (1990). Organising construction: Project organisation and matrix management. Routledge.

Brown, C. V., & Magill, S. L. (1994). Alignment of the IS functions with the enterprise: Toward a model of antecedents. MIS Quarterly, 18(4), 371-404, 1994.

Burns, T., & Stalker, G. M. (1961). The management of innovation. Tavistock Publications.

Chang, R. D., Zuo, J., Zhao, Y., Soebarto, V., Lu, Y., Zilante, G., & Gan, X.-L. (2018). Sustainability attitude and performance of construction enterprises: A China

study. Journal of Cleaner Production, 172, 1440-1451. https://doi.org/10.1016/j.jclepro.2017.10.277

Cheng, E. W. et al. (2004). Strategic alliances: A model for establishing long-term commitment to inter-organisational relations in construction. Building and Environment, 39(4), 459-468.

Cheung, F. Y. et al. (2005). Relationship contracting in Australia. https://www.researchgate.net/publication/27476622

Chopdat, A. et al. (2019). Construction statistics. Great Britain. https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/articles/constructionstatistics/2018#structure-of-the-industry

Chou, H.-W. et al. (2013). Transformational leadership and team performance: The mediating roles of cognitive trust and collective efficacy. SAGE Open, 1-10.

Collins, J. (2009). How the mighty fall and why some companies never give in. HarperCollins Publishers.

Crespin-Mazet, F., & Ghauri, N. (2007). Co-development as a marketing strategy in the construction industry. Industrial Marketing Management, 36(2), 158-172, 2007.

Denicol, J., Davies, A., & Krystallis, I. (2020). What are the causes and cures of poor megaproject performance? A Systematic Literature Review and Research Agenda. Project Management Journal, 51(3), 328-345.

Diehl, C. A. (2009). Gestão estratégica de custos: identificando o alinhamento estratégico em uma empresa de segurança. Contabilidade Vista & Revista, 17(1), 69-97.

Drews, J., & Schmidt, K. (2018). Learning from megaproject failures: Evidence from the Berlin Brandenburg airport. Construction Management and Economics, 36(7), 401-412.

Druker, J., & White, G. (1995). Misunderstood and undervalued? Personnel management in construction. Personnel Management in Construction, 5(3), 77-91.

Dumitraşcu, M., & Feleagă, L. (2019). Mission, vision, and values of organisations, the catalysts of corporate social responsibility. Audit Financiar, 17(153), 142-148.

Egan, S. J. (2003). Rethinking the report of the construction task force. Construction Task Force. http://constructingexcellence.org.uk/wp-content/uploads/2014/10/rethinking_construction_report.pdf

Fauzi, H., & Rahman, A. A. (2008). The role of control system in increasing corporate social performance : The use of levers of control. Issues in Social and Environmental Accounting, 2(1), 131-144.

Garavan, T. N. (1997). Training, development, education and learning: different or the same?. Journal of European Industrial Training, 21(2), 39-50.

Gereffi, G., Humphrey, J., Sturgeon, T. (2005). The governance of global value chains. Review of International Political Economy, 12(1), 78-104.

Gillet, D., Laukkanen, T., & Heikkilä, J. (2019). Digital technology and its impact on management control systems: A review and future directions. Journal of Management Control, 30(3), 237-261.

Green, R., Keogh, W. (2000). Five years of collaboration in the UK upstream oil and gas industry. Strategic Change, 9(4), 249-263.

Green, S., Lenard, D. (1999). Organising the project procurement process. In: S. Rowlinson & N. Mcdermott. (Org.). Procurement systems: A guide to best practice in construction. E. & F. N., p. 57-82.

Gregor, S., & Hevner, A. R. (2013). Positioning and Presenting Design Science Research for Maximum Impact. MIS Quarterly, 37(2), 337–355. http://www.jstor.org/stable/43825912

Henderson, J. C. (1993). Venkatramann Strategic alignment: Leveraging information technology for transforming organisations. IBM Systems Journal, 32(1), 472-485.

Henricks, M. (1991). The power of partnering. Small Business Reports, 16(6), 46-57.

Hofstede, G. (2015). Culture's consequences: Comparing values, behaviors, institutions, and organisations across nations. The Academy of Management Review, 27(3), 460-462.

Hofstede, G. (1997). Cultures and organisations: Software of the mind. McGraw-Hill.

Hoon, C., & Jacobs, C. D. (2014). Beyond belief : Strategic taboos and organisational identity in strategic agenda setting. Strategic Organisation, 12(4), 244-273.

Huang, L., Krigsvoll, G., Johansen, F., Liu, Y., & Zhang, X. (2018). Carbon emission of global construction sector. Renewable and Sustainable Energy Reviews, 81, 1906-1916. http://dx.doi.org/10.1016/j.rser.2017.06.001

Jackson, J. A (1966). Conceptual and measurement model for norms and roles. Sociological Perspectives, 9(1), 35-47.

Jarratt, D., & Stiles, D. (2010). How are methodologies and tools framing managers ' strategizing practice in competitive strategy development? 21, 28-43.

Jefferies, M. C. et al. (2006). Project alliances in the Australian construction industry : A case study of a water treatment project. 2006.

Jefferies, M., Brewer, G. J., & Gajendran, T. (2014). Using a case study approach to identify critical success factors for alliance contracting. Engineering, Construction and Architectural Management, 21(5), 465-480.

Knott, T. (1996). No Business as usual. Britannic House.

Kopaneva, I. M. (2019). Left in the dust: Employee constructions of mission and vision ownership.

Kristof, A. (1996). Person-organisation fit: An integrative review of its conceptualizations, measurement, and implications. Personnel Psychology, 49(1), 1-49.

Kumar, R. (2019). Wealth Creation in the World's Largest Mergers and Acquisitions. Springer Cham.

Kwok, T. L., & Hampson, K. D. (1997). Strategic Alliances Between Contractors and Subcontractors - a Tender Evaluation Criterion for the Public Works Sector. Journal of Construction Procurement, 3(1), 28-41. http://eprints.qut.edu.au/30062/1/30062.pdf

Lacerda, D. P., Dresch, A., Proença, A., & Antunes Júnior, J. A. V. (2013). Design Science Research: método de pesquisa para a engenharia de produção. Gestão & produção, 20, 741-761.

Langfield-Smith, K. (2007). Exploring the relationship between strategic control systems and organisational culture in multi-business firms. Accounting, Organisations and Society, 32(1-2), 141-169.

Latham, M. (1994). Constructing the team.

Lim, E. C., & Alum, J. (1995). Construction productivity: Issues encountered by contractors in Singapore. International Journal of Project Management, 13(1), 51-58.

Locke, E. A. (2003). The Blackwell Hanbook of Principles of Organisational Behaviour.

Loosemore, M., Dainty, A., Lingard, H. (2003). Human Resource Management in Construction Projects. Routledge.

Lundin, R. A. et al. (2015). Managing and working in project society. Cambridge University.

Malmi, T., & Brown, D. A. (2008). Management control systems as a package—Opportunities, challenges and research directions. Management Accounting Research, 19(4), 287-300.

Martek, I., Chen, C. (2016). Value chain supply procurement strategies in international construction: Cases of foreign constructors in China. Management Decision, 54(2), 501-521.

Matthews, J., Tyler, A., & Thorpe, A. (1996). Pre-construction project partnering: developing the process. Engineering, Construction and Architectural Management, 3(1/2), 117-131.

Müller, R., & Turner, R. (2019). Leadership metamorphosis in modern projects: Leading the complex project. Routledge.

Müller-Seitz, G., & Sydow, J. (2015). Terminating Institutionalized Termination: Why Sematech became more than a Temporary System. Project-Based Organising and Strategic Management, 28, 147-186.

Naney, D., Goser, C., & Azambuja, M. (2012). Accelerating the adoption of lean thinking in the construction industry. In 20th Conference of the International Group for Lean Construction (p. 1-10). San Diego. https://iglcstorage.blob.core.windows.net/papers/attachment-83506880-90cb-4b9a-80df-146a71b32cf3.pdf

Nguyen, L. D., Ogunlana, S. O., & Lan, D. T. (2004). A Study on Project Success Factors in Large Construction Projects in Vietnam. Engineering, Construction and Architectural Management, 11(6), 404-413.

Oliveira, A. de F., & Tamayo, A. (2004). Inventário de perfis de valores organisacionais. Revista de Administração, 39(2), 129-140.

Parent, M. M., & Macintosh, E. W. (2013). Organisational culture evolution in temporary organisations: The case of the 2010 Olympic Winter Games. Canadian Journal of Administrative Sciences, 30(4), 223-237.

Park, S. H., & Russo, M. (1996). When competition eclipses cooperation: An event history analysis of joint venture failure. management Science, 42(6), 875-890.

Park, S. H., & Ungson, G. R. (2001). Interfirm rivalry and managerial complexity: A conceptual framework of alliance failure. Organisation Science, 12(1), 37-53.

Pinto, J. K., & Morris, W. G. (2004). The Wiley guide to managing projects. John Wiley & Sons.

Raidén, A. B., & Dainty, A. R. (2006). Human resource development in construction organisations: an exemple of a “chaordic” learning. The Learning Organisation, 13(1), 63-79.

Rapaccini, M. et al. (2019). Servitization of SMEs through strategic alliances: A case study. Procedia CIRP, 83, 176-181. https://doi.org/10.1016/j.procir.2019.04.010

Roberts, R. F. (1992). Competition and cooperation: The role of strategic alliances. Executive Speeches, 7(2), 13-15.

Ross, J. (2003). Introduction to project alliancing on engineering construction projects. Alliance Contracting Conference.

Sakal, M. W. (2005). Project alliancing: A relational contracting mechanism for dynamic projects. Lean Construction Journal, 2(1), 67-79. www.leanconstructionjournal.org

Schultz, M., & Hernes, T. (2019). Temporal interplay between strategy and identity: Punctuated, subsumed, and sustained modes. Strategic Organisation, 18(1), 106-

Schwartz, S. H. (1994). Are There universal aspects in the structure and contents of human values? Nome da Revista, 50(4), 19-45.

Schwartz, S. H. (1992). Universals in the Content and Structure of Values: Theoretical Advances and Empirical Tests in 20 Countries. Advances in Experimental Social Psychology, 25, 1-652.

Shenhar, A. J., & Dvir, D. (2007). Project management research-the challenge and opportunity. Project Management Journal, 38(2), 93-99. http://www.aviewoncities.com/sydney/operahouse.htm,

Simons, R. (1995a). Control in an age of empowerment. Harvard Business Review, 73(2), 80-88.

Simons, R. (1995b). Levers of control. How managers use innovative control systems to drive strategic renewal. Harvard Business School Press. E-book. http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:The+Business+Planning+Guide+:+Creating+a+Plan+for+Success+in+Your+Own+Business#4

Slocum, J. W., & Hellriegel, D. (2011). Principles of organisational behavior (13a ed.). South-Western.

Soares Piccoli, M., Diehl, C. A., & Nascimento, A. J. D. (2023). The effect of the belief system on a temporary construction business consortium. *European Business Review, 35*(3), 426-443.

Spekman, R. E., & Sawhney, K. (1990). Toward a conceptual understanding of the antecedents of strategic alliances. Cambridge.

Stanske, S., Rauch, M., & Canato, A. (2019). Anti-identity strategizing : The dynamic interplay of “ who we are ” and “ who we are not .” Strategic Organisation, 18(1), 136-170.

Suprapto, M., Mooi, H., & Bakker, H. (2012). How far can you go? Exploring a collaborative relationship in an engineering project relational capability (p. 1-35). https://www.researchgate.net/publication/235335214

Sydow, J., & Braun, T. (2018). Projects as temporary organisations: An agenda for further theorizing the interorganisational dimension. International Journal of Project Management, 36(1), 4-11. https://doi.org/10.1016/j.ijproman.2017.04.012

Tabassi, A. A. et al. (2017). Linking team condition and team performance: A transformational leadership approach. Project Management Journal, 48(2), 22-38.

Tabassi, A. A., & Bakar, A. H. (2009). Training, motivation, and performance: The case of human resource management in construction projects in Mashhad, Iran. International Journal of Project Management, 27(5), 471-480. http://dx.doi.org/10.1016/j.ijproman.2008.08.002

Tabassi, A. A., Ramli, M., & Bakar, A. H. (2012). Effects of training and motivation practices on teamwork improvement and task efficiency: The case of construction firms. International Journal of Project Management, 30(2), 213-224. http://dx.doi.org/10.1016/j.ijproman.2011.05.009

Tamayo, A., & Gondim, M. (1996). Escala de valores organisacionais. Revista de Administração , 31(2), 62-72.

Turner, R., Huemann, M., & Keegan, A. (2008). Human resource management in the project-oriented organisation: Employee eell-being and ethical treatment. International Journal of Project Management, 26(5), 577-585.

Tuuli, M. M. et al. (2012). Empowering the project team: Impact of leadership style and team context. Team Performance Management, 18(3), 149-175.

Van Meer, P. (2009). Integral top team alignment. Integral Leadership Review, 1-8, 2009.

http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=37836276&lang=de&site=ehost-live

Valkama, P., Oulasvirta, L., & Karppi, I., (2019). To ally or not? the critical factors of a new alliance model in urban infrastructure projects. International studies: interdisciplinary political and cultural journal 24(2), 57–78. https://content.sciendo.com/view/journals/ipcj/ipcjoverview.xml

Van Aken, J. E. (2005). Management research as a design science: Articulating the research products of mode 2 knowledge production in management. British Journal of Management, 16(1), 19-36.

Vinkenburg, C. J., van Engen, M. L., Eagly, A. H., & Johannesen-Schmidt, M. C. (2011). An exploration of stereotypical beliefs about leadership styles: Is transformational leadership a route to women's promotion? The Leadership Quarterly, 22(1), 10-21.

Vorakulpipat, C., Rezgui, Y., & Hopfe, C. J. (2010). Value creating construction virtual teams: A case study in the construction sector. Automation in Construction, 19(2), 142-147, 2010. http://dx.doi.org/10.1016/j.autcon.2009.11.016

Walker, D. H. T., Hampson, K. D., & Petersen, E. S. (2018). Project alliancing in the Australian construction industry: Evolution, current status, future trends. Engineering, Construction and Architectural Management, 25(5), 649-669.

Walker, D. H. T., Hampson, K., & Peters, R. (2002). Project alliancing vs project partnering: a case study of the Australian national museum project. Supply Chain Management: An International Journal, 1(2), 83-91.

Walker, D. H., & Rowlinson, S. (2008). Project types and their procurement needs. In: S. Rowlinson, D. Walker. (Org.). Procurement systems: A cross-industry project management perspective (p. 32-69). Taylor & Francis.

Warrick, D. D. (2017). What leaders need to know about organisational culture? Business Horizons, 60(3), 395-404. http://dx.doi.org/10.1016/j.bushor.2017.01.011

Weijermars, R. (2012). Framework for optimising team performance and project NPV: Enhancing the probability of success by team alignment. Engineering Management Research, 1(2), 107-121.

Wenzel, M. et al. (2020). (Un)Mind the gap: How organisational actors cope with an identity - strategy misalignment. Strategic Organisation, 18(1), 212-244.

Yang, L. R., Huang, C. F., & Wu, K. S. (2011). The association among project manager's leadership style, teamwork and project success. International journal of project management, 29(3), 258-267.

Yun, S., Takeuchi, R., & Liu, W. (2019). The role of cultural control in the relationship between perceived organisational support and organisational citizenship behavior: A three-culture study. Journal of Organisational Behavior, 40(1), 25-41.

Zhu, Y., Gao, L., Wu, P., Chan, A. P., & Zhang, F. (2018). Understanding the impact of culture on construction safety knowledge sharing: A comparative study. Safety Science, 101, 30-39.

APPENDIX A - RESEARCH PROTOCOL

Section A (favourable objectives and circumstances, case study subjects, and relevant topic readings):

The objective of the multiple case studies

This research will delve into how Project-Based Alliances can assess the synchronicity of their teams, considering both the project timeframe and the Belief System, to better align with organisation strategies through a design science research approach.

The study will examine the perspectives of all project team members about team alignment and project duration, covering both ongoing and past projects. Interviews will probe into past experiences, given the probability that follow-up interviews may not be feasible. Doing so will ensure a comprehensive understanding even if a repeated assessment isn't possible. The intention is to gauge the depth of integration, perceptions of alignment, and elements that drive motivation or demotivation.

This research will evaluate design science research from three distinct projects: two from an organisation in Brazil and one from a European organisation, each operating in different construction domains.

The main propositions to be identified:

P1: There is an ideal timeframe for a Project-Based Alliance that could benefit the team's Beliefs alignment.

P2: The alignment of an organisation's core beliefs, including mission, vision, and values, with team members' personal values, enhances team alignment and contributes to successful project outcomes.

P3: Mutual trust among team members is a critical factor for team alignment in Project-Based Alliances. Personal interaction over a suitable timeframe fosters mutual trust and strengthens alignment, ultimately supporting effective strategy execution.

Section B: (procedures for protecting human rights, identifying probable data sources, submitting credentials to contacts).

Data collection will be performed through in-depth individual interviews, based on a semi-structured approach, using a Basic Questions Roadmap, in addition to analysis of material from the companies under study (documentary research).

The structured interviews will be subject to the Unisinos Ethical Committee analysis and review, and the suggestions will be implemented.

The interviews will be recorded and transcribed for further analysis and interpretation of the data, as well as notes regarding the profile and behaviour of the interviewee. It is noteworthy that, for the data analysis process, the content analysis technique will be used. The categories will be predefined, and subject to review after the interviews.

The organisational part of this study will receive an Organisation Agreement Letter for ethical and data protection use. Each participant in this research will also receive and signed Consent Term that explains the purpose of this research and assures their data protection.

Section C (data collection issues, potential sources of evidence to address each issue):

Inform participants

- The interviews will be recorded and then transcribed to facilitate the process of data analysis and interpretation.
- A confidentiality and ethics agreement will be made available, preserving the privacy of the interviewee and the organisation participating in the research.
- The collected data may be published anonymously, preserving the organisation's name and the names of its employees (interviewees).
- The individual’s behaviour through perceptions made by the interviewers will also contribute to the analysis of results. Specifically, it will be used to infer the knowledge of the manager, as well as how comfortable he or she is in explaining beliefs, team alignment issues, philosophy, and organisation strategy.

Research objective

The primary objective of this study is to construct an artefact, analogous to Robert Simons' Levels of Control, particularly emphasizing the Belief System and the strategic alignment of teams in the context of Project-Based Alliances. This artefact aims to illuminate the dimensions and constituent elements of this empirical investigation, thereby assisting organisations in evaluating the strategic alignment of their teams to optimize outcomes within Project-Based Alliances. The artefact aspires

to unify a coherent and structured set of interconnected operational concepts and hypotheses, all within the specific realm of Project-Based Alliances within the construction industry.

The alignment of teams guided by strategic beliefs stands as a crucial determinant of project success. This research seeks to resolve the interplay between team dynamics, the Belief System, and strategic alignment within the context of Project-Based Alliances. We aim to offer organisations a roadmap for enhancing project outcomes and value creation through targeted team alignment efforts. This study is driven by the conviction that a well-timed investment in strategic alignment can catalyse superior results across various dimensions, fostering efficiency, quality, and adherence to project schedules. Furthermore, the recognition that organisations with distinct beliefs necessitate tailored team formation approaches underscores the significance of this research in fostering nuanced, adaptable strategies within the realm of Project-Based Alliances.

Interview structure questions

Using Bardin's content analysis approach, which is about understanding and clearly interpreting text, we've created an interview structure. This structure has seven levels, designed to explore everything from personal details to project experiences and team interactions. Inspired by Bardin's method, our goal is to ask the right questions to get a complete picture of how people work and interact in an organisation.

Level 1 (Personal Information):

- What is your current position in the organisation?
- How many years have you been working for this organisation?
- Can you describe the type of work you do and the area of focus?
- How old are you?
- What is your highest educational qualification?
- In which city were you born?
- Where do you currently reside?
- How long have you been living in your current city of residence?
- How has your birthplace influenced your professional perspective?
- Have any significant events during your tenure in the company impacted your role?

Level 2 (Project Information):

- Can you specify the segment of your current project?
- What is the name or title of the project you are currently working on?
- What was the intended timescale for this project?
- How does the real project timescale compare to the intended one?
- Are there any issues or challenges you've encountered in this project?
- How would you define the success of this project?
- What is your position or role within this project?
- How long have you been on this project?
- Who are the current team members and partners for this project?
- Can you name a crucial turning point in this project and how it was handled?

Level 3 (Strategy Identification):

- How would you define your organisation's mission?
- Can you identify the vision of your organisation?
- What is the strategy of your organisation, in your own words?
- What are the mission, vision, and strategy for the project you are working on?

Level 4 (Beliefs):

- How would you define your personal beliefs?
- Can you cite your top three personal priorities in life?
- What does your organisation believe in, and how is this belief shared through the teams?
- How have your personal beliefs influenced your professional decisions?

Level 5 (Team alignment identification):

- How would you define the ideal team?
- Can you give an example of a team that didn't work well, including local partners?
- Can you recall a successful team experience and what made it work well?

Level 6 (Timeframe):

- What motivates you during a project?
- Have there been any demotivating factors in your recent projects?

- Can you recall the longest project you've worked on and what made it lengthy?
- What has been the quickest project you've completed, and why was it so?

Level 7 (Trust):

- How would you define trust in the context of your projects?
- Can you provide an instance where trust played a critical role in a project's success or failure?

Evidence supporting the formulation of the objective and issues

Organisational Context Elements represent the promotion of alignment through variables that allow observing the conditions and general direction of the organisation, such as: company size, strategies, operational costs, investments, organisational typologies, local culture and autonomy and market positioning (BROWN; MAGILL, 1994; HENDERSON; VENKATRAMAN, 1993)

- Collection of related data
- Code of Organisation Ethics.
- Organisation and management manual that portrays organisation philosophy, organisation and supporting elements.
- Kick-off meeting minutes.
- Training schedules.
- Projects-Alliance organisation chart.
- Procedure’s manual or documents.

Section D: (guide, sketch, data format, use, and documentation presentation).

- Organisation support contact list.
- Data analysis outline with a codebook and qualitative research computational tools using content analyses by Bardin.
- Documents presented preserving the interviewers’ data and organisation name and logo.

APPENDIX B - CONSENT TERM

APPENDIX B – CONSENT TERM

I, Marcella Soares Piccoli, PhD student and researcher of the Program of Production Engineering at Universidade do Vale do Rio dos Sinos, Brazil, registration 1086816, CPF 014.351.840-25, RG 3064247053 issued by SSP/RS, would like to invite you to participate in the research part of my PhD dissertation titled: **HOW TO EVALUATE THE STRATEGIC ALIGNMENT OF TEAMS WITH RESPECT TO PROJECT TIMEFRAME?** This work aims to create a new approach to the Belief System, considering the strategic alignment of teams for Project-Based Alliances and envisioning better outcomes for organisation strategy.

For this interview, a structured script will be applied. This interview will be recorded for later transcription and used only within the scope of this research. By signing this document, you authorize recording and using audio within the scope of the investigation. This script was also reviewed by the University's ethical committee.

The identity of all participants will be preserved, and no names or information of the represented institutions will be used that can identify

ANEXO B - TERMO DE CONSENTIMENTO

Eu, Marcella Soares Piccoli, doutoranda e pesquisadora do Programa de Engenharia de Produção da Universidade do Vale do Rio dos Sinos, Brasil, matrícula 1086816, CPF 014.351.840-25, RG 3064247053 emitida pela SSP/RS, gostaria de convidá-lo a participar da pesquisa da minha tese de doutorado intitulada: **COMO AVALIAR O ALINHAMENTO ESTRATÉGICO DAS EQUIPES NO QUE DIZ RESPEITO AO PRAZO DO PROJETO.** O trabalho visa criar uma nova abordagem ao Sistema de Crenças, considerando o alinhamento estratégico das equipes para alianças baseadas em projetos e vislumbrando melhores resultados para a estratégia de negócios.

Para esta entrevista, será aplicado um roteiro estruturado. Esta entrevista será gravada para transcrição posterior e utilizada apenas no âmbito desta pesquisa. Ao assinar este documento, você autoriza a gravação e o uso de áudio no âmbito da investigação. Este roteiro também foi revisado pelo comitê de ética da Universidade.

those involved unless authorized by the participant and organisation. The data obtained will be used for research purposes only. You can quit the study at any time.

You can always get information about the progress of the search by using the email cellapiccoli@edu.unisinos.br or cellapiccoli@gmail.com and phone +44 07876373795.

Thank you for contributing both to this process and scientific progress.

Aware of the above, researcher and interviewee (a) sign this term below.

A identidade de todos os participantes será preservada, e não serão utilizados nomes ou informações das instituições representadas que possam identificar os envolvidos, a menos que autorizados pelo participante e organisação. Os dados obtidos serão utilizados apenas para fins de pesquisa. Você pode desistir do estudo a qualquer momento.

Você sempre pode obter informações sobre o andamento da pesquisa usando o e-mail cellapiccoli@edu.unisinos.br ou cellapiccoli@gmail.com e telefone +44 07876373795.

Obrigado por contribuir tanto para este processo quanto para o progresso científico.

Ciente do acima, pesquisador e entrevistado (a) assinam este termo abaixo

---

Researcher Signature, Pesquisador
Name and Position, Nome e Cargo
Date, Data
Place, Local

Interviewee Signature, Entrevistado
Name and Position, Nome e Cargo
Date, Data
Place, Local

APPENDIX C - ORGANISATION AGREEMENT LETTER

APPENDIX C – ORGANISATION AGREEMENT LETTER

We declare for due purposes that we have nothing to restrain from the request for research in a case study to be carried out in the company xxxxx, CNPJ xxxxx, by the researcher Marcella Soares Piccoli, CPF 014-351-840-25, focusing on the team alignment and Belief System.

ANEXO C – CARTA DE ACEITE DE NEGÓCIOS

Declaramos para os devidos propósitos que não temos nada contra o pedido de pesquisa em estudo de caso a ser realizado na empresa xxxxx, CNPJ xxxxx, pela pesquisadora Marcella Soares Piccoli, CPF 014-351-840-25, com foco no alinhamento da equipe e Sistema de Crenças.

Company Signature, Empresa

Name and Position, Nome e Cargo

Date, Data

Place, Local

APPENDIX D – CONFIDENTIALITY AGREEMENT

APPENDIX D – CONFIDENTIALITY AGREEMENT
PARTIES

Marcella Soares Piccoli, researcher, CPF nº 014.251.840-25, PhD student at Universidade do Vale do Rio dos Sinos (**The Recipient**);

xxxxx, registration number xxxxx; address xxxxx (**The Issuer**);

This confidentiality agreement is signed to avoid the disclosure and unauthorized use of confidential information provided by **The Issuer** at the time of the following project:

Research project of the doctoral thesis of researcher Marcella Soares Piccoli, entitled **HOW TO EVALUATE THE STRATEGIC ALIGNMENT OF TEAMS WITH RESPECT TO PROJECT TIMEFRAME**.

1 THE OBJECTIVE

The Recipient declares to:

a) to maintain confidentiality, both written and verbal, or, in any other way, of all data, technical and personal information, obtained from their

ANEXO D – ACORDO DE CONFIDENCIALIDADE
PARTES

Marcella Soares Piccoli, pesquisadora, CPF nº 014.251.840-25, doutoranda na Universidade do Vale do Rio dos Sinos (**Beneficiário**);

xxxxx, CNPJ xxxxx; endereço xxxxx (**Emissor**);

Este acordo de confidencialidade é assinado para evitar a divulgação e o uso não autorizado de informações confidenciais fornecidas pelo **Emissor** no momento do seguinte projeto:

Projeto de pesquisa da tese de doutorado da pesquisadora Marcella Soares Piccoli, intitulado **COMO AVALIAR O ALINHAMENTO ESTRATÉGICO DAS EQUIPES NO QUE DIZ RESPEITO AO PRAZO DO PROJETO**.

1 O OBJETIVO

O Beneficiário declara:

a) manter a confidencialidade, tanto escrita quanto verbal, ou, de qualquer outra forma, de todos os dados,

participation in **The Issuers** organisation projects;

b) not to disclose, reproduce, use or give knowledge, under any circumstances, to third parties, of data or materials obtained from their participation, without the prior agreement of **The Issuer**;

2 **CONFIDENTIAL INFORMATION**

For this agreement, all information transmitted by written, electronic, and verbal, including, but not limited to: know-how, techniques, design, specifications, drawings, copies, models, flowcharts, sketches, photographs, software, media, contracts, organisation plans, organisation proposals, processes, tables, projects, names, suppliers, shall be considered confidential.

3 USE OF CONFIDENTIAL INFORMATION

The Recipient undertakes to use confidential information only in the context of the development and execution of the research project, and any identification of **The Issuer** will be omitted. Data analysis and conclusions identified by **The Recipient** as part of the case study will be presented in a compiled way.

4 RIGHT OF WITHDRAWAL

informações técnicas e pessoais, obtidas a partir de sua participação nos projetos de negócios do **Emissor**;

b) não divulgar, reproduzir, utilizar ou dar conhecimento, em qualquer circunstância, a terceiros, de dados ou materiais obtidos a partir de sua participação, sem o acordo prévio do **Emissor**;

2 **INFORMAÇÕES CONFIDENCIAIS**

Para este acordo, todas as informações transmitidas por meio escritos, eletrônicos e verbais, incluindo, mas não se limitando a: know-how, técnicas, design, especificações, desenhos, cópias, modelos, fluxogramas, esboços, fotografias, software, mídia, contratos, planos de negócios, propostas de negócios, processos, tabelas, projetos, nomes, fornecedores, serão considerados confidenciais.

3 USO DE INFORMAÇÕES CONFIDENCIAIS

O Beneficiário compromete-se a utilizar informações confidenciais apenas no contexto do desenvolvimento e execução do projeto de pesquisa, e qualquer identificação do **Emissor** será omitida. A análise dos dados e as conclusões identificadas pelo **Beneficiário** como parte do estudo de

The Issuer may refuse to participate in the study or withdraw at any time without having to justify.

caso serão apresentadas de forma compilada.

4 DIREITO DE RETIRADA

O Emissor pode se recusar a participar do estudo ou retirar-se a qualquer momento sem ter que justificar.

5 ASSISTANCES DURING THE RESEACRH

The Issuer has free access to any clarifications about the study.

5 ASSISTÊNCIAS DURANTE O RESEACRH

A Emissor tem livre acesso a quaisquer esclarecimentos sobre o estudo.

The **PARTIES** sign this document,

As **PARTES assinam** este documento,

Researcher Signature, Pesquisador
Name and Position, Nome e Cargo
Date, Data
Place, Local

Company Signature, Empresa
Name and Position, Nome e Cargo
Date, Data
Place, Local