Gisma University of Applied Sciences

A New Team Structure for AI-Human Collaboration in Digital Product Development

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Dedication

To:

My dear younger sister, "Elham." You showed constant encouragement and support in my life journey.

Losing you so close to completing my studies in another country, far away from you, is the most painful experience of my life.

But it was your memory and love that helped me again and gave me the strength.

You were more than a sister to me, sometimes a close friend, and always a source of kindness.

I dedicate this thesis to you, hoping your love will continue to help me through my life and work.

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I am also deeply thankful to my beloved older sister and her husband, "Maryam and Hedayat," as they opened not only their home's door but also their hearts to me and gave me support, peace, and comfort to study and grow far from my home.

And also to my sweet niece, "Baran," whose love makes my days and heart warm and bright.

Finally, I'm deeply thankful to my uncle, who supported me through my educational path from the first day, and helped me to go through this difficult journey successfully and without difficulty.

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Abstract

Adoption of artificial intelligence in organizations is growing so fast. This highlighted a quick need for new team structures that blend human and AI members. This dissertation investigates AI's integration as an active team member in cross-functional, digital product development teams. This research presents a new team structure to improve AI-human collaborations in these teams.

Implementing an interpretivist, inductive methodology, this research work involved professionals from product management, engineering, and marketing in semi-structured interviews. These interviews explore current team challenges and people's perceptions about AI's role.

After thematic analysis of the qualitative data, four common pain points in these teams were revealed. These teams include misaligned goals, conflicting KPIs, communication gaps, and cultural clashes. These conflicts often reduce performance and collaborative work in teams. Participants in this study perceived AI as a beneficial partner to help them resolve these issues. After synthesizing insights from data and existing literature, the thesis offers a conceptual model for AI integration. In this model, the AI agent is an analyst who has complementary roles. This model illustrates how AI's data-driven capabilities directly address human collaboration challenges.

Finally, this thesis work offers practical suggestions for organizations to implement the suggested model effectively. It emphasizes considering role clarity, trust building, ethical governance and data oversight, and continuous learning. This research extends team dynamics frameworks to contribute to management theory. It includes non-human members and provides organizations with a timely framework for improving their teams' performance through the AI-human synergy effect.

2 Introduction

2.1 Background of the Study

Cross-functional collaboration has become increasingly critical recently, as digital product development has experienced dramatic growth. This kind of holistic approach to problem-solving is so vital, since digital products' markets are turning into more complex and dynamic ones so fast (Mahadik et al., 2024). Although these teams are vital and beneficial, there are so many challenges in managing them. Bringing different people from different backgrounds with different goals and working styles could result in those challenges and cause conflicts and misunderstandings. These conflicts require effective communication and efficient coordination so everyone in the team is aligned with one shared product vision (Mahadik et al., 2024).

In digital product teams, different departmental priorities and communication styles may cause friction. Voola et al. (2021) note that "cross-functional technology teams often have disputes, which are a result of different priorities, communication issues, and even different understandings of project goals." Such conflicts lead to bottlenecks in a project's timeline and, if left unaddressed, even disrupt teams' morale.

Parallel to the rise of cross-functional teamwork, using artificial intelligence (AI) in organizations is facing rapid growth, too. Many companies deploy generative AI systems as active collaborators in decision-making (Zercher et al., 2025). The current literature also proves this rapid shift; for instance, McNeese et al. (2018) and Seeber et al. (2020) point out "AI systems that can actively collaborate in team processes with their cognitive abilities analogous to human team members. AI tools are able to solve problems using their information, provide valuable insights, and make decisions and recommendations." This will lead to blurring the line between a tool and a team member (Seeber et al., 2020). Savela et al. (2021) also describe AI as "progressively assumed as roles like assistant, colleague, or team member" for employees.

Given these developments, researching AI as a team member is relevant and timely. On one hand, cross-functional teams are more important than before for organizations aiming for digital product success. But the important fact is that due to silos and conflicts, it is challenging to build such teams effectively. On the other hand, AI capabilities are not limited to back-end tasks anymore, and organizations have started to leverage them more actively in their day-to-day team tasks. Understanding what the best approach is to using AI in teams will enable better collaboration and innovative product releases.

2.2 Research Problem Statement

Although there are clear benefits of cross-functional teams, they face significant challenges and conflicts every day. Members of these teams often face goals/KPIs misalignment and pressure regarding the timeline. Another problem is communication. Failure to establish a clear communication channel to

bridge different teams from varied terminologies, working styles, and goals results in misunderstanding. Cultural differences (organizational or national) can also worsen the conflicts and make the collaboration even more complicated.

Meanwhile, there has been an increased interest in studying AI-human teams. There are studies on exploring the way humans can make decisions interacting with AI systems, how to build trust in AI, and how hybrid[1] teams perform. On the other hand, there is already a rich academic literature on interdisciplinary teamwork which have effectively identified best practices. However, at the intersection of these two realms (cross-functional teams and AI-human collaboration), there is very little academic work. Seeber et al. (2020) point out that we are at the beginning of asking "What if AI machines became teammates rather than tools?", and many other important questions are yet unanswered. This literature gap is not only academically important, but also a practical concern.

2.3 Research Aim & Objectives

The aim of this thesis is to develop a conceptual model for integrating AI as an active team member in cross-functional digital product development teams, in order to resolve conflicts and improve communication among human team members.

To break down the overall aim of this research, it is guided by the following objectives:

- **Objective 1:** Analyzing current cross-functional pain points and conflicts (identifying the main types of issues that occur in different functions, understanding the root causes and their impact onthe project's result)
- **Objective 2:** Conceptualizing the role of AI as a team partner (mapping AI's capabilities to the needs of cross-functional teams, and examining how AI could contribute in specific team functions)
- **Objective 3:** Developing a new team structure (integrating AI into current cross-functional teams, using insights gained from objectives 1 and 2)

2.4 Research Questions

The thesis is driven by the following questions:

- **Question 1:** What are the main conflicts and pain points in cross-functional digital product development teams?
- **Question 2:** How can we conceptualize AI as a team member in digital product development teams?
- **Question 3:** What roles can AI take in teams to resolve conflicts?
- **Question 4:** How can these AI roles be integrated into a new framework?

Figure 2.1 summarizes the overall research structure.

[1] Human-AI Teams

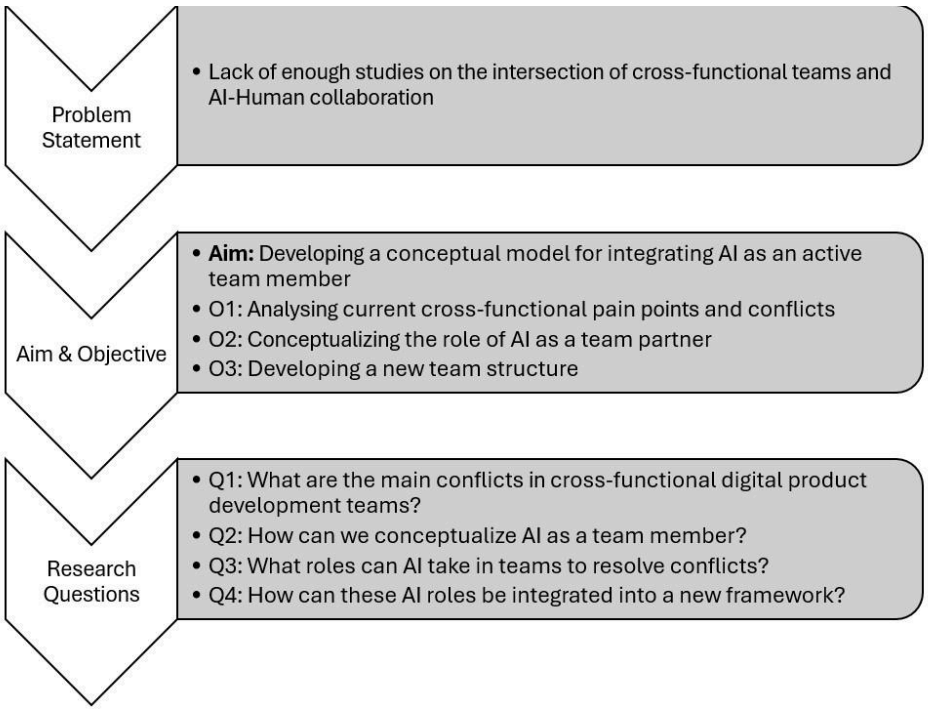

Figure 2.1. Overall research structure

2.5 Thesis Structure

This thesis is structured into seven chapters:

- **Chapter 1:** Introduction. The current chapter has introduced the research topic, research problem and rationale, aim and objectives, and questions that guide the study.
- **Chapter 2:** Literature Review. In this chapter, the relevant literature is reviewed in two domains: first, cross-functional team collaboration, and second, human-AI collaboration and teamwork.
- **Chapter 3:** Research Methodology. In this chapter, the research design and methods used to answer the questions of this study are described. Research philosophy, strategy, and specific methods for data collection and analysis are detailed in this chapter. This chapter also describes the sampling strategy, data analysis techniques and tools, and measures taken to ensure research stays valid , and ethical.
- **Chapter 4:** Findings. In this chapter, the results of the empirical research are presented. First, it reports findings about current cross-functional teams' conflicts and dynamics. It explores emergent themes regarding cross-functional frictions, communication gaps, etc. (Objective 1). Next, it presents findings about people's perception of AI's integration in teams, summarizing people's imagination about AI's contribution to teamwork (Objective 2). It then integrates these findings to highlight the proposed model and mention its potential in taking roles and alleviating challenges.

- **Chapter 5:** Analysis and Synthesis. In this chapter, the interpretation of findings is presented. It discusses how each finding addresses the esearch question. The chapter also turns the insights into a conceptual model for AI-human collaboration.
- **Chapter 6:** Discussion. This chapter discusses the study's implications critically using three main areas, including findings' interpretation, comparison of the proposed model with existing models, and addressing the practical implications of the findings for organizations and managers of digital product development teams.
- **Chapter 7:** Conclusion. This chapter provides the readers with a summary of the research and offers concluding reflections, practical recommendations for organisations, limitations of the study, and suggestions for future research.

Figure 2.2 illustrates the research flow across the dissertation's chapters.

Figure 2.2. The logical research flow across chapters

3 Literature Review

3.1 Existing Studies on AI as a Team Member

In recent years, there has been an obvious, rapid increase in research around AI as a team member in organizations. These researchers tried to shift the common and old role of AI from only a tool to an active, collaborative partner in human teams. Human-AI teams or HATs[2] are in literature defined as groups, which include at least one human and at least one HAT, all working independently towards shared goals (Schmutz et al., 2024). As an example, Seeber et al. (2020) describe a scenario where an AI partner could participate in emergency teams to help in processing information and offering critical solutions. This means, the AI partner in this scenario acts like a team member who has specialization (Seeber et al., 2020).

3.1.1 Advantages of AI Teammates

Research in this area has revealed both potential advantages and core challenges with AI team partners. On one hand, AI members have special capabilities, such as advanced data processing, which definitely will contribute to teams' productivity and decision-making processes (Zercher et al., 2025). AI can make data processing and pattern recognition much more efficient, so human team members will have fewer routine tasks and will not be faced with data overload pressure (Seeber et al., 2020). This brings a great opportunity for humans to focus on more complex and high-level tasks, which when will be resolved, can bring a great overall efficiency to the project.

Indeed, when AI is integrated into human teams, it is able to bring better performance results. According to a recent study of Zercher et al. (2025), "collaborating with a generative AI holding centralized knowledge could lead to more accurate decisions, compared with human-only teams. This happens as a result of reduced decision-making asymmetries, trust in AI, beneficial AI information processing, and a balanced AI collaboration focus."

Additionally, researchers believe that AI team members are even able to generate totally new solutions for teams, which are not attainable by human-only teams at all (Seeber et al., 2020).

3.1.2 Core Challenges of AI Teammates

On the other hand, multiple researches also indicate that AI-human teams might struggle in performing core teamwork processes. Schmutz et al. (2024) believe that "as collaboration between human and AI becomes more intertwined, HATs underperform because of worse team cognition, lower trust, coordination problems, weak communication, and the lack of accurate mental models in AIs." These gaps prove that simply adding an AI agent to teams can lead even to hindered team dynamics, as important socio-technical conditions have been ignored.

[2] Human-Autonomy Teamstudies

Trust and communication are one of the most important themes in the literature. This is a fragile factor in HATs. On one hand, teams might initially overestimate AI's capability and overtrust it. By contrast, in some conventional teams, gaining trust in AI happens gradually (Schmutz et al., 2024). However, trust in teams is still higher in human-only teams, especially in smaller teams. Georganta and Ulfert (2024) conducted an experiment with both two members (human-AI) and three-member HATs. They found out that "humans reported lower interpersonal trust in an AI member in a team of 2 compared to a slightly larger team of three persons." These results show how AI in teams can alter teams' psychological dynamics. Georganta and Ulfert (2024) believe that "people might be uncertain about how to evaluate an AI's trustworthiness, because it lacks shared experiences or social factors which humans usually rely on." Moreover, a team member's performance is a very important factor in building trust. When AI has a few errors, people will lose trust in it rapidly. In other words, humans' trust is fragile and may decline rapidly over time, as people do not have optimistic expectations about AI anymore (Schmutz et al., 2024).

Another important challenge specified in the literature is communication and shared cognition. Team members usually collaborate with each other to address dynamic and complex objectives. "Working on these objectives might be too complicated, large in scope, multidisciplinary, or intricate, which makes them hard to solve by individual or uncoordinated groups" (Fiore et al., 2010; Kilcullen et al., 2023; Lyons et al., 2021). In situations that are too complicated or ambiguous, interdisciplinary teams work together to develop a shared mental model, including a common understanding of goals, tasks, and roles. This will help them achieve their goals with the help of each other's competencies, roles, and knowledge. This will lead to smooth coordination (Fiore, 2008).

Although communication and shared understanding is so important, however, studies show that scientists have not been successful in building accurate and comparable AI mental models, resulting in weaker mutual understanding in HATs. Adding AI to teams often leads to reduced communication quality and misalignments (Schmutz et al., 2024). AI team member might be "machine-like" and not be able to convey information in a social way. This might cause humans to interpret AI's contribution wrongly of even ignore it. If AI's suggestions are not clear enough to be understood by humans of if its contribution is too much like a robot, humans might not take it seriously (Seeber et al., 2020). This explains why teams need AI teammates, which are designed for natural communication, as this will lead to effective coordination. McNeese et al. (2018) also suggest that "in HATs, AI can interrupt interaction patterns, leading to less shared situational awareness compared to human-only teams." In other words, humans and AI are not able to have a shared understanding of tasks and roles, and this leads to "inadequate mutual understanding" (Schmutz et al., 2024).

Finally, role clarity and accountability are another important challenges in these teams. Organisations still do not know how they should assign responsibility in situations where AI members make wrong decisions or how to integrate AI members in existing structures (Seeber et al., 2020).

Table 3.1 presents a summary of the key advantages and possible challenges of AI teams.

Advantages	Challenges
Data processing and pattern recognition capabilities, reducing human's cognitive and work load (Seeber et al., 2020).	Lower trust among team (Schmutz et al., 2024)
Accurate and faster decision-making with their centralized knowledge hub (Zercher et al., 2025)	Communication deficiencies, lack of shared mental model, and robotic interactions (McNeese et al., 2018)
Reduced bias and information gap in teams	Fragile trust, causing even small errors by AI decrease trust in it (Georganta & Ulfert, 2024)
Innovative and creative problem-solving and solution making ability	Role and accountability ambiguity in case of error occurrence (Seeber et al., 2020)
Handling repetitive tasks automatically and improving progress	Ethical risks (biased decisions, privacy, and compliance)

Table 3.1. Advantages and possible challenges of AI as teammates

3.2 Cross-Functional Collaboration Models

Cross-functional teams are composed of people who are from different backgrounds, whether expertise, culture, working style, etc. They work together to achieve a common project goal. In the world of digital product development, these team play a critical role in bringing innovation and speed to team, thanks to their diverse knowledge and skill pool. These teams are prevalent in modern organisations, often built based on matrix or project-based management structures. This kind of team setup helps to break down silos and integrate knowledge across all the company's parts (Hicks, 2023). The idea behind building such teams is that when the knowledge base is broader across the company, the range of innovative ideas will expand and leads to more creative, user-centered solutions and products (Edmondson and Harvey, 2018). However, managing these teams is critical and they need to be carefully structured. In the past years, several frameworks have been developed by management experts to create cross-functional teams in organisations:

3.2.1 Agile Scrum Teams

Agile methodologies are widely used in software development teams. These methodologies are focused on small and self-organised cross-functional teams. For instance, in Scrum guides a development team includes members whith all the skills needed for delivering a digital product incrementally. These teams must work in an iterative way with frequent communications. This methodology leads to receiving more feedbacks and improved time-to-market (Larson et al., 2022). In agile teams, there is no need for hierarchical approval which leads to empowering teams with so quick decision-making processes.

Research shows that agile teams have more innovative outcomes and can react to fast-changing environments faster than siloed teams (Larson et al., 2022). Continuous collaboration across various functions and also a shared vision about delivering value to customers lead to this agility.

3.2.2 Integrated Product Development[3] Teams

Another framework used to structuring teams in some industries is IPD model. In this cross-functional team model, experts from different areas of expert (R&D, marketing, manufacturing, etc.) come together in one team to work on a specific goal or solve a particular problem. These teams (also called tiger teams) work on various aspects of a product at the same time. IPD model ensures that all functions bring their considerations early enough to be adressed in right time. Studies on IPD teams also shows that the higher cross-functional integration, the better product's success rate and innovative solutions, thanks to effectively managing the complexity of different inputs of the problem (Larson et al., 2022).
There are other cross-functional team structures too. For instance, in DevOps the development team is connected to IT operations, which helps to speed up deployments and reliability of software products. Another example is human-centered digital product design teams which include members from cross-functional teams (UX designers, developers, business analysts), and rely on design thinking or lean startup structures to have iterations on innovative ideas in a fast pace.

3.2.3 Benefits of Cross-Functional Teams

Cross-functional teams bring many advantages to teams, if they are well-implemented. Key benefits include:

- **Innovative and Creative Solutions:** By combining diverse backgrounds in one team's structure, more creative and innovative solutions will be generated. In these teams there is knowledge diversity which expands teams insights and leads to innovations that normal single-function teams are not able to reach (Edmondson and Harvey, 2018).
- **Speed and Agility:** Cross-functional collaboration significantly increases speed to market. This is because all relevant experts are working in parallel on one project, so the team is able to respond to changes quickly. This prevents delays arising in traditional teams in which departmental handoffs are required to make decisions and changes. A study by Hall et al. (2018) proves that teams that cross knowledge boundaries have higher productivity, due to fewer bottlenecks and more coordination. In practic,e this lets the organisations to have faster development cycles and meet market demands more effectively.
- **Holistic Problem-Solving:** A broad knowledge pool in such teams enables them to solve complex problems. These problems often need various expertise to be solved (Hicks, 2023) For example, when engineers and designers work together in a cross-functional team, will be able to address technical problems, UX, and marketing strategies at the same time. This holistic problem-solving

[3] IPD

helps to generate solutions that are more aligned with both market needs and business targets. Cross-functional teams can better fulfill diverse market needs and adapt to fast-changing environments (Mahadik et al., 2024).

- **Improved Coordination:** Cross-functional teams are able to break down barriers between departments and, in this way, improve coordination.

Table 3.2 summarizes the common benefits of cross-functional teams discussed in the existing literature.

Benefit	Details
Innovation and Creativity	Through knowledge sharing, the team's innovation capabilities improve.
Agility	Working simultaneously across functions reduces delays and increases time-to-market.
Holistic Problem-Solving	Integration of multiple functions increases knowledge diversity and leads to better solutions.
Higher coordination	Shared knowledge and removing silos improve trust and collaboration.

Table 3.2. Benefits of cross-functional teams

3.2.4 Success Factors of Cross-Functional Teams

Despite the benefits, achieving them requires practices to overcome key challenges arising from the cross-functional teams' complexity. These include:

- **Shared Goals and Alignment:** These teams need to agree on one common objective to succeed. Misalignment in goal defining can destroy teams. Successful cross-functional teams agree on a clear goal that goes beyond individual departments' priorities and KPIs (Hicks, 2023). Existing literature emphasises creating a shared understanding about the team's task and what "success" means across each function (Dussart, Oortmerssen and Albronda, 2021).
- **Effective Communication:** Communication is the most important success factor of cross-functional teams. Team members need to understand differences in their terminology, communication style, and culture and bridge them together to embrace success. Regular, open communication prevents common misunderstandings which are a result of different assumptions (Hicks, 2023). To build such a communication path, establishing common vocabulary, frequent check-ups and stand-ups,, short meetings, and documentation of decisions could be helpful.
- **Leadership and Trust:** Guiding a cross-functional team effectively requires a strong leadership model. In these team, people come from different hierarchies, and without a clear leadership and conflict resolving strategy, there might be power struggles. Strong leadership model helps

team to be focused on common goals, resolving tensions and conflicts between different departments, and ensuring accountability. Trust is also a critical element among team members. In literature, trust is mentioned like a “glue” which is able to hold the team together. This factor ensures people can rely on their teammates’ expertise, without any doubt. Leadership has an important role on creating such a trustworthy environment. Setting team norms, encouraging constant collaboration, and creating a fair environment are helpful. With trust and effective leadership, teams can better overcome the inherent challenges of diverse teams (Adegbola et al., 2024).

- **Clear Roles and Workflows:** Although cross-functional teams are diverse, every team member has their own specific role and responsibility. There should be clarity in “who does what” and an agreement on decision-making of problem-solving processes in teams, to avoid confusion. This is one of the success factors of these teams (Hicks, 2023). In some organizations, tools like RAC matric (Responsible, Accountable, Consulted, Informed) are used by leadership to define roles and responsibilities in teams. In teams working on complex projects, these tools help to reduce the risk of “overlapping responsibilities and miscommunication” (Atlassian, 2024).

Table 3.3 shows success factors contributing to effective cross-functional working.

Success Factor	Description
Goals Alignment	All people should agree on a common objective, no matter what departmental KPIs are
Effective Communication	Working styles, terminologies, cultures, etc., must be bridged across departments
Leadership and Trust	Ensuring focus, conflict resolution, and fairness requires a strong leadership
Clear Roles and Workflows	Defining responsibilities clearly to avoid overlaps, confusion, frictions, and delays

Table 3.3. Success factors of cross-functional teams

3.3 Common Conflicts in Cross-Functional Teams

Joining different experts in one team could have potential conflicts. In recent literature, there has been different types of conflicts defined which commonly arise in these teams. According to Hicks (2023), “these conflicts could be categorised in three main types: task conflicts, relationship conflicts, and process conflicts”.

- **Task Conflict:** This is disagreement about the content of tasks in working teams, e.g., people might have different perceptions about goals, technical decisions, or solutions. Hicks (2023) asserts that “moderate levels of such conflict could be even beneficial” for teams, since they

help to create critical discussions and positive debates about work, which could lead better decisions and creative solutions.

- **Relationship Conflict:** This includes conflicts between people, arising from different personalities or negative emotions. As people are from different backgrounds in the cross-functional teams, there is a risk of "personality clashes, emotional tensions, or miscommunication". These conflicts are not about the work, and could be destructive, as they hinder effective communication, trust building, and team morale. These conflicts must be addressed correctly and quickly, as they can cause poor performance and reduced cohesion (Hicks, 2023).
- **Process Conflict:** This conflict arises from disagreements on how the work should be done, roles, responsibilities, schedules, and resource allocation (Hicks, 2023). In cross-functional teams, conflicts in this area are unavoidable. For instance, one department might assume the other is responsible of handling a specific task, which might lead to delays. Process conflicts, especially when arise in the early stages, can erode efficiency processes and cause confusion in teams (Hicks, 2023).

Table 3.4 categorizes common conflicts in cross-functional teams with their impacts.

Conflict Type	Description	Impacts
Task Conflict	Disagreements about goals, decisions, and solutions	If managed well, they are constructive
Relationship Conflict	Personal issues, emotional frictions, and miscommunication	Puts trust, morale, and performance at risk
Process Conflict	Conflicts about responsibilities, schedules, and workflows	Delays and reduced efficiency

Table 3.4. Common types of conflicts and their impacts

3.3.1 Conflict Resolution Strategies

Conflicts can cause serious negative effects in teams, if they are left unresolved. "Reduced productivity, delays, low team morale, and project failures" are noted as negative impacts by Hicks (2023). Reduced engagement of members and stress, are a result of these conflicts. This will lead to da iminishing of positive expected impacts of cross-functional teams. In management literature, conflict is not bad, if addressed and managed properly in a constructive approach. For example, task conflicts can be resolved through guiding it towards ideas and facts, to prevent it forming personal issues (Hicks, 2023). Establishing strategies and norms to discuss ideas vigorously, yet respectfully, is a common approach of conflict management. This ensures diverse ideas from different viewpoints are discussed, without the risk of relationship problems among team members.

Recent literature in this area suggests several prevention and resolution strategies: Clarifying goals, roles, and expectations, fostering open communication and psychological safety, conflict resolution training, establishing norms for handling conflict effectively, and having neutral facilitators and resolving protocols are among these approaches. Neutral facilitators could be an external mediator, a scrum master, or a project leader, who has no side in a conflict and only helps to mediate it. They ensure each one is heard in a conflict. With the help of these strategies, "the frequency and intensity of conflicts" reduces significantly. In one study, a cross-functional healthcare product team had regular workshops around conflict resolution methods. The results showed that this team experienced better cooperation and timely delivery within 48 hours (Hicks, 2023).
Table 3.5 summarizes some key strategies for conflict resolution.

Strategy	Details
Goal and Roles Clarifying	Defining roles' expectations and accountabilities clearly
Open Communication	Encouraging respectful and constructive discussions
Neutral Mediators	Assigning mediators to guide resolution flow
Conflict Resolution Education	Help team members learn constructive strategies

Table 3.5. Conflict resolution strategies

3.4 Gaps in Literature

3.4.1 Absence of AI Integration in Cross-Functional Team Research

The studied literature reveals an obvious gap in the intersection of AI integration in teams and cross-functional collaboration. Most of the studies discuss either human-AI team building or cross-functional, human-human team building. There are a few studies on addressing how AI could collaborate actively in cross-functional teams or help in resolving common issues faced by these teams.
The human-AI team building literature is more focused on general team dynamics and issues with AI, such as trust, coordination, and decision-making. These studies usually consider teams composed of single functions with clear tasks, rather than more complex ones with diverse functions or divergent goals. Thus, current studies on AI teammates only provide insights into the interaction of AI and humans, but not on how AI could help when people are from different functional backgrounds and have potential frictions.
The cross-functional team literature also has studied benefits and conflicts of human-only teams richly. These studies offer frameworks and conflict resolution strategies in cross-functional collaboration, but

they do not consider AI as a participant, too. These studies are focused on human-only cross-functional teams, human communication, leadership, and processes, and mention no use of AI agents as active members in teams. In real world, there is a rising trend of using AI systems in various functions within organisations (assistants, analysts, and even mediators). This raises questions that current literature has not answered yet, such as “How AI team members can change team dynamics? How can AI bridge different departments’ knowledge, understanding, and insights? What are potential new types of conflicts or biases arisen?”

3.4.2 Absence of Empirical Evidence on AI as a Mediator in Cross-Functional Teams

Another gap is the idea of AI as a mediator and facilitator in resolving team conflicts. There is a growing interest in using AI for resolving conflicts in general, with the help of chatbots or decision support systems. But these applications have been mostly been studied in online communications and one-to-one negotiation contexts. There area few studies conducted to investigate AI mediators in teams.

4 Research Methodology

The research design has a structured flow, from philosophy to model development. This flow is illustrated in Figure 4.1.

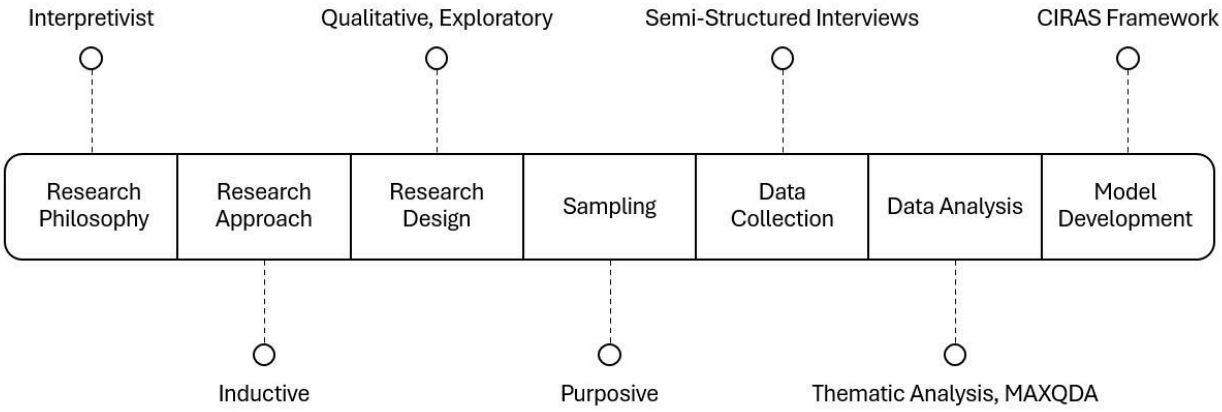

Figure 4.1. Research design overview

4.1 Research Philosophy

This study is based on an interpretive research philosophy. This method is powered by understanding and interpreting the social phenomenon and perspective of human factors involved, through the subjective meanings participants assign to their experience (Alharahsheh and Pius, 2020).

In this method, we as researchers aim to understand conflicts through people's subjective experiences and contextual interpretations. This means we will engage with participants (marketing, engineering, and product team members) to understand how they perceive and experience conflicts in their teams and how their perception of AI team members is.

Integrating AI in teams as a collaborator is a novel socio-technical phenomenon, and multiple factors or hidden causes are involved. Also, existing theories in this area are insufficient; hence, this interpretivist approach is appropriate. This study does not aim to test a pre-defined theory but to create an understanding with the help of participants about new team dynamics. Therefore, through this research philosophy, we acknowledge that knowledge will emerge through participants' narrative interpretation, rather than objective measurements.

4.2 Research Approach

The approach for this study is an inductive one, which is completely aligned with the interpretivist paradigm. In this approach, we are building understanding and theories using observations and empirical

insights. We will not begin with a rigid hypothesis about how AI should fit into team structures. This is in contrast with a deductive approach, in which researchers start with hypotheses. We will use this inductive approach, which will allow patterns, concepts, or even theories to emerge directly from the raw data itself, which is essential in exploratory research (Thomas, 2003).
By examining interview data, the research road is open to integrate more unexpected insights, for example, new ways AI could contribute to decision-making in teams or even new forms of collaborations. The study approach for this study is an iterative and flexible one, which moves back and forth between data and emerging ideas. This helps us to refine our understanding gradually, as new data are collected and analysed.

4.3 Research Design

Research design was qualitative and exploratory with the aim of moving towards conceptual modelling. There is still limited research on AI as a team member; therefore, we chose a qualitative exploratory design to explore this new concept more deeply. In a qualitative exploratory research design, capturing detailed insights into people's thoughts, perceptions, and interactions is possible. This approach is so useful, especially when dealing with complex social processes or investigating under-researched topics (Lim, 2024).
We developed an open-ended inquiry in which we can uncover the way professionals from different backgrounds envision collaborating with AI and their perception of possible challenges or opportunities.
This research's outcome is aimed at the development of a conceptual model to redefine cross-functional collaboration with AI. This totally fits with qualitative research approaches, in which findings are not just thematic but are turned into high-level conceptual frameworks or models. In research design, translated qualitative findings (themes and relationships) are translated into a model. This model represents roles, organisational structures, and interaction patterns in AI-human teams.
Using thematic analysis to develop a new conceptual model is an established process in qualitative research methods. A systematic qualitative approach could lead to a conceptual model in which data is represented in a theoretical format. We used a very similar process for this research: we derive a model, which represents how AI contributes to workflows and social structure improvements in product development teams, through careful analysis of interview data. This designed model does not test hypotheses or measure variables, since it is based on an exploratory approach.

4.4 Sampling

We used purposive sampling methods to select interview participants based on their relevant experiences in digital product development teams. In purposeful sampling, researchers intentionally recruit people who have knowledge or experience about their research topic and goals. In contrast with a statistically representative sample, the goal is to include samples with rich information that help the researchers in illuminating their research questions (Palinkas et al., 2015; Etikan et al., 2016).

This study was focused on UX design, marketing, and technical (engineering/development) teams as key stakeholders of cross-functional digital product teams. Our sample size was relatively small but focused. We conducted a manageable number of interviews (at least three) to ensure gathering rich, deep, and detailed narratives.

Each participant was chosen purposefully, based on the unique viewpoint they could offer. For example, UX designers might discuss collaborating with AI members for the user research process, while marketing specialists might discuss involving AI in campaign planning. This cross-functional selection helped us to capture a holistic image of team collaboration dynamics.

Sample selection was conducted through professional networks and LinkedIn communities. With an initial screen, we ensured that participants had at least three years of experience and were familiar with AI tools. This approach ensured that the people involved were most likely to give us appropriate and useful data. While our sample size is not statistically generalisable, it will help to provide expert insight to build conceptual understanding. Table 4.1 presents an overview of our participants' characteristics.

Role	Years of Experience	Industry	AI Familiarity
Marketing Team Lead	4 Years	Digital Advertisement	Uses AI in the planning and analysis process of their campaigns
Full-Sctack Software Engineer	6 Years	Health Care	Familiar with AI tools for coding and QA
Product Manager	+5 Years	E-Commerce	Familiar with AI support tools for decision-making

Table 4.1. Overview of participants' profiles

4.5 Data Collection

The main technique for gathering data was semi-structured interviews. This kind of data collection technique serves as a bridge between predetermined topics and the freedom for interviewees to direct the discussion to new topics and ideas. Semi-structured interviews enable researchers with consistency and flexibility to explore emerging themes simultaneously (Kallio et al., 2016).

We created an interview guide with open-ended questions, emphasising team structures, collaboration techniques, and AI applications in projects.

Each interview lasted about 20-30 minutes and was conducted online, over video calls. The interviewer asked all the necessary questions from the participant, but also went beyond the questions on paper to ask follow-ups and explore responses more deeply.

We took participants' permission to record audios, then transcribed the audio recordings to conduct a thorough analysis using qualitative coding methods.

4.6 Data Analysis Methods

Our method to analyse data in this study is the thematic analysis approach, which is widely used to explore meaningful patterns in qualitative research. In this approach, developed by Braun and Clarke (2006, updated 2019), researchers are provided with a systematic, yet flexible method for identifying, analyzing, and reporting patterns in qualitative raw data. We coded participants' responses and put those codes in broader themes (Braun and Clarke, 2019).

We followed this six-step process for data analysis presented by Braun and Clarke (2006), including:

1. "Familiarization with the data (reading transcripts)
2. Generating initial codes
3. Defining patterns and themes
4. Reviewing and refining themes
5. Defining and naming themes
6. Writing results and findings in a report, in which the links between raw data and higher-level insights are clear."

This is a structured and, at the same time, flexible approach, which helped to provide transparent and deep interpretations of participants' experiences.

To support the analysis, we'll use MAXQDA qualitative analysis software to make the analysis of transcripts easier, more organized, and consistent. After completing the interview process, we imported our research materials, including transcripts, into analysis tools. This included labeling texts with short descriptions and summarizing and interpreting the participants' dialogues.

After finishing the coding step, we reviewed the whole set of codes again, searching for patterns and themes. For example, codes like "AI as a tool," "AI as a collaborator," and "AI autonomy level" could be clustered into one theme.

After this step, we revisited transcript highlights related to each theme to check for consistency. Through this step, we refined themes in an iterative way. Through our work process, we wrote down short reflections on how themes were related to each other.

Ultimately, such thematic analysis led to the creation of a set of key themes. These key themes capture different core aspects of collaboration between AI and humans within product development teams. To reach our research's objectives, we synthesized these themes into a conceptual model. This model illustrates how AI can collaborate as a team member, especially in the interaction of UX, marketing, and technical team members.

4.7 Ethical Considerations & Consent

In qualitative research, protecting participants' autonomy, privacy, and well-being is important. This study involved real individuals' shared experiences, so ethical considerations were our top priority throughout the entire process. We conducted every step of our research aligned with our university's ethical guidelines, especially regarding consent, privacy, and confidentiality (European Union, 2016; Orb, Eisenhauer, and Wynaden, 2001).

Before each interview, a clear information email was sent to the participant. This sheet clearly explained the study purpose, how the interview was taking place, and the interviewee's right to skip questions or stop the interview at any time they don't feel comfortable or willing to continue. The interview process started after receiving the university's agreement with our study's ethical form. Each interview was scheduled only after the interviewees completely understood the research and interview details, agreed with them, and signed a consent form.

We also had a strong emphasis on protecting participants' identities and related data, including their answers. All audio recordings and transcripts were stored in Google Drive folders with encryption and passwords, only available to research team members. When we transcribed the interviews, we carefully removed any personal identifiers, including the names of people and companies. Hence, we used generic descriptions like "a senior product designer at an insurance company" in our research report writing to make sure none of our participants were recognisable.

We also followed the ethical principle of non-maleficence, which committed us to cause no harm to participants. Hence, interview questions weren't sensitive and were just focused on professional experiences with AI and team collaborations.

Before starting the interviews, the study proposal, consent materials, and interview questions were thoroughly reviewed and approved by the university's ethics committee. This was an external review and confirmation step, which helped to ensure participants' rights and well-being protection with high standards.

4.8 Limitations

First, the research was conducted with a small group of professionals, which limits the broad application of findings. As in a typical qualitative research, our focus was on depth of insights, instead of breadth. Therefore, our findings in this research are limited to the context and may not reflect other environments or team structures.

Second, the research carries potential bias, which is usual in qualitative approaches that are based on participants' self-reported experiences. People might share their experiences with more positive words or even downplay challenges. We tried to reduce the possibility of this problem occurring by providing a relaxed and open space so that candidates were comfortable.

The researcher's own interpretations are also an important factor. In qualitative approaches, especially those with interpretative approaches, it is not easy to remove the researchers' biases from the data

analysis process. To address this problem, we wrote memos to question our assumptions, and also shared our work progress and results with our research supervisor to challenge our own biases..

Another limitation of this study was time and access constraints, which caused conducting with only a limited number of interviews. We didn't track changes over a period of time, which means the results of this research only reflect a snapshot of current experiences.

5 Analysis and Findings

5.1 Identified Team Conflicts & Emergent Themes

Several pain points emerged during the review of transcripts. Frequent misalignment in goals and task priorities was among the most frequently mentioned issues. For example, as a marketing expert mentioned, marketing campaigns usually have quick launches which interfere with the engineering team's development plans. Such misalignments often lead to tension among teams. Moreover, communication gaps also highlighted by participants. Working in silos and la ack of knowledge sharing across departments creates misunderstanding and a lack of enough information about the project's requirements and status.

Another pain point category was role ambiguity and resource-cost balance. When it is not clear who is accountable for which task or decision, overlaps or failures in implementations occur frequently. Non-technical teams often don't have enough technical information, and this causes them to be unaware of constraints related to technical teams. This might lead to unrealistic expectations. Role ambiguity, goal misalignment, communication gaps, technical limited awareness, and resource-costs trade-offs together are conflict drivers.

5.2 AI Role Mapping & Emergent Themes

Through the coding process, six main themes emerged. We created a codebook in this process to refer to it as a reference guide. This codebook acts like a dictionary for codes, by providing clear definitions and examples for them. This guidebook helped us in organizing and focusing our analysis work. Table 5.1 shows our key themes, their sub-codes, and their definitions.

Theme	Code	Definition
Conflict Drivers	Role Ambiguity	Uncertainty about responsibility, authority, and accountability of tasks, this leads to conflicts and overlaps
	Goal Misalignment	Diverging goals in different teams which create conflict
	Communication Gap	Problems in lack of information sharing and clarity which causes misunderstanding
	Technical Limitations Awareness	Lack of awareness about

		technical and infrastructure limitations in non-technical teams
	Resource-Cost Balance	Conflicts about limited time, cost, and infrastructure
Governance & Oversight	Accountability Issues	Lack of clear accountability for AI outputs
AI as Analyst & Simulator	Data Synthesis	AI's role in integrating/summarizing data for deriving insights
	Solution Simulation	Using AI for building hypothetical scenarios or prototypes for solutions before implementation
Trust & Transparency	Explainability Requirements	Need for transparency about the process AI goes through for delivering suggestions and decisions
Ethical Safeguard & Risk	Ethical Concerns	Worries about biases, legal, and ethical issues in decisions made by AI agents
	Regulatory & Compliance Concerns	Considerations about privacy issues, regulatory, and legal
Feedback & Organizational Learning	Iterative Feedback	Human-AI learning cycles: the process of using results in iterations to improve future performance

Table 5.1. Key themes and codes identified in the thematic analysis of interviews

5.2.1 Emergent Theme 1: Conflict Drivers

The first theme is highlighting sources of conflict and tension among different teams. This was at the heart of all narratives. Participants in our interviews all agreed that misaligned goals, working in silos, and lack of communication led to friction in their working processes. Through coding, sub-codes were identified for this theme: Goal Misalignment, Communication Gaps, Role Ambiguity, Technical Limitations Awareness, and Resource-Cost Tensions.

The participants believed that AI has the potential to reduce the role ambiguity problem by clarifying task ownership, recording tasks' dependencies, and helping to align goals in different departments.
Figure 5.1 shows a code matrix, in which the distribution of codes across three participants is visualized, with the help of MAXQDA's code matrix browser tool. Each column represents one interviewee, and each row represents a preliminary theme. The color and percentage clearly illustrate how frequently a theme appeared in each transcript (the density of coded segments). While all codes are present across all three roles, the visualization shows that some themes are more prevalent in some roles.

Code System	Marketing Lead	Software Engineer	Product Manage...	SUM
Feedback and Organizational Learning				
Iterative Feedback	20.0%	20.0%	60.0%	100.0%
Ethical Safeguard and Risk				
Regulatory & Compliance Concerns	50.0%	50.0%		100.0%
Ethical Concerns	50.0%	25.0%	25.0%	100.0%
Trust and Transparency				
Explainability Reuirements	25.0%	25.0%	50.0%	100.0%
AI as Analyst and Simulator				
Solution Simulation	42.9%	35.7%	21.4%	100.0%
Data Synthesis	35.3%	23.5%	41.2%	100.0%
Governance and Oversight				
Accountability Issues	16.7%	66.7%	16.7%	100.0%
Conflict Drivers				
Resource-Cost Balance	40.0%	20.0%	40.0%	100.0%
Technical Limitations Awareness	37.5%	25.0%	37.5%	100.0%
Role Ambiguity		100.0%		100.0%
Goal Misalignment	33.3%	33.3%	33.3%	100.0%
Communication Gap	25.0%	50.0%	25.0%	100.0%
SUM				

Figure 5.1. Code matrix, distribution of codes across each participant

5.2.2 Emergent Theme 2: Governance and Oversight

Participants also described their concerns about the accountability of AI as a decision maker. Key aspects include defined decision-making roles, cross-functional oversight committees/boards, and checks and balances for AI outputs.
Software engineers have many questions about who is responsible for errors arising from AI work and managers have concerns about validating AI's decisions. All participants highlighted the need of a reliable governance framework which is able to assign responsibilities and integrate them into current reporting structures.
Figure 5.2 is a code cloud which is generated in MAXQDA. This figure shows the relative frequency of codes in three interviews. The larger words illustrate more frequently mentioned codes, such as "AI as an Analyst and Simulator", "Conflict Drivers", and "Data Synthesis".

Figure 5.2. Word cloud, an illustration of code frequencies across all interviews

5.2.3 Emergent Theme 3: AI as an Analyst and Simulator

One of the most mentioned roles for AI was analyst and a simulator. All the participants believed AI could contribute in analysing complex data sets and derive valuable insights from them. AI is able to do this much faster and more preciser than a human data analyst. Moreover, AI can act as a simulator. This means, AI can generate “what-if” test scenarios, before even implementing them in the real world.

5.2.4 Emergent Theme 4: Trust and Transparency

Trust in the AI partner was also an important pain point. Key sub-codes under this were Explainability Requirements, Validation & Benchmarking, and User
Control. This factor is not only fragile but also critical for AI’s integration success. Participants stated that without transparent and explainable recommendations, people might ignore or resist using AI’s recommendations. They believed these kinds of non-transparent solutions could disrupt decision-making. To achieve trust in AI by employees, its decisions and insights must be explainable.

5.2.5 Emergent Theme 5: Ethical Safeguards and Risk

Ethical concerns were reported in particular from marketing professionals. They mentioned that bias, data privacy, and compliance with regulations must be addressed. They worried that AI also might make

decisions that are discriminatory or violate laws, which will put the organisation's brand, reputational and life at risk. Ethical safeguards, compliance checks, and regular audits were the most important suggestions to embed in AI agents before integrating them.

5.2.6 Emergent Theme 6: Feedback and Organisational Learning

Finally, the interviewees mentioned the need for feedback loops between AI and human teammates. Iterations help AI members to learn from humans continuously and vice versa.

All of these themes were evident in all interviews, but our analysis revealed that their importance varied in different teams. Notably, the marketing specialist emphasized ethical safeguards and risk, the engineer mentioned concerns about governance and oversight, and the product manager had more emphasis on trust and transparency. Moreover, some themes were among all roles significant. Conflict drivers and AI as an analyst and simulator were among the most commonly mentioned issues. This shows that employees consider conflicts and AI's contribution in data analysis as the most important topics, regardless of their roles.

It is also obvious that these elements are related to each other and might co-occur in real world. For example, concerns about resource constraints and time often happen alongside of technical knowledge limitations. Also, ethical concerns about AI were frequently discussed alongside with regulatory compliance.

Figure 5.3 is a visualisation of the co-occurrence of codes using MAXQDA's code relations browser tool. For example, this illustration represents "Resource-Cost Balance" frequently co-occurred with "Technical Limitation Awareness", and "Ethical Concerns" with "Regulatory and Compliance Concerns." This figure suggests that these themes are not isolated and are related dimensions.

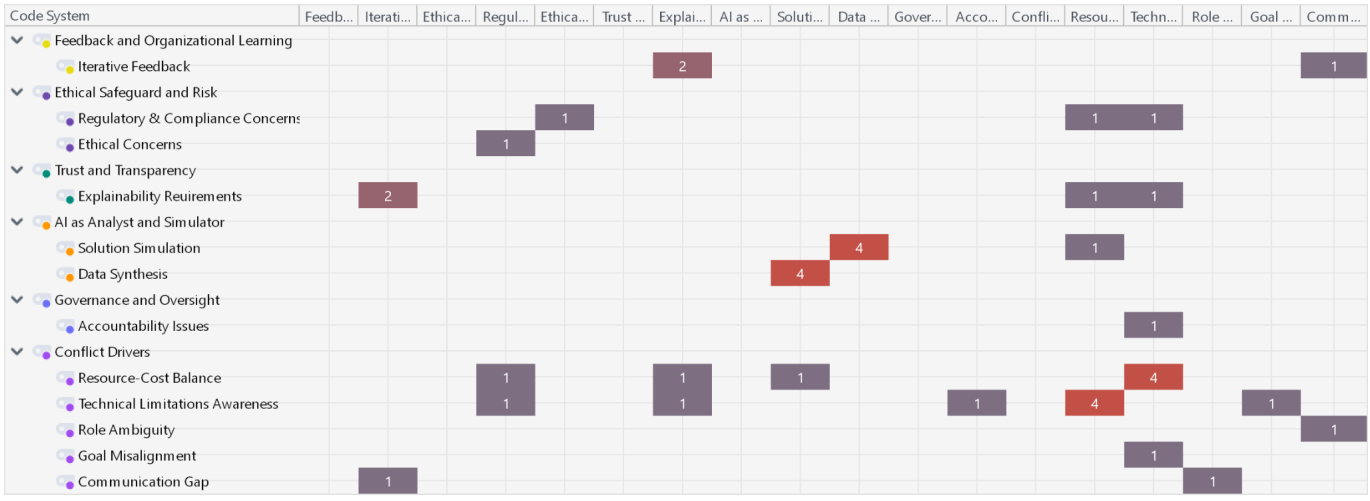

Figure 5.3. Co-occurrence map of codes, illustrating the relationship between themes

5.3 Proposed Conceptual Framework: The CIRAS Model

At the final step, we synthesised six themes and developed a conceptual framework (the CIRAS) for creating a structure for AI-human collaboration in cross-functional teams. The CIRAS stands for:

- Conflict
- Institutional Governance
- Risk & Ethics
- AI Roles
- and Synergy & Learning

All reflecting the six emergent themes identified in this study. This framework represents a holistic approach to illustrating how AI members embed into team dynamics. AI is at the heart of this model and has a dual role as analyst and simulator. This AI system continuously analyzes data and simulates solutions to help teams in making decisions.

Figure 5.4 shows the proposed the CIRAS model for AI-Human interaction in cross-functional teams. There are also five surrounding pillars, each of them enables collaboration. Pillars include conflict resolution and alignment institutional governance, trust mechanisms, ethical safeguards, and continuous learning loops. Figure 5.4 illustrates our conceptual framework, the CIRAS. It integrates AI into cross-functional teams using its five supporting pillars.

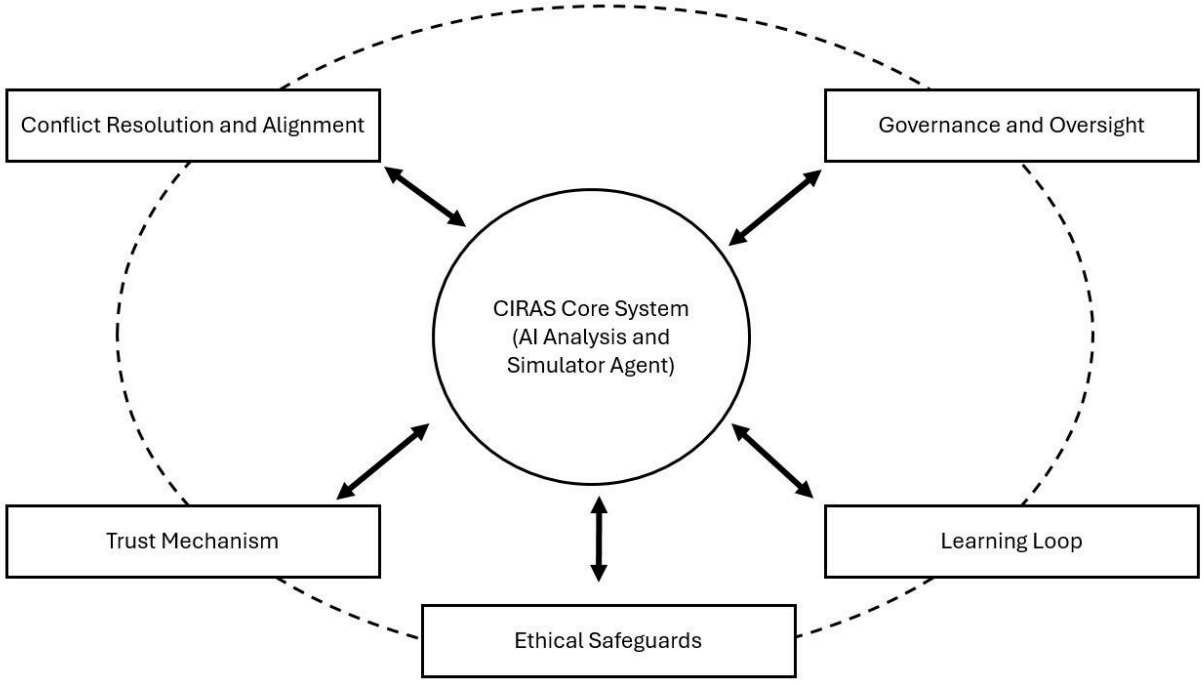

Figure 5.4. the CIRAS Conceptual framework diagram

5.3.1 Conflict Resolution and Alignment Pillar

The model has internal mechanisms assisting teams in reducing misalignment and friction, which were already described as conflict drivers. This internal ability could include goal alignment across teams and utilizing AI's analytics to clarify trade-offs between departments. This will lead to minimized conflicts arising from silo working and isolation of perspectives.

5.3.2 Institutional Governance Pillar

The model has a built-in, formal oversight and governance structure. This structure ensures accountability for what is done by AI. This pillar could include roles that oversight AI's outputs, decisions that require a human's permission before launching, and responsibility details documents. This document helps all people know who is responsible for each action done by AI or outcomes influenced by its decisions. These governance protocols make it easier for teams to integrate suggestions of AI, as they will be sure there is clarity in responsibilities.

5.3.3 Trust Mechanisms Pillar

Our suggested framework has a strong emphasis on transparency in AI operations in order to build trust among employees. Any AI must have explainability features and open communication about its working dynamics. Also, team members must be encouraged to question AI's recommendations and understand them. People's visibility into AI's logic behind decisions should be granted in designing the model. This ensures building a collaborative, transparent environment in which both humans' experience and AI's insights are valued.

5.3.4 Ethical Safeguards Pillar

The next pillar of our proposed model is a set of ethical guidelines and risk mitigation strategies. This model has a built-in bias detection system, a compliance checker, and a database of diverse perspectives. This model also has some ethical review checkpoints, in which ethical checks are required before approval in some cases. This model helps teams in preventing ethical risks and negative consequences of AI use.

5.3.5 Continuous Learning Loop Pillar

Finally, the CIRAS model has an internal feedback loop. Using this feature, AI's performance and outcomes of AI's AI-made decisions are evaluated in regular iterations. These iterations bring teams valuable lessons, which are fed back into AI system (updating and training of the model) and also the team's best practices. This pillar helps to build a dynamic collaboration with AI. Improving this collaboration over time is ensured this way and the team is encouraged to see AI's integration as an ongoing process.

6 Discussion

6.1 Interpretation of Findings

Findings discussed in Chapter 5 give us a clear answer to our research questions. To answer the first research question (RQ1), we identified several conflict drivers that occur more in cross-functional teams. Misalignment in timelines, different KPIs, communication gaps, and cultural differences are the most important factors.

Then we discovered answers to the second question (RQ2). Our participants in this study, agreed that AI could help them not just as a tool, but as a member taking human's roles in their teams. Emergent theme 3 (AI as an analyst/simulator) highlighted the potential role of AI as a data analysis assistant, simulator, and decision maker. This proves the previous work, indicating that AI is not just a back-end assistant anymore and is shifting to take more interactive roles. As Seeber et al. (2020) note, "advanced AI systems can remove the line between a passive tool and an active team member." Our participants also suggested embedding AI in teams' active processes, for instance giving suggestions in meetings or acting like a mediator in conflicts. This also brings up the importance of trust and transparency (theme 4). Interviewees mentioned that they can't rely on AI's decision, until the rationale behind its decisions and recommendations is not clear for them. This is also aligned with previous literature, in which there is an emphasis on trust and transparency in AI-human collaboration. The lack of such clear collaboration could lead to hindered adoption (Mitchell, 2025).

This research also answered to RQ3 by identifying roles for AI that directly address human conflicts. In this study AI potential were mapped to team's pain points. Our study suggests that AI can act as:

I. A strategic advisor (creating data-driven decisions and recommendations and priority trade-off)
II. A neutral mediator (faciliating discussions and identifying misunderstandings)
III. A developer or technical assistant (handling routine technical tasks or prototyping)
IV. And a UX assistant (analysing UX research data and simulating various scenarios and user responses)

These roles are derived particularly from themes 3 and 1 as mechanisms to resolve conflicts. For example, one of common conflicts is KPI misalignment. This conflict could be resolved with the help of AI as a strategic advisor. In this role, AI will highlight interdependencies and help teams by suggesting solutions and addressing root causes of conflicts. Another sources of conflict are communication problems and misunderstandings. These problems could also be resolved with the help of an AI mediator. In this scenario, AI acts like a scrum master in agile teams. It ensures that everyone is heard in team and then offers an unbiased summary. Participants also mentioned that the AI must be neutral, so it can resolve conflicts more efficiently. This aligns with the role of a neutral party in conflict resolution in agile teams. Our study takes this role further and assigns it to AI. Emergent theme 2 (governance and oversight) and emergent theme 5 (ethical safeguards) suggest a layer of ground rules (for fairness,

privacy, etc.) to the AI's interventions. This layer ensures that AI will operate under some agreed-upon rules and ethical constraints.
Finally, all of these findings contribute in building our CIRAS framework (RQ4). This is a conceptual model that integrates AI in humans' collaborations, with the help of key elements: Conflict, Institutional, Governance, Risk & Ethics, AI Roles, and Synergy & Learning. Our proposed framework synthesizes the six emergent themes mentioned above into a single element.
Existing literature on AI team members asks about how to move from "What if AI was a teammate?" to actually address how to structure it to work (Seeber et al., 2020). Our model provide a potential answer to this question. This model redesigns team structures to integrate AI into it. In this new design, AI has defined core responsibilities with vital processes which help it to implement its contributions safely and effectively.

6.2 Comparison with Existing Models

Agile Scrum teams and Integrated Product Development (IPD) teams are two prevalent models for digital product teams. Our proposed model has some similarities with each of them, but introduces AI and other novel elements to boost performance in digital organisations.

6.2.1 Scrum vs. the CIRAS

Our CIRAS model shares similarities with Scrum, in how it emphasises cross-functional collaboration and iterative feedbacks. AI in the CIRAS team also needs to be regularly reviewed and improved in iterations. Another similarity is an overlap between AI's neutral role as a facilitator in the CIRAS and the role of Scrum master. Their role is similar to a conflict mediator and coach. Integrating AI members with the role of mediator could boost this role's positive effect by real-time monitoring and detecting misunderstandings or biases. Another similarity is decision-making process, similar to product owner's role for prioritizing features. The CIRAS is able to act like a strategic supervisor with powerful data analysis capabilities.
A potential tension in implementing AI might be its suggestions and decision-making, which might lead it to be seen as a controlling element. In scrum teams, autonomy and trust are important. Our model aims to remain compatible with Scrum values, as AI needs to act more like a leader (just like a Scrum master) which guides the team rather than dictating.

6.2.2 IPD vs. the CIRAS

In IPD, experts from different functions are brought together to work on a project in parallel, rather than in a sequential way. This helps to considerations of all functions be addressed early to reduce late changes and their higher costs. In traditional IPD teams, human members must make decisions together and join their different, divergent ideas. This process usually comes with conflict and is slow. Our the CIRAS model can address the challenges of these teams. the CIRAS adds an AI agent to IPD, which can be

considered as another function in IPD team. This new function is an information hub with centralized data access, focused on data analytics, knowledge sharing, and boosting collaboration. For instance, when two teams have different priorities, the AI can quickly access its information data, simulate outcomes for each priority scenario, and provide predictions for teams. Such process helps IDP teams in discussing different viewpoints and make decision. Another weakness in IPD teams is parallel workflows which create siloed sub teams unintentionally. AI assistant in the CIRAS model continuously scans dependencies and conflicts in these tasks. This real-time oversight is not possible to be done by humans, especially in projects with a broad scope and high complexity.

AI in our new model is a non-human function with a totally different expert than others in IPD team. The AI's expertise in this new model is unique, as it provides powerful analysis and unbiased reasoning. This could even contribute to more diversity in the organisations, as it brings intelligence diversity for teams.

A key success factor in IPD teams is shared understanding and trust. This is also true when it comes to AI-human teams. If AI make a decision against human intuition, people will not listen. The trust pillar of our model offers mechanisms like transparency and governance, to make sure the AI's role is accepted and its contributions are understandable and explainable.

Figure 6.1 illustrates a visual comparison of Scrum, IPD, and the CIRAS, their overlaps, and how the CIRAS complements Scrum and IPD models.

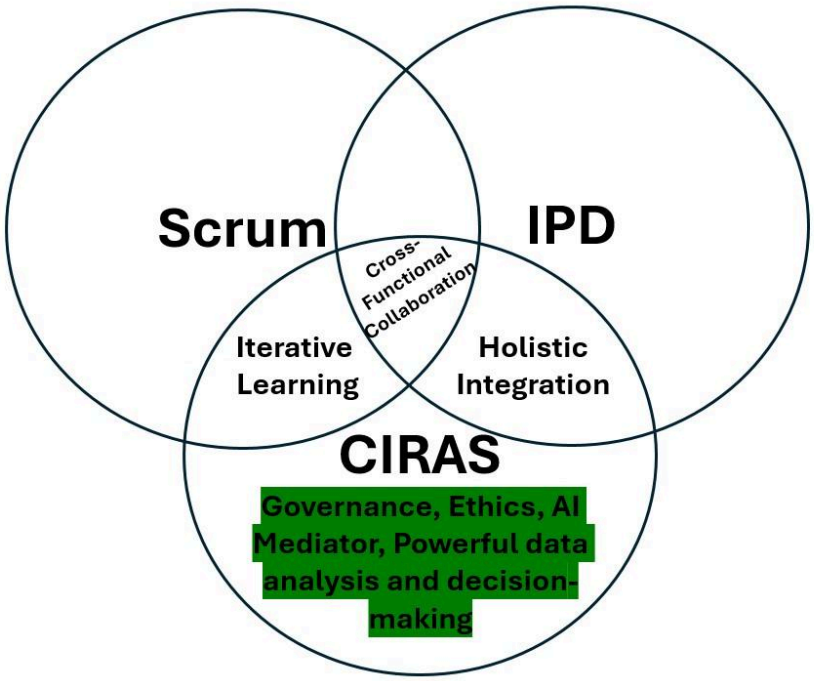

Figure 6.1. A visual comparison of the CIRAS, Scrum, and IPD

6.2.3 Human-AI Teams Framework

In addition to specific team models, our work contributes to the literature on AI included teams too. Prior literature in this area has mostly been conceptual. Seeber et al. (2020) in their research ask questions about how traditional concepts in human teams, such as trust, role, and coordination, can be translated when an AI agent is present. The CIRAS model answers some of those questions. For example, one concern is how shared understanding is achieved. McNeese et al. (2021) reported that "human-AI teams might have higher performance, but they report less perceived cognition and cohesion. They concluded that adding AI might corrupt social environment of a team, even if it brings them higher objective performance." The CIRAS effectively addresses this concern by its trust-building and iterative feedback loops pillars. It treats AI not just a tool, but a teammate which needs onboarding and social integration like the others. The model has internal transparency, which helps human better understand its dynamics. This will help more shared mental models within team.

There have been few formal frameworks in the literature. Researchers like Fiore (2020) and Glikson & Woolley (2020) proposed high-level models which emphasize interdependencies, feedback, and trust in AI-human teams. Our model has a tangible structure specifically for product development teams and aligns with these factors, too. It also has component which was not present primarily in earlier frameworks, which is governance and ethics. Our model includes a "governance and oversight" layer (themes 2 and 5), which shows AI teammates must have similar oversight and ethical guidance as a human team member would. This emphasises industry guidelines that stress governance mechanisms for AI to address bias and accountability (Zercher et al., 2025). Lastly, the CIRAS model can be considered as a hybrid team discussed in the literature, but a stronger form. In this stronger version, AI is formally a member with certain autonomous contributions. Recent literature like Kumar et al. (2025) also prove this, as they describe AI a "synthetic teammate" which organisations should approach its integration in a structured way and treat it as a valued, still "heavily managed" member. The CIRAS model operates under this idea, since it has a central analytic role and is heavily manageable via governance pillars.

Table 6.1 summarizes comparison of Scrum, IPD, and the CIRAS framework in different areas.

Feature	Scrum	IPD	the CIRAS Framework
Collaboration Style	Iterative, sprints, small, and self-organized team	Parallel working across functions	Hybeird (human functions + AI as analyst/simulator)
Conflict Resolve	Scrum master as a facilitator	Team resolving through joint discussion	AI as a neutral, fair mediator
Decision-Making	Prioritized features by product owner	Joint decisions	AI provides data-driven decisions based on analysis and simulation

Trust Mechanisms	Built through transparency and regular review meetings	Human trust and alignment	Relies on the need for explainability, transparency, and oversight
Governance	Team-level accountability	Shared responsibility	Formal AI oversight and ethical safeguards
AI Integration	Limited as a tool	Limited as a tool	Explicit role as analyst, mediator, and simulator

Table 6.1. Comparison of the CIRAS vs. Scrum vs. IPD models

6.3 Implications for Digital Product Teams

6.3.1 Targeting Common Team Pain Points

Struggling with misunderstandings and misaligned goals happens frequently in cross-functional teams. An AI colleague can help in resolving this issue by continuously monitoring communications and aligning processes. For example, an AI integrated into teams' project management software can alert when other team's deadlines are at risk and offer recommendations. Similarly, it can perform sentiment analysis on team discussions. This way it can flag misunderstandings and discriminations or emotional biases and prevent future issues by early clarification. Detecting issues early and in real-time, helps teams to achieve smoother sprints. Managers should view AI as a facilitator and not just a tool, to achieve better teamwork. Implementing AI in project planning, knowledge sharing, and conflict management can help resolve insufficiencies arised in digital development teams.

6.3.2 Improved Decision Quality and Speed

Making high-quality decisions quickly is a critical success factor in digital teams. Our findings suggest that AI as a strategic coach can help teams in this process significantly. Teams are able to leverage AI for making data-driven decisions. This does not mean humans lose their autonomy, but AI help them to start from an informed baseline for decision making. This way their decisions are less at risk of biases or institutional decisions.

Speed is another enhanced factors, thanks to automating routine tasks in AI-human teams. This way, human members will be able to focus on creativity and solving more complex tasks.

6.3.3 The Need for New Roles, Skills, and Knowledge

Integrating AI effectively requires team members to develop new skills. Managers also need to adapt team roles to align with new AI member. One likely team change could be adding an "AI team facilitator"

or “product owner for AI”, who is responsible of overseeing AI’s integration into processes. This person is in charge to ensure AI’s role, its outputs are understood by all people in team.
They are also responsible for ensuring good training of AI on team’s data and mediating when team members need clarification about AI’s decisions. There is also a need for training on AI for all team members.

6.3.4 Daily Reviews of Governance, Ethics, and Trust

Considering alignment with ethics should be a daily task. To ensure this, organisations must develop mechanisms at the team level. For example, this could be an AI guideline, in which what the AI is allowed to do autonomously and what requires permission is mentioned. For instance, in these guidelines might be mentioned that AI-generated feature suggestions must have various data sources or any code written by AI must be reviewed by a human programmer. These guidelines help to prevent biased or violating rules.
Teams also need to have regular AI retrospectives to discuss AI’s working. For example, these meetings might be about whether AI’s results are useful, potential errors, and deciding about improving its performance. This helps in creating iterative learning cycles, in which AI is considered as a team member who needs continuous development.

6.3.5 Competitive Advantage for the Organisations through AI-Human Collaboration

In a broader context, organisations with AI-human teams could gain a significant competitive edge. Digital product world is growing with a fast speed and AI-enabled team can overcome this challenge more quickly and intelligently. Responding to customers, generating insights, and driving innovation is much more easier for these teams and happen quickly. Our research suggests that even small startups could benefit in small scale. For example, an AI member in a startup can enhance team’s capabilities and overcome limited resources’ challenge. In the larger organisations, teams could benefit from consistency across teams if their AI assistants share common knowledge database, project learnings, and best practices.

7 Conclusion

7.1 Summary of Research

7.1.1 Key Findings

The analysis of interviews confirmed the literature that cross-functional teams share common challenges,s including misalignment in goals and timelines, conflicting priorities, communication gaps, different KPIs, and cultural differences between departments. These challenges frequently cause collaboration frictions (addressing RQ1). Participants in our study believed that an AI member might help in reducing many of these challenges. In particular, they mentioned AI's potential role as a mediator in discussions, an analyst to help make informed decisions, or an assistant to handle routine tasks. They also mentioned their concerns about prerequisites for AI implementation, including strong governance and oversight, transparency and trust, and ethical safeguards to manage risks (themes 2-6).
Based on these insights, our research provided a conceptual framework called the CIRAS model. This model integrated AI member into the existing teams with clear role definitions. The AI in this model has complementary roles to help team members with conflict resolution, data analysis, decision making, aligning goals, etc. Human members in this setting focus on building oversight processes, trust building, ethical considerations, and involving AI in the process of continuous learning and feedback. The CIRAS model is a roadmap for leveraging AI's strengths in order to create a synergic effect and boost human's capabilities. The research addresses RQ2 and RQ3 by conceptualizing how AI acts as a collaborative member, and RQ4 by providing the structured model and showing how it integrates into the existing dynamics.

7.2 Practical Recommendations for Organizations

7.2.1 Defining Clear AI Roles from the Start

From the beginning of implementation, explicitly determine tasks and roles assigned to AI. This should be handled like a job description for a human member in the team. If everybody knows AI's role and boundaries from the first day, there will not be much confusion, overlaps, and mistrust in the future.

7.2.2 Start with a Preliminary Version and Scale Up Gradually

Before implementing AI in all of your teams, start with a small project. This helps the organisation to find issues and observe the impacts in a small scale. This pilot helps in gathering feedbacks to be used in the next iterations. When the pilot proves to be beneficial, the organisation can plan for expanding it.

7.2.3 Invest in Education Programs for Employees

Team members need to understand how to work with AI systems and how to interpret their suggestions. This includes not only technical education, but also on soft skills, such as how to incorporate the AI's insights into dthe ecision-making process. When people gain more knowledge and skill about AI, they will be more competent in using it as a partner and trust it more easily.

7.2.4 Create a Culture of Trust and Safety

Organisational leaders should create an environment in which team members see AI as a helpful partner in enhancing their work. If they see AI as a threat and don't trust it, the organisation will not be successful in leveraging AI's advantages. Leaders should communicate the AI's supportive role and its synergic effects. Rather than monitoring people to see if they replace AI, they need to create an open space for discussions about AI's insights. These discussions are part of a learning opportunity and must be valued. People should feel safe when talking about AI's recommendations or mistakes, or asking help about understanding AI's contributions. Building such safe and open environment makes people even more willing to engage with AI.

7.2.5 Implement Ethical Oversight and Data Governance

Before integrating AI, it is important that organisations define clear and detailed guidelines and oversight mechanisms. These mechanisms determine the boundaries of AI's contribution in teams, its access limit to data, and ensure it remains compatible with company policies, regulations, and privacy laws. It is recommended that organisations create a new AI governance role or committee, which is fully responsible for monitoring AI. They will oversee AI's decisions and address ethical issues that might arise. Regular audits is also important, regarding bias, errors, or potential negative consequences. The organisation can implement strategies for managing data and ethical considerations, to prevent unintentional harm. This builds even more trust in AI's contributions among team members.

7.2.6 Continuously Monitor AI's Impact and Learn

Integrating AI in team provides the organisations with an ongoing learning opportunity. Teams must define metrics to evaluate AI's impact on team's performance and dynamics (for example frequency of conflicts, team satisfaction levels, etc.). Monitoring these KPIs over time helps teams in identifying potential pitfalls and try to adjust them accordingly. In these situations, there might be a need for training updates, both for AI and human members. This learning iterative process also helps humans to become more accustomed to the AI. Sharing lessons learned from one team's AI agent with the other teams in regular meetings creates an internal knowledge base.
Figure 7.1 shows a suggested, step-by-step implementation plan for leaders who want to integrate AI in their cross-functional teams.

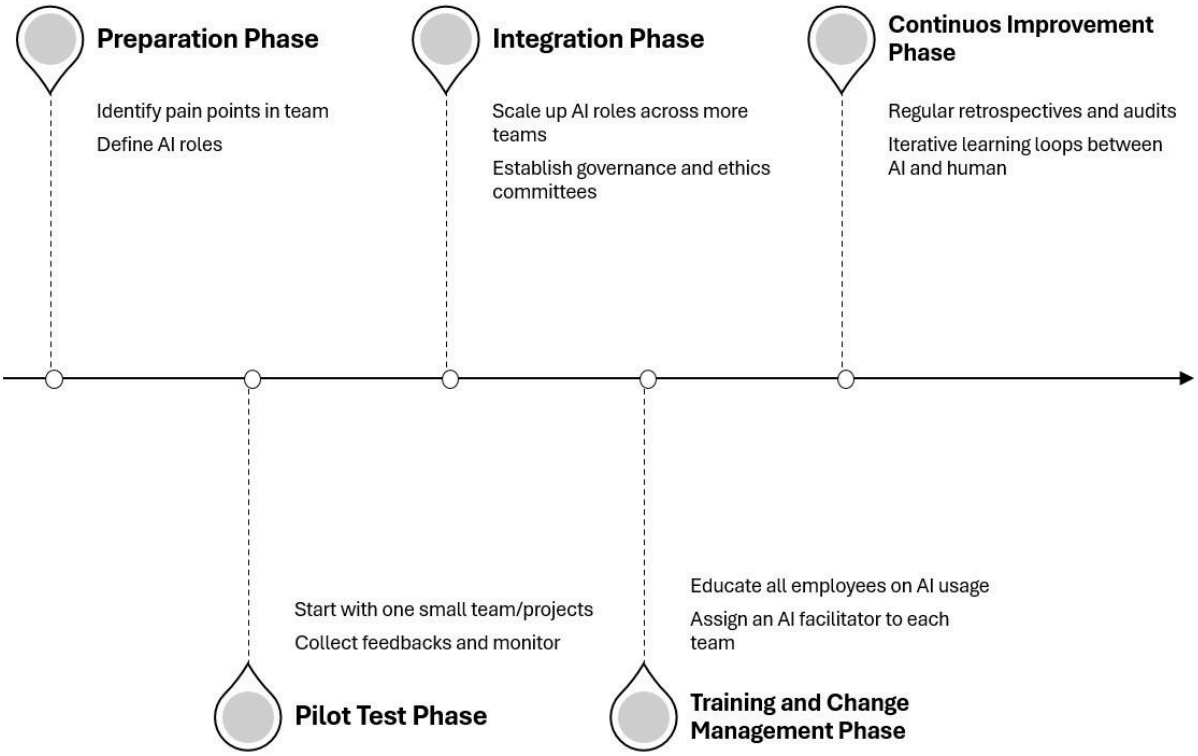

Figure 7.1. Suggested timeline and implementation plan for the CIRAS model in cross-functional digital product development teams

7.3 Limitations

7.3.1 Limited Diversity and Sample Size

Our study is conducted based on a small number of interviews. These professionals were also from similar industries in tech-focused teams. As the sample size and scope of research is not wide, the findings might not be able to fully capture the real experiences in cross-functional teams. Teams which operate in other industries or culture might have other challenges and perceptions.

7.3.2 Qualitative Approach

This research is based on qualitative and interpretative data analysis. This means that insights of this study are based on self-reported experiences and our interpretation of their narratives. This shows the inherent subjectivity of thematic analysis. In these kind of research, another researcher might categorize themes in a totally different way. Participants might also presented AI in an idealized way due to their personal enthusiasm.

7.3.3 Conceptual Model (Not Tested in the Real World Yet)

The CIRAS model is a conceptual model and has not been implemented and tested in a real organisation. Thus, we do not have empirical evidence about its performance and outcomes or potential challenges of deploying it. This means we can not be sure if it helps teams to achieve better outcomes or fewer conflicts or not. The effectiveness of this model remains ambiguous, and this research remains a hypothesis until organisations implement and test it.

7.3.4 Rapid Change inthe Technology World

AI capabilities advance quickly, meaning some of our assumptions in this study may soon be outdated in the near future.

7.3.5 Focus on Only One Working Domain

This study was deliberately focused on digital product development teams. These teams usually have a culture of adopting technologies and AI tools. Other teams, such as those in manufacturing, public sector, or healthcare, might have different perspectives or challenges. For example, deploying this model in a healthcare team could cause regulatory issues. Therefor,e some findings of this study might not translate to these teams which operate outside digital context.

7.3.6 Potential Bias in Interviews

The professionalswho participated in this study expressed interest about AI. It is possible that skeptical people or the ones who are fearful about AI's role were not present in our sample. If this is true, then our results might be too positive and not show potential strong resistance, anxiety, or organisational barriers.

Table 7.1 presents limitations with the current study and some possible mitigation strategies to overcome them.

Limitation	Impact	Possible Mitigation Strategy
Small sample size	Findings can not be generalised	Conducting large-scale studies with more samples
Qualitative approach	Interpretations by researchers and bias	Combining research with quantitative approach - Mixed-method study
Conceptual framework	Model is not tested in real world	Designing and running pilot tests in real organisations

Rapidly evolving technology	Findings might become outdated in the near future	Continuous research on new AI capabilities and updating the framework
Domain-specific study	Limiting knowledge to specific industry, not applicable to other teams	Extending research to other industries, such as health, manufacturing, and the public sectors
Potential bias in interviews	Too positive results	Including skeptical participants and negative perceptions in the future studies

Table 7.1. Study limitations and mitigation strategies

7.4 Suggestions for Future Research

7.4.1 Testing the AI-Human Team Model in the Real World

Future research could be controlled experiments or case studies. These studies can compare teams with AI members in a defined role to other teams without AI. The results of these empirical studies could be decisions' quality, completion time, conflict frequency, and team satisfaction. These results provide a clear insight about the benefits and challenges of AI agents in teams.

7.4.2 Examining Human Members' Perception

Further studies should focus on the human side of human-AI teams. Surveys and observational studies can be done to uncover how people think about an AI partner and how this perception affects team dynamics. Psychology researchers could investigate psychological aspects using scales for trust, safety, and team cohesion to quantify the impacts.

7.4.3 Refining AI's User experience

Human-computer interaction specialist can conduct further research to improve user experience. This can be done through enhancing AI-systems user interface, adjusting the tone of discussions, and creating user-friendly dashboards for improving interaction with AI.

7.4.4 Extension of Research to the Other Domains

Future studies should work on AI-human team building mechanisms in the other fields and even building a taxonomy to present best practices for industries.

7.4.5 Studying the Long-Term Effects

Researching the long-term effects of AI-human teams is needed too. These studies help in observing teams across time and explore the way they adapt over months or years with AI teammates. Evaluating how positive or negative perceptions change by time, how working flows change in response to changing focus of team members from certain tasks, or even observing negative impacts is valuable.

7.4.6 Prototyping and Testing the Proposed Model

Finally, experts can work together from interdisciplinary fields to implement the model in real world. Ethic experts, psychologists, human resource managers, AI developers, and organisational scientists can halp in designing an initial prototype in a small scale, to deploy the model in a trial setting and observe its performance.

In conclusion, this dissertation is a foundation for integrating AI as a teammate. It also highlights future road for researchers: testing and refining frameworks like the CIRAS in real world, help scholars to navigate the positive AI's opportunities for the organisations.

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9 Appendices

9.1 Appendix A: Interview Questions

1. Could you please briefly describe your current role in the organisation and what your responsibilities are?
2. How often do you interact with (marketing/UX/technical) teams in your work?
3. Have you experienced conflicts between these teams? How often do these conflicts arise?
4. What are the main causes of the conflicts?
5. How are these conflicts usually resolved?
6. How is AI currently used in your organisation or industry?
7. Do you think AI is just a tool or believe it could act as an active team member in the future too?
8. What kind of tasks do you think AI can take over in teams?
9. What would help you to gain trust in AI contributions in teams?
10. What are the possible ethical and trust issues of involving AI as an active team member?
11. What is your belief about the ideal collaboration model if AI were involved?
12. Is there anything else you would like to add?

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9.2 Appendix B: Approach Letter

Dear participant,

My name is Mahnaz Jaldi, and I am a Master's student in Digital Transformation Leadership at GISMA University of Applied Sciences. I am doing my master's degree thesis, with the title: "A New Team Structure for AI-Human Collaboration in Digital Product Development"

In this study, we are exploring the role of AI as an active team member in cross-functional teams, especially marketing, UX, and technical teams, and how this contributes to reducing conflicts and improving collaboration.

I would like to invite you to a short interview to share your experiences.

What the interview involves:

- A 20 to 30-minute online interview
- Questions regarding your working experience with cross-functional teams, challenges and conflicts, and your perception of AI's role as a team member.

Your rights and privacy concerns:

- Your participation in this interview is voluntary, which means you may withdraw at any point, without negative consequences. Also, you may skip any question you don't like to answer. When you don't want to be part of this study anymore, we won't keep your data in our database.
- All interview answers will be stored anonymously, which means non your name nor identifying details will appear in the final thesis work.

If you are open to joining this interview, please simply reply to this message or send me an email at: *mahnaz.jaldi@gisma-student.com*

Your insights are so invaluable for our research work, and I would be very grateful for your time.

Kind regards

Mahnaz Jaldi

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9.3 Appendix C: Study Information and Statement of Informed Consent

Title

A New Team Structure for AI-Human Collaboration in Digital Product Development

Aim of the Study

This study aims to propose a new team structure for digital product development teams. We are investigating:

- How can an AI team member take responsibilities in such teams and reduce conflicts by improving collaboration
- What roles AI can take on
- How is people's perception of AI as a co-worker

Procedure and Content of the Study

If you choose to participate, you will be asked to participate in a structured interview with Mahnaz Jaldi, which is online. The total time required for participation is approximately 20-30 minutes.

You will be asked open-ended questions about your experience of working in cross-functional teams, conflicts observed in these teams, your perception of AI as an active team member, and your possible concerns and expectations about such collaboration.

Are There Any Risks Involved?

Participation in this study may involve the least amount of risk or discomfort since we are not going to ask personal or sensitive questions. If you experience any discomfort, you can stop participating at any time without any consequences.

What Will Happen to the Information and Data Collected?

Your information will remain strictly confidential. Interviews will be recorded only for accurate transcription, then securely stored on a password-protected Google Drive accessible only by the researcher and supervisor.

Names and identifying details will be removed from all transcripts and reports. Any quotes used in the thesis will be anonymous. After the thesis is complete, all recordings will be securely deleted within 12 months.

Participation is voluntary.

Your participation in this study is entirely voluntary. You have the right to refuse to participate or withdraw at any time without penalty or loss of benefits. If you choose to withdraw, your data will not be used in the study. In case you are using data from a specific company, you must obtain their permission by securing a signature. Additionally, you should provide a detailed explanation of how you will use, store, and manage the data in your thesis.

Consent

By signing this form, you confirm that you:

- Understand the purpose of the study and what participation involves.
- Know that participation is voluntary, and you may withdraw at any time.
- Agree to the interview being audio-recorded for research purposes.

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- Give your consent for your anonymized responses to be used in the thesis.

Name of Participant: _____

Signature: _____

Date: _____

Email (optional): _____