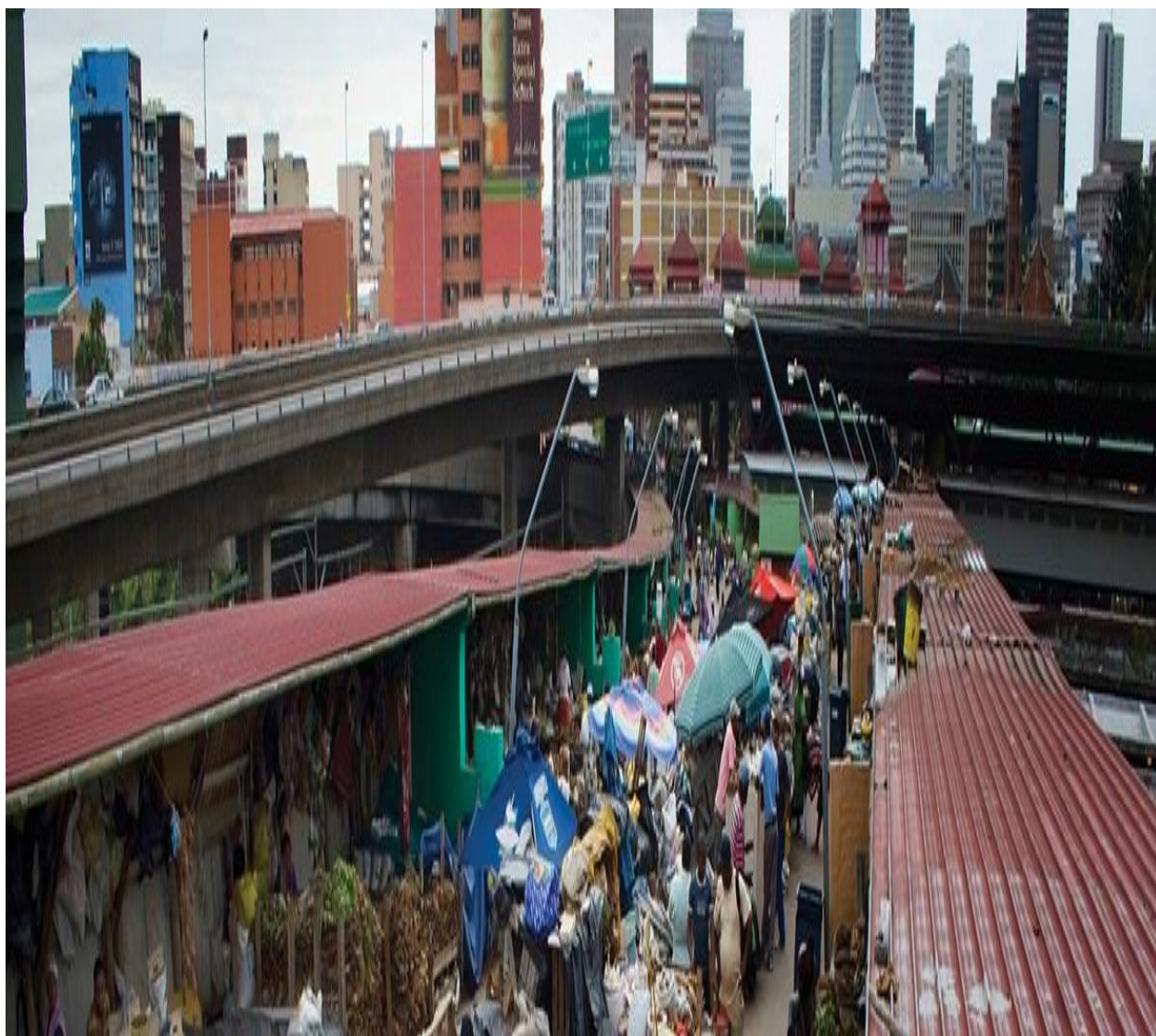


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RESEARCH ARTICLE

Understanding Team Dynamics in Fashion Technology Projects: Insights from Designers and Managers

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The integration of advanced technologies into the fashion industry has transformed traditional design and production processes, necessitating effective interdisciplinary collaboration among designers and managers. This study examines team dynamics in fashion technology projects, focusing on how communication, trust, shared mental models, leadership, and technology influence collaborative outcomes. Adopting a qualitative research design based on secondary data, the study synthesises insights from existing literature in organisational behaviour, design studies, and technology management. The findings reveal that successful team dynamics depend on the alignment of creative and managerial perspectives, supported by open communication, psychological safety, and the effective use of digital tools. However, tensions between creative autonomy and managerial control remain a persistent challenge. The study contributes to the literature by integrating Social Exchange Theory, Shared Mental Models Theory, and Collective Creativity Theory into a unified framework for understanding interdisciplinary collaboration in fashion technology contexts. Practical implications emphasise the importance of leadership, training, and hybrid communication strategies in enhancing team performance. The study also identifies areas for future research, particularly the role of emerging technologies in shaping team interactions.

Keywords: team dynamics, fashion technology, interdisciplinary collaboration, shared mental models, collective creativity, leadership

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1. Introduction

The contemporary fashion industry is undergoing a profound transformation driven by rapid technological advancements, globalisation, and shifting consumer expectations. The convergence of fashion and technology, often referred to as *fashion technology* or *fashion tech*, has redefined traditional design, production, and distribution processes. Technologies such as artificial intelligence (AI), computer-aided design (CAD), 3D prototyping, virtual reality (VR), and product lifecycle management (PLM) systems have enabled more efficient, data-driven, and collaborative approaches to fashion development (Arrigo, 2020; Nayak & Padhye, 2018). As a result, fashion projects increasingly require interdisciplinary collaboration among designers, engineers, data analysts, and managers.

In this evolving landscape, team dynamics have emerged as a critical determinant of project success. Team dynamics refer to the patterns of interaction, communication, and relationships among team members working toward shared objectives (Salas et al., 2015). In fashion technology projects, these dynamics are particularly complex due to the integration of creative and technical expertise. Designers often prioritise aesthetics, innovation, and artistic expression, whereas managers focus on efficiency, cost control, and market viability. These differing orientations can lead to both productive synergies and potential conflicts within teams (Wang et al., 2017).

The importance of effective collaboration in fashion cannot be overstated. Unlike traditional models where designers worked in relative isolation, contemporary fashion development involves multiple stakeholders across the value chain. From conceptualisation to final production, collaboration is required to ensure alignment between creative vision and technical feasibility (Gwilt, 2020). Moreover, the rise of fast fashion and digital platforms has compressed product development cycles, making efficient teamwork even more essential. In such contexts, ineffective communication or misaligned expectations can lead to delays, increased costs, and suboptimal outcomes.

A growing body of research highlights the role of interdisciplinary teamwork in fostering innovation within the fashion industry. For instance, studies indicate that collaboration between designers and technologists enhances creativity by integrating diverse perspectives and skill sets (Tselepis et al., 2016). Similarly, the use of digital tools facilitates real-time communication and information sharing, enabling teams to coordinate more effectively across geographical and organisational boundaries (Nayak & Padhye, 2018). However, the integration of technology also introduces new challenges, including skill gaps, resistance to change, and the need for continuous learning.

One of the central challenges in fashion technology projects lies in managing the relationship between designers and managers. These two groups often operate with different priorities, decision-making

styles, and performance metrics. Designers may seek creative autonomy and flexibility, while managers emphasise structure, deadlines, and profitability. This divergence can create tensions that, if not properly managed, may hinder collaboration and innovation (Fletcher, 2014). Conversely, when effectively balanced, these differences can lead to more holistic and innovative outcomes.

Another important aspect of team dynamics is the development of shared mental models, common understandings of goals, roles, and processes among team members. Research suggests that teams with well-aligned mental models are more effective in coordinating tasks and adapting to changes (Mathieu et al., 2000). In fashion technology contexts, where projects often involve complex workflows and rapidly evolving requirements, the alignment of mental models is crucial for ensuring coherence and efficiency.

Despite the growing importance of team dynamics in fashion technology, existing research remains fragmented. Much of the literature focuses either on creative collaboration in fashion design or on team dynamics in technology-driven industries, with limited integration of the two domains. There is a need for a comprehensive understanding of how interdisciplinary teams function within fashion technology projects, particularly from the perspectives of both designers and managers.

This study aims to address this gap by exploring the dynamics of teamwork in fashion technology projects through a qualitative analysis of secondary data. Specifically, the study seeks to identify the

key factors that influence collaboration, examine the differences in perspectives between designers and managers, and analyse how these dynamics impact project outcomes. By synthesising insights from existing literature, this research contributes to the development of a conceptual framework for understanding team dynamics in this emerging field.

The findings of this study have important implications for both theory and practice. From a theoretical perspective, the study integrates insights from organisational behaviour, design studies, and technology management to provide a holistic understanding of team dynamics. From a practical standpoint, the study offers recommendations for improving collaboration in interdisciplinary teams, thereby enhancing innovation and performance in fashion technology projects.

2. Literature Review

The literature on team dynamics in fashion technology projects spans multiple disciplines, including organisational behaviour, design studies, and innovation management. Existing research highlights the importance of collaboration, communication, and trust in enhancing team performance (Salas et al., 2015). In the fashion industry, interdisciplinary collaboration has become increasingly critical due to the integration of digital technologies and the complexity of modern product development processes (Gwilt, 2020). However, tensions between creative and managerial roles, as well as challenges in aligning diverse perspectives, continue to shape team interactions (Fletcher,

2014). This section reviews key theoretical and empirical contributions relevant to understanding these dynamics.

2.1 Team Dynamics and Interdisciplinary Collaboration

Team dynamics have been extensively studied within organisational behaviour, with a particular focus on how interpersonal relationships and communication patterns influence group performance. Salas et al. (2015) define team dynamics as the interactions and processes that occur among team members, including communication, coordination, and conflict management. Effective team dynamics are characterised by trust, mutual respect, and shared goals, which enable teams to function cohesively and achieve desired outcomes.

In interdisciplinary contexts, team dynamics become more complex due to differences in expertise, language, and professional norms. Research indicates that diversity in knowledge and skills can enhance creativity and problem-solving, but it can also lead to misunderstandings and conflicts if not properly managed (Edmondson & Harvey, 2018). In fashion technology projects, where teams often include designers, engineers, and managers, the integration of diverse perspectives is both a challenge and an opportunity.

2.2 Collaboration in the Fashion Industry

Collaboration has long been recognised as a cornerstone of the fashion industry. From haute couture to mass production, the development of fashion products involves multiple actors, including designers, pattern

makers, manufacturers, and marketers. Gwilt (2020) emphasises that collaboration is essential for addressing complex challenges such as sustainability, ethical production, and rapid market changes.

Empirical studies have demonstrated that collaborative practices can enhance efficiency and innovation in fashion. Wang et al. (2017) found that design collaboration improves product quality and reduces development time by facilitating the exchange of ideas and knowledge. Similarly, Arrigo (2020) highlights the role of collaboration in promoting sustainability, as it enables stakeholders to share resources and adopt more environmentally friendly practices.

The rise of digital technologies has further transformed collaboration in the fashion industry. Tools such as CAD systems, PLM platforms, and virtual prototyping enable teams to work together more effectively, even when geographically dispersed (Nayak & Padhye, 2018). These technologies not only improve communication but also support data-driven decision-making, thereby enhancing overall project performance.

2.3 Designer–Manager Relationships

The relationship between designers and managers is a critical aspect of team dynamics in fashion technology projects. Designers are typically driven by creativity and innovation, while managers focus on efficiency, cost control, and market success. This divergence in priorities can create tension, particularly in fast-paced and resource-constrained environments.

Fletcher (2014) argues that the tension between creativity and commerce is inherent in the fashion industry. Designers often seek to push creative boundaries, while managers must ensure that products are commercially viable. This dynamic can lead to conflicts over design decisions, timelines, and resource allocation. However, such conflicts are not necessarily detrimental; when managed effectively, they can stimulate critical thinking and lead to better outcomes.

Research also suggests that power dynamics play a significant role in designer–manager relationships. Managers often hold decision-making authority due to their control over resources, while designers possess specialised knowledge and creative expertise. Balancing these power dynamics is essential for fostering mutual respect and collaboration (Ravasi & Lojacono, 2005).

2.4 Shared Mental Models and Communication

Shared mental models (SMMs) refer to the collective understanding of tasks, roles, and processes within a team. According to Mathieu et al. (2000), SMMs enable team members to anticipate each other's actions, coordinate more effectively, and adapt to changing circumstances. In complex and dynamic environments such as fashion technology projects, the development of SMMs is particularly important.

Communication plays a central role in building and maintaining shared mental models. Effective communication ensures that information is accurately transmitted and understood, reducing the likelihood of errors and misunderstandings. Research indicates

that teams with strong communication practices are more likely to develop shared mental models and achieve higher levels of performance (Salas et al., 2015).

Digital technologies have introduced new forms of communication, including virtual meetings, collaborative platforms, and real-time data sharing. While these tools can enhance communication, they also require new skills and practices. For example, virtual collaboration may reduce face-to-face interaction, potentially affecting trust and relationship-building among team members (Edmondson & Harvey, 2018).

2.5 Technology-Enabled Collaboration and Co-Design

The integration of technology into fashion has given rise to new collaborative practices, including co-design and user-centred design. Co-design involves the active participation of multiple stakeholders, including consumers, in the design process. This approach leverages diverse perspectives to create products that better meet user needs (Sanders & Stappers, 2008).

In fashion technology projects, co-design is often facilitated by digital tools that enable real-time collaboration and feedback. For example, 3D modelling and virtual prototyping allow designers and managers to visualise and evaluate designs before production, reducing costs and improving efficiency (Nayak & Padhye, 2018). Similarly, AI-driven tools can analyse consumer data to inform design decisions, enhancing both creativity and market relevance.

However, technology-enabled collaboration also presents challenges. The integration of new tools requires training and adaptation, and there may be resistance to change among team members. Additionally, the reliance on technology can sometimes overshadow the human aspects of collaboration, such as trust and interpersonal relationships (Arrigo, 2020).

2.6 Trust, Leadership, and Team Performance

Trust is a fundamental component of effective team dynamics. It enables team members to share ideas, take risks, and collaborate openly. Research shows that trust is positively associated with team performance, particularly in creative and knowledge-intensive contexts (Edmondson, 1999).

Leadership also plays a crucial role in shaping team dynamics. Effective leaders facilitate communication, manage conflicts, and create an environment that supports collaboration and innovation. In fashion technology projects, leaders must balance the needs of designers and managers, ensuring that both creative and commercial objectives are met.

Transformational leadership, characterised by vision, inspiration, and support, is particularly effective in fostering collaboration and innovation (Bass & Riggio, 2006). Such leadership styles encourage team members to transcend individual interests and work toward shared goals.

2.7 Research Gap

Despite the extensive literature on team dynamics and fashion collaboration, there remains a lack of integrated research focusing specifically on fashion technology projects. Existing studies often examine either creative collaboration in fashion or team dynamics in technological contexts, without addressing the unique challenges and opportunities that arise at their intersection.

Furthermore, limited attention has been given to the perspectives of both designers and managers within the same analytical framework. Understanding these perspectives is essential for developing strategies to improve collaboration and performance in interdisciplinary teams.

This study addresses these gaps by synthesising insights from multiple disciplines and providing a comprehensive analysis of team dynamics in fashion technology projects.

3. Theoretical Framework

Understanding team dynamics in fashion technology projects requires an integrative theoretical lens that captures both social interaction and collaborative creativity within interdisciplinary environments. This study draws upon three complementary theoretical perspectives: Social Exchange Theory, Shared Mental Models Theory, and Collective Creativity Theory. Together, these frameworks provide a robust foundation for analysing how designers and managers interact, coordinate, and co-create within technologically mediated fashion contexts.

3.1 Social Exchange Theory

Social Exchange Theory (SET) posits that social relationships are formed and maintained through reciprocal exchanges of resources, both tangible and intangible (Blau, 1964). In organisational contexts, these resources may include knowledge, support, recognition, and trust. The theory suggests that individuals engage in interactions based on perceived costs and benefits, seeking to maximise rewards while minimising risks (Cropanzano & Mitchell, 2005).

In fashion technology teams, SET is particularly relevant for understanding collaboration between designers and managers. Designers contribute creative expertise, aesthetic vision, and innovation, while managers provide organisational resources, strategic direction, and decision-making authority. Effective collaboration emerges when both parties perceive the exchange as mutually beneficial. For example, when managers value and support creative input, designers are more likely to reciprocate with increased engagement and commitment.

Trust plays a central role within this framework. High levels of trust facilitate open communication, knowledge sharing, and risk-taking, elements essential for innovation in fashion design (Edmondson, 1999). Conversely, perceived inequities or imbalances in exchanges may lead to conflict, reduced cooperation, and disengagement. Thus, SET helps explain both the opportunities and tensions inherent in designer–manager relationships.

3.2 Shared Mental Models Theory

Shared Mental Models (SMMs) refer to the common cognitive structures that team members develop regarding tasks, roles, processes, and goals (Mathieu et al., 2000). These shared understandings enable team members to anticipate each other's actions, coordinate effectively, and adapt to dynamic environments.

In fashion technology projects, the importance of SMMs is amplified due to the interdisciplinary nature of work. Designers and managers often operate with different cognitive frameworks: designers may focus on aesthetics and user experience, while managers prioritise efficiency, timelines, and market demands. Without alignment, these differing perspectives can lead to misunderstandings and inefficiencies.

The development of SMMs relies heavily on communication and collaborative practices. Regular interactions, feedback loops, and the use of shared digital platforms can facilitate the alignment of mental models. Technologies such as computer-aided design (CAD) systems and product lifecycle management (PLM) tools serve as boundary objects that help bridge disciplinary divides by providing a common reference point (Nayak & Padhye, 2018).

Empirical research indicates that teams with well-developed SMMs demonstrate higher levels of coordination, reduced conflict, and improved performance (Salas et al., 2015). In the context of fashion technology, SMMs enable seamless integration of creative and technical processes, ensuring that design concepts are both innovative and feasible.

3.3 Collective Creativity Theory

Collective Creativity Theory emphasises the capacity of teams to generate innovative ideas through collaborative interaction (Hargadon & Bechky, 2006). Unlike individual creativity, which is often associated with solitary work, collective creativity emerges from the interplay of diverse perspectives, knowledge, and experiences.

Fashion design has traditionally been viewed as an individual creative endeavour. However, the integration of technology has shifted this paradigm toward more collaborative forms of innovation. In fashion technology projects, creativity is co-produced by designers, engineers, and managers, each contributing unique insights. This collaborative process enhances the quality and originality of outcomes, as ideas are refined through iterative feedback and collective problem-solving (Tselepis et al., 2016).

Collective creativity is influenced by several factors, including team diversity, communication, and organisational culture. Diverse teams bring a wider range of ideas and perspectives, which can stimulate innovation. However, diversity also requires effective management to prevent conflict and ensure cohesion (Edmondson & Harvey, 2018). Leadership plays a crucial role in fostering an environment that supports experimentation, openness, and mutual respect.

3.4 Integrated Conceptual Framework

Drawing on these three theories, this study proposes an integrated conceptual framework for understanding team dynamics in fashion technology projects. The framework consists of three key components:

- **Inputs:** Team composition (e.g., designers, managers, technologists), technological infrastructure, and organisational context.
- **Processes:** Social exchanges (trust, reciprocity), shared mental models (alignment of goals and roles), and collective creativity (collaborative idea generation).
- **Outputs:** Team performance, innovation, and project success.

This integrative approach highlights the interdependence of social, cognitive, and creative dimensions of teamwork. Social Exchange Theory explains the relational aspects of collaboration, Shared Mental Models Theory addresses cognitive alignment, and Collective Creativity Theory captures the innovative potential of teams. Together, these perspectives provide a comprehensive understanding of how team dynamics influence outcomes in fashion technology projects.

4. Research Methodology

This study employs a qualitative research methodology based on the analysis of secondary data to explore team dynamics in fashion technology projects. Qualitative approaches are particularly suitable for examining complex social interactions and

organisational processes (Creswell & Poth, 2018). By synthesising insights from peer-reviewed literature, industry reports, and academic studies, the research aims to identify recurring themes and patterns related to collaboration, communication, and leadership. The use of thematic analysis allows for a systematic interpretation of data, enabling the development of a comprehensive understanding of interdisciplinary teamwork in the context of fashion technology (Braun & Clarke, 2006).

4.1 Research Design

This study adopts a qualitative research design based on the analysis of secondary data. Qualitative research is particularly suitable for exploring complex social phenomena such as team dynamics, as it allows for an in-depth understanding of experiences, interactions, and contextual factors (Creswell & Poth, 2018). Given the interdisciplinary nature of fashion technology projects, a qualitative approach enables the integration of insights from multiple domains, including design studies, organisational behaviour, and technology management.

A secondary data approach was chosen due to the availability of extensive scholarly literature on team dynamics and fashion collaboration. This method allows for the synthesis of existing knowledge, providing a comprehensive overview of the research topic while identifying patterns and gaps in the literature (Johnston, 2017).

4.2 Data Sources and Selection Criteria

The study draws on a wide range of secondary data sources, including:

- Peer-reviewed journal articles
- Academic books
- Conference proceedings
- Industry reports

To ensure the quality and relevance of the data, the following selection criteria were applied:

- **Relevance:** Sources must address team dynamics, collaboration, or fashion technology.
- **Credibility:** Preference was given to peer-reviewed publications and reputable academic publishers.
- **Recency:** Emphasis was placed on recent studies to capture current trends and technological developments.
- **Theoretical and empirical contribution:** Sources must provide substantive insights into the research topic.

Databases such as Scopus, Web of Science, and Google Scholar were used to identify relevant literature using keywords such as “team dynamics,” “fashion technology,” “collaboration,” and “design teams.”

4.3 Data Analysis: Thematic Analysis

The study employs thematic analysis as the primary method for analysing secondary data. Thematic analysis is a flexible and widely used qualitative method for

identifying, analysing, and reporting patterns within data (Braun & Clarke, 2006). The analysis followed a systematic process:

- **Familiarisation:** Reading and re-reading selected sources to gain an overall understanding.
- **Coding:** Identifying key concepts and assigning codes to relevant data segments.
- **Theme Development:** Grouping codes into broader themes related to team dynamics, such as communication, trust, leadership, and technology.
- **Review and Refinement:** Ensuring that themes accurately represent the data and align with the research objectives.
- **Interpretation:** Linking themes to the theoretical framework to generate insights.

This approach allows for the integration of diverse perspectives and the identification of recurring patterns across studies.

4.4 Ensuring Research Rigour

To enhance the credibility and reliability of the study, several strategies were employed:

- **Triangulation:** Data from multiple sources were compared and cross-validated to ensure consistency (Denzin, 1978).
- **Transparency:** The research process, including data selection and analysis procedures, is clearly documented.
- **Theoretical grounding:** The analysis is guided by established theories, ensuring conceptual rigour.

Additionally, reflexivity was maintained throughout the research process to minimise bias and ensure an objective interpretation of the data.

4.5 Limitations of the Methodology

While secondary qualitative analysis offers several advantages, it also has limitations. First, the study relies on existing data, which may not fully capture the specific context of all fashion technology projects. Second, the interpretation of data is subject to researcher bias, despite efforts to maintain objectivity. Third, the absence of primary data limits the ability to explore emerging trends or context-specific insights.

Despite these limitations, the methodology provides a robust foundation for understanding team dynamics by synthesising a wide range of existing research.

4.6 Ethical Considerations

As this study is based on secondary data, it does not involve direct interaction with human participants. However, ethical considerations were still observed by ensuring proper citation and acknowledgement of all sources. The study adheres to academic integrity standards and avoids plagiarism by appropriately referencing all materials used (Mannan & Farhana, 2026).

5. Findings and Analysis

The thematic analysis of secondary data reveals that team dynamics in fashion technology projects are shaped by a complex interplay of interpersonal, cognitive, and

structural factors. Five dominant themes emerged: communication practices, shared mental models, trust and psychological safety, leadership and coordination, and technology-mediated collaboration. These themes collectively illustrate how designers and managers navigate interdisciplinary collaboration in technologically intensive environments.

5.1 Communication as the Foundation of Collaboration

Effective communication emerged as the most critical factor influencing team dynamics. In fashion technology projects, communication extends beyond the exchange of information to include the translation of ideas across disciplinary boundaries. Designers often communicate through visual representations such as sketches, mood boards, and prototypes, whereas managers rely on verbal and quantitative data. This difference in communication styles can create barriers if not properly aligned.

Studies indicate that teams with open and frequent communication are better able to coordinate tasks and resolve conflicts (Salas et al., 2015). In fashion technology contexts, digital tools such as CAD systems and collaborative platforms facilitate real-time communication, enabling team members to share updates and feedback efficiently (Nayak & Padhye, 2018). However, the reliance on digital communication can also reduce the richness of interpersonal interactions, potentially leading to misunderstandings.

The findings suggest that successful teams adopt hybrid communication strategies that

combine digital tools with face-to-face interactions. Regular meetings, feedback sessions, and iterative design reviews help ensure that all team members have a shared understanding of project goals and progress.

5.2 Shared Mental Models and Cognitive Alignment

The development of shared mental models (SMMs) is essential for effective collaboration in interdisciplinary teams. SMMs enable team members to align their understanding of tasks, roles, and objectives, thereby reducing ambiguity and enhancing coordination (Mathieu et al., 2000).

In fashion technology projects, the alignment of mental models is particularly challenging due to the diverse backgrounds of team members. Designers may prioritise creativity and user experience, while managers focus on timelines, budgets, and market requirements. The findings indicate that teams with well-developed SMMs are more effective in integrating these perspectives, resulting in more coherent and innovative outcomes.

Digital tools play a significant role in facilitating cognitive alignment. For example, 3D modelling and virtual prototyping allow team members to visualise designs in a shared space, reducing the gap between conceptual and technical understanding. These tools act as “boundary objects” that bridge disciplinary differences and support collaborative decision-making (Edmondson & Harvey, 2018).

5.3 Trust and Psychological Safety

Trust and psychological safety are critical for fostering collaboration and creativity. Psychological safety refers to the belief that team members can express ideas, ask questions, and take risks without fear of negative consequences (Edmondson, 1999).

The analysis reveals that trust is particularly important in fashion technology teams, where innovation often requires experimentation and risk-taking. Designers must feel confident that their creative ideas will be valued, while managers must trust that designers will consider practical constraints. High levels of trust facilitate open communication and knowledge sharing, leading to better problem-solving and innovation.

Conversely, a lack of trust can lead to defensive behaviours, reduced collaboration, and lower team performance. The findings suggest that trust is built through consistent interactions, transparency, and mutual respect. Leadership also plays a crucial role in establishing a psychologically safe environment by encouraging participation and valuing diverse perspectives.

5.4 Leadership and Coordination Mechanisms

Leadership emerged as a key factor in shaping team dynamics. Effective leaders act as facilitators, mediators, and coordinators, ensuring that team members work cohesively toward shared goals. In fashion technology projects, leadership often involves balancing creative freedom with managerial control.

Transformational leadership styles, characterised by vision, inspiration, and support, are particularly effective in fostering collaboration and innovation (Bass & Riggio, 2006). Such leaders encourage team members to contribute ideas, experiment with new approaches, and engage in collective problem-solving.

The findings also highlight the importance of coordination mechanisms, such as project management tools, timelines, and performance metrics. These mechanisms provide structure and clarity, helping teams manage complex workflows and meet deadlines. However, excessive control can stifle creativity, indicating the need for a balanced approach.

5.5 Technology as an Enabler and Constraint

Technology plays a dual role in shaping team dynamics. On one hand, it enables collaboration by providing tools for communication, visualisation, and data analysis. On the other hand, it can create challenges related to skill gaps, resistance to change, and over-reliance on digital systems.

The analysis shows that technology enhances efficiency and coordination, particularly in geographically dispersed teams. For example, PLM systems allow team members to track progress, share information, and manage resources effectively (Nayak & Padhye, 2018). Similarly, AI-driven tools can support decision-making by analysing consumer data and predicting trends.

However, the integration of technology requires continuous learning and adaptation. Teams must develop new skills and

workflows to fully leverage technological capabilities. Additionally, the emphasis on technology should not overshadow the importance of human interaction and creativity.

5.6 Tensions Between Creativity and Managerial Control

A recurring theme in the findings is the tension between creative autonomy and managerial control. Designers often seek flexibility and freedom to explore innovative ideas, while managers prioritise efficiency and risk management. This tension can lead to conflicts, particularly in high-pressure environments.

The analysis suggests that these tensions are not inherently negative. When managed effectively, they can stimulate critical thinking and lead to more balanced and innovative outcomes. For example, constructive debates between designers and managers can result in designs that are both creative and commercially viable.

6. Discussion

The findings of this study provide valuable insights into the dynamics of interdisciplinary collaboration in fashion technology projects. By integrating perspectives from organisational behaviour, design studies, and technology management, the discussion highlights both theoretical contributions and practical implications.

6.1 Integration with Theoretical Framework

The findings strongly support the theoretical framework proposed in this study. Social

Exchange Theory (SET) is reflected in the importance of trust, reciprocity, and mutual benefit in team interactions (Cropanzano & Mitchell, 2005). The exchange of resources, such as knowledge, creativity, and managerial support, underpins effective collaboration between designers and managers.

Shared Mental Models Theory is also validated by the findings, particularly in relation to cognitive alignment and coordination. Teams with aligned mental models are better able to integrate diverse perspectives and adapt to changing requirements (Mathieu et al., 2000). The role of digital tools in facilitating SMMs further highlights the intersection of cognitive and technological dimensions of teamwork.

Collective Creativity Theory is evident in the emphasis on collaboration and innovation. The findings demonstrate that creativity in fashion technology projects is not an individual endeavour but a collective process shaped by interactions among team members (Hargadon & Bechky, 2006). This aligns with the shift toward co-design and interdisciplinary collaboration in the fashion industry.

6.2 Implications for Interdisciplinary Teamwork

The study underscores the importance of managing diversity in interdisciplinary teams. While diversity in skills and perspectives enhances creativity, it also requires effective communication and coordination. Organisations must invest in training and development to help team

members navigate interdisciplinary collaboration.

The findings also highlight the need for hybrid communication strategies that combine digital tools with face-to-face interactions. While technology facilitates efficiency, interpersonal communication remains essential for building trust and understanding.

6.3 Balancing Creativity and Control

One of the central challenges identified in this study is the balance between creativity and managerial control. This tension is inherent in fashion technology projects, where innovation must be aligned with commercial objectives. The findings suggest that a balanced approach, which allows for creative exploration while maintaining structure and accountability, is essential for success.

Leadership plays a critical role in achieving this balance. Transformational leaders who encourage participation and support innovation are better able to manage tensions and foster collaboration (Bass & Riggio, 2006). At the same time, clear goals and performance metrics are necessary to ensure that projects remain on track.

6.4 Role of Technology in Shaping Team Dynamics

The discussion highlights the transformative impact of technology on team dynamics. Digital tools enable new forms of collaboration, allowing teams to work more efficiently and effectively. However, the integration of technology also requires

changes in organisational culture and practices.

Organisations must ensure that team members have the necessary skills and support to use technological tools effectively. This includes providing training, fostering a culture of continuous learning, and addressing resistance to change. Additionally, the human aspects of collaboration, such as trust, communication, and creativity, must remain central to team dynamics.

6.5 Contributions to Literature

This study contributes to the literature in several ways. First, it integrates multiple theoretical perspectives to provide a comprehensive understanding of team dynamics in fashion technology projects. Second, it highlights the unique challenges and opportunities associated with interdisciplinary collaboration in this context. Third, it provides a conceptual framework that can guide future research and practice.

6.6 Limitations and Future Research

Despite its contributions, the study has limitations. The reliance on secondary data may limit the ability to capture context-specific insights. Future research could address this limitation by conducting primary studies, such as interviews or case studies, to explore team dynamics in specific organisations.

Additionally, future research could examine the impact of emerging technologies, such as AI and virtual reality, on team dynamics.

Longitudinal studies could also provide insights into how team dynamics evolve.

7. Conclusion, Recommendations, and Future Research

This study provides a comprehensive analysis of team dynamics in fashion technology projects, highlighting the critical role of interdisciplinary collaboration in achieving innovative and commercially viable outcomes. The findings demonstrate that effective teamwork is shaped by a combination of social, cognitive, and technological factors. Communication, trust, shared mental models, and leadership emerge as central elements that influence how designers and managers interact and collaborate. The integration of digital tools further enhances coordination and efficiency, although it also introduces challenges related to skill development and adaptation.

A key insight from this study is the persistent tension between creative autonomy and managerial control. While designers seek flexibility to explore innovative ideas, managers emphasise structure, efficiency, and market considerations. Rather than viewing this tension as a barrier, the study suggests that it can catalyse innovation when managed effectively. Constructive dialogue and mutual respect enable teams to balance creativity with practicality, resulting in more robust and market-responsive outcomes.

From a practical perspective, organisations should invest in strategies that foster effective team dynamics. These include promoting open communication, building trust through

transparent practices, and providing leadership that supports both creativity and accountability. Training programs that enhance interdisciplinary understanding and technological competence are also essential. Additionally, organisations should adopt hybrid collaboration models that combine digital tools with face-to-face interactions to maintain both efficiency and relational cohesion.

Despite its contributions, this study is limited by its reliance on secondary data. Future research should incorporate primary data collection methods, such as interviews and case studies, to gain deeper insights into team dynamics in specific organisational contexts. Moreover, the impact of emerging technologies, such as artificial intelligence and virtual reality, on collaboration and creativity warrants further investigation. Longitudinal studies could also explore how team dynamics evolve in response to technological and organisational changes.

In conclusion, this study underscores the importance of integrated and adaptive approaches to managing team dynamics in fashion technology projects. By aligning creative and managerial perspectives, organisations can enhance collaboration, foster innovation, and achieve sustainable competitive advantage.

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