Social Alignment in Digital Transformation: A Case Study

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Abstract

Digital transformation necessitates cross-functional discipline and collaboration, making alignment between the information technology (IT) team and other business units crucial. Social alignment, which centers on interpersonal relationships, holds significant importance among the various alignments. Strong relationships between IT and non-IT employees foster a willingness to cooperate and engage with others, thereby serving as a foundational element for digital transformation. However, prior studies have primarily focused on strategic alignment, leaving limited research on social alignment throughout the entire digital transformation of an organization. In this study, we examined MyComputer, an international electronic manufacturing services company, to gain insights into the factors influencing social alignment during the transformation process. Drawing upon the theoretical perspective of social capital theory (SCT), our research findings demonstrate that relational, cognitive, and structural linkages exhibit mutual reinforcement and contribute to the enhancement of social alignment. Furthermore, we have identified structural linkages as the dominant influencer among the three types of linkages. In addition to this, organizational endeavors, including learning from past failure experiences, cultural reshaping, and visionary and delegating leadership styles, emerge as key factors in achieving social alignment.

Keywords: Digital transformation; Social alignment; Social capital theory; Business-IT alignment process

Chapter 1. Introduction

1.1 Background

In the past few decades, academia and practice have highlighted the importance of digital transformation because it not only reinvents companies, but it also changes markets and entire industries (Bharadwaj et al., 2013). However, the average digital transformation failure rate is stunningly high, at 87.5% over the past few years (Wade & Shan, 2020). In addition, McKinsey & Company (2018) conducted a global survey and found that the success rate in industries known for their digital expertise, including high tech, media, and telecommunications, does not exceed 26%.

From these studies, there are numerous challenges, and we do not know much about digital transformation. Studies show that cross-functional collaboration and alignment between each business unit are essential elements of digital transformation, which aims to fuse together organizational and information systems (IS) strategies (Schlosser et al., 2015; Vial, 2021). Benbya and McKelvey (2006, p. 294) conceptualized IS alignment as "a function of coevolutionary dynamics" that can potentially lead to better organizational performance. IS alignment includes continual interactions and adjustments across different dimensions (e.g., strategic, operational, and social) and three levels (e.g., individual, business and IS group, and strategy) (Benbya et al., 2019). As an increasing number of people study this topic, researchers have gradually converged on three main dimensions: strategic/intellectual alignment, social alignment, and operational alignment (Chan & Reich, 2007). These three dimensions have proven to be highly relevant to the success of organizations. Strategic alignment is, overall, the most frequently studied among all the dimensions (e.g., Coltman et al., 2015; Fischer et al., 2020); it emphasizes how to align IS

strategy with business plans, goals, and missions to impact organizational performance (Wu et al., 2015). However, Benbya et al. (2019) conducted a research curation on IS alignment research published in *MIS Quarterly* from the journal's inception through November 2018, finding that several issues of strategic alignment research have been critiqued. First, scholars have discovered that IS and business strategy are bidirectional and coevolving, not just conforming unidirectionally to business strategy. In addition, IS alignment is not a "static outcome" but a "dynamic emergent process." Second, researchers need to pay more attention to how to realize the IS strategy instead of viewing it as a plan. As studies have moved from intended strategy to actual practices, an increasing amount of research has aimed at other dimensions to take the complexity of IS alignment into account (e.g., Preston & Karahanna, 2009; Reich & Benbasat, 2000; Wu et al., 2015).

1.2 Research Objective

Considering the rapid pace and scale of change in both the business and technological environments, Llamzon et al. (2022) suggested that we should place less of an emphasis on the strategic dimension of IS alignment, instead concentrating more on the operational and social factors. Social alignment has not only received increasing attention over the past 20 years, but it has also built the basis for other dimensions of alignment (Schlosser et al., 2015). Social alignment focuses on possessing comprehension and dedication toward the mission, objectives, and plans of both business and information technology (IT) executives (Reich & Benbasat, 2000). To derive greater strategic use from IS (strategic alignment), a common understanding is an important prerequisite, particularly in the context of digital transformation, which relies heavily on cross-organizational and cross-departmental collaboration. The CIO needs to understand current business goals to align the

organizational IS strategy with them, and the top management team (TMT) needs to explain their strategy to the CIO. Moreover, at the operational level, IT and other business departments need to collaborate and foster cross-domain interconnectedness to achieve organizational goals (Wagner et al., 2014). As a result, some departments, workshops, or other infrastructures (operational alignment) have been set up to facilitate an understanding among business units and IT (Preston & Karahanna, 2009). Previous research has focused more on the effects of the working relationship between the CIO and TMT (e.g., Preston & Karahanna, 2009), which is a horizontal dimension in the organization. These studies also examined how social alignment influences business outcomes (Liang et al., 2017; Wu et al., 2015). However, a successful digital transformation relies not only on social alignment at the management level (Schlosser et al., 2015), but also on the process of achieving alignment among staff (Pelletier et al., 2021). Hence, the present study focuses on the relationship between every business unit and IT, including high-level executives and operational levels, to provide a comprehensive perspective of social alignment in digital transformation. Our research question is as follows:

RQ: What factors affect social alignment in digital transformation?

We chose MyComputer, a global manufacturing firm in Taiwan, as our case study. MyComputer has been a trailblazer in designing and manufacturing its own-brand rackmount systems, tower servers, and PC chassis for over 35 years. In the past, it launched its first digital transformation, which was also a process optimization project. Since the people involved were only part of a certain section of the process and had some conflicts with the consultants, the project failed. Several years later, with increasing internal pain points and the threat of external competitors, the company implemented a second digital

transformation. Reich and Benbasat (2000) highlighted the company's background and its IT history as the key factors affecting alignment. From this point of view, it is very suitable to explore what changes this firm has made to achieve social alignment, which, in turn, has led to the success of digital transformation. Moreover, because it was a digital transformation project for the whole organization, foreign branches and manufacturing plants were required to join the project. We can take advantage of this feature to gather more comprehensive information and views to examine the interface among business units in our study. In conclusion, although digital transformation in the manufacturing industry has been studied from diverse perspectives, such as exploring the driving factors for digital transformation in companies of different natures (Liere-Netheler et al., 2018) and investigating barriers to digital transformation (Vogelsang et al., 2019), there is still a gap in discussing social alignment, one of the important factors for the success of digital transformation (Pelletier et al., 2021; Schlosser et al., 2015), from a broad viewpoint. The overall research goal was to (1) investigate the different organizational factors that influence social alignment in digital transformation and (2) explore social alignment in the horizontal and vertical dimensions.

To observe and analyze the relationships between departments throughout the company (including operational level, high-level executives, and formal or informal connections), we used social capital theory (SCT) as our theoretical foundation. Social capital contains the "actual and potential" available resources from the relationship network (Nahapiet & Ghoshal, 1998). At the directorial level, managerial social capital is made up of "formal and informal relationships that managers have with others" (Helfat & Martin, 2015, p. 1286). Managerial social capital can help managers access different types

of information and support, allowing them to create a business understanding of IT, identify market opportunities, and overcome challenges (Li et al., 2018). Hence, within certain limits, the denser social capital a company has, the more advantages it will have in building and sharing intellectual property in the market (Nahapiet & Ghoshal, 1998). At the operational level, Wagner et al. (2014) found that social capital can help IT staff establish their business understanding. As the relationship between each business unit grows, social capital accelerates knowledge exchange, resulting in shared understanding. As discussed above, social capital is an important resource to achieve social alignment (Kearns & Sabherwal, 2006) and is an essential element in the organization, including mutual trust, shared language, and other factors that can affect the relationship (Rezaei et al., 2020). We have adopted SCT as our theoretical lens so that we can observe the relationships in the whole company and understand the basic structure of social alignment. By leveraging its structural, cognitive, and relational components, we have specifically examined and explained how it influences the social dimensions of the alignment of the company. After interviewing some operational staff and executives in line with SCT, we found that formal and informal teamwork or strong relationships in the working environment are also the keys to social alignment. In addition, we also developed a model that interprets the interrelationship among the company's background, shared domain knowledge, shared understanding, and social capital (Reich & Benbasat, 2000). The results can help practitioners understand the essential conditions for aligning the business goal with the organization while also suggesting that IT and each business unit focus on their working relationships beyond the short-term goals of the team.

In the present paper, we first introduce the theoretical framework and research

methodology used. We then move on to the analysis of the results in the third section, while the fourth section summarizes the main findings. Finally, in the last section, we discuss the implications of the findings and provide some advice for both academia and practice.

Chapter 2. Literature Review

2.1 Digital Transformation

Scholars have examined the various perspectives and crucial aspects of digital transformation in the literature for many years, including the definition, internal or external factors, and phases of digital transformation (e.g., Dimock, 2019; Gurbaxani & Dunkle, 2019; Mergel et al., 2019). Broadly speaking, digital transformation involves the use of new enabling IT/IS solutions and trends to make business improvements (Heilig et al., 2017; Liere-Netheler et al., 2018). Moreover, digital transformation serves as a distinctive backdrop for business process reengineering (BPR). This is because adapting to new digital technologies as part of digital transformation prompts a reevaluation and restructuring of business models and processes (Baiyere et al., 2020). A study in the financial industry summarized digital transformation as "the use of technology (including social, mobile, and emerging technologies) to radically improve the performance or reach of enterprises" (Karagiannaki et al., 2017, p. 2). Digital transformation relies on innovation; accordingly, previous research has also defined it as the company's reinvention, including its vision and strategy, organization structure, processes, capabilities, and culture (Gurbaxani & Dunkle, 2019). To sum up, digital transformation is concerned with leveraging digital technologies (such as social media platforms, mobile devices, data analytics tools, or embedded systems) and developing a digital business strategy to improve business performance or organizational process rethinking (Eden et al., 2019; Horlacher et al., 2016). The digital business strategy is not only related to firms and supply chains, but also to dynamic ecosystems (alliances, partnerships, and competitors) (Bharadwaj et al., 2013). Consequently, different functions have to work together and do many complex tasks

interdependently to reach a consensus and set goals (Horlacher, 2016). Li et al. (2018) believed the alignment between IT and business is essential because the senior executive team needs to understand digital technology capabilities clearly and how these capabilities support business objectives. For this reason, the chief digital officer (CDO) has been an emerging positions that an increasing number of companies are creating to support digital transformation activities (Tumbas et al., 2018). CDOs have the authority to ensure their TMT participation and commitment while enabling horizontal and vertical alignment (Horlacher et al., 2016). Without alignment, there will be conflict and misunderstanding among groups, and project management will be more ineffective and inefficient (Burton-Jones et al., 2020). Misalignment obstructs the success and attainment of a company's technological, industrial, and strategic goals (Pelletier et al., 2021). Nevertheless, the research on the precise mechanisms and processes of achieving IT alignment is still limited, including different units, levels, and multibusiness organizations (e.g., Burton-Jones et al., 2020; Liang et al., 2017; Pelletier et al., 2021; Reynolds & Yetton, 2015).

2.2 Social Alignment

Successful digital transformation heavily relies on achieving alignment between business and IT, making it a crucial and vital element (Burton-Jones et al., 2020; Liang et al., 2017; Wagner et al., 2014). Alignment can be further classified into three categories: strategic/intellectual alignment, operational alignment, and social alignment (Chan & Reich, 2007). Although strategic alignment has been the most popular research topic in all dimensions, previous research has mostly focused on the static outcomes (e.g., financial and business performance) (Benbya et al., 2019; Pelletier et al., 2021). However, digital transformation is a dynamic process that requires "combinations of information, computing,

communication, and connectivity technologies" (Vial, 2021, p. 137), and the process of developing IS and business strategy is two-way and collaborative one (Bharadwaj et al., 2013). Hence, greater attention has been given to social alignment, which emphasizes the relationships and common understanding among the CIO, TMT, and staff (Schlosser et al., 2015). Social alignment has also been recognized as the most critical prerequisite for digital transformation (Preston & Karahanna, 2009). Our definition of social alignment is related to strategic IT alignment from a social perspective. It is the alignment between business and IT with a "shared vision for IT" and an "understanding of current objectives" (Reich & Benbasat, 2000, p. 81). In the beginning, the research on this topic focused on relationships between executives (e.g., Kearns & Sabherwal, 2006). Later on, the informal relations between business units and IT staff in the organization were studied (Ghosh & Scott, 2009). Hence, social alignment, also known as relational alignment, refers to formal and informal teamwork, communication, and connection through informal organizational structures and working relationships (Preston & Karahanna, 2009). To achieve social alignment, Burton-Jones et al. (2020) divided the process into four phases: connection, respect, cross-disciplinary participation, and social alignment. If each group or individual can learn from others, they can connect and show respect, which provides the foundation for cross-disciplinary participation, finally reaching the goal of social alignment.

From the aspect of business direction, some researchers have found that social alignment can be separated into long and short term. Short-term social alignment is defined as the shared understanding of short-term (one- to two-year) plans and goals, whereas long-term alignment refers to the shared understanding of common visions (Reich & Benbasat, 2000). The key factor in both types of alignments is *shared domain knowledge*, which

refers to business managers who are knowledgeable in IT and IT managers who are knowledgeable in business (Reich & Benbasat, 2000). In addition, when it comes to *shared understanding*, some researchers have defined this as *an extension of social alignment* (Tan & Gallupe, 2006). Shared understanding is the level of shared cognition on the role of the IS between the CIO and TMT in the organization. Additionally, Preston and Karahanna (2009) discovered that the CIO and TMT can develop a shared understanding by sharing their *shared domain knowledge* of IS and how it can improve the organization's capabilities. In other words, to foster a shared understanding, it is important for the CIO to possess business knowledge and for the TMT to possess IS knowledge. This can enable them to engage in each other's critical processes, appreciate each other's contributions, and provide mutual support (Reich & Benbasat, 2000). Furthermore, they also explored some factors that lead to the development of shared understanding, for example, a shared language. To communicate and connect effectively, the CIO and TMT utilize a common language, enabling them to integrate knowledge, reach a consensus on situational perspectives, and foster a shared understanding within the organization (Johnson & Lederer, 2005; Preston & Karahanna, 2009). However, previous studies have been divided on how to achieve social alignment, with some focusing on the elements of the social alignment formation process, such as internal and external structures (Pelletier et al., 2021). Most discussions have focused on business performance and the impacts of alignment (Liang et al., 2017; Wu et al., 2015) because achieving social alignment for improved performance is the ultimate goal of businesses (Burton-Jones et al., 2020; Pelletier et al., 2021). Another gap is cross-functional collaboration, which is an important element of digital transformation (Liang et al., 2017). Not only is top-down alignment crucial, but bottom-up cooperation is

also essential. Nevertheless, the research has mainly explored social alignment at a certain level of the firm. For example, Reich and Benbasat (2000) focused on the top management level, which is between management teams and IT executives. Chan (2008) explored the informal relations between IT staff and businesses, which are at the operational level.

2.3 Social Capital Theory

Although previous IS literature has found some antecedents of social alignment, such as shared domain knowledge, informal and formal connections between staff, and successful IT histories, it is still difficult for both business and IT to achieve social alignment (Schlosser et al., 2015). Identifying and deploying "IT resources and competencies as well as the relational capabilities" that can make digital strategies successful is a critical step in the social alignment process (Pelletier et al., 2021, p. 44). Because social alignment emphasizes the relations and connections between business and IT (Preston & Karahanna, 2009), we have used SCT as our theoretical lens to obtain a better understanding of the factors of social alignment. Karahanna and Preston (2013) proved that the integration and exchange of business and IT knowledge, which is a major prerequisite of social alignment, can be accelerated by social capital, and mutual trust between the CIO and TMT can be built by shared cognition. Social capital includes all types of resources, networks, and assets from the relationship network (Nahapiet & Ghoshal, 1998). This theory posits that social capital can be assessed and categorized into three dimensions: structural, cognitive, and relational (see Table 1). Recently, an increasing number of studies have used SCT to research social alignment in digital transformation and explain the relationship between different business units, especially at the operational level (Wagner et al., 2014).

The structural dimension of social capital is "the overall pattern of connections between actors" (Nahapiet & Ghoshal, 1998, p. 244). Wagner et al. (2014) described structural dimension of social capital as a method of communication and interaction among IT and non-IT employees, including formal and informal meetings. For instance, having meetings or doing projects together can help staff members consider the effect of their work from a higher-level perspective, exchange their knowledge, and enhance their willingness to collaborate with others. The cognitive component of social capital refers to the shared language and interpretations that exist among individuals or groups (Nahapiet & Ghoshal, 1998). It extends to the understanding of each other's perspectives between IT and business units (Wagner et al., 2014). In other words, not only can IT explain the technical problem in business language to others, but it can also show if the business employee has background knowledge of IT. Other research has also indicated that sharing knowledge with each other is a way for IT and business executives to reach a consensus on strategies and monitor the trends, opportunities, and threats of the external environment easily (Tallon & Pinsonneault, 2011; Wu et al., 2015). Finally, the relational aspect of social capital is the particular relations that people have (Nahapiet & Ghoshal, 1998), including mutual trust and respect. With this dimension, business units trust IT and do not worry about the work that needs to be coordinated. Gilchrist et al. (2018) observed that, if groups learn knowledge from others, they begin to respect each other. Moreover, because they can gain opinions by joining cross-disciplinary activities, they are willing to hold discussions with other people. In conclusion, to reach the goal of social alignment, these three dimensions of social capital have strong relationships and mutually affect each other. For example, different parties in the organization need to trust others (relational dimension) (Burton-

Jones et al., 2020) and understand others' viewpoints (cognitive dimension) through workshops or meetings (structural dimension). In our study, we adopted SCT as our lens to observe the dynamic relationships and multistage processes of social alignment (Gilchrist et al., 2018). At the same time, we have taken more variables (e.g., past experience, personal knowledge bases, and personalities) into account to examine if they affect social capital in social alignment (Karahanna & Preston, 2013).

Table 1. *Previous Research Using SCT on Digital Transformation*

Author	Dimensions of social capital investigated	Methodology	Summary and findings
Van Den Hooff and De Winter (2011)	Relational, structural, and cognitive linkages	Interview and survey	• Social capital directly affects perceived IT performance and indirectly influences it through knowledge sharing. • The IT department emphasizes exchanging factual information, while the business organization values mutual relationships. • Higher levels of cognitive and relational social capital lead to mutual understanding and a positive perception of the IT department's performance by the business organization.
Wagner et al. (2014)	Relational, structural, and cognitive	Survey	• They examined the effects of relational, structural, and cognitive linkages of social capital on operational business–IT alignment.

	linkages		• The cognitive dimension (common language) has the strongest influence on social alignment. • The effect of the structural linkage is strongly mediated by cognitive and relational linkages.
Schlosser et al. (2015)	Relational, structural, and cognitive linkages	Survey	• They conceptualize social alignment as the combination of social capital between business and IT and IT personnel's business understanding. The former deals with structural, relational, and cognitive relationships. • Both formal and informal IT governance integration mechanisms have a positive effect on social capital, and social capital positively influences business performance.
Moon et al. (2018)	Relational, structural, and cognitive linkages	Survey	• Adopting a social capital theory perspective, they viewed social alignment as the social capital that exists between business and IT executives in which the outcome is integrated knowledge. • Relational leadership style facilitates structural, relational, and cognitive linkages, and these three linkages positively influence the exchange of integrated knowledge with business executives, leading to greater effectiveness of

			the information security system and improved organizational performance.
Chen et al. (2021)	It does not break down the dimension of social capital but rather treats it as a type of CIO/TMT partnership	Survey	• By directing the attention of top management to strategic IT issues, CIOs can influence the occurrence of digital innovation. • Four categories of organizational assets, including strategic decision-making authority, partnership with the top management team (TMT), IT-related strategic knowledge, and political savvy, are crucial for CIOs to become effective issue sellers.
Lyu et al. (2022)	Social structural capital, Social relational capital, and Social cognitive capital	Survey	• The study suggests that building social capital is crucial for digital firms to improve their innovation performance during the pandemic. • Cross-border knowledge search plays a vital role in mediating the relationship between social capital and innovation performance, along with absorptive capacity. However, the specific mediation effect varies across different dimensions of social capital.
Ji et al. (2022)	Entrepreneurs' technological social capital	Text mining	• The implementation of technology-driven digital transformation (TDT) has a favorable impact on financial performance (FP), whereas

	(ETSC), entrepreneurs' business social capital (EBSC), and entrepreneurs' institutional social capital (EISC).		market-driven digital transformation (MDT) exhibits a delayed but positive influence on FP. • ETSC strengthens the relationship between MDT and FP in a positive manner, while EBSC enhances the relationship between both TDT and MDT with FP.
Heubeck (2023)	Social structural capital, social relational capital, and social cognitive capital	Survey	• Shifting the research focus from the level of firms to individual managers through the perspective of the dynamic managerial capabilities theory. • Managerial social capital (including structural, relational, and cognitive social capital) acts as a moderator in the relationship between leadership skills and digital business model transformation (DBMT), amplifying the indirect impact of leadership skills on firm performance through DBMT.

Chapter 3. Research Method

3.1 Case Description

We conducted an in-depth case study at an international company called MyComputer, which has about 2,000 employees and an average monthly revenue of $700 million in the electronic manufacturing services (EMS) industry. It has been devoted to designing and manufacturing its own-brand rackmount systems, tower servers, and PC chassis for over 35 years. In this period, it also received awards such as the iF Design Award and the Computex Best Choice Award. MyComputer is a special case because of certain characteristics. First, the digital transformation in this company was carried out within the conglomerate, including other companies and factories abroad (Appendix 1). We can study and observe the interactions and relationships from a more comprehensive viewpoint and take more potential variables into account. Second, MyComputer is an exemplary enterprise because it has been continuously investing in technologies and delivering the most credible server and PC chassis with the highest innovative standards. To improve its competitiveness, it has conducted some digital transformation projects to upgrade and renew its business model, working process, products, and services. In light of the fact that a positive IT history is a precursor to alignment (Reich & Benbasat, 2000), we examine how the company's past track record and the individual's knowledge base affect alignment (Karahanna & Preston, 2013).

The goal of this transformation is to optimize the overall process during the upgrade and integration of internal systems. After the adoption of the new system, the working efficiency and business results could be improved, which could even change the cooperation model with upstream and downstream vendors or lead to the development of

new business models. With past failures, MyComputer knew it was necessary to find experts who were experienced in transformation and familiar with the system to support the project. Therefore, they worked with the original system consultants instead of experts from other IT consulting firms. This project was divided into three stages. First, in the planning proposal stage, the TMT and external consultants discussed who would be involved in the project and timeline. They also needed to ensure that the plan was aligned with the company's objectives. Second, they spent about four months in the design phase, during which we were involved in the project discussions. In this period, the consultants verified that the requirements and processes proposed by each department were compatible with the system architecture, while the company's departmental representatives and supervisors had to repeatedly and internally confirm that the process modifications matched the actual operational processes. This phase was an important foundation for the entire project because smooth system integration requires process optimization and an ideal architecture for main IT services (Goerzig & Bauernhansl, 2018). They spent their efforts on data digitization, integration of process pain points, and cross-functional discussion of solutions. Finally, in the system integration stage, they followed the results that they had discussed before launching the customized system. This took the most time to make all the employees of the group (including headquarters, overseas branches, and factories) understand how to use the system. From user training to system testing to system release, the system was continuously modified until it was successfully and smoothly used and achieved the desired goals.

3.2 Data Collection

To address the research question, we adopted an inductive qualitative research

methodology. Social alignment is a complex phenomenon because it occurs across different functions and management levels. As a result, we not only participated in their company's meetings for four months, but we also explored this topic by interviewing staff who were engaged in the digital project. Initially, we observed and recorded the data (attendees' behaviors, interactions, and meeting materials) from the digitalization meetings and workshops. We chatted with operational employees to understand their views on the digital transformation project. After collecting, analyzing, and interpreting observational and archival data, we conducted six semistructured interviews and designed our interview guides (Appendix 4) for different interviewees to obtain a more diverse and complete viewpoint. This helped us become more familiar with the digital transformation process from the perspective of practitioners and confirmed that social alignment was playing a key role. The adaptability of semistructured interviews made them an appropriate method for investigating complex or sensitive issues, and researchers can tailor the interview schedule to align with the professional, educational, and personal histories of the study participants (Barriball & While, 1993). Finally, we collected substantial data through three methods (see Table 2): interviews, participant observation, and archival data. In particular, we conducted six semistructured interviews with different levels of MyComputer staff (see Table 3). First, we interviewed the CIO, who was also the leader of the digital transformation project, and then, we interviewed employees in the areas of IT, inventory management, research and development (R&D), and finance. All interviews were recorded, and an 83-page transcript was generated.

The data analysis was a three-step and iterative process (Strauss & Corbin, 1998) to derive the framework of social alignment. First, we used SCT as our theoretical lens to

discover and categorize the properties through open coding (Strauss & Corbin, 1998). We sought to identify each type of relationship: formal and informal communication, enabling connection and interaction in meetings and workshops. Second, because the appearing concepts were discussed repeatedly with textual evidence and relevant literature, we based our analysis on the principle of axial coding proposed by Strauss and Corbin (1998). The coding process for this stage involved finding the correlation and causality between those concepts. It focused on how concepts crosscut and link, thus generating subcategories and making the concept more convincing. We referred to Huang et al. (2017), who used tree diagrams to present the analysis results. Based on each category, we generated different tree diagrams, as shown later in Figures 1, 2, and 3. In these figures, we have highlighted the interview transcript marked in the previous step on the left side, and on the right side, we put the axis. Finally, we carried out selective coding (Strauss & Corbin, 1998) to figure out and explain how social capital and other elements interplay in the process of fulfilling social alignment in digital transformation.

Table 2. *Data Collection*

Interviews	6 interviews (mean length: 62 minutes) with 9 respondents generated 56315 words in Mandarin
Participant observation	8 occasions (mean length: 174 minutes), including 4 meetings with consultants for all departments, 1 group meeting, and 3 department meetings with consultants (see **Appendix 2**)
Archival data	Project descriptions, presentation materials, meeting minutes, and flow charts (see **Appendix 3**)

Table 3. *Interview Data*

Date	Time	Method	Interviewee	Number
2021/12/10	14:00–14:30	Face-to-face	CIO	1
2021/12/27	15:00–16:00	Online	CIO	1
2022/10/03	09:00–10:00	Online	IT (Project manager)	2
2022/10/03	10:30–11:45	Online	1 project leader in the inventory department	3
2022/10/24	09:00–10:10	Online	1 project leader and 1 project member in the R&D department	4 and 5
2022/10/24	10:30–11:47	Online	1 project leader and 3 project members in the finance department	6–9

Chapter 4. Case Analysis

After four months of actual participation in the transformation project, the collected data (see Table 2) were analyzed through the theoretical lens of SCT. We have summarized three factors that influenced each other and may have helped the stakeholders of this project achieve social alignment, which, in turn, positively impacted the process of digital transformation.

4.1 Relational Linkage

Our data analysis showed that the abstract assets of MyComputer not only allowed the company to integrate input from various departments more smoothly but even allowed cross-departmental members to discuss solutions together. We refer to the assets as *relational linkage*. Relational linkage describes *the perception of support, mutual trust,* and *mutual understanding* (see Figure 1). Before the project started, the consultant and executives would discuss and select the right people (seed members and process owners) from the various departments involved in the project. Individuals were chosen because of their strong communication skills and related backgrounds. These roles were very important because they bridged the gap between departments. This relationship between people and each other could improve communication and reduce misunderstandings. As described by the IT project manager:

> *The role of the flow owner is quite important. He must know what the internal problems are and then illustrate these problems clearly to the consultants. After the consultants proposed the solution plan, he came back to speak clearly with the internal people … This role must coordinate between and within processes (departments), so communication skills are*

very important. In fact, many of our teams have to rely on this role to do many things.

First, the *perception of support* helped the employees at the operational level feel valued. Perception of support referred to the support that employees received from the top, which helped motivate them. With the reward mechanism established by the management level, the staff not only received spiritual support, but also had substantial incentives to keep the project going. The second dimension is *mutual trust*. The company's senior management believed in the competence of the project members, and the communication between them was regular and transparent. In addition, the selected project members all had professional backgrounds in their respective departments; hence, questions could be answered through discussions, which increased their willingness to participate in meetings and workshops. As MyComputer's finance manager explained:

A lot of issues will run out at the beginning, and then, we will discuss them through meetings. Because we need some experts, you can see that financial accounting, business management, and cost (colleagues) are all involved in (the meetings). We also find accountants get together to discuss business management costs; that is, we all work together. We also have a financial advisor to help us. Because he has a wealth of experience, he can give us some direction.

The third dimension is *mutual understanding.* If colleagues can put themselves in each other's shoes, they can help each other when they encounter difficulties during the project. On the other hand, as long as the managers understand the context, they can flexibly deploy members when the project progress is stagnant. By understanding the pain

points of the operational working process, high-level management teams can also propose corresponding strategies and reward mechanisms.

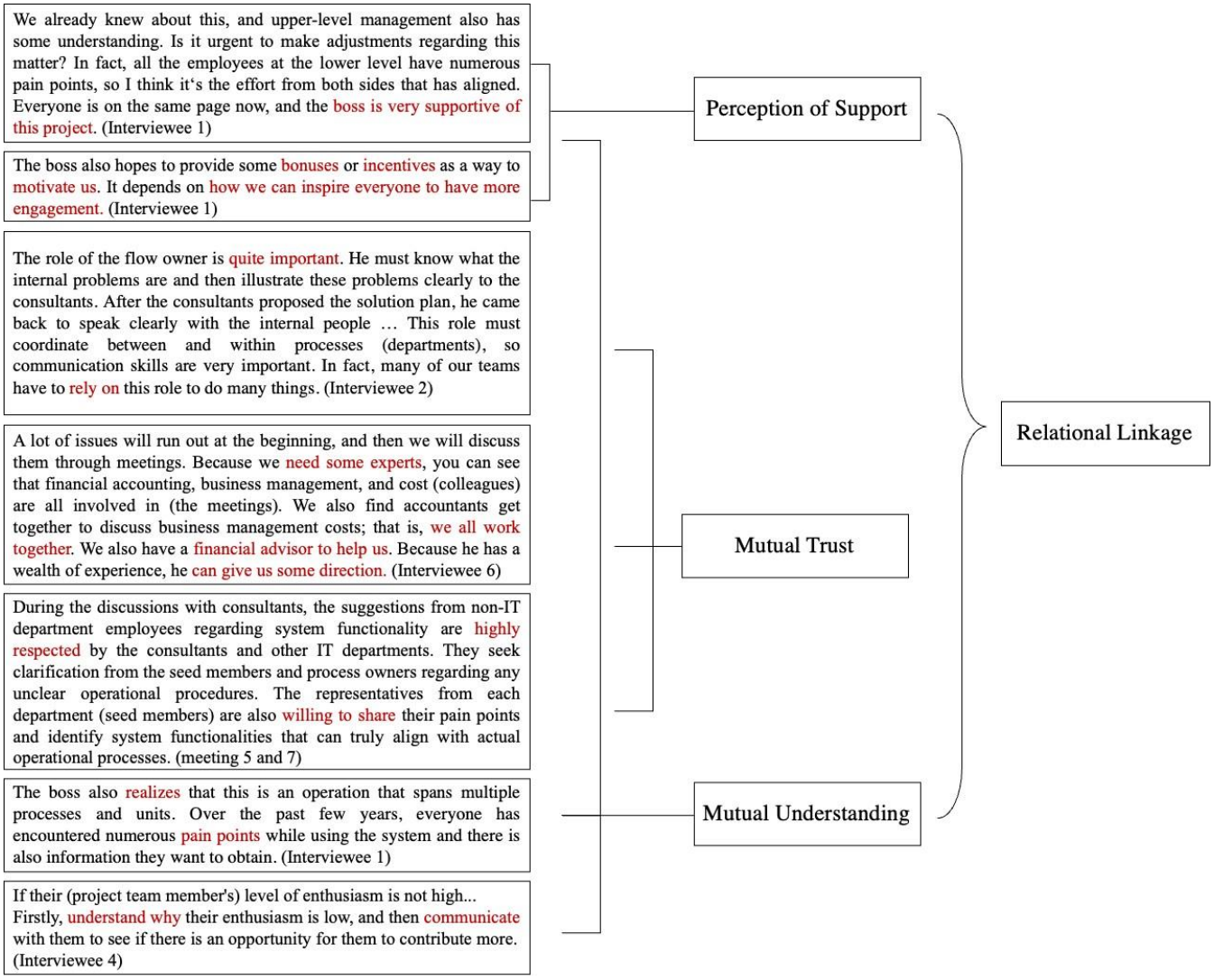


Figure 1. *The Dimension of Relation Linkage*

4.2 Cognitive Linkage

Our data analysis has revealed that communicating in shared languages to reach shared understandings between IT and business units was necessary for MyComputer. We refer to this cognitive connection as a *cognitive linkage* to denote the involvement in knowing, learning, and understanding things. We identified four key components of *cognitive linkage*: *attention to the process of things, cross-functional consensus, context focused,* and *IT-facilitated shared understanding* (see Figure 2). On this, the CIO said the following:

> *Instead of telling them what kind of data they need to produce, we will do our best to give the user a chance to understand what he needs to produce. To be honest, in this part, in addition to the meeting, we actually have to spend time communicating with the user.*

Understandably, in this context, reaching consensus among different departments and levels of the company was key.

First, *attention to the process of things* highlights that the process of achieving social alignment is iterative. Entry-level employees knew the operational process the best. As a result, at the beginning of the discussion, the management prioritized the general agreement of the staff. For upstream and downstream departments to agree on a proposal, all of them had to first understand the overall process and realize why it needed to be adjusted. This process of thinking was gradual and iterative because it was impossible to achieve a common understanding in a single meeting. When conflicts occurred, management would determine which option could achieve the company's objectives and expected benefits before then returning it to the staff to continue the discussion. Second, *cross-functional*

consensus can be divided into vertical (management and staff) and horizontal (staff across units or executives and external consultants) alignments. This refers to a consensus on "future" goals, such as standard operating procedures (SOP) for future operational processes, the timeline and the members of future projects, and even expectation management. This alignment of objectives allowed the projects to run more smoothly. MyComputer's R&D manager mentioned the following:

> *In fact, we've received information about this project many times, so everyone is supposed to have a certain understanding of it … The management thinks that if a digital transformation can achieve benefits externally, then we also think that we can improve all the internal processes and increase efficiency, so why not?*

The third dimension is *context focused*, capturing a consensus on "existing" pain points. For example, different units could understand the obstacles or current needs of each other's operational processes and work together to produce a holistic solution. MyComputer's finance manager described this as follows:

> *(In the same problem) maybe the solutions of the business department and the financial department will be different. Therefore, you will spend a lot of time on this difference ... We have been putting forward our own viewpoints and even drawing them out ... (After understanding) the sales team will come back to consider whether you can change the trading pattern or not. Maybe we can change our original one to a new one, and then, we will come up with a common solution together.*

The last dimension is *IT-facilitated shared understanding*, which means that IT staff use a common language to communicate with non-IT departments. IT staff members were not the leaders in this project, but rather, they were the facilitators. They needed to connect consultants and business units, especially where IT terminology would be used. After the business units proposed the direction of the revision of the operation process, IT assisted them in collecting data from a technical point of view and gave advice on whether it could be achieved or whether there was a need for adjustment. Finally, the feasibility of the system architecture was confirmed by external consultants only after a consensus had been reached within the company and the related data were prepared.

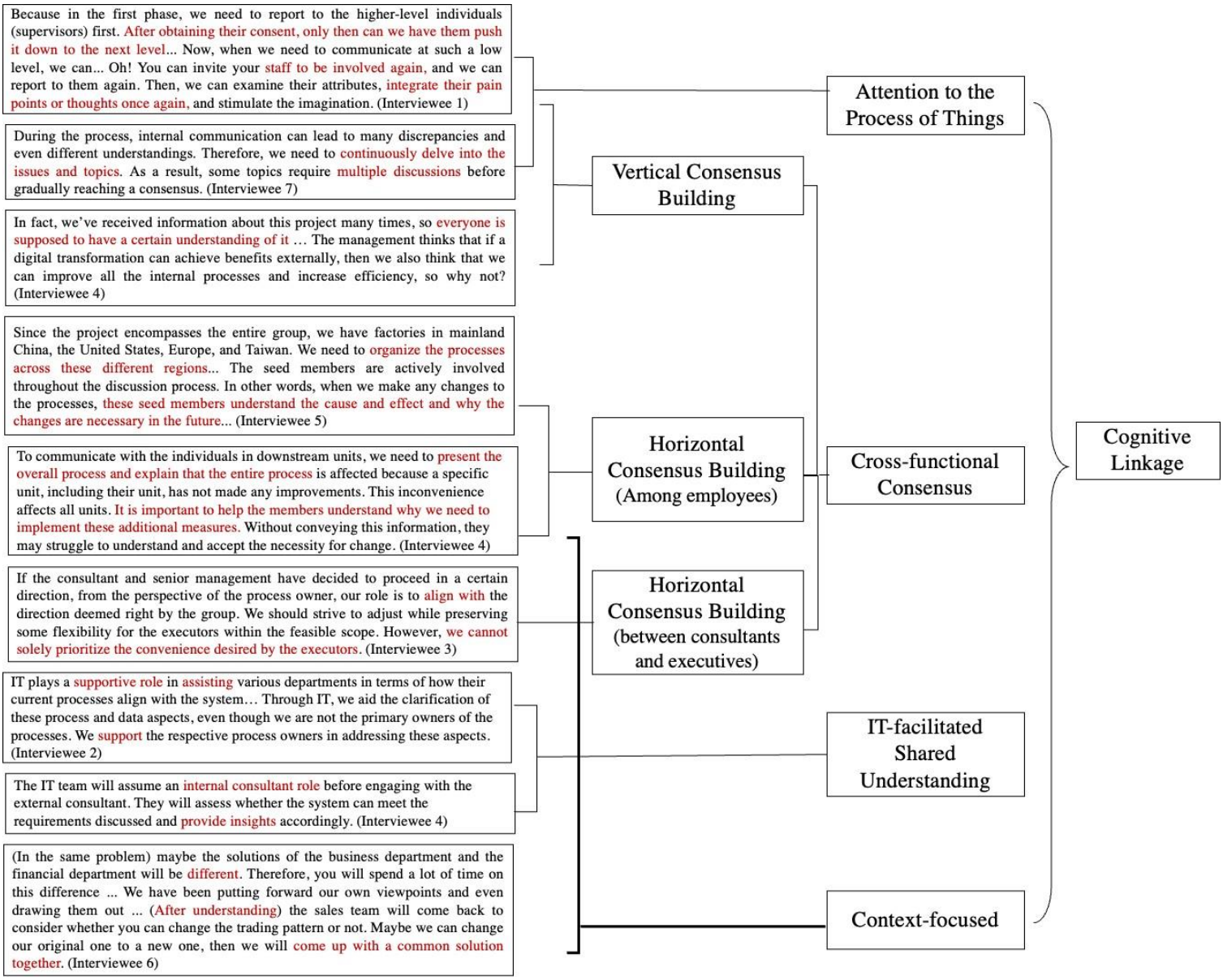


Figure 2. *The Dimension of Cognitive Linkage*

4.3 Structural Linkage

Our data analysis revealed another interesting factor: how effectively and efficiently MyComputer changed its structure to respond to the rapid changes required by this project. We refer to this connection and communication between employees as a *structural linkage*, as elaborated in Figure 3, which we have categorized into four dimensions: *shared project management system*, *self-directed learning*, *team-based organization*, and *IT organization restructuring*. Compared with relational linkage and cognitive linkage, this factor depicts more specific interactions within the company and even organizational restructuring.

First, a *shared project management system* involves meetings, workshops, training courses, or other official activities led by the company to exchange ideas more effectively. Staff from different departments have their own expertise, and through these events, they can learn from others and create win-win situations together. For instance, in this project, although IT staff were the facilitators, they also needed to absorb the background knowledge of each business unit to thoroughly understand their needs. The CIO shared the following:

> *We all want to have this kind of benchmarking data for each place according to the different products produced in each place, so that's why our IT staff have gone to a lot of these different department classes.*

Second, *self-directed learning* means that, in addition to mandatory events hosted by the company, employees also deliberated on some special topics through voluntary interactions and exchanges. By participating in the meetings, the employees could learn which departments were involved in the upstream and downstream of the workflow and with whom they could discuss it. In other words, some issues that have been delayed in

meetings could be expedited by additional communication. Third, *team-based organization* represents a dynamic organization with a high degree of flexibility formed on an ad hoc basis for this project, in which professionals were temporarily drawn from senior management and the operational level across departments and branches (see Figure 4). Senior executives formed a "change team" to ensure project development was in line with MyComputer's direction. The link between the company and the external consultants relied on the project management office (PMO), which was composed of the group project manager (PM) and external consultant PM. The PMO was responsible for setting project timelines, assisting departments with data collection, and defining key criteria. Taking into account that employees had their original work to complete while ensuring that all employees were able to solve their usual workflow problems and gain a practical understanding of the new system, each department and branch selected members to participate in the project as seed members and process owners. because of their domain knowledge and industry experience, flow owners represented the department to gather internal departmental issues and discuss them with other departments and consultants. After the discussion, the seed members and flow owners could pass on the system architecture proposed by the consultant to their colleagues within the department. MyComputer's R&D manager said the following:

> *Because overseas factories and other branches abroad are involved in this project, the scope is so large that we need to divide them into many regional processes to organize them. The flow owners in charge are mainly responsible for syncing up with their partners to make sure that they're on the same page. … The seed members have been involved in the whole*

process of discussion. That is to say, if we want to change any process, those seed members know the cause and effect; hence, they can go back to their functions to hand over.

Fourth, *IT organization restructuring* describes MyComputer's deployment of IT resources, including adjusting IT department responsibilities and deploying IT staff to different business units according to their expertise (e.g., financial, manufacturing, and inventory-related knowledge) so that each non-IT staff member could combine their business knowledge with the technical capabilities of the IT department, ultimately leading to a smooth design of system architecture consistent with operational processes.

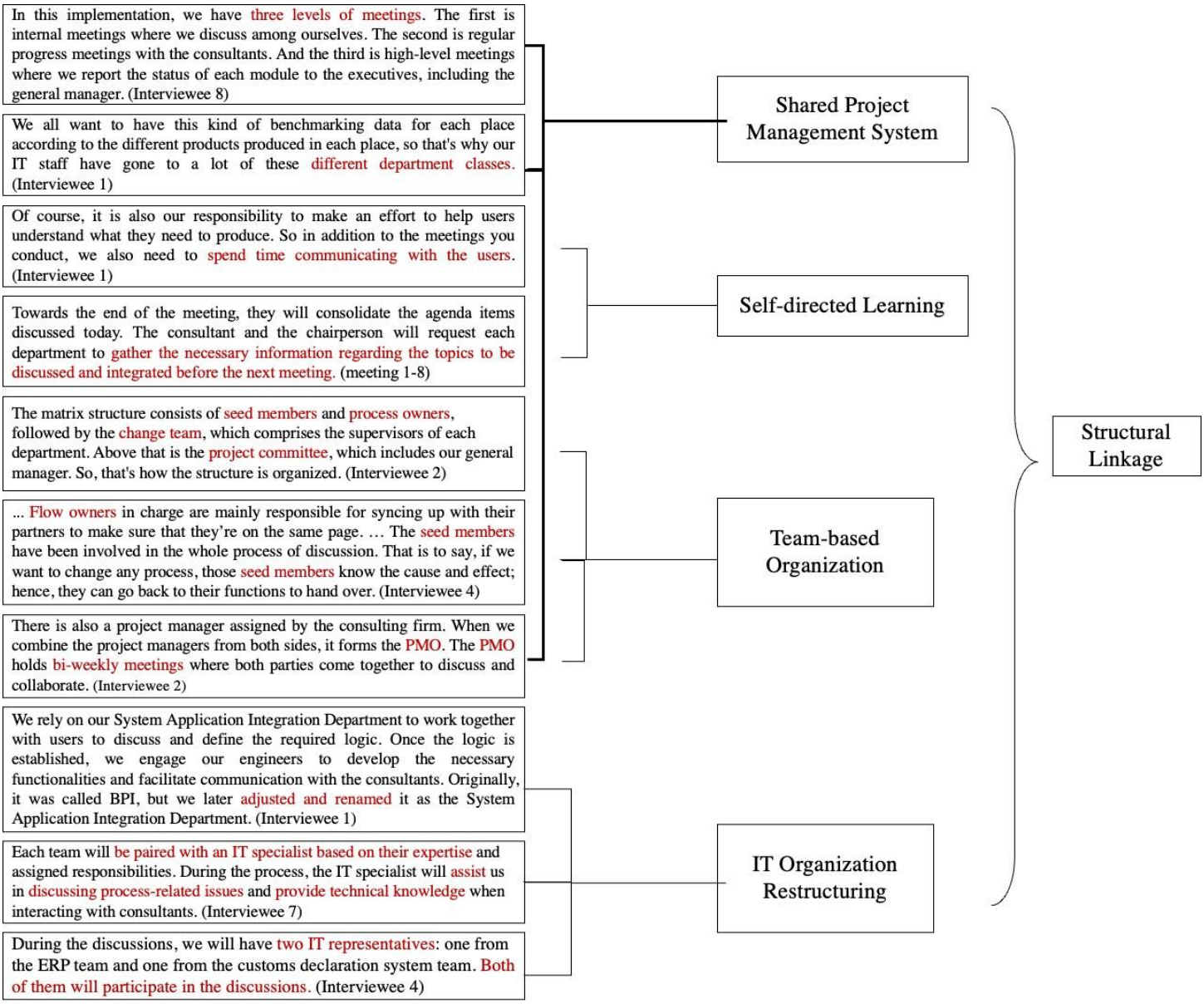
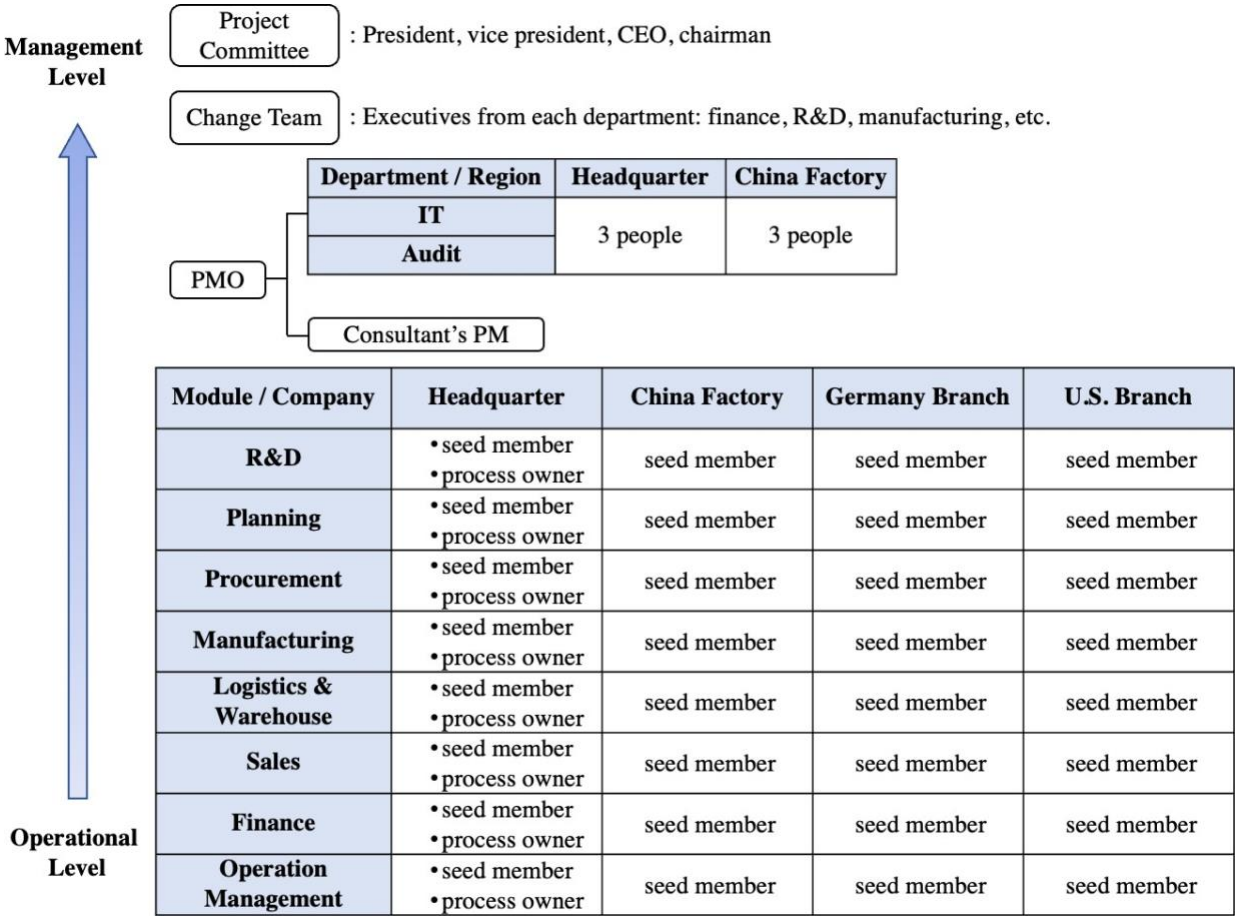


Figure 3. *The Dimension of Structure Linkage*



Department / Region	Headquarter	China Factory
IT	3 people	3 people
Audit		

Module / Company	Headquarter	China Factory	Germany Branch	U.S. Branch
R&D	• seed member • process owner	seed member	seed member	seed member
Planning	• seed member • process owner	seed member	seed member	seed member
Procurement	• seed member • process owner	seed member	seed member	seed member
Manufacturing	• seed member • process owner	seed member	seed member	seed member
Logistics & Warehouse	• seed member • process owner	seed member	seed member	seed member
Sales	• seed member • process owner	seed member	seed member	seed member
Finance	• seed member • process owner	seed member	seed member	seed member
Operation Management	• seed member • process owner	seed member	seed member	seed member

Figure 4. *Team-Based Organizational Structure*

Chapter 5. Discussion

Given the results, this case has illustrated how a small- and medium-sized enterprise achieved social alignment through a series of practices. In Figure 5, we provide a substantive look at the factors of achieving social alignment that drove MyComputer to realize successful digital transformation.

Companies can enhance their performance during digital transformation by utilizing social capital to facilitate cross-border knowledge acquisition, develop absorptive capacity, and assimilate external resources (Ji et al., 2022; Lyu et al., 2022; Metz et al., 2022). In this respect, most social capital studies have highlighted the importance of social capital in digital transformation or the inner relation of its different dimensions (e.g., Nuryanto et al., 2020; Schlosser et al., 2015; Wagner et al., 2014). However, in our research, the data analysis has indicated that structural linkage played a dominant role in leading the other two linkages to ensure the successful attainment of social alignment for digital transformation. By allocating IT resources and restructuring the organization, the structural linkage can foster relational linkage in terms of mutual trust and understanding (Gilchrist et al., 2018). The structural linkages also help engage staff members in cross-group discussions, enabling them to acquire more knowledge about the transformation project and gain insights from other domains, thereby reinforcing cognitive linkage. The enhanced cognitive linkages, in turn, reinforce relational linkage since it increased staff members' willingness to participate and fostered mutual respect (Hartl & Hess, 2017; Zahoor et al., 2021). By joining these meetings, staff members gain a better understanding of each other's challenges and collaborate on finding solutions. Simultaneously, they can reach a consensus more swiftly because of the presence of empathy and mutual trust among them

(Florek-Paszkowska et al., 2021). With these three connections in place, the alignment between business and IT toward the current business goals and IT vision can be strengthened more smoothly. In the words of MyComputer's Inventory Manager, "The individuals participating in the project must be identified and approved by the supervisor, ensuring that the supervisor is aware of their respective workloads within the project. Additionally, the person responsible for each process must regularly provide reports to the supervisor, allowing both the supervisor and senior management to effectively oversee the project and maintain certain expectations." Drawing from the aforementioned arguments, we provide the following first proposition:

- *Proposition 1: Although the relationship among relational linkage, cognitive linkage, and structural linkage is mutually reinforcing, structural linkage plays a dominant role in leading the other two linkages to ensure the successful attainment of social alignment for digital transformation.*

Our research has identified additional crucial factors in interaction with social capital. Drawing from the lessons learned from past system implementation failures, MyComputer recognized the necessity of seeking assistance from the system manufacturer's technical consultants. These consultants possessed extensive industry knowledge and a deep understanding of system functionality and technology, further strengthening MyComputer employees' trust in their expertise. The consultants played a pivotal role in bridging the gap between business units, narrowing the divide between business and IT while fostering the development of social capital among individuals. The IT department can leverage the shared domain knowledge of consultants to gain a certain understanding of the business context of each business department. This understanding enables them to expedite

consensus-building in meetings. Meanwhile, the business units can gather the required information for the system in a more targeted manner, thereby accelerating the overall project timeline and enhancing their confidence in the system design plan put forth by the IT department. In light of the challenges faced during the initial implementation, the R&D manager relied heavily on the experience gained from previous implementations of other systems and the guidance provided by the consultants. As stated by the R&D manager, "Our company has previously implemented multiple systems, and while product lifecycle management (PLM) is a relatively large system, the experience of implementing an equally sizable system like enterprise resource planning (ERP) is actually quite limited. Hence, during the initial stages of implementation, we had to rely on our past experiences. However, as the implementation progressed, we realized the need to engage external professional consultants for specific areas."

The literature on digital transformation has emphasized the need for companies to have a culture of innovation to embrace the fruits of new technology (Rolland & Hanseth, 2021). In addition, many companies have achieved successful digital transformations by leveraging their past successes. As suggested by path dependency theory, positive feedback from self-reinforcing mechanisms and past successful transformation experiences enable companies to further strengthen their areas of success (Drechsler et al., 2020; Mahoney, 2000; Wenzel et al., 2017). Nonetheless, our case company demonstrated that past failure experience helped all employees come together and recognize the value of the assistance provided by the system manufacturer's technical consultants. MyComputer has learned that digital transformation projects are not attainable overnight, leading to an adjustment in the employees' mindset and cultural changes. As the inventory manager mentioned, "Although

the previous projects resulted in failure, they instilled a mindset among the relevant members that proved to be valuable." Moreover, we found that a crisis is often a turning point for the better. Faced with past failures and the threat of external competitors, MyComputer had to succeed. In line with the 2013 Digital Transformation Report, achieving a successful digital transformation necessitates the establishment of a digital mindset and cultural shift (Fitzgerald et al., 2014). MyComputer reshaped its organizational culture toward greater openness, with senior management actively encouraging discussions across different levels and even throughout the entire organization. Within formal and informal structures, culture serves as an example of an informal element that has an impact on the relationships between the C-suite and IT department (Llamzon et al., 2022). Based on the above argument, we put forth a second proposition:

- *Proposition 2: Past failure experiences, rather than successful experiences, help shape the culture and strengthen the social capital within the organization, ultimately leading to achieving social alignment.*

MyComputer's senior management placed great importance on the backgrounds of project leaders to effectively manage projects from a high-level perspective. Because the project involved the overall process, it was necessary for the process leaders and seed members to possess certain domain knowledge and years of experience to understand cross-plant issues and communicate across departments. This ability allowed them to be trusted and supported by the supervisor who selected the project members. As the inventory manager said, "As the seed member, he or she needs a certain level of company experience to comprehend the original old processes and address any related issues. Moreover, in addition to grasping the existing procedures, the seed member and process owner must also

lead the entire team in discussions regarding the direction and ensure that future policies align with the company's vision." Imran et al. (2020) identified digital vision and knowledge as two key leadership competencies required for a digital transformation. Another study conducted by Preston and Karahanna (2009) posited that shared understanding is influenced by the experiential similarity of CIOs and TMTs because individuals with similar functional backgrounds and experiences tend to possess overlapping knowledge bases that make them communicate effectively (Cohen & Levinthal, 1990).

We found that MyComputer has two different leadership styles. First, it adopted visionary leadership, wherein shared domain knowledge and relevant experience enabled leaders to better understand the company's vision, effectively communicate long-term goals, and inspire operational workers (Institute of Project Management, 2022). Second, MyComputer also adopted a delegating leadership style that aligned with its organizational culture (Institute of Project Management, 2022). This style of leadership emphasizes transparency at all levels, thus gradually delegating authority and responsibility to junior employees. As a result, numerous cross-organizational groups were established to enhance the efficiency of the discussions. Delegating leadership positively impacted the group's ability to innovate and collaborate within the team, resulting in increased cohesiveness and trust among group members (Zhang & Zhou, 2014; Zhu & Chen, 2016). Through empowerment and fostering talent, the employees were able to develop a heightened sense of responsibility toward the projects to which they are assigned, fostering a stronger connection and alignment with organizational goals (Seibert et al., 2011). To summarize, shared domain knowledge, leadership experience, and visionary and delegating leadership

styles were the three elements of the power of leaders. Power of leaders enabled leaders to gain trust from both superiors and subordinates while leveraging their background knowledge and experience to eliminate unnecessary communication barriers. Encouragement and empowerment expedite the progress of discussions as well. Building on the aforementioned points, we put forth a third proposition:

- *Proposition 3: The power of leadership in terms of visionary and delegating leadership bolsters social capital among employees, which leads to social alignment.*

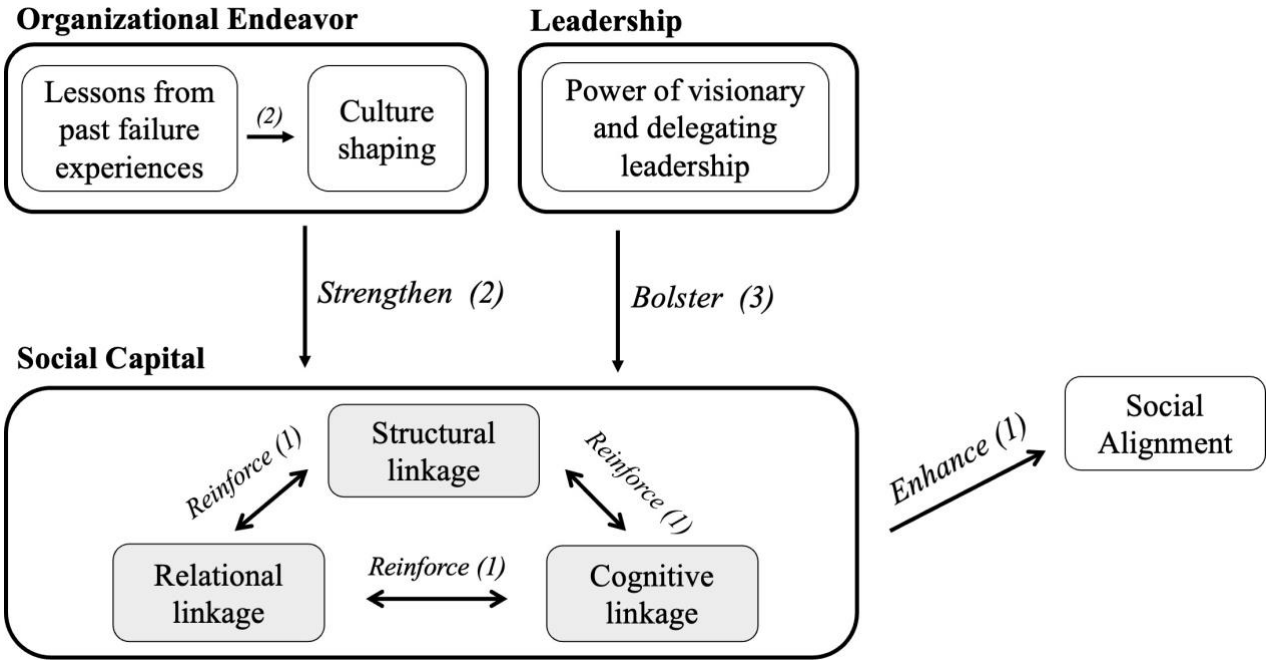


Figure 5. *The Framework of Social Alignment*

Chapter 6. Conclusion

6.1 Summary

In response to our research question, we found that social capital can enhance social alignment and that organizational endeavor and leadership can have a positive influence on social capital, thus strengthening social alignment. We developed a framework that elucidates the relationships among various factors, here aiming to enhance our comprehension of the process involved in attaining social alignment throughout the digital transformation journey. First, our findings have suggested that structural linkage, relational linkage, and cognitive linkage are interrelated and mutually reinforced and that all of them can enhance social alignment. In particular, we found that structural linkage played a dominant role in leading the other two linkages. In doing so, through the restructuring and deployment of organizational resources, relational linkage and cognitive linkage across different functions can be built smoothly. This result provides us with a new perspective on social capital in understanding social alignment. Second, we found that past failures are an exceptionally significant factor. In contrast to successful experiences that companies can replicate, failed experiences assist companies in avoiding the same mistakes and even reshaping their corporate culture while strengthening their social capital to achieve social alignment (Alami, 2016). Finally, our research has underlined that visionary and delegating leadership help bridge the gap between supervisors and subordinates. In the digital age, leaders rely on collaboration and teamwork, which creates innovation and high-performance (Henderikx & Stoffers, 2022). Hence, leaders adopt visionary and delegating leadership styles to inspire and motivate their teams. This encouragement also signifies the leader's endorsement, empathy, and support for the project and team members (Jakubik &

Berazhny, 2017; Khan, 2020).

Overall, the findings offer a fresh perspective on the factors contributing to the achievement of social alignment. Identifying ways to bridge the gap between IT and business employees to address challenges has been a collaborative effort between academia and industry.

6.2 Implications

Our study has several valuable theoretical implications for existing theory. First, our research has addressed the gap in previous studies that predominantly focused on a single hierarchical level of employees (either the management or operational level). Because top-level executives play a key role in formulating company strategies and performance, prior research has emphasized the shared understanding and shared domain knowledge between IT and TMT (Karahanna & Preston, 2013; Moon et al., 2018). Taking a theoretical perspective on SCT, we have dived deeper into studying cross-level employee relationships by actively participating in overseas factory meetings, cross-departmental workshops, and cross-level discussions. Unlike previous studies that treated social capital as a singular construct (e.g., Afshari et al., 2020; Nuryanto et al., 2020; Schlosser et al., 2015; Wagner et al., 2014), our research has asserted that the three dimensions of social capital (structural, relational, and cognitive linkage) mutually reinforce relationships, emphasizing the importance of structural linkage. Second, previous research on digital transformation has noted the replication of successful experiences as a prerequisite for successful digital transformation in organizations, as highlighted by path dependency theory (Drechsler et al., 2020; Mahoney, 2000; Wenzel et al., 2017). Reich and Benbasat (2000) also considered successful IT history to be one of the antecedents for achieving alignment. Despite this,

because of the distinctiveness of the case, our research results suggest that failure experiences and the pressure exerted by a competitive environment are also significant factors in attaining social alignment. Through learning and improvement, failure experiences can also enable a company to change to an innovative and open culture, enhancing social capital among employees.

In terms of practical implications, because we used a case study to explore the factors influencing social alignment, the present research could serve as a reference for future industry participants seeking insights into digital transformation. In particular, many small- and medium-sized enterprises in Taiwan are now facing the issue of digital transformation. They can avoid unnecessary risks or improve their approaches by referring to the factors we have summarized about social alignment. First, allocating IT personnel to different departments based on their diverse domain knowledge would facilitate other business units in building trust in IT personnel and accelerating the formation of shared domain knowledge among them. Additionally, establishing cross-departmental teams from the operational to management level and organizing multiple versions of meetings tailored to different departments and levels would enhance employee engagement and facilitate smoother consensus-building processes. Third, leaders need to recognize the value of past project failure experiences and make appropriate adjustments. It may be necessary to engage external experts with relevant and extensive experience, when needed. These experts will not only bridge the gap between internal employees and the IT department, but can also assist the company in achieving smoother digital transformation by leveraging their previous system implementation experience and industry domain knowledge. Finally, from the perspective of leadership style, delegating authority appropriately can enhance

employees' sense of responsibility and engagement. Encouraging teamwork and motivating individuals who aspire to progress can foster creativity and a forward-looking mindset among project members. This enables the overall project to align with the goals set by the company rather than being driven solely by individual convenience.

6.3 Limitations and Future Work

Similar to all empirical research, our research has inherent limitations. First, because of time constraints, our research has focused solely on the initial two stages of MyComputer's digital transformation project: the planning proposal and design stage. The system integration stage was not included. However, our archival data and interviews suggest that demand integration and system design rely heavily on social alignment and are also the stages most likely to cause conflicts between IT and non-IT members. Future research could observe the social alignment formation process throughout the entire transformation project and investigate the factors influencing social alignment at different stages. Second, we considered the external system consultants hired by MyComputer as company employees. Although they were fully involved in the project, like other company employees, whether the different participating roles would result in distinct interaction mechanisms remains a topic for future exploration. Third, our research has centered on the characteristics of the company, such as company culture and leadership style. Although these are important factors in digital transformation, we also acknowledge that employees' individual traits could be potential influencing factors, for example, factors such as employees' age, experience, and level of acceptance of new technologies.

Despite these limitations, we believe that we have provided a fresh perspective in the field of social alignment research on digital transformation. We suggest a re-evaluation of

the significance of learning from failure experiences. Furthermore, we propose that changes in organizational structure and resource allocation within companies are vital requirements for strengthening employee relationships and achieving social alignment. We aspire for our research to serve as an inspiration for future endeavors in this domain and to lay the groundwork for theoretical advancements.

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