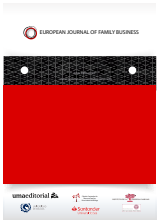
uma editorial

EUROPEAN JOURNAL OF FAMILY BUSINESS

http://www.revistas.uma.es/index.php/ejfb



Digital Alignment in Family Firms: The Role of Socioemotional Wealth Priorities and Transformational Leadership

José Fernando López-Muñoz[1*], Vicente Safón[2], María Iborra[2]

[1] ESIC Business & Marketing School, Universitat Jaume I

[2] Universidad de Valencia

Research article. Received: 07-05-2025; accepted: 20-12-2025

JEL CODE
M100, M150

KEYWORDS
Digital alignment, Family firms, Socioemotional wealth, Transformational leadership

Abstract We examine the antecedents of digital alignment (DA); specifically, the coherence between digital initiatives, IT capabilities, and strategic objectives in family firms. Drawing on insights from IT-business alignment and the socioemotional wealth (SEW) perspective, we theorize that family goals differentially shape alignment outcomes: restricted SEW (emphasizing family control and influence) discourages alignment, whereas extended SEW (encompassing family identification and emotional attachment) encourages it. We further posit that transformational leadership acts as a boundary condition that channels family goals into coordinated digital business fit. Using cross-sectional survey data from family enterprises and structural equation modeling, our results indicate that control and influence are negatively associated with digital alignment, while identification and emotional attachment are positively associated. Transformational leadership attenuates the negative effects of control and influence and amplifies the positive effect of identification; unexpectedly, it tempers the positive association with emotional attachment. Together, family goals and leadership explain a substantial proportion of the variance in DA. The study advances alignment research by identifying SEW-based antecedents and a leadership contingency within the family-firm context. For practice, it suggests diagnosing the prevailing family goals and developing leadership that pairs inspiration with integration to ensure that digital initiatives remain strategically aligned.

CÓDIGO JEL
M100, M150

PALABRAS CLAVE
Alineación digital, Empresas familiares, Riqueza socioemocional, Liderazgo transformacional

Alineación digital en empresas familiares: el papel de las prioridades de riqueza socioemocional y del liderazgo transformacional

Resumen Examinamos los antecedentes de la alineación digital (AD), entendida como la coherencia entre las iniciativas digitales, las capacidades de TI y los objetivos estratégicos en empresas familiares. A partir de la literatura de alineación TI-negocio y de la perspectiva de la riqueza socioemocional (RSE), teorizamos que las prioridades familiares moldean de forma diferencial los resultados de alineación: la RSE restringida (énfasis en el control y la influencia familiares) desalienta la alineación, mientras que la RSE extendida (identificación y apego emocional de la familia con la firma) la favorece. Además, proponemos que el liderazgo transformacional actúa como condición de contorno que canaliza dichas prioridades hacia un ajuste coordinado entre lo digital y el negocio. Con datos de encuesta transversal de empresas familiares y modelos de ecuaciones estructurales, los resultados indican que el control y la influencia se asocian negativamente con la AD, mientras que la identificación y el apego emocional se asocian positivamente. El liderazgo transformacional mitiga los efectos negativos del control y la influencia y amplifica el efecto positivo de la identificación; de manera inesperada, atenúa la asociación positiva con el apego emocional. En conjunto, las prioridades familiares y el liderazgo explican una proporción sustantiva de la varianza en la AD. El estudio avanza la investigación sobre alineación al identificar antecedentes basados en RSE y una contingencia de liderazgo en el contexto de la empresa familiar. En términos prácticos, sugiere diagnosticar las prioridades familiares dominantes y desarrollar un liderazgo que combine inspiración con disciplina de integración para asegurar que las iniciativas digitales permanezcan alineadas estratégicamente.

https://doi.org/10.24310/ejfb.15.2.2025.21836

*Corresponding author
E-mail: jfernando.lopez@esic.edu
Av. Blasco Ibañez, 55, 46021, Valencia

1. Introduction

Research on the business value of information technology (IT) has long underscored the importance of aligning technological and organizational domains, with early work framing *alignment* as a strategic imperative for performance (Chan & Reich, 2007; Henderson & Venkatraman, 1993) and subsequent studies demonstrating its role in enhancing performance by leveraging complementary resources and capabilities (Melville et al., 2004; Mithas et al., 2011).

Building on this tradition, we adopt the concept of digital alignment (DA) to denote the degree of coherence between digital initiatives, IT capabilities, and strategic objectives. Effective DA ensures that organizations use appropriate digital technologies in specific contexts in a timely manner, thereby aligning these technologies with their strategy, objectives, and business needs (Luftman & Brier, 1999). Therefore, DA is not an ad-hoc concept but an extension of alignment theory within the digital era, reconceptualized as a dynamic capability (Yeow et al., 2018), operationalized through two dimensions—strategic decision support and operational support (Ciacci et al., 2025)—, and often referred to as digital technology-business strategic alignment (Li et al., 2021). This construct is conceptually distinct from digitalization, which emphasizes process improvement through digital technologies (Parviainen et al., 2017; Tilson et al., 2010), and from digital transformation, which involves a broader reconfiguration of the business model and value creation (Bharadwaj et al., 2013; Vial, 2019; Warner & Wager, 2019). In contrast, DA emphasizes the strategic fit that ensures digital efforts contribute directly to business goals (Autio et al., 2021; Drnevich & Croson, 2013; Verhoef et al., 2021). Hummel's transition from a B2B to a B2C model in 2010 illustrates how DA requires more than technological upgrades: the company had to integrate IT and business strategies, leverage existing systems, and develop new digital resources for e-commerce to compete with major industry players such as Adidas and Nike. This example demonstrates how DA goes beyond technological investment, capturing the organizational capability to realign digital and business strategies in a dynamic environment (Yeow et al., 2018).

In family firms, understanding the determinants of DA is crucial because family influence shapes how family businesses respond to technological disruption (Batt et al., 2020; Konig et al., 2013). Family ownership tends to depress IT investment, as owners avoid outlays that reduce information asymmetry or create auditable digital trails; instead, they redeploy IT as an infrastructure for strategic control across the extended enterprise (Kathuria et al., 2023). Additionally, reluctance is driven by the structure of family governance: when family owners' involvement is greater, family firms exhibit a more negative attitude toward digital transformation (Chung & Lee, 2024). Furthermore, heterogeneity in socioemotional wealth (SEW) priorities may steer alignment choices. Preservation-oriented goals increase loss aversion and favor control-enhancing IT uses, which slow experimentation and cross-domain integration—key ingredients for DA. By contrast, growth-oriented goals, especially when paired with an entrepreneurial orientation, spur knowledge integration and capability building that support DA and help translate digital initiatives into performance (Calabrò et al., 2019; Lasio et al., 2024).

Qualitative evidence from SME family firms shows low levels of formal strategizing and a pragmatic, incremental approach to digital moves; more critically, two 'inverting dualisms' undermine strategic digital change: (i) strong top-management centralization combined with low digital competence and (ii) managerial overconfidence in current competitive positioning that leads to discounting and fearing digitalization (Bouncken & Schmitt, 2022). These dualisms weaken cross-domain sensemaking and delay the integration of digital initiatives with business priorities, thereby hindering DA. In addition, Begnini et al. (2024) corroborate that strategy-anchored digitalization is tied to technology use (a precursor to alignment). Their study provides evidence that when family firms explicitly pursue digitalization strategies, they mobilize technology use toward transformation goals, providing the strategic mechanism that, in our framing, underpins DA. Finally, in times of turbulence, relational and experiential leadership resources matter: the relational resilience of owner-managers supports coordinated responses (Schulze & Bövers, 2022), and CEOs' prior crisis experience can catalyze DA and strengthen resilience (Iborra et al., 2025). Altogether, there are several factors that have been linked in prior work to DA in family firms; in this study, we focus on two pivotal antecedents: socioemotional wealth (SEW)-driven goals and leadership characteristics.

Drawing on SEW priorities (Miller & Le Breton-Miller, 2014) and the SEW approach (Gomez-Mejía et al., 2007), we conceptualize SEW priorities as background antecedents that can either enable or constrain DA. We further propose transformational leadership (TL) as a boundary condition that moderates the link between SEW priorities and DA by building shared domain knowledge and knowledge-integration

mechanisms (Eom et al., 2015) and by stimulating digital creativity and learning behaviors that facilitate coordinated digital initiatives (Wang & Shao, 2024). Accordingly, we ask: How do SEW priorities influence DA in family firms, and to what extent does TL moderate this relationship?

The empirical structural equation modeling (SEM) analysis, which we conducted using a global dataset from the Successful Transgenerational Entrepreneurship Practices (STEP) Project Global Consortium (SPGC) from September 13 to November 15, 2021, fully supports the hypothesized relationships between SEW priorities and DA. Additionally, the findings partially support the proposed moderating effect of TL on the relationship between SEW priorities and DA.

Thus, we shift the focus of family-firm research from whether firms digitalize or transform to how they align digital initiatives with strategy. We conceptualize SEW priorities as fundamental, family-specific antecedents of DA and elucidate how their restricted and extended orientations exert opposing effects on strategic fit. We further propose that transformational leadership works as a moderator that translates SEW priorities into digital-business coherence by enabling cross-domain sensemaking and integrative problem solving. Responding to calls for research that focuses on specific firm types and examines interrelationships among antecedents using robust theoretical lenses (Chan et al., 2006; Coltman et al., 2015), we enrich the understanding of DA in family firms. Taken together, these contributions bring strategic-alignment theory to the family-firm domain and identify actionable levers, like family goal configurations and leadership style, that transform family influence into digital strategic fit.

Theoretically, our analysis specifies how heterogeneous SEW priorities and transformational leadership jointly shape DA, thereby linking alignment theory with SEW-based explanations of family firm behavior and offering an integrated framework for studying digital transformation in this context. Practically, by focusing on family goal configurations and leadership style as levers for achieving digital-business coherence, the study provides owners and managers with guidance on how to design governance arrangements and leadership practices that support DA.

2. Theory and Hypotheses

2.1. Antecedents of digital alignment in family firms

We define digital alignment (DA) as the coherence between a firm's digital initiatives, IT capabilities, and strategic objectives—an extension of the classic IT-business alignment tradition (Chan & Reich, 2007; Henderson & Venkatraman, 1993). High DA implies applying the right digital technologies to the right problems at the right time, in a manner consistent with the firm's strategy, goals, and needs (Luftman & Brier, 1999). Foundational work distinguishes external fit (with competitive and technological environments) from internal fit (between organizational processes and IT infrastructure) (Henderson & Venkatraman, 1993). In the digital era, contemporary studies apply these notions, perceiving alignment as a dynamic capability under evolving digital strategies (Yeow et al., 2018). This perspective is closely related to digital business-IT alignment that requires information processing and agility (Li et al., 2021) and has been increasingly labeled as DA within management literature (Ciacci et al., 2025).

Prior research converges on four primary domains of antecedents to DA: strategic (shared domain knowledge; business/IT planning), structural (decision rights; centralization), social (shared understanding and commitment), and cultural/leadership (vision; top-management support) (Chan et al., 2006; Reich & Benbasat, 2000, 1996). To contextualize DA within the family firm landscape, we integrate these established antecedents with SEW priorities and TL.

TL acts as a boundary condition that links family goals to alignment outcomes. By articulating a compelling digital vision, building a shared language across domains, and sustaining integration routines, TL reinforces the cultural, leadership, and social antecedents (Bass & Riggio, 2006; Herold et al., 2008).

In sum, the IT alignment literature has identified the strategic, structural, social, cultural, and leadership conditions under which DA emerges. Embedding these conditions within the context of family goals (SEW) and leadership (TL) helps clarify which configurations strengthen or weaken DA in family firms, laying the theoretical groundwork for our hypotheses.

2.2. SEW priorities and their influence on digital alignment

The noneconomic benefits derived by family members from their businesses have been conceptualized as SEW, also referred to as affective endowments (Gómez-Mejía et al., 2007), or simply socioemotional benefits (Miller & Le Breton-Miller, 2014). Family members are often motivated to manage their businesses in ways that enhance these socioemotional benefits rather than solely focusing on maximizing financial returns (Berrone et al., 2012). However, it is important to note that the impact of SEW dimensions can vary significantly depending on the family owners' preferences and priorities

(Miller & Le Breton-Miller, 2014). This variation in influence suggests that different family owners may prioritize certain SEW dimensions over others, leading to different decision-making outcomes and strategic choices.

To better understand the different types of socioemotional benefits and their connection to DA, it is helpful to consider a typology that classifies SEW priorities into two categories: restricted and extended (Miller & Le Breton-Miller, 2014). Restricted SEW priorities refer to narrow, short-term benefits, primarily serving the family's immediate interests. These may include family involvement in ownership and management irrespective of qualifications, entrenchment of unqualified family leaders, allocation of business resources to resolve family disputes, and practices such as nepotism or altruism. These restricted priorities can lead to highly conservative strategies aimed at preserving family control, poor innovation due to ineffective management, and limited career development opportunities for nonfamily managers, potentially undermining firm performance and yielding only short-term benefits for the family (Miller & Le Breton-Miller, 2014).

In contrast, extended SEW priorities encompass benefits with a broader and more enduring impact, reaching beyond the immediate family. These include investments that enhance the family's reputation among stakeholders, foster long-term relationships with partners to ensure the firm's survival, and engage proactively with stakeholders to preserve and enhance SEW (Cennamo et al., 2012). Extended priorities are more likely to generate long-term benefits that accrue not only to the family but also to other stakeholders (Miller & Le Breton-Miller, 2014).

Therefore, we can theorize that because DA essentially requires a dynamic process of continuous change and adaptation for a prolonged duration (Henderson & Venkatraman, 1993; Leonardi, 2011), restricted SEW priorities may negatively affect DA, whereas extended SEW priorities could positively influence it. However, it is important to recognize that family firms are a highly heterogeneous group with varying levels of family involvement and emotional attachment (Berrone et al., 2012; Swab et al., 2020). We acknowledge this heterogeneity and argue that controlling families differ in their concern for DA, which helps explain the varying effects of family influence on the pursuit of nonfinancial goals (Chrisman et al., 2012). Gains or losses in SEW serve as the primary frame of reference for family-controlled firms when making major strategic decisions (Berrone et al., 2012). SEW typically implies a preference for tradition and stability among these businesses, which may deter them from making investments perceived as risky, such as adopting new technologies (Konig et al., 2013).

Berrone et al. (2012) proposed the FIBER model to capture the dimensions of SEW in family firms. Restricted SEW priorities align closely with the "Family control and influence" and "Renewal of family bonds through dynastic succession" dimensions of this model. Companies with such priorities are primarily focused on maintaining family control and ensuring business continuity within the family. These priorities emphasize the importance of family members' influence over the firm and its succession to the next generation. In the case of extended SEW priorities, these can be linked to the "Binding social ties", "Identification of family members with the firm", and "Emotional attachment" dimensions. Family firms with extended SEW priorities look beyond immediate family interests to build strong relationships with stakeholders, contribute to the community, and enhance the firm's reputation. In line with previous studies, we propose that family control and influence, the identification of family members with the firm, and their emotional attachment are the FIBER dimensions that may significantly influence DA (Lasio et al., 2024).

2.2.1. Family control and influence, and digital alignment

In family businesses, owners typically possess a deep understanding of the enterprise and leverage their influence over stakeholders to maintain control over strategic decisions (Chua et al., 1999; Schulze et al., 2003). The dimension of "family control and influence" represents the degree to which family members maintain power over strategic decisions and operational control in the business (Berrone et al., 2012). Heterogeneity in family firms exists based on the degree of family control and influence. This variance in family influence can have significant implications for DA. Specifically, as family control and influence increase, certain mechanisms may emerge that create barriers to effectively aligning digital initiatives with business strategy.

First, family firms with strong family control and influence often prioritize stability and continuity, driven by the desire to preserve the family's SEW (Gómez-Mejía et al., 2007). The greater the family's involvement in ownership and management, the more likely it is that strategic conformity will occur (Miller et al., 2013). This conservative orientation can lead to a reluctance to adopt new digital technologies that might disrupt existing operations or threaten the family's control, identity, or traditions (Kellermanns & Eddleston, 2006). The focus on maintaining

the status quo can manifest as a reluctance to embrace digital technologies (Konig et al., 2013), hindering DA. Research has consistently shown a negative relationship between family involvement and technology adoption (e.g., Ceipek et al., 2021; Souder et al., 2017). This high concentration of family control can also reinforce resistance to external influences and changes, including digital transformation initiatives, as family members seek to preserve their trust-based organizational culture, which creates a unique competitive advantage through strong interpersonal relationships and shared values (Denison et al., 2004; Sharma, 2006). The potential benefits of digital technologies are closely tied to the extent of change in organizational routines and to whether managers perceive digital capabilities as opportunities for strategic redefinition rather than as threats to the status quo (Venkatraman, 1994). Senior executives, therefore, face the critical challenge of balancing the opportunities and risks associated with digital transformation (López-Muñoz & Escribá-Esteve, 2022), given that while digitalization may present new opportunities, it also introduces risks that can be difficult to mitigate or foresee (Amankwah-Amoah et al., 2021).

Second, family dynamics often influence decision making in family firms, which can introduce complexity and cause delays in strategic decisions (Daspit et al., 2017; Schulze et al., 2003). Family members might hold different views on digital transformation, leading to conflicts and slower decision-making processes that impede timely DA. The governance structure in family firms often relies heavily on informal, family-based controls rather than formal management control systems. While this can create operational flexibility, it may also enable opportunistic behavior and support nepotism, hierarchies, and family conflicts (Ruiz-Palomo et al., 2019). This preference for informal controls can create resistance to implementing digital systems that would introduce more formal and transparent governance mechanisms. Interestingly, while family relationships can reduce certain agency costs through altruistic behavior and moral obligations among family members (Ghafoor et al., 2023), this same dynamic can create barriers to professional management practices and digital transformation. Family firms with strong control tendencies often resist implementing formal control mechanisms and digital systems that would reduce information asymmetries, increase transparency, standardize information flows, and create auditable digital trails throughout the organization (Kathuria et al., 2023; Mucci et al., 2021). As family control and influence increase, the desire to maintain traditional family control mechanisms often outweighs the potential benefits of modernizing governance structures through DA.

In summary, greater family control and influence can create barriers in DA through the mechanisms outlined above. These mechanisms include conservative strategic orientations and complex decision-making processes, which impede a family firm's ability to integrate digital strategies with business goals, thereby negatively impacting DA. Based on this, we hypothesize:

> **H1:** The higher (lower) the family's control and influence, the lower (higher) the level of DA.

2.2.2. *Family members' identification with the firm and digital alignment*

The degree to which family members identify with the business reflects how much they regard it as part of their self-concept and values (Berrone et al., 2012). Identification aligns with the underlying dimension of commitment (O'Reilly & Chatman, 1986) and supports extra-role contributions that enable innovation (Katz, 1964; Smith et al., 1983). Indeed, family members' identification with the firm can greatly impact DA, since, as this identification increases, certain mechanisms may emerge that favor the effective alignment of digital initiatives with business strategy.

First, family members who strongly identify with the firm are likely to exhibit higher levels of commitment and loyalty (Eddleston & Kellermanns, 2007; Zellweger et al., 2010). Such a sense of identification can lead to a willingness to make personal sacrifices for the firm's benefit, like working longer hours, investing personal resources, or accepting lower financial returns to ensure the success and continuity of the business (James, 1999). The high commitment and loyalty that stems from strong identification can result in a shared and compelling vision for the organization's digital future (Chrisman et al., 2005; Kotlar & De Massis, 2013; Mustakallio et al., 2002), and a stronger inclination to allocate the necessary resources for digital initiatives (Kathuria et al., 2023). This unified vision can facilitate aligning digital strategies with overall business goals. When family leaders are deeply committed to the firm, they are more likely to champion digital initiatives and ensure that digital strategies are in harmony with the firm's core values and objectives (Gómez-Mejía et al., 2011). Family members who are deeply connected to their enterprise tend to invest personal and organizational resources in digital transformation projects, recognizing them as essential for the continued success and legacy of the business (Lumpkin & Brigham, 2011; Zellweger et al.,

2010).
Second, family members who strongly associate with the firm are more inclined to adopt a long-term perspective in their decision making (Lumpkin & Brigham, 2011; Zellweger et al., 2012). This long-term perspective can encourage investments in digital technologies, which are seen as essential for future competitiveness and sustainability. Studies indicate that firms with a long-term strategic focus are more likely to align digital initiatives with their core business strategies (Bharadwaj et al., 2013; Hess et al., 2016; Kane et al., 2015) By focusing on the firm's future, family members are more predisposed to invest in digital technologies that promise long-term benefits, such as enhanced operational efficiency, improved customer engagement, and new revenue streams (Kane et al., 2015), viewing DA as a strategic imperative (Kathuria et al., 2023).
To summarize, in family firms, strong identification fosters a shared vision, top-management sponsorship, and resource mobilization for digital initiatives while encouraging disciplined investment in enabling IT. These mechanisms strengthen DA's strategic and social underpinnings by connecting digital efforts to core objectives and by reinforcing shared understanding between the business and IT units. This leads us to the following hypothesis:

> **H2:** The higher (lower) the family members' identification with the firm, the higher (lower) the DA.

2.2.3. Emotional attachment of family members and digital alignment

Emotional attachment denotes an affective bond with the family firm that shapes its priorities and behavior (Berrone et al., 2012; Eddleston & Kellermanns, 2007). Distinct from the cognitive self-definition of identification, attachment primarily operates through the affective climate of the firm in ways that support the social foundations of DA.
First, high attachment is associated with intra-family trust, cohesion, and lower relationship conflict (Eddleston & Kellermanns, 2007). Such environments foster psychological safety—a shared belief that it is safe to speak up and share information—which facilitates cross-boundary knowledge exchange and mutual understanding, a cornerstone of DA (Reich & Benbasat, 2000).
Second, attachment-driven risk aversion (loss aversion around socioemotional endowments) often leads to staged, thoroughly vetted digital adoption rather than expansive experimentation. This caution can increase DA: investments face higher justification thresholds, are piloted before being scaled up, and pass through integration checkpoints that tie digital choices to strategy and control (cf. Kathuria et al., 2023). Thus, even if speed is lower, the fit between digital initiatives and business objectives is tighter.
Emotional attachment, in conjunction with psychological safety and risk-screened, staged adoption, strengthens the shared understanding and cross-domain coordination that underpin DA. Based on this reasoning, we hypothesize the following:

> **H3:** The higher (lower) the emotional attachment of family members, the higher (lower) the DA.

2.3. Transformational leadership as a moderator of the relationship between SEW priorities and digital alignment

As previously discussed, restricted SEW priorities that prioritize family control and influence often lead to conservative strategies, poor innovation, and inflexible mental models (Konig et al., 2013). However, in contexts where family control and influence are more pronounced, TL—characterized by idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Avolio et al., 1999)—can enhance DA through two key pathways.
First, TL has the potential to mitigate the rigidity imposed by high family control, facilitating the cultural and behavioral shifts necessary for effective DA. Transformational leaders foster a culture of innovation and promote open communication (Dillon, et al., 2025), ensuring that all stakeholders are actively engaged in the alignment process. This engagement is vital for addressing digital challenges and making informed decisions.
Second, TL can cultivate the collective efficacy required for group success in navigating complex challenges such as DA (Guzzo et al., 1993; Zaccaro et al., 1995). By enhancing group confidence, transformational leaders enable teams to tackle these multifaceted issues more effectively. Thus,

> **H4:** TL positively moderates the relationship between family control and influence and DA, such that the negative impact of family control and influence on DA (as proposed in H1) is attenuated when TL is strong, compared to when it is weak.

As discussed earlier, a strong identification of family members with the firm leads to organizational commitment, cooperation, altruism, and a shared and compelling vision for the organization's digital future. Furthermore, deep emotional attachment and close ties, along

with high levels of family harmony, generate stable relationships, shared interests, low conflict levels, and risk aversion. In contexts of strong family identification and emotional attachment, TL can enhance the benefits associated with such extended priorities by fostering the organizational conditions for effective DA through two key pathways.

First, TL can potentially increase top management support and commitment throughout the digitalization process, including allocating resources and effectively communicating the importance of DA. Second, TL can enhance cooperation between IT and business personnel by developing shared domain knowledge and integrating specialized expertise across both areas (Eom et al., 2015).

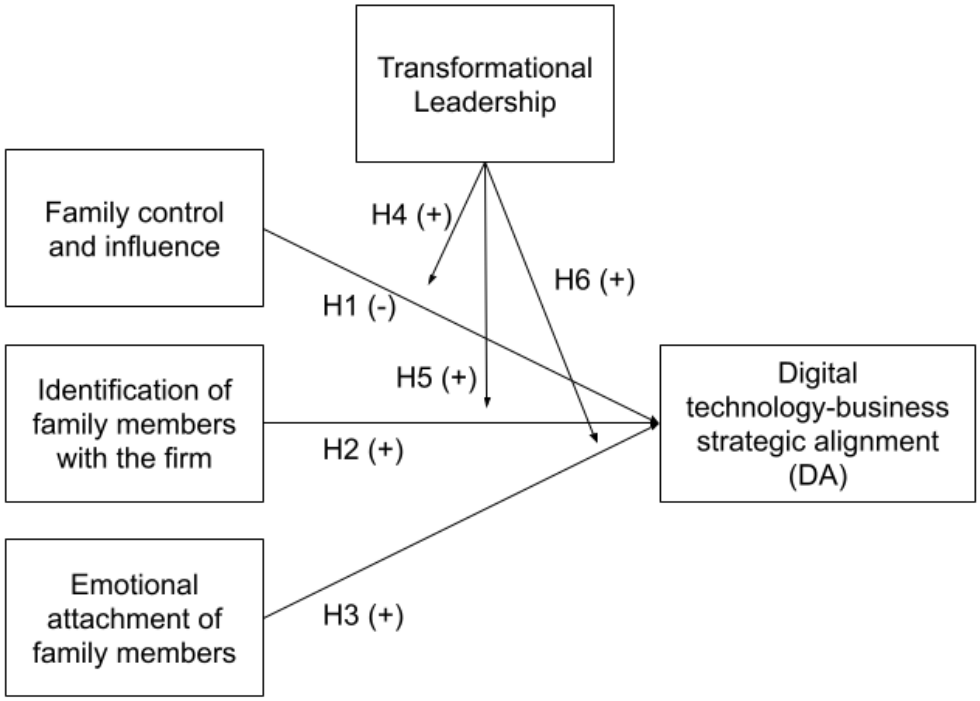
Therefore, in the specific context of family firms, TL is hypothesized to positively moderate the relationship between SEW priorities and DA. This moderation effect is articulated in the following hypotheses:

H5: TL positively moderates the relationship between family members' identification with the firm and DA, such that the positive impact of this identification on DA (as proposed in H2) is amplified under strong TL, compared to weak TL.

H6: TL **positively** moderates the relationship between the emotional attachment of family members and DA, such that the positive influence of emotional attachment on DA (as proposed in H3) is enhanced when TL is strong, compared to when it is weak.

Figure 1 below shows our research model.

Figure 1. Research model



3. Methodology

3.1. Data collection and sample description

Data on family-owned enterprises were collected worldwide through the STEP Global Family Business Survey 2021 in "The regenerative power of family businesses: Transgenerational entrepreneurship" (2022). The STEP Project Global Consortium is an academic initiative launched to investigate entrepreneurial practices and provide optimal support to entrepreneurial families across generations. This survey employs a convenient sampling strategy that was replicated in various countries and regions. National affiliate teams identified potential respondents by considering their own country's industry characteristics and business structure. The survey was designed by a knowledgeable, multidisciplinary research team with over ten years of experience undertaking both qualitative and quantitative research. Previously validated scales were used for each question in the questionnaire, which was initially written in English and then translated into 13 other languages. The survey was conducted between September and November 2021. By the time the survey concluded, a total of 2,441 companies had

completed the questionnaire. For this study, we selected firms with more than 10 employees from countries where at least 30 questionnaires were collected. The study sample consists of 1,586 family firms from 23 countries that belong to 19 industries (see Appendix 2). Table 1 summarizes key sample characteristics, including respondents' gender and generation, type of governance, and firm size. In terms of firm size, small and large firms each represent approximately one third of the sample, and medium-sized firms account for 41.8%. With respect to management and governance characteristics, more than 60% of the sampled firms have a board of directors. The average number of generations in the company's management is 1.44, with a maximum of 3, and the average CEO age in 2021 is 53.19 years. Finally, 100% of the respondents belong to the owning family.

Table 1. **Sample characteristics**

Variable	Observations	% Valid
Gender of the respondent		
Female	270	17.1
Male	1311	82.9
Generation of the respondent		
1st generation	522	34.6
2nd generation	637	42.2
3rd generation	242	16.0
4th or more	108	7.2
Board		
No	614	38.7
Yes	971	61.2
Size		
Small 10-49	459	29.1
Medium 50-249	665	41.8
Large >250	451	29.1

3.2. Variables

Dependent variable: Digital technology-business strategic alignment (*DA*) was measured with a multi-item scale adapted from Li et al. (2021). This scale measures the degree to which the firm's digital transformation is aligned with the strategic management of the family business (see Appendix 1).

Independent variables: Family control and influence (*FC*), Emotional attachment of family members (*EA*), and Identification of family members with the firm (*Ident*) were measured with multi-item scales adapted from Gómez-Mejía et al. (2007) and Berrone et al. (2012).

Moderating variable: Transformational leadership (*TL*) was measured with a multi-item scale adapted from Podsakoff et al. (1990).

Control variables: Past research on alignment controlled for industry and organizational size (Chan et al., 2006). Alignment needs to be culturally supported, and previous research has demonstrated the potential effect of national cultures on *DA* maturity (Silvius et al., 2012), highlighting the importance of accounting for cultural differences between countries (Riandari & Pharmasetiawan, 2017). To control for industry and country effects, we used dummy variables (see Appendix 2). Firm size was measured with the Napierian logarithm of employees; the mean of this variable was 4.82 (124 employees), with a standard deviation of 1.53 (4.6 employees). Moreover, previous research has shown that family firms' propensity for *DA* may be significantly influenced by satisfaction with past performance (Mahto & Khanin, 2015) then highlighting the importance of accounting for past performance. Financial performance (*FP*) was measured using a scale adapted from

Eddleston et al. (2008). As highlighted by the authors, subjective performance assessment is commonly used in family firms' research. For this reason, respondents were asked to indicate their current performance and past performance in relation to that of their competitors in each of the indicators, which indirectly controlled for industry influences in the performance measure (Eddleston et al., 2008).

3.3. Analysis

We carried out the analysis in two stages. This approach is an alternative to the single-stage method (full SEM). The full structural equation modeling (SEM) method causes significant problems when many dummy variables are present, as in our case, making the two-stage method advisable.

In stage one, the *measurement model* was evaluated with SEM techniques using IBM SPSS Amos 28.0.0 software. Stage two involved testing the *structural model* using moderated regression, which introduced constructs transformed into observable variables with a mean of 0 and a standard deviation of 1 via factorial punctuation.

4. Results

4.1. Results of the measurement model

We verified the measurement model using confirmatory factor analysis (CFA) and constructs measured with reflective indicators. To obtain a good measurement model fit, items with loadings below 0.4 were removed (Hair et al., 2021). The CFA for the final measurement model shows a good fit, with indicators above the threshold recommended by the literature (x^2= 1861.94, df=362, p=.00, AGFI=.90, CFI=.93, RMSEA=.05; Bollen, 1989; Browne & Cudeck, 1992; Hu & Bentler, 1999; Joreskog & Sorbom, 1982).

Convergent validity was established by examining the factor loadings (>0.5, Hair et al., 2021), the average variance extracted (AVE) (>.5), and the composite reliability (CR) (>0.7), which allows the measurement to be considered to have acceptable convergent validity, despite having some AVEs slightly below 0.5 (Fornell & Larcker, 1981, p. 46). The items used (standardized loadings, AVE, and CR) are reported in Table 2 and Appendix 1.

Table 2. CFA results

Items	Standardized loadings*	AVE	CR	Fornell-Larcker (1981) criterion
DA1	0.82			
DA2	0.90			
DA3	0.88	0.70	0.92	0.84
DA4	0.81			
DA5	0.75			
FC1	0.57			
FC2	0.73	0.42	0.74	0.65
FC3	0.61			
FC4	0.66			
EA1	0.51			
EA2	0.76			
EA3	0.62	0.49	0.83	0.70
EA4	0.82			
EA5	0.76			
Ident1	0.74			
Ident2	0.75			
Ident3	0.80	0.55	0.86	0.74
Ident4	0.67			
Ident5	0.73			

Items	Standardized loadings*	AVE	CR	Fornell-Larcker (1981) criterion
Perf1	0.89	0.62	0.86	0.78
Perf2	0.89			
Perf3	0.67			
Perf4	0.66			
TL1	0.67	0.50	0.85	0.70
TL2	0.73			
TL3	0.79			
TL4	0.60			
TL5	0.68			
TL6	0.74			

*All loadings statistically significant at p<.001.

We evaluated the discriminant validity of the measures by constraining the inter-factor correlations to unity (taken in pairs) and performing chi-square difference tests. A significantly lower chi-square for the model without restrictions on the inter-factor correlations demonstrates discriminant validity. In addition, we applied the Fornell-Larcker criterion (Fornell & Larcker, 1981), which compares the square root of the AVE of each construct (Table 2) with its correlations with other constructs (Table 3). The data we collected demonstrated that the square root of the AVE for each construct exceeded the inter-construct correlations, indicating adequate discriminant validity and confirming that the constructs capture distinct latent dimensions.

4.2. Results of the hypothesis testing

Table 3 presents correlations between variables. The strongest positive correlation with *DA* is observed with *TL* (r = .42), while the significant negative correlation is between *DA* and *FC* (r = -.07). *Ident* shows a moderate positive correlation with *EA* (r = .57), and the correlations among the other variables are either weak or non-significant.

Table 3. Correlations

Variable/Construct	1	2	3	4	5	6
1. DA						
2. Size	0.08*					
3. FP	0.29*	0.11*				
4. FC	-0.07*	-0.23*	-0.03			
5. Ident	0.17*	0.02	0.10*	0.44*		
6. EA	0.12*	-0.08*	0.04	0.36*	0.57*	
7. TL	0.42*	0.01	0.21*	0.01	0.22*	0.17*

* $p < .05$.

Correlations of industry and country variables have been omitted for ease of reading.

Table 4 provides the main results of the hypothesis testing, and Appendix 3 shows the complete results. Models 1 to 3, in which the control variables are introduced, are statistically significant. The control variables together explain 16.0% (adj. R2, Model 3) of the variance of the dependent variable (*DA*).

Table 4. Hypotheses testing

Variable	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	B	**Beta**	*p*	**B**	**Beta**	*p*	**B**	**Beta**	*p*	**B**	**Beta**	*p*	**B**	**Beta**	*p*	B	**Beta**	*p*
Constant	0.22	0.00	0.001	0.15	0.00	0.040	-0.20	0.00	0.054	0.12	0.00	0.231	0.02	0.00	0.856	0.01	0.00	0.940
Country variables	Included			Included			Included			Included			Included			Included		
Industry variables				Included			Included			Included			Included			Included		
Size							0.06	0.09	0.000	0.04	0.06	0.021	0.04	0.06	0.022	0.03	0.05	0.026
FP							0.27	0.27	0.000	0.25	0.25	0.000	0.19	0.19	0.000	0.18	0.18	0.000
FC										-0.18	-0.18	0.000	-0.15	-0.15	0.000	-0.15	-0.15	0.000
Ident										0.13	0.13	0.000	0.09	0.09	0.003	0.11	0.11	0.000
EA										0.12	0.12	0.000	0.08	0.08	0.005	0.06	0.06	0.024
TL													0.31	0.31	0.000	0.31	0.31	0.000
FC x TL																0.07	0.07	0.005
Ident x TL																0.07	0.09	0.002
EA x TL																-0.09	-0.10	0.000
R^2	7.2%			10.3%			18.2%			22.4%			30.3%			31.6%		
Adjusted R^2	5.9%			7.9%			16.0%			20.1%			28.2%			29.4%		
F change	5.53		0.000	2.76		0.000	75.22		0.000	27.55		0.000	174.45		0.000	9.66		0.000

Note. *p*=p-value. N=1,586. VIF max = 1.95.

Model 4 introduces the hypothesized direct effects and improves the adjusted R^2 relative to Model 3 (Δ adj. R^2= 4.1%). All effects are statistically significant and with the predicted direction, supporting hypotheses H1 to H3. The direct (positive) effect with the largest effect size is from *FC* (*β*= –.18).

The moderation variable (*TL*) and moderation terms are introduced in Model 5 and Model 6, respectively. All moderation effects between *TL* and *FC*, *Ident*, and *EA* are statistically significant, with the effect for *FC* and *Ident* in the predicted direction (Model 6); thus, hypotheses H4 and H5 are supported, but not H6, which is rejected. The effect size of the moderation effects is very small according to *betas* and the increase of the adjusted R^2 in Model 6 *vs.* Model 5 (Δ adj. R^2= 1.2%). Graphical analyses of the moderating effects were also performed.

The interaction effect between independent variables and *TL* on *DA*, as suggested by Dawson (2014), is plotted in Figures 2 to 4. Figure 2 shows the negative effect of *FC* on *DA* (both lines have a negative slope) and that the relationship between *FC* and *DA* is weaker when *TL* is higher. The interaction effect between *Ident* and *TL* on *DA* is plotted in Figure 3. The graph illustrates the positive effect of *Ident* on *DA* (both lines have a positive slope) as well as how the relationship between *Ident* and *DA* is stronger when *TL* is higher. Finally, Figure 4 shows that the relationship between *EA* and *DA* is negatively moderated by *TL*, as it is practically neutralized at high *TL* levels and positive at low *TL* levels.

Figure 2. Interaction effect between FC, TL and DA

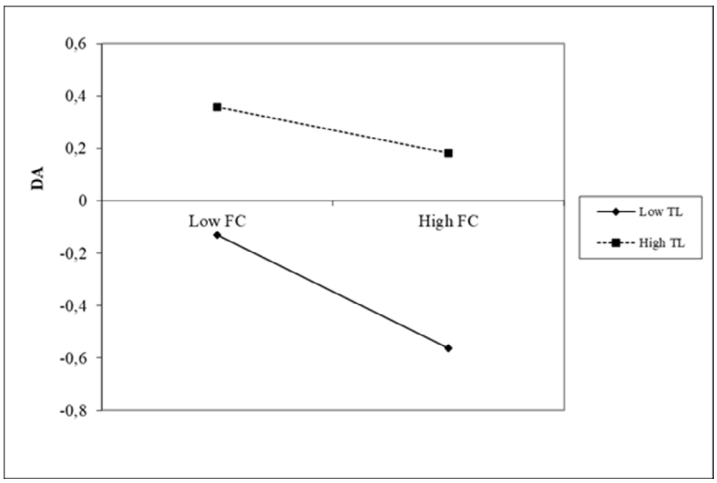


Figure 3. Interaction effect between Ident, TL and DA

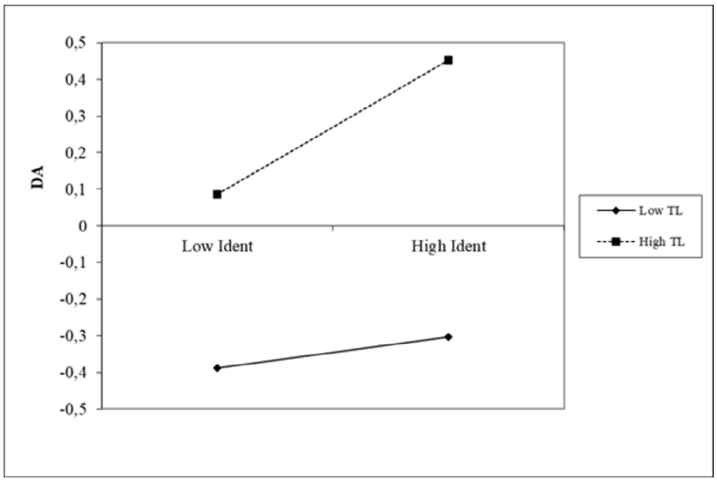
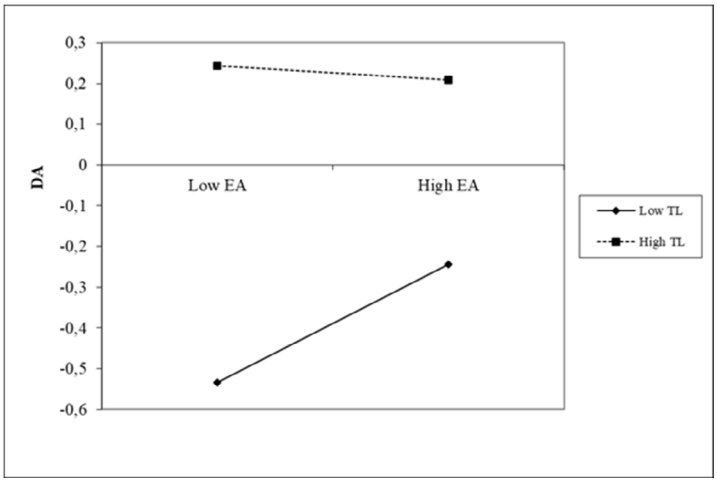


Figure 4. Interaction effect between EA, TL and DA



4.3. Additional tests

Full SEM

We implemented a full SEM test, categorizing countries into three groups according to their per capita income and industries into three sectors: primary, secondary, and tertiary. These groups were coded using dummy variables, entering k-1 categories into the model while omitting the largest category, as recommended in the literature. This simplification enabled us to run CB-SEM models, but at the expense of losing specifics regarding industry and country differences. The results of the full SEM model for direct effects were similar to the results reported in model 5, Table 4:

- The full SEM model fit the data well: x2= 2229.47, *df*=477, p=.00, AGFI=.90, CFI=.92, RMSEA=.05
- The R^2 values were similar: 30% (model 5, direct effects, Table 4) vs. 29% (full SEM).
- And the standardized betas too: *Size* .02 vs. .04, *FP* .19 vs. .19, *FC* -.19 vs. -.15, *Ident* .12 vs. .09, *EA* .08 vs. .08, and *TL* .36 vs. .31, with the same statistical significance maintained across both models.

Moderation analysis using CB-SEM techniques in Amos can be performed either by creating multiplicative constructs based on the product of the items or through subgroup analysis. We chose the subgroup approach because the product-indicator approach yields lower levels of fit. In applying the subgroup technique, the sample was split into two groups: one with high levels of *TL* (mean + 1 SD) and another with low levels of *TL* (mean – 1 SD), excluding the remaining cases from the analysis. The fit indices were satisfactory, and the results largely replicated those obtained with the two-stage approach, except for the moderation effect of *TL* on *FC* → *DA*, which is not statistically significant. This moderation is statistically significant in the two-stage model but only at a critical level (p = 0.05), which explains why, in this new exercise—where the errors of the structural model and measurement model are combined—the hypothesis was not supported.

Endogeneity and common method variance

Our study relies on cross-sectional data, which entails the challenge of potential endogeneity. Endogeneity may bias parameter estimates when an explanatory variable is correlated with the error term, often due to omitted variables, a measurement error, or reverse causality.

Consistent with prior SEM research, we explicitly address reverse causality as a source of endogeneity. To this end, we compared the tested model with an alternative model assuming reverse causality, using Akaike's Information Criterion (AIC) and the Bayesian Information Criterion (BIC). As noted by Kline (2023, p. 220), the model with the smallest AIC and BIC values fits the data best and is "the one most likely to replicate." The results show that the hypothesized (direct-effects) model had substantially lower AIC (2,465.47) and BIC (3,099.01) values than the reverse-causality model (AIC = 3,820.46; BIC = 4,212.39), suggesting that reverse causality was not a concern in our analysis.

We verified that the covariances between the estimation error of the dependent variable and the independent variables were zero (p<.001), suggesting the absence of serious endogeneity problems.

We assessed common method variance (CMV), another potential source of endogeneity (Antonakis et al., 2010), by controlling for the effects of a single unmeasured latent method factor, a

procedure recommended by Podsakoff et al. (2003) for this type of data. Both the theoretical model and an alternative model including an unmeasured latent factor were estimated (with all method factor loadings constrained to equality). The inclusion of the method factor did not produce any meaningful changes in the fit indices (ΔCFI=.002, ΔRMSEA=.000).

Additionally, we compared a single-factor model with the theoretical multifactor model (Harman's test). The single-factor model showed poor fit (x^2 = 15,105.96, df = 377, p = .00, AGFI = .37, CFI = 35, RMSEA = .16), substantially worse than the theoretical model. These results suggest that CMV did not pose a significant threat to the validity of our findings.

We conducted an additional robustness check to assess the potential influence of endogeneity. Following prior marketing and management research (see, e.g., Decreton et al., 2023; Park & Gupta, 2012), we employed a Gaussian copula-based regression approach, which allows modeling possible dependence between potentially endogenous regressors and the error term without relying on external instruments. Specifically, Shapiro–Wilk tests proved that the distributions of the continuous explanatory variables were not normal. The continuous independent and moderator variables were transformed using a Gaussian copula, while the dependent variable and dummy controls were kept in their original scales. The results of this copula-based analysis are fully consistent with our main findings: the direction, statistical significance, and substantive interpretation of the main effects and moderating relationships remain unchanged. These results provide additional reassurance that endogeneity is unlikely to drive our conclusions.

5. Discussion and Conclusions

In this study, we set out to deepen our understanding of DA in family firms, more specifically, of its antecedents. We used the SEW perspective to account for the heterogeneity of family goals that shape decision making. Family firms use various SEW reference points to assess how well their digital initiatives and strategies align. When SEW priorities related to family control and influence take precedence, family firms are inclined to prioritize conservatism, which diminishes their willingness to engage in DA. Conversely, as the relevance of extended SEW priorities—in our study, family members' identification with the firm and their emotional attachment to it—becomes more prominent, family-owned enterprises are more inclined to invest in digital technologies and align their strategies with them.

As we have argued, our results show opposite SEW effects on DA. Restricted SEW—family control and influence—reduces DA (H1), which is in line with conservative frames and rigid mental models that slow digital technology adoption and cross-domain integration (Konig et al., 2013). In contrast, extended SEW—family identification and emotional attachment—enhances DA (H2-H3), aligning digital efforts with a shared purpose and long-term commitment (Kotlar & De Massis, 2013).

Our model posited that family firms would be less likely to adopt appropriate digital technologies as family control and influence increased. The rationale behind this hypothesis, supported by our data, is that heightened family influence, characterized by emotional attachment to existing assets and rigid mental models (Konig et al., 2013), can result in resistance to adopting new technologies. Such resistance is driven by concerns that changes to established routines might threaten family control over firm operations, thereby undermining family values and stability. As anticipated, our findings revealed that greater family control and influence were associated with lower levels of DA. In a similar vein, Issah and Calabrò (2024) found that an increased emphasis on family ownership, as a proxy for family goals, weakens the positive association between DA and family firms' performance. Additionally, these findings are in line with the research conducted by Åberg and Campopiano (2026), who concluded that family ownership acts as a moderating factor, potentially lessening the positive relationship between stewardship of family-oriented goals and DA. The implications of these insights extend into the realm of corporate governance and strategic management in family businesses. This suggests that family ownership structures may have a nuanced impact on how family firms engage with digital strategies.

We obtain empirical evidence for our proposal that family firms are more likely to adopt digital technologies as family members' identification with the firm increases. In line with previous research, this result suggests that strong family identification can foster a shared sense of long-term purpose and commitment to the business (Kotlar & De Massis, 2013), creating a more supportive environment for digital innovation and collaboration. As predicted, our results indicate that a strong sense of family identification positively impacts the alignment between digital technologies and strategic objectives and needs in a changing and demanding environment.

In line with previous studies, we proposed that family members' emotional attachment to the firm increases the alignment between strategies and digital technologies, finding support for

this relationship. The core rationale is that a strong emotional bond with the firm encourages heightened awareness of evolving technologies and reduces risk aversion to innovation opportunities, as Filser et al. (2018) and Fitz-Koch and Nordqvist (2017) have reported. As expected, we found that stronger emotional attachment was positively associated with DA.

The seemingly discrepant negative effects of family control and influence on DA, compared to the positive effects of identification and emotional attachment, invite to nuanced theoretical exploration. Family control and influence typically refer to formal and informal power and decision-making structures within a family business, which may lead to conservative or risk-averse decision making due to concerns over stability, continuity, and protection of family wealth. Such decision-making environments might prioritize traditional practices over rapid adaptation to digital advancements, potentially explaining the negative association with DA. This cautiousness in embracing digital technologies can be considered a protective measure to preserve the family business legacy, but it may inadvertently hinder DA. On the other hand, identification and emotional attachment, which pertain to feelings of pride, loyalty, and dedication to the family business, can foster a unique motivational climate that encourages, in the first case, a long-term orientation and, in the second, innovation. Thus, they favor the adoption and integration of digital technologies into the strategy. Family members who exhibit high levels of identification and emotional attachment to the family firm may be more willing to engage in digital transformation initiatives. This is because they perceive such efforts as aligned with the family's long-term goals and values. This emotional investment can lead to a proactive and adaptive approach to DA, driving positive outcomes for the firm.

Lastly, we make the case for TL acting as a boundary condition and present some empirical evidence in support of it. In fact, TL attenuates the penalty of restricted SEW and amplifies the benefits of identification. Yet, it tempers the positive effect of emotional attachment. A plausible explanation is that strong affect, coupled with TL's socio-relational emphasis, can crowd out the disciplined integration routines that DA requires (Bass & Riggio, 2006; Herold et al., 2008). We also observe a direct, positive role for TL in DA (Model 5), consistent with alignment research that links leadership to shared domain knowledge and integration.

Our results provide empirical evidence of the central and direct role that TL plays in DA, which is consistent with previous DA studies. We argued that TL could amplify the positive impact of extended SEW priorities on DA by enhancing top management support, improving cooperation between IT and business units, and facilitating the development of shared knowledge during the digitalization process. As predicted, our results indicate that TL positively moderated the relationship between family control and influence and DA, attenuating the negative impact of family control on DA when TL was strong. Similarly, TL was found to positively moderate the relationship between family members' identification with the firm and DA. This amplified the positive effect of family identification on DA when TL was strong.

However, contrary to our expectations, we found that TL negatively moderates the relationship between family members' emotional attachment and DA. Specifically, the positive effect of emotional attachment on DA was weaker when TL was strong. A negative moderation effect in the context of TL and emotional attachment affecting DA can be surprising and counterintuitive at first glance, given the generally positive association of TL with various organizational outcomes. There are, nevertheless, several plausible explanations and arguments for such an effect.

Firstly, although TL is mostly beneficial, it can sometimes lead to an overemphasis on emotional aspects, which might overshadow the strategic and operational needs that are critical for DA (Bass & Riggio, 2006). Given that emotional attachment and TL place a greater emphasis on interpersonal dynamics, family business owners might not sufficiently address the technical skills and competencies required for effective DA (Herold et al., 2008). This overemphasis on emotional aspects, coupled with insufficient attention to technical considerations, could result in a negative moderation effect, as prioritizing emotional aspects does not necessarily translate into effective digital strategies.

Secondly, the effectiveness of TL can be context-dependent, as this leadership style may not always align with situational demands (Yukl, 2013); thus, the mismatch between leadership style and organizational context could explain the observed negative moderation effect. To further understand and validate the negative moderation effect, it would be beneficial to conduct additional qualitative research, such as interviews or focus groups with family members and leaders, to explore the underlying mechanisms and perceptions contributing to this effect. This would provide richer insights into the dynamics between emotional attachment, TL, and DA within the specific context of our study.

In summary, our model of DA antecedents and moderators, which includes SEW dimensions, TL, and relevant controls, explains over 30% of the variance in DA.

Theoretically, our evidence recasts digital alignment (DA) as SEW-contingent. Restricted SEW channels attention toward preservation and control. In addition, it heightens loss aversion and privileges continuity, which in turn dampen the alignment between digital initiatives and strategic objectives. Extended SEW, in contrast, channels attention toward continuity through identity and pride; it mobilizes alignment when enthusiasm is coupled with mechanisms that integrate business and the digital domains.

TL specifies when these family goals translate into DA. TL transforms restrictive control into constructive coordination and turns identification into coordinated digital-business coherence; however, when emotional attachment is already high, TL's relational load may undermine the process discipline required for alignment, thereby diminishing net gains.

Framed this way, our results move beyond the question of whether family firms digitalize or transform, revealing instead how family goals and leadership jointly produce (or impede) alignment. They also situate family-firm evidence within the nascent DA literature (Ciacci et al., 2025; Li et al., 2021; Yeow et al., 2018), offering a coherent explanation for the mixed effects of "family influence" reported elsewhere (e.g., Åberg, 2025; Issah & Calabrò, 2024).

5.1. Theoretical contributions

This study makes two key contributions to the scholarly discussions of digital alignment (DA) and family business strategy. First, by analyzing family firms through well-established theoretical frameworks, we extend DA research by identifying SEW priorities as deep, heterogeneous antecedents of alignment. We distinguish restricted SEW (family control and influence) from extended SEW (family identification and emotional attachment) and theorize their opposite implications for DA: restricted SEW channels attention toward preservation and control—dampening the coordination and cross-domain integration that DA requires—whereas extended SEW fosters shared purpose and long-term commitment that enable alignment when coupled with integration discipline.

We further demonstrate that TL acts as a boundary condition that translates family goals into alignment—attenuating the penalty of restricted SEW and amplifying the benefits of identification—while, under conditions of high emotional attachment, TL tempers alignment by emphasizing socio-relational processes over integration routines. In doing so, we link family-firm theorizing to the DA stream (e.g., alignment with an updated digital strategy; digital business-IT alignment; recent uses of the DA label) and clarify when and why family goals and leadership jointly translate digital initiatives into strategic fit.

Second, we advance family business scholarship by uncovering the dual effects of SEW priorities on DA and by offering a leadership-contingent account of family influence on alignment. Rather than asking whether family firms digitalize or transform, we show how SEW configurations shape the alignment of digital efforts with strategy, and we identify TL as the lever that can either unlock or dilute these effects. This reframing helps reconcile mixed findings on the role of "family influence" in digital contexts, clarifies the processes through which family goals translate (or fail to translate) into coordinated digital-business coherence, and provides a clear pathway for future inquiry.

Taken together, these arguments show that our study goes beyond documenting empirical associations between SEW, TL and DA. It (1) refines the conceptualization of DA as contingent on heterogeneous SEW priorities, (2) theorizes a leadership-contingent mechanism that explains when family influence inhibits or enables alignment, and (3) builds a bridge between the DA literature and family business research that can orient future work on digital transformation in family firms. Overall, these insights yield a cohesive explanation of the interplay between family goals, leadership, and digital strategy.

5.2. Managerial implications

From a managerial perspective, our findings suggest that restricted SEW priorities can hinder innovation and the adoption of digital technologies because family owners often seek to preserve control. To counter this tendency, leaders should first diagnose the SEW profile at play and then tailor their actions accordingly. When control and influence dominate, managers should establish alignment routines—such as clear decision rights, cross-functional planning forums, and staged integration milestones—to reduce preservation bias and keep digital efforts tied to strategy. Conversely, when extended SEW (rooted in family identification and emotional attachment) is more prominent, leaders should channel that motivation into coordinated execution, ensuring that enthusiasm is matched by disciplined integration across business and digital domains.

Our results also indicate that TL, which cultivates shared purpose, openness, and learning, facilitates DA across different SEW configurations. In practice, this means that managers should strengthen TL capabilities that build shared domain knowledge between IT and business functions, establish regular integration

touchpoints (e.g., joint planning and review meetings), and engage stakeholders early and transparently. Doing so helps surface and resolve concerns rooted in family control before they slow the alignment process. Ensuring that all stakeholders remain actively involved in DA efforts is crucial for overcoming the challenges posed by family control and influence.

Finally, managers should know that SEW priorities are not the only drivers of DA. In our data, SEW and leadership together account for more than 30% of the variance in DA. A pragmatic managerial agenda, therefore, is to balance SEW priorities with a proactive approach to DA, supported by TL, while continuously monitoring performance indicators to adjust the pace and scope of digital initiatives.

5.3. Limitations and future research

The limitations of this research primarily stem from using only three out of the five FIBER dimensions of SEW (Berrone et al., 2012), a constraint imposed by our reliance on STEP secondary data. Specifically, the available dataset covers only three dimensions: family control and influence, family members' identification with the firm, and the emotional attachment of family members. Although the omission of the remaining FIBER dimensions—namely, the firm's ability to transfer wealth to heirs and the family firms' social relationships—may restrict a fully comprehensive understanding of SEW, prior studies have shown that the selected dimensions are central to understanding the relationship between SEW and firm behavior (Gómez-Mejía et al., 2007; Kellermanns & Eddleston, 2006).

Second, although the methodological literature generally regards full structural equation modeling (CB-SEM) as the gold standard for accounting for measurement error, we opted to use estimated factor scores in the structural analysis stage of this study. This decision was primarily driven by practical and computational considerations. Given the complexity of the sample, comprising 1,586 firms across 23 countries and 19 industries, the inclusion of many categorical control variables led to convergence and identification problems in joint SEM estimation, particularly in the presence of moderate-to-small subgroup sample sizes. While the use of factor scores simplifies the model and ensures the feasibility of the analysis, this approach corresponds to a traditional two-step procedure in which measurement error is not explicitly propagated into the structural model. Consequently, the estimated parameters may be attenuated relative to estimates obtained from full SEM, and the findings should therefore be interpreted as conservative. Third, our database is cross-sectional, which makes it challenging to study alignment processes within firms. *Digital technology-business strategic alignment* (the dependent variable) was measured with a multi-item scale adapted from Li et al. (2021). This scale captures the degree to which a firm's digital transformation is aligned with the strategic management of the firm. However, alignment is a dynamic process that evolves over time, and a cross-sectional study can only provide a snapshot of its current state rather than its evolution. Future research employing longitudinal and qualitative methodologies would largely overcome this limitation.

Future research could include performing longitudinal studies to capture changes in family dynamics, such as succession planning and intergenerational differences, as well as other organizational factors that might influence the willingness and ability of family firms to adopt digital technologies. Gaining an understanding of these dynamics could offer valuable insights into how to overcome resistance to change and promote innovation.

Further investigation is needed to understand the unexpected negative moderation effect of TL on the relationship between emotional attachment and DA. Qualitative approaches, like interviews or focus groups with family members and leaders, could yield deeper insights into the underlying mechanisms and perceptions driving this effect. Future studies could also examine different leadership styles and their moderating effect on the relationship between SEW dimensions and DA.

Finally, the influence of financial performance on DA deserves attention—particularly how family firms allocate resources and reinvest earnings into IT assets. This might involve analyzing the strategic decision-making processes that lead to reinvestment in digital technologies (Kathuria et al., 2023). By addressing these future lines of inquiry, researchers can provide a more holistic and nuanced understanding of the complexities of DA in family-owned businesses.

5.4. Conclusions

This study examines the specific antecedents of digital alignment (DA) within family firms using the well-established SEW framework in family business research as a lens. Based on the logic of SEW priorities, we analyze their differential impact on DA. Our empirical SEM analysis provides robust support for the idea that emotional attachment and identification have a positive impact, while family control has a negative effect. Furthermore, we theorize and empirically demonstrate the moderating role of transformational leadership in the relationship between SEW priorities and DA. By theorizing that

DA is SEW-contingent and leadership-conditioned, we add nuance to family business research on DA and offer a clear pathway for subsequent studies.

Author contribution statement

The authors contributed equally to the work.

Conflict of interest statement

Declaration of interest: none.

Funding

This work was supported by the Spanish Ministry of Science and Innovation under Grant MCIN/AEI/ERDF/PID2022-139222NB-I00.

Data availability statement

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

References

Åberg, C., & Campopiano, G. (2026). Stewardship as a driver of digital business alignment in family firms: are there performance consequences? *Technovation*, *150*, 103435. https://doi.org/10.1016/j.technovation.2025.103435

Amankwah-Amoah, J., Khan, Z., Wood, G., & Knight, G. (2021). COVID-19 and digitalization: the great acceleration. *Journal of Business Research, 136*, 602-611. https://doi.org/10.1016/j.jbusres.2021.08.011

Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2010). On making causal claims: a review and recommendations. *Leadership Quarterly, 21*(6), 1086-1120. https://doi.org/10.1016/j.leaqua.2010.10.010

Autio, E., Mudambi, R., & Yoo, Y. (2021). Digitalization and globalization in a turbulent world: centrifugal and centripetal forces. *Global Strategy Journal*. https://doi.org/10.1002/gsj.1396

Avolio, B., Bass, B., & Jung, D. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *Journal of Occupational and Organizational Psychology, 72*, 441-462. https://doi.org/10.1348/096317999166789

Bass, B. M., & Riggio, R. E. (2006). *Transformational Leadership*: Taylor & Francis. https://doi.org/10.4324/9781410617095

Batt, C. E., Cleary, P., Hiebl, M. R. W., Quinn, M., & Rikhardsson, P. M. (2020). The digitalization of family firms: A research agenda. In A. Calabrò (Ed.), *A Research Agenda for Family Business* (pp. 247-260). UK: Edward Elgar Publishing Limited. https://doi.org/10.4337/9781788974073.00021

Begnini, S., Oro, I., Tonial, G., & Dalbosco, I. (2024). The relationship between the use of technologies and digitalization strategies for digital transformation in family businesses. *Journal of Family Business Management, 14*(4), 710-726. https://doi.org/10.1108/JFBM-06-2023-0087

Berrone, P., Cruz, C., & Gómez-Mejía, L. R. (2012). Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research. *Family Business Review, 25*(3), 258-279. https://doi.org/10.1177/0894486511435355

Bharadwaj, A., El Sawy, O., Pavlou, P., & Venkatraman, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. *MIS Quarterly, 37*(2), 471-482. https://doi.org/10.25300/MISQ/2013/37:2.3

Bollen, K. A. (1989). *Structural equations with latent variables* (Vol. 210): John Wiley & Sons.

Bouncken, R., & Schmitt, F. (2022). SME family firms and strategic digital transformation: Inverting dualisms related to overconfidence and centralization. *Journal of Small Business Strategy, 32*(3), 1-17. https://doi.org/10.53703/001c.35278

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research*, *21*(2), 230-258. https://doi.org/10.1177/0049124192021002005

Calabrò, A., Vecchiarini, M., Gast, J., Campopiano, G., De Massis, A., & Kraus, S. (2019). Innovation in Family Firms: A Systematic Literature Review and Guidance for Future Research. *International Journal of Management Reviews, 21*(3), 317-355. https://doi.org/10.1111/ijmr.12192

Ceipek, R., Hautz, J., De Massis, A., Matzler, K., & Ardito, L. (2021). Digital transformation through exploratory and exploitative internet of things innovations: the impact of family management and technological diversification. *Journal of Product Innovation Management, 38*(1), 142-165. https://doi.org/10.1111/jpim.12551

Cennamo, C., Berrone, P., Cruz, C., & Gómez-Mejía, L. R. (2012). Socioemotional Wealth and Proactive Stakeholder Engagement: Why Family-Controlled Firms Care More About Their Stakeholders. *Entrepreneurship Theory and Practice*, *36*(6), 1153-1173. https://doi.org/10.1111/j.1540-6520.2012.00543.x

Chan, Y. E., & Reich, B. H. (2007). IT alignment: what have we learned? *Journal of Information Technology, 22*(4), 297-315. https://doi.org/10.1057/palgrave.jit.2000109

Chan, Y. E., Sabherwal, R., & Thatcher, J. B. (2006). Antecedents and outcomes of strategic IS alignment: An empirical investigation. *Ieee Transactions on Engineering Management*, *53*(1), 27-47. https://doi.org/10.1109/tem.2005.861804

Chrisman, J. J., Chua, J. H., Pearson, A. W., & Barnett, T. (2012). Family Involvement, Family Influence, and Family-Centered Non-Economic Goals in Small Firms. *Entrepreneurship Theory and Practice*, *36*(2), 267-293. https://doi.org/10.1111/j.1540-6520.2010.00407.x

Chrisman, J. J., Chua, J. H., & Sharma, P. (2005). Trends and directions in the development of a strategic management theory of the family firm. *Entrepreneurship Theory and Practice*,

29(5), 555-575. https://doi.org/10.1111/j.1540-6520.2005.00098.x

Chua, J. H., Chrisman, J. J., & Sharma, P. (1999). Defining the family business by behaviour. *Entrepreneurship Theory and Practice, 23*(4), 19-39. https://doi.org/10.1177/104225879902300402

Chung, P., & Lee, C. (2024). The attitude of family firms toward digital transformation: From the organizational learning perspective. *Advances in Management and Applied Economics, 14*(4), 19-32. https://doi.org/10.47260/amae/1442

Ciacci, A., Balzano, M., & Marzi, G. (2025). Optimising business models through digital alignment and strategic flexibility: Evidence from the manufacturing industry. *Journal of Management & Organization, 31*(3), 1477-1497. https://doi.org/10.1017/jmo.2024.1

Coltman, T., Tallon, P., Sharma, R., & Queiroz, M. (2015). Strategic IT alignment: twenty-five years on. *Journal of Information Technology, 30*(2), 91-100. https://doi.org/10.1057/jit.2014.35

Daspit, J. J., Chrisman, J. J., Sharma, P., Pearson, A. W., & Long, R. G. (2017). A strategic management perspective of the family firm: Past trends, new insights, and future directions. *Journal of Managerial Issues*, *29*(1), 6-29. https://www.jstor.org/stable/45176532

Decreton, B., Tippmann, E., Nell, P., & Parker, A. (2023). More effective solutions? Senior managers and non-routine problem solving. *Strategic Management Journal*. doi: https://doi.org/10.1002/smj.3495

Denison, D., Lief, C., & Ward, J. L. (2004). Culture in family-owned enterprises: Recognizing and leveraging unique strengths. *Family Business Review, 17*(1), 61-70. https://doi.org/10.1111/j.1741-6248.2004.00004.x

Dillon, P. J., Blake-Davis, L., See, E., Xu, M., Pearce, C. L., & Manz, C. C. (2025). Toward a Theoretical Model of Shared Leadership and Innovation in Family Business. European Journal of Family Business, 15(1), 92-106. https://doi.org/10.24310/ejfb.15.1.2025.20484

Drnevich, P. L., & Croson, D. C. (2013). Information technology and business-level strategy: toward an integrated theoretical perspective. *Mis Quarterly, 37*(2), 483-509. https://doi.org/10.25300/MISQ/2013/37.2.08

Eddleston, K. A., & Kellermanns, F. W. (2007). Destructive and productive family relationships: A stewardship theory perspective. *Journal of Business Venturing, 22*(4), 545-565. https://doi.org/10.1016/j.jbusvent.2006.06.004

Eddleston, K. A., Kellermanns, F. W., & Sarathy, R. (2008). Resource configuration in family firms: linking resources, strategic planning and technological opportunities to performance. *Journal of Management Studies, 45*(1), 26-50. https://doi.org/10.1111/j.1467-6486.2007.00717.x

Eom, M., Kahai, S., & Yayla, A. (2015). Investigation of how IT leadership impacts IT-business alignment through shared domain knowledge and knowledge integration. *Amcis 2015 Proceedings*. https://aisel.aisnet.org/amcis2015/HumanCapital/GeneralPresentations/7

Filser, M., De Massis, A., Gast, J., Kraus, S., & Niemand, T. (2018). Tracing the roots of innovativeness in family SMEs: the effect of family functionality and socioemotional wealth. *Journal of Product Innovation Management, 35*(4), 609-628. https://doi.org/10.1111/jpim.12433

Fitz-Koch, S., & Nordqvist, M. (2017). The reciprocal relationship of innovation capabilities and socioemotional wealth in a family firm. *Journal of Small Business Management, 55*(4), 547-570. https://doi.org/10.1111/jsbm.12343

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.2307/3151312

Ghafoor, S., Zulfiqar, M., Wang, M., Wang, C., & Islam, M. (2023). Behavioural phenomena of family firm control diversity and R&D investment with moderating role CEO compensation. *Psychology Research and Behaviour Management, 16*, 397-417. https://doi.org/10.2147/PRBM.S383279

Gómez-Mejía, L. R., Cruz, C., Berrone, P., & De Castro, J. (2011). The bind that ties: socioemotional wealth preservation in family firms. *Academy of Management Annals, 5*, 653-707. https://doi.org/10.1080/19416520.2011.593320

Gómez-Mejía, L. R., Haynes, K. T., Núñez-Nickel, M., Jacobson, K. J. L., & Moyano-Fuentes, J. (2007). Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. *Administrative Science Quarterly, 52*(1), 106-137. https://doi.org/10.2189/asqu.52.1.106

Guzzo, R. A., Yost, P. R., Campbell, R. J., & Shea, G. P. (1993). Potency in groups - articulating a construct. *British Journal of Social Psychology, 32*, 87-106. https://doi.org/10.1111/j.2044-8309.1993.tb00987.x

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modelling (PLS-SEM) using R: A workbook*. Springer Nature. https://doi.org/10.1007/978-3-030-80519-7

Henderson, J. C., & Venkatraman, N. (1993). Strategic alignment - leveraging information technology for transforming organizations. *IBM Systems Journal, 32*(1), 4-16. https://doi.org/0.1147/SJ.1999.5387096

Herold, D., Fedor, D., Caldwell, S., & Liu, Y. (2008). The effects of transformational and change leadership on employees' commitment to a change: A multilevel study. *Journal of Applied Psychology, 93*(2), 346-357. https://doi.org/10.1037/0021-9010.93.2.346

Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modelling - A Multidisciplinary Journal, 6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Iborra, M., López-Muñoz, J. F., & Safón, V. (2025). Does CEOs' prior experience in global crises matter for family firms in their next crisis? Emotional and rational advantages across cultural contexts. *Journal of Family Business Management, 15*(4),

1025-1043. https://doi.org/10.1108/JFBM-03-2025-0075

Issah, W., & Calabrò, A. (2024). The impact of digitalization on family firms' performance: the moderating role of family goals. *IEEE Transactions on Engineering Management, 71*, 3727-3740. https://doi.org/10.1109/TEM.2024.3354804

James, H. S. (1999). What can the family contribute to business? Examining contractual relationships. *Family Business Review, 12*(1), 61-71. https://doi.org/10.1111/j.1741-6248.1999.00061.x

Joreskog, K. G., & Sorbom, D. (1982). Recent developments in structural equation modelling. *Journal of Marketing Research, 19*(4), 404-416. https://doi.org/10.2307/3151714

Kane, G. C., Palmer, D., Phillips, A. N., Kiron, D., & Buckley, N. (2015). Strategy, not technology, drives digital transformation. *MIT Sloan Management Review*. https://sloanreview.mit.edu/projects/strategy-drives-digital-transformation/

Kathuria, A., Karhade, P. P., Ning, X., & Konsynski, B. R. (2023). Blood and Water: Information Technology Investment and Control in Family-owned Businesses. *Journal of Management Information Systems, 40*(1), 208-238. https://doi.org/10.1080/07421222.2023.2172770

Katz, D. (1964). The motivational basis of organizational behaviour. *Behavioral Science, 9*(2), 131-146. https://doi.org/10.1002/bs.3830090206

Kellermanns, F. W., & Eddleston, K. A. (2006). Corporate entrepreneurship in family firms: a family perspective. *Entrepreneurship Theory and Practice, 30*(6), 809-830. https://doi.org/10.1111/j.1540-6520.2006.00153.x

Kline, R. B. (2023). *Principles and practice of structural equation modelling*. New York: Guilford publications.

Konig, A., Kammerlander, N., & Enders, A. (2013). The Family Innovator's Dilemma: How Family Influence Affects The Adoption of Discontinuous Technologies by Incumbent Firms. *Academy of Management Review, 38*(3), 418-441. https://doi.org/10.5465/amr.2011.0162

Kotlar, J., & De Massis, A. (2013). Goal setting in family firms: goal diversity, social interactions and collective commitment to family-centered goals. *Entrepreneurship Theory and Practice, 37*(6), 1263-1288. https://doi.org/10.1111/etap.12065

Lasio, V., Gómez, J., Rosso, J., & Sánchez, A. (2024). Entrepreneurial orientation and socioemotional wealth as enablers of the impact of digital transformation in family firms. *Journal of Family Business Management, 14*(6), 1268-1294. https://doi.org/10.1108/JFBM-11-2023-0282

Leonardi, P. M. (2011). When flexible routines meet flexible technologies: affordance, constraint, and the imbrication of human and material agencies. *MIS Quarterly, 35*(1), 147-167. https://doi.org/10.2307/23043493

Li, H. L., Wu, Y., Cao, D. M., & Wang, Y. C. (2021). Organizational mindfulness towards digital transformation as a prerequisite of information processing capability to achieve market agility. *Journal of Business Research, 122*, 700-712. https://doi.org/10.1016/j.jbusres.2019.10.036

Luftman, J., & Brier, T. (1999). Achieving and sustaining business-IT alignment. *California Management Review, 42*(1), 109-122. https://doi.org/10.2307/41166021

Lumpkin, G., & Brigham, K. (2011). Long-term orientation and intertemporal choice in family firms. *Entrepreneurship Theory and Practice, 35*(6), 1149-1169. https://doi.org/10.1111/j.1540-6520.2011.00495.x

López-Muñoz, J. F., & Escribá-Esteve, A. (2022). Executives' role in digital transformation. *IJISPM-International Journal of Information Systems and Project Management, 10*(3), 84-103. https://doi.org/10.12821/ijispm100304

Mahto, R. V., & Khanin, D. (2015). Satisfaction with past financial performance, risk taking, and future performance expectations in the family business. *Journal of Small Business Management, 53*(3), 801-818. https://doi.org/10.1111/jsbm.12088

Melville, N., Kraemer, K., & Gurbaxani, V. (2004). Review: Information technology and organizational performance: An integrative model of IT business value. *MIS Quarterly, 28*(2), 283-322. https://doi.org/10.2307/25148636

Miller, D., & Le Breton-Miller, I. (2014). Deconstructing Socioemotional Wealth. *Entrepreneurship Theory and Practice, 38*(4), 713-720. https://doi.org/10.1111/etap.12111

Miller, D., Le Breton-Miller, I., & Lester, R. H. (2013). Family Firm Governance, Strategic Conformity, and Performance: Institutional vs. Strategic Perspectives. *Organization Science, 24*(1), 189-209. https://doi.org/10.1287/orsc.1110.0728

Mithas, S., Ramasubbu, N., & Sambamurthy, V. (2011). How Information Management Capability Influences Firm Performance. *MIS Quarterly, 35*(1), 237-256. https://doi.org/10.2307/23043496

Mucci, D., Jorissen, A., Frezatti, F., & Bido, D. (2021). Managerial controls in private family firms: the influence of a family's decision premises.he Influence of a Family's Decision Premises. *Sustainability, 13*(4), 2158. https://doi.org/10.3390/su13042158

Mustakallio, M., Autio, E., & Zahra, S. A. (2002). Relational and contractual governance in family firms: effects on strategic decision making. *Family business review, 15*(3), 205-222. https://doi.org/10.1111/j.1741-6248.2002.00205.x

O'Reilly, C., & Chatman, J. (1986). Organizational commitment and psychological attachment - the effects of compliance, identification and internalization on pro-social behaviour. *Journal of Applied Psychology, 71*(3), 492-499. https://doi.org/10.1037/0021-9010.71.3.492

Park, S., & Gupta, S. (2012). Handling Endogenous Regressors by Joint Estimation Using Copulas. *Marketing Science, 31*(4), 567-586. https://doi.org/10.1287/mksc.1120.0718

Parviainen, P., Tihinen, M., Kaariainen, J., & Teppola, S. (2017). Tackling the digitalization challenge: how to benefit from digitalization in practice. *IJISPM - International Journal of Information Systems and Project Management, 5*(1), 63-77. https://doi.org/10.12821/ijispm050104

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioural research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviours and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviours. *The Leadership Quarterly, 1*(2), 107-142. https://doi.org/10.1016/1048-9843(90)90009-7

Reich, B. H., & Benbasat, I. (2000). Factors that influence the social dimension of alignment between business and information technology objectives. *MIS Quarterly, 24*(1), 81-113. https://doi.org/10.2307/3250980

Reich, B. H., & Benbasat, I. (1996). Measuring the linkage between business and information technology objectives. *MIS Quarterly, 20*(1), 55-81. https://doi.org/10.2307/249542

Riandari, R., & Pharmasetiawan, B. (2017). *Indonesian Culture Impact on Business-IT Alignment (A Case Study in Attorney General of Indonesia Office)*. Paper presented at the 4th International Conference on Information Technology Systems and Innovation (ICITSI), Sch Electrl Eng & Informat - ITB, Bandung, Indonesia (Oct 23-24). https://doi.org/10.1109/ICITSI.2017.8267910

Ruiz-Palomo, D., Diéguez-Soto, J., Duréndez, A., & Santos, J. (2019). Family management and firm performance in family SMEs: the mediating role of management control systems and technological innovation. *Sustainability, 11*(14). https://doi.org/10.3390/su11143805

Schulze, M., & Bövers, J. (2022). Family business resilience: the importance of owner-manager's relational resilience in crisis response strategies. *European Journal of Family Business, 12*(2), 100-123. https://doi.org/10.24310/ejfbejfb.v12i2.14657

Schulze, W. S., Lubatkin, M. H., & Dino, R. N. (2003). Toward a theory of agency and altruism in family firms. *Journal of Business Venturing, 18*(4), 473-490. https://doi.org/10.1016/s0883-9026(03)00054-5

Sharma, P. (2006). An overview of the field of family business studies: current status and directions for the future. *Family Business Review, 17*(1), 1-36. https://doi.org/10.1111/j.1741-6248.2004.00001.x

Silvius, A. J., De Haes, S., & Van Grembergen, W. (2012). Explorative study on the influence of national cultures on business/IT alignment maturity. In W. Van Grembergen & S. De Haes (Eds.), *Business Strategy and Applications in Enterprise IT Governance* (pp. 102-122). IGI Global Scientific Publishing. https://doi.org/10.4018/978-1-4666-1779-7.ch007

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behaviour – its nature and antecedents. *Journal of Applied Psychology, 68*(4), 653-663. https://doi.org/10.1037/0021-9010.68.4.653

Souder, D., Zaheer, A., Sapienza, H., & Ranucci, R. (2017). How family influence, socioemotional wealth, and competitive conditions shape new technology adoption. *Strategic Management Journal, 38*(9), 1774-1790. https://doi.org/10.1002/smj.2614

Swab, R. G., Sherlock, C., Markin, E., & Dibrell, C. (2020). "SEW" What Do We Know and Where Do We Go? A Review of Socioemotional Wealth and a Way Forward. *Family Business Review, 33*(4), 424-445. https://doi.org/10.1177/0894486520961938

Tilson, D., Lyytinen, K., & Sørensen, C. (2010). Research commentary—Digital infrastructures: The missing IS research agenda. *Information Systems Research, 21*(4), 748-759. https://doi.org/10.1287/isre.1100.0318

Venkatraman, N. (1994). IT-enabled business transformation - from automation to business scope redefinition. *MIT Sloan Management Review, 35*(2), 73-87. https://sloanreview.mit.edu/article/itenabled-business-transformation-from-automation-to-business-scope-redefinition/

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research, 122*, 889-901. https://doi.org/10.1016/j.jbusres.2019.09.022

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems, 28*(2), 118-144. https://doi.org/10.1016/j.jsis.2019.01.003

Wang, Q., & Shao, Z. (2024). Linking transformational leadership and digital creativity from the lens of social cognitive theory. *Industrial Management & Data Systems, 124*(6), 2312-2332. https://doi.org/10.1108/IMDS-07-2023-0444

Warner, K. S. R., & Wager, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning, 52*(3), 326-349. https://doi.org/10.1016/j.lrp.2018.12.001

Yeow, A., Soh, C., & Hansen, R. (2018). Aligning with new digital strategy: A dynamic capabilities approach. *Journal of Strategic Information Systems, 27*, 43-58. https://doi.org/10.1016/j.jsis.2017.09.001

Yukl, G. A. (2013). *Leadership in Organizations*: Pearson.

Zaccaro, S. J., Blair, V., Peterson, C., & Zazanis, M. (1995). Collective Efficacy. In J. E. Maddux (Ed.), *Self-Efficacy, Adaptation, and Adjustment. Theory, Research, and Application* (pp. 305-328): Springer New York, NY. https://doi.org/10.1007/978-1-4419-6868-5_11

Zellweger, T. M., Eddleston, K. A., & Kellermanns, F. W. (2010). Exploring the concept of familiness: introducing family firm identity. *Journal of family business strategy, 1*(1), 54-63. https://doi.org/10.1016/j.jfbs.2009.12.003

Zellweger, T. M., Nason, R. S., & Nordqvist, M. (2012). From longevity of firms to transgenerational entrepreneurship of families: introducing family entrepreneurial orientation. *Family Business Review, 25*(2), 136-155. https://doi.org/10.1177/0894486511423531

Appendix 1. Constructs and items

		Construct and items
DA	*DA1*	Integrate digital technology and business strategy to attain strategic alignment
	DA2	Create a shared vision of the role of digital technology in the business strategy
	DA3	Jointly plan how digital technology will enable the business strategy
	DA4	Make sure that the firm's strategic plan identifies value from digital transformation
	DA5	Inform the management team about valuable options of digital technology before a digital transformation strategic change decision is made
FC	*FC1*	In my family business. family members exert control over the company´s strategic decisions
	FC2	In my family business. most executive positions are occupied by family members
	FC3	In my family business. non-family managers and directors are selected by family members
	FC4	The board of directors is composed primarily of family members
EA	*EA1*	Protecting the welfare of family members is critical to us
	EA2	In my family business. the emotional bonds between family members are very strong
	EA3	In my family business. affective considerations are often as important as economic ones
	EA4	Strong emotional ties among family members help us maintain a positive self-concept
	EA5	In my family business. family members care for each other
Ident	*Ident1*	Family members have a strong sense of belonging to my family business
	Ident2	Family members feel that the family business's success is their own success
	Ident3	My family business has a great deal of personal meaning for family members
	Ident4	Being a member of the family business helps define who we are
	Ident5	Family members are proud to tell others that they are part of the family business
Perf	*Perf1*	Growth in sales
	Perf2	Growth in market share
	Perf3	Growth in number of employees
	Perf4	Growth in profitability
TL	*TL1*	Provide an interesting outlook for the future of the family business
	TL2	Provide a good model for other to follow
	TL3	Foster collaboration among work groups
	TL4	Show others that you expect a lot from them
	TL5	Show respect for the personal feelings of others within the business
	TL6	Provide others with new ways of looking at problems

Appendix 2. Industries and countries

Country	Sample
Argentina	60
Australia	39
Brazil	68
Canada	33
Chile	53
China	107
Colombia	40
Ecuador	36
Germany	234
Greece	68
Hong Kong Special Administrative Region	50
India	46
Ireland	61
Italy	55
Japan	31
Mexico	74
Morocco	53
Norway	41
Portugal	45
Singapore	61
Spain	199
United States of America	52
Venezuela (Bolivarian Republic of)	80
Total	**1586**

Industry*	N
Agriculture	148
Mining	37
Manufacturing	632
Electricity	46
Water supply	38
Construction	252
Wholesale and retail	261
Transportation and storage	139
Accommodation and food service	91
Information and communication	72
Financial and insurance	66
Real estate	158
Professional, scientific and technical	89
Administrative and support service	54
Education	32
Human health	63
Arts	39
Other service	225
Other industry	5
Total	**2447**

*Diversified companies are assigned to two or more industries. 71.6% are in only one industry. 15.3% are in two industries. And the rest in three or more industries.

Appendix 3. Complete hypotheses testing

Variable	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	B	Beta	*p*	B	Beta	*p*	B	Beta	*p*	B	Beta	*p*	B	Beta	*p*	B	Beta	*p*
Constant	0.22	0.00	0.001	0.15	0.00	0.040	-0.20	0.00	0.054	0.12	0.00	0.231	0.02	0.00	0.856	0.01	0.00	0.940
Argentina	-0.14	-0.03	0.320	-0.12	-0.02	0.402	-0.14	-0.03	0.326	-0.26	-0.05	0.050	-0.18	-0.03	0.147	-0.15	-0.03	0.225
Australia	0.00	0.00	0.988	0.07	0.01	0.675	0.11	0.02	0.495	-0.24	-0.04	0.136	-0.08	-0.01	0.605	-0.02	0.00	0.885
Brazil	-0.38	-0.08	0.004	-0.33	-0.07	0.014	-0.39	-0.08	0.004	-0.55	-0.11	0.000	-0.41	-0.08	0.001	-0.39	-0.08	0.001
Canada	-0.51	-0.07	0.005	-0.44	-0.06	0.015	-0.44	-0.06	0.014	-0.66	-0.09	0.000	-0.45	-0.06	0.005	-0.44	-0.06	0.006
Chile	-0.24	-0.04	0.101	-0.16	-0.03	0.287	-0.15	-0.03	0.303	-0.27	-0.05	0.053	-0.17	-0.03	0.197	-0.17	-0.03	0.206
China	-0.16	-0.04	0.160	-0.07	-0.02	0.525	-0.12	-0.03	0.277	-0.21	-0.05	0.055	-0.05	-0.01	0.650	-0.02	0.00	0.852
Colombia	-0.39	-0.06	0.019	-0.34	-0.05	0.040	-0.34	-0.05	0.038	-0.53	-0.08	0.001	-0.38	-0.06	0.010	-0.35	-0.05	0.019
Ecuador	-0.14	-0.02	0.420	-0.19	-0.03	0.264	-0.14	-0.02	0.407	-0.24	-0.04	0.144	-0.14	-0.02	0.354	-0.16	-0.02	0.298
Greece	-0.36	-0.07	0.008	-0.32	-0.06	0.018	-0.30	-0.06	0.024	-0.44	-0.09	0.000	-0.20	-0.04	0.092	-0.15	-0.03	0.201
Hong Kong Special Administrative Region	-0.35	-0.06	0.020	-0.24	-0.04	0.122	-0.34	-0.06	0.025	-0.33	-0.06	0.023	-0.10	-0.02	0.470	-0.07	-0.01	0.625
India	-0.18	-0.03	0.238	-0.12	-0.02	0.430	-0.21	-0.04	0.181	-0.30	-0.05	0.044	-0.09	-0.01	0.546	-0.09	-0.01	0.536
Ireland	0.37	0.07	0.009	0.42	0.08	0.003	0.39	0.08	0.005	0.19	0.04	0.158	0.19	0.04	0.140	0.20	0.04	0.114
Italy	-0.03	-0.01	0.818	0.05	0.01	0.740	0.05	0.01	0.729	-0.12	-0.02	0.396	-0.06	-0.01	0.649	-0.04	-0.01	0.747
Japan	-1.32	-0.18	0.000	-1.24	-0.17	0.000	-1.34	-0.19	0.000	-1.34	-0.19	0.000	-1.00	-0.14	0.000	-1.04	-0.14	0.000
Mexico	-0.42	-0.09	0.001	-0.34	-0.07	0.009	-0.39	-0.08	0.003	-0.49	-0.10	0.000	-0.40	-0.08	0.001	-0.36	-0.08	0.002
Morocco	-0.85	-0.15	0.000	-0.88	-0.16	0.000	-0.86	-0.15	0.000	-0.86	-0.16	0.000	-0.69	-0.12	0.000	-0.67	-0.12	0.000
Norway	-0.21	-0.03	0.208	-0.10	-0.02	0.537	-0.09	-0.01	0.577	-0.19	-0.03	0.213	-0.12	-0.02	0.401	-0.10	-0.02	0.485
Portugal	-0.16	-0.03	0.315	-0.08	-0.01	0.613	-0.13	-0.02	0.415	-0.23	-0.04	0.119	0.07	0.01	0.603	0.12	0.02	0.384
Singapore	-0.09	-0.02	0.517	-0.07	-0.01	0.623	-0.11	-0.02	0.429	-0.17	-0.03	0.187	-0.06	-0.01	0.651	-0.03	-0.01	0.833
Spain	-0.16	-0.05	0.084	-0.08	-0.03	0.381	-0.12	-0.04	0.217	-0.26	-0.09	0.004	-0.16	-0.05	0.055	-0.15	-0.05	0.083
United States of America	-0.17	-0.03	0.263	-0.10	-0.02	0.517	-0.14	-0.03	0.341	-0.34	-0.06	0.017	-0.21	-0.04	0.121	-0.19	-0.03	0.151
Venezuela (Bolivarian Republic of)	-0.49	-0.11	0.000	-0.45	-0.10	0.000	-0.42	-0.09	0.001	-0.46	-0.10	0.000	-0.35	-0.08	0.002	-0.32	-0.07	0.004
Agriculture				-0.09	-0.03	0.290	-0.08	-0.02	0.335	-0.10	-0.03	0.232	-0.02	-0.01	0.776	0.00	0.00	0.997
Mining				-0.06	-0.01	0.732	-0.10	-0.01	0.563	-0.09	-0.01	0.589	-0.01	0.00	0.927	0.02	0.00	0.892
Manufacturing				-0.08	-0.04	0.166	-0.12	-0.06	0.031	-0.12	-0.06	0.026	-0.12	-0.06	0.017	-0.13	-0.06	0.006
Electricity				0.23	0.04	0.124	0.25	0.04	0.093	0.18	0.03	0.191	0.19	0.03	0.143	0.20	0.03	0.125
Water supply				-0.18	-0.03	0.284	-0.16	-0.03	0.313	-0.15	-0.02	0.334	-0.18	-0.03	0.215	-0.17	-0.03	0.234
Construction				-0.01	0.00	0.892	-0.01	0.00	0.855	-0.01	0.00	0.841	-0.01	0.00	0.831	-0.01	0.00	0.848
Wholesale and retail				0.18	0.07	0.007	0.16	0.06	0.015	0.16	0.06	0.009	0.16	0.06	0.008	0.16	0.06	0.008
Transportation and storage				-0.02	-0.01	0.811	-0.04	-0.01	0.642	0.01	0.00	0.933	0.02	0.01	0.792	0.02	0.01	0.789
Accommodation and food service				-0.22	-0.05	0.047	-0.22	-0.05	0.045	-0.17	-0.04	0.094	-0.15	-0.04	0.114	-0.16	-0.04	0.098
Information and communication				0.60	0.13	0.000	0.63	0.13	0.000	0.61	0.13	0.000	0.53	0.11	0.000	0.53	0.11	0.000
Financial and insurance				0.06	0.01	0.646	0.04	0.01	0.724	-0.01	0.00	0.913	0.00	0.00	0.974	-0.02	0.00	0.891
Real estate				-0.09	-0.03	0.332	-0.10	-0.03	0.277	-0.08	-0.02	0.318	-0.08	-0.02	0.288	-0.09	-0.03	0.246
Professional, scientific and technical				0.10	0.02	0.378	0.13	0.03	0.227	0.13	0.03	0.195	0.12	0.03	0.232	0.12	0.03	0.221
Administrative and support service				0.08	0.01	0.580	0.08	0.02	0.561	0.09	0.02	0.526	-0.02	0.00	0.893	-0.01	0.00	0.941
Education				0.00	0.00	0.987	-0.01	0.00	0.947	0.03	0.00	0.837	-0.03	0.00	0.860	-0.02	0.00	0.907
Human health				0.18	0.04	0.149	0.16	0.03	0.194	0.02	0.00	0.838	0.07	0.01	0.547	0.07	0.01	0.548
Arts				-0.11	-0.02	0.489	-0.10	-0.02	0.528	-0.10	-0.02	0.529	-0.12	-0.02	0.421	-0.15	-0.02	0.318
Other service				0.04	0.02	0.551	0.04	0.01	0.586	-0.02	-0.01	0.810	-0.04	-0.01	0.585	-0.04	-0.01	0.526
No industry				0.00	0.00	0.992	-0.09	-0.01	0.832	0.22	0.01	0.586	0.13	0.01	0.734	0.10	0.01	0.793
Size							0.08	0.13	0.000	0.04	0.06	0.021	0.04	0.06	0.022	0.03	0.05	0.026
FP										0.25	0.25	0.000	0.19	0.19	0.000	0.18	0.18	0.000
FC										-0.18	-0.18	0.000	-0.15	-0.15	0.000	-0.15	-0.15	0.000
Ident										0.13	0.13	0.000	0.09	0.09	0.003	0.11	0.11	0.000
EA										0.12	0.12	0.000	0.08	0.08	0.005	0.06	0.06	0.024
TL													0.31	0.31	0.000	0.31	0.31	0.000
FC x TL																0.07	0.07	0.005
Ident x TL																0.07	0.09	0.002
EA x TL																-0.09	-0.10	0.000
R2	7.2%			10.3%			11.6%			22.4%			30.3%			31.6%		
Adjusted R2	5.9%			7.9%			9.2%			20.1%			28.2%			29.4%		
F change	5.53		0.000	2.76		0.000	23.61		0.000	53.51		0.000	174.45		0.000	9.66		0.000

Note. *p*=p-value. N=1,586. VIF max = 1.95.