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How partner firms develop dynamic capabilities to manage tensions in IT outsourcing relationships

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HOW PARTNER FIRMS DEVELOP DYNAMIC CAPABILITIES TO MANAGE TENSIONS IN IT OUTSOURCING RELATIONSHIPS

Research full-length paper

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Abstract

A client and vendor in an information technology outsourcing (ITO) relationship experience various tensions as their relationship develops, which, if left unattended, may result in undesired ITO outcomes. This warrants them to be capable of managing the tensions. While prior ITO research has advanced knowledge on how either a client or a vendor can develop capabilities to manage specific tensions to realize efficiency or innovation outcomes, little attention has been given to an interfirm (client and vendor) perspective, which has implications for how an ITO relationship develops. This study draws on the dynamic capabilities literature and interview data to explore how ITO clients and their vendors can co-develop the capability to manage the tensions experienced in their relationships. We identify 11 processes through which such capabilities can develop, which we group into sensing, seizing, and transforming ITO relational tensions, and ITO contextual factors. We offer a framework that advances ITO research on tension management capability development from a firm to an interfirm perspective. Also, by uncovering how ITO client and vendor firms can co-develop dynamic capabilities to manage tensions in their relationship, we bridge the theoretical gap between existing ITO research on tension management capability development and developing dynamic capabilities.

Keywords: IT outsourcing, capability development, tension management, relationship development

1 Introduction

Tensions occur in information technology outsourcing (ITO) relationships due to variably contradictory objectives and behaviors between clients and vendors. The tensions – such as acting opportunistically under contract incompleteness vs. adhering to contractual obligations (*opportunism-obligation*; Susarla, Subramanyam, and Karhade 2010); exploiting a vendor's resources for efficiency gains vs. exploring those resources for innovation (*exploitation-exploration*; Aubert, Kishore, and Iriyama 2015); and aspiring short-term vs. long-term goals (*short-long-term*; Kern and Willcocks 2002) – are dynamic (Lüscher and Lewis 2008). While some can be resolved permanently, others can persist and reframe, changing meaning over time (Putnam, Fairhurst, and Banghart 2016). This dynamism has implications for ITO relationship development ex-post contract and, consequently, ITO outcome (Ngah, Tjemkes, and Dekker 2024). Therefore, an ITO client and its vendor need to anticipate and respond to the tensions accordingly, requiring a specific type of capability – dynamic capability (Teece, Pisano, and Shuen 1997) for tension management (Oinonen et al. 2018; Rey-Garcia, Mato-Santiso, and Felgueiras 2021).

ITO research has started investigating the development of tension management capabilities. On the one hand, a few studies investigate how ITO clients can develop an ambidexterity capability to manage the conflict between contractual and relational governance (Cao et al. 2013), and that between exploitation and exploration (Bui, Leo, and Adelakun 2019; Kranz 2021). On the other hand, other studies investigate how ITO vendors can develop an ambidexterity capability to manage the tension between relationship alignment and environmental changes (Liu, Liao, and Li 2018), and that between developing new IT domain capabilities and maintaining existing ones (Du, Pan, and Wu 2020).

While the findings of these studies are insightful, an important issue is yet to be addressed. Prior ITO research examines tension management capability development from either the client or vendor perspective to support the individual firm's (i.e., the client's or the vendor's) aspiration for efficiency gains or innovation for its competitive advantage. Yet, prior ITO research neglects the development of the client-vendor relationship. Achieving the aspired outcomes depends on how an ITO client and its vendor develop their relationship. After a client contracts an ITO vendor, usually for efficiency or innovation objectives (Chang, Gurbaxani, and Ravindran 2017), both parties need to progress (develop) the relationship by managing inherent tensions (Ngah et al. 2024) prior to achieving ITO objectives. Thus, developing the capabilities to manage the tensions encountered in an ITO relationship warrants an interfirm (i.e., client-and-vendor) perspective.

We respond to this gap by addressing the research question: *How do client and vendor firms co-develop the capability to manage tensions in ITO relationships to support relationship development?* We draw on the dynamic capability theory (Teece 2007; Teece et al. 1997) and conduct exploratory interviews with ITO client and ITO vendor relationship managers (Chattopadhyay and Das Aundhe 2019; Dekker et al. 2019) from various ITO contexts. By analyzing the interview data following the Gioia methodology (Gioia, Corley, and Hamilton 2013), we found 11 processes through which ITO client and vendor firms can develop the capabilities to manage tensions in their relationship. We categorize these processes along sensing, seizing, and transformation capabilities, as well as the contextual factors that can enable or impede the development of these capabilities. Based on these findings and insights from existing research, we argue and present a conceptual framework through which ITO clients and their vendors can co-develop the capability to manage tensions in their relationships. We make two theoretical contributions, offer two practitioner recommendations, and suggest some avenues for future research.

2 Theoretical Background

2.1 Existing ITO Research on Tension Management Capability Development

Prior ITO studies have taken, as a starting point, a firm (i.e., client or vendor) perspective for developing tension management capabilities with implications for efficiency and innovation. The few studies suggest various mechanisms, which we summarize in Table 1.

Implication	Study	Perspective	Tension	Finding on tension management capability dev't
Efficiency	(Cao et al. 2013)	Client	Contractual vs relational governance	Clients can develop an ambidexterity capability for contractual and relational governance – to address ITO relationship goals – through a four-stage pendulum process.
	(Liu et al. 2018)	Vendor	Alignment vs adaptation	Vendors can develop an ambidexterity capability for simultaneous alignment and adaptation through complementary and balanced configurations from existing technology and marketing capabilities.
Innovation	(Bui et al. 2019)	Client	Exploitation vs exploration	Clients can develop a capability for managing the innovation paradox through a subset of ITO aspects such as majority outsourcing, supplier diversification, fixed pricing, contract extendibility, and contract details.

	(Kranz 2021)	Client	Exploitation vs exploration	Clients can develop capabilities to address the innovation paradox by structuring ITO contracts to include innovation clauses and by learning from the vendors' intellectual capital.
	(Du et al. 2020)	Vendor	Exploitation vs exploration	Vendors can develop the capability to manage the conflict between developing new capabilities (exploration) and maintaining existing ones (exploitation) by splitting them (partitioning), learning new skills while maintaining existing skills (hybridization), and learning-by-doing for incremental changes (self-generation).
Relationship development	*This study*	*Client-and-vendor*	*Relational tensions*	

Table 1. Overview of ITO studies on Tension Management Capability Development.

Despite the rich findings of these studies (see Table 1), an important issue remains unexplored. The prior studies are motivated by a client's or a vendor's (i.e., a firm's) aspiration for efficiency or innovation to develop tension management capability but neglect the involvement of the firm's partner. Involving the partner (i.e., a client-vendor perspective) is important because it has implications on how an ITO relationship develops prior to achieving the desired outcome. Simply stated, an ITO relationship evolves and can deliver on its objective of efficiency or innovation if the client and vendor are able to manage the tensions inherent in their relationship (Ngah et al. 2024). This warrants them to co-develop a tension management capability that supports relationship development. By co-develop, we mean the client and the vendor jointly undertake activities, even though one party could initiate the activities.

Importantly, prior ITO studies do not relate the capabilities and development mechanisms they examine to how ITO relationships develop (Ethiraj et al. 2005; Jarvenpaa and Mao 2008), such as how partners evolve from a new contractual relationship to achieving ITO objectives or to relationship extension or termination (Susarla et al. 2010; Whitten, Chakrabarty, and Wakefield 2010); or move from a transactional exchange to a strategic partnership (Oshri, Kotlarsky, and Gerbasi 2015). As such, our study extends prior ITO studies on capability development by shifting from a focus on individual firm (client or vendor) capability development for managing specific tensions (with implications for ITO outcomes) to a focus on interfirm (client and vendor) capability co-development for managing various relational tensions (with implication for relationship development).

2.2 Existing ITO Research on Developing Dynamic Capabilities

Dynamic capabilities theory (DCT) provides a powerful lens for examining firms in dynamic environments. It emphasizes the capability of integrating, building, or reconfiguring organizational resources and internal and external competencies to react to such environments (Teece 2007). A dynamic capability enables firms to sustain their competitive advantage through relentless modification or creation of organizational configuration during turbulence in the external environment through improved capability (Eisenhardt and Martin 2000; Schilke, Hu, and Helfat 2018; Zollo and Winter 2002). To develop a dynamic capability, Teece (2007) suggests three core processes – *sensing* (identifying and assessing emerging threats and opportunities in the external environment), *seizing* (mobilizing resources to take advantage of these new threats and opportunities), and *transforming* (renewing firm processes to maintain their relevance).

Despite its conceptualization for responding to dynamic environments, a growing amount of research draws on DCT to address the dynamics in interorganizational relationships (Mamédio et al. 2019; Sandberg, Kindström, and Haag 2021), such as ITO relationships. To this end, our review of the ITO literature on developing dynamic capabilities suggests that prior ITO studies have uncovered various mechanisms leading to such capabilities. See Table 2 for an overview. For vendors, Kutsikos and Sakas (2014) suggest configuring resources and capabilities to make informed decisions about which capabilities to develop or improve. Holzweber *et al.* (2012) highlight hiring new employees, internal coordination and collaboration, and internal and external sources (such as competitors). For clients, studies (Ravishankar and Pan 2013; Song, Lee, and Khanna 2016) suggest developing dynamic capabilities through co-opetition in dual sourcing (outsourcing and insourcing). Balocco *et al.* (2012) highlight externalizing innovation projects and managing the relationship using their IT departments.

Study	Perspective	Research objective	Finding on developing dynamic capabilities
(Kutsikos and Sakas 2014)	Vendor	What combinations of vendor resources and capabilities lead to successful service configurations.	Project, coordination, customization, and new service development foci suggest ITO configurations through which vendors can decide which capabilities to develop or improve.
(Holzweber et al. 2012)	Vendor	How to develop and use dynamic capabilities to turn loose linkages into strong, long-lasting relationships	Vendors develop dynamic capabilities by hiring new employees, coordinating internally, collaborating internally and externally with sources such as competitors and users, and labour arbitrage.
(Ravishankar and Pan 2013)	Client	What the influence of modularity and knowledge management on dynamic capabilities at an outsourced call centre is.	The development of dynamic capabilities is linked to how functional capabilities, such as IT capabilities, are deployed by organizations to support core areas of business.
(Song et al. 2016)	Client	How a firm can compete in the smartphone business.	A client can sustain a competitive advantage through co-opetition in dual sourcing, which contributes to developing sensing, seizing, and reconfiguration capabilities.
(Balocco et al. 2012)	Client	What the impact of different ITO strategies on an IT department's organizational characteristics, competences, and continuous innovation is.	Clients can acquire continuous innovation capabilities by externalizing innovation projects to vendors and managing the relation using their IT department.
This study	*Client-and-vendor*	*How partner firms co-develop a tension management capability in ITO relationships.*	

Table 2. ITO Studies on Capability Development using Dynamic Capabilities Theory.

From the literature review above (see Table 2), we assert that DCT is an important lens through which developing dynamic capabilities in ITO can be studied. Table 2 also shows that ITO research on the development of dynamic capabilities has taken a client or vendor (a firm) perspective, neglecting a client-and-vendor (an interfirm) perspective. Given that the capability to manage tensions is a dynamic capability and that DCT can be used in an interfirm setting (Oinonen et al. 2018; Rey-Garcia et al. 2021), we will use the lens to guide our empirical work.

2.3 Developing Dynamic Capabilities for Tension Management in ITO Relationships

Tensions manifest as threats and, sometimes, opportunities (Kober and Thambar 2022; Montealegre, Iyengar, and Sweeney 2019). Organization studies posit that the capacity of a firm to manage (inter)organizational tensions is a dynamic capability (Oinonen et al. 2018; Rey-Garcia et al. 2021), i.e., the ability of a firm to systematically solve problems formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base (Barreto 2010). Since many dynamic capabilities exist for innovation, performance, relationship development, etc., some scholars (e.g., Helfat and Peteraf (2009) recommend that dynamic capabilities be investigated specifically for different tasks. In support of this and to make the dynamic capabilities paradigm actionable in research, Verbeke (2022) provides guidelines, such as specifying the scope (e.g., interfirm), specifying the context (e.g., ITO), and measuring core features of the meta-process overarching the three clusters of activities – *sensing*, *seizing*, and *reconfiguring* – suggested by Teece (2007).

ITO client and vendor firms require a sensing capability to spot threats that could disrupt their relationship and the opportunities that can come with the threats (Karimi-Alaghehband and Rivard 2019, 2020; Sen, Kotlarsky, and Budhwar 2020). Sensing and shaping threats and opportunities is an anticipative, scanning, and interpretive activity that analyses diverse information about the business ecosystem (Teece 2007), including the individuals involved and the business environment. Thus, a firm's activities to develop sensing capabilities should occur at different levels (Schilke et al. 2018), with lower levels helping to provide information about threats and opportunities to middle and top managers (Teece and Linden 2017; Warner and Wäger 2019). Various practices can be used to sense and shape threats and opportunities that manifest tensions in ITO relationships. For example, contract performance monitoring scans and identifies threats and opportunities earlier through frequent deviations and non-compliance, which can indicate a trend (Lacity, Willcocks, and Rottman 2008; Willcocks, Feeny, and Olson 2006) that signals the existence of tension. Sensing warrants a firm to scan the environment on time, systematically look for trends, and regularly communicate with the ITO partner, allowing the firm to capitalize on such knowledge and adjust to changes quickly (Tan and Sia 2006). This entails vigilance to anticipate the need to create or generate new capabilities and requires solid managerial initiatives to adopt best practices and a willingness to experiment with new ideas (Teece et al. 1997).

ITO client and vendor firms also require a seizing capability to mobilize resources, address threats and opportunities (Karimi-Alaghehband and Rivard 2020), and capture value (Steininger et al. 2022). Seizing is an experimental capacity that effectively supports action and commitment to balancing risk and reward (Day and Schoemaker 2016). It is understood that when there is a perception of threats and opportunities, it is necessary to approach them with new processes, technological skills, and products to develop a successful relationship (Popadiuk, Luz, and Kretschmer 2018). Firms' activities to develop seizing capabilities should ensure that the firm's leaders avoid bias, delusion, deception, and hubris and must allow the firm to craft solution architectures/models, experiment with decentralized boundaries, and manage complements and platforms (Teece 2007; Warner and Wäger 2019).

Whereas firms in an ITO relationship require sensing and seizing capabilities to spot and address threats and opportunities that manifest tensions in the relationship, the firms do require a reconfiguration capability to enable them to realize the full potential of the tensions by enhancing, combining, and protecting their tangible and intangible assets and rearranging them to maintain competitiveness (Karimi-Alaghehband and Rivard 2019). A reconfiguration capability entails coordinating the firms' resources to implement a change, transform (Teece 2007; Yeow, Soh, and Hansen 2018), and execute a new strategy (Day and Schoemaker 2016).

The dynamic capability development process that will be adopted in this study emphasizes a co-development perspective between an ITO client and its vendor. While tensions might be initially spotted at the firm level (e.g., anticipation, goal changes, etc.), the follow-up processes to develop the capability to manage them occur at the interfirm level. So, it is not just one firm that proceeds; it is about what the partner firms jointly do, which might be routines, mutual understanding, information exchanges, etc.

3 Method

3.1 Overview and Sampling

We seek to answer a *how*–research question. So, we opt for an exploratory qualitative study (Yin 2018), an important method for theory building in strategic information systems research (Tsang 2014). We adopt an inductive approach to an in-depth investigation of a real-life phenomenon under investigation. This approach is effective in theory building and the explanation of phenomena through context (Ketokivi and Choi 2014), such as the dynamics and complexities in interorganizational arrangements (Choi and Krause 2006; Yin 2018), including how ITO client and vendor firms develop the capability to manage tensions in their relationships. We rely on the dynamic capabilities lens to capture insights from multiple sources, including informants' accounts (semi-structured interviews), informal meetings, and online sources, permitting us to achieve triangulation (Yin 2018).

Our primary data source is *semi-structured interviews*. We designed an interview protocol based on our underlying lens (DCT) and sent it to various client and vendor ITO relationship managers (boundary spanners) in various ITO relationships and IT contexts. We selected these individuals based on purposeful sampling (Patton 2014), i.e., selecting samples based on specific criteria relevant to the research question. We settled for four criteria to ensure the selected individuals would be knowledgeable and best placed to answer our research question. Thus, we contacted ITO experts (1) with at least five years of experience, (2) with a client, vendor, or both, (3) in a client-vendor relationship management role, and (4) in a different IT context, such as cloud services, managed services, and cyber security.

3.2 Data Collection

Given that the unit of analysis in this study is the interfirm relationship, we follow an approach that relies on boundary spanners, suggested by existing research on interfirm relationships (e.g., Soderberg and Romani, 2017; Zobel *et al.*, 2023). Boundary spanners are individuals of an organization operating at the interface between the organization and its external environment. They are critical in the successful management of interfirm relationships (Dekker et al. 2019; Dekker, Donada, and Nogatchewsky 2024), and their role in developing dynamic capabilities has been underscored in ITO. For example, boundary spanners have a good understanding of the external environment, such as IT industry advancements and trends, and their close contact with the partner firm enables them to share this understanding between the firms (Gopal and Gosain 2010; Liang et al. 2007). This also allows them to anticipate (sense) potential tensions, devise (seize) strategies to address the tensions proactively (Chattopadhyay and Das Aundhe 2019), and establish collaboration processes that adapt (reconfigure) this understanding between the client and vendor firms to the ITO activity at hand (Du and Pan 2013).

We approached ITO relationship managers (boundary spanners), who were personal contacts or contacts we identified on LinkedIn that met the four criteria above. Twelve, whose roles ranged from middle managers to C-level executives, agreed to be interviewed, each lasting between 60 and 90 minutes. We sought their consent to record the interviews (via Zoom). During the interviews, we asked questions like *"What is the specific contradiction or tension experienced in the relationship?"*. We followed up with questions (guided by the dynamic capability framework) like *"How were the contradictions or tensions detected?", "Describe a scenario of how the client and vendor resolved the tensions between them."* and *"How did they adapt to these tensions?"*. These questions allowed us to understand how sensing, seizing, and transformation capabilities for tension management in ITO relationships can develop.

3.3 Data Analysis

We transcribed the interviews and relied on the Gioia methodology (Gioia et al. 2013) to analyze the data. We progressed from the empirical details in the informants' own words and online sources toward a data structure that could be compared, categorized, discussed, and analyzed through our chosen lens (Langley 1999), DCT. To enhance qualitative rigor, we analyzed and organized the data into first and second-order categories to facilitate their aggregation into a more structured form.

For the first-order analysis, we used ATLAS.ti software, and open-coded the data by adhering faithfully to in vivo or informants' terms. Next, we sought similarities, differences, and linkages among the first-order codes to develop second-order themes. For the second-order analysis, we conducted axial coding by reducing the data into a theoretical level of themes guided by the DCT tripartite framework. The analysis becomes more explicitly theory-driven in this stage, focusing on nascent concepts that leap out of the empirical data. Once we obtained a workable set of concepts for the second-order themes, we conducted theoretical coding by assessing the semantic relationships of the second-order themes and aggregating them into relevant DC processes or newly identified processes. Similarly, we also developed aggregate dimensions for the contextual factors relating to the facilitators and impediments of the aggregated DC dimensions. This process involved reviewing and discussing the classifications, relations, aggregations, and labels for acceptance by all authors.

4 Findings

Guided by DCT (Teece 2007; Teece et al. 1997), our data analysis shows that developing the capability to manage tensions in ITO relationships involves processes at the interfirm level that can be clustered into *sensing, seizing,* and *transforming ITO relational tensions* and the *ITO contextual factors* that facilitate or impede them. We summarize these findings in Table 3. While some processes (2nd order themes) may start at the firm level, the resulting clusters were co-developed at the interfirm level. The following text will reference the respective exemplary 1st order codes (informant comments) in Table 3.

Aggregate dimension	2nd order theme	Exemplary 1st order code
Sensing ITO Relational Tensions	Strategic anticipation	"*New IT comes with a hooray. But when you start moving to these new developments, they sometimes don't get rid of the old stuff, meaning you're paying a lot of money monthly. So it's a big mistake when somebody says they will move to the cloud because it's cheaper. I think my advice would be to think twice." –* Product Owner of Cloud Services, EuroBank.
	Regular scanning	"*We ensure we validate each step with a kind of validation gate or a quality gate to ensure the requirements are what we want. So, we manage the relationship with a more strict daily exchange of status to be sure that we are still aligned on that [requirements]." –* IT Consultant I.
	Tension interpretation	"*From my experience, self-interest causes tension. Everyone has their own goal in a project. There's this conflict of monetary issues, like finance and all the stuff, because everyone is trying to see that it makes the most financial benefit out of what's there. At times, it is about people with different personalities working in the same space, which can also create a problem because they can't get along. So those are some factors that contribute to such conflict*." – CEO of CyperIT.
Seizing ITO Relational Tensions	Transparent discussions	"*When we have a tension, I try to be transparent. Transparent from both sides, the client and the provider, to put them around the table and say, "Okay, guys, we all want the same. We want success from the project. Finally, we are not there for two different goals. We are there with the same goal, and the aim is really to deliver. So, okay, we have some issues from the client and some from the provider. What can we do now? Next step. What can we do to succeed?" And then people can talk and exchange ideas.*" – IT Consultant I.
	Resource reallocation	"*For the cultural difference, we asked the external company to bring their people here physically, and the people stayed here so you have a closer relationship with them. So you find two or three people from India who are here to work and to be their [the vendor's] point of contact.*" – IT Consultant II.
	Strategic agility	"*Working agile means you accept the customer to change their requirement to meet their market demand because the demand changes every second. Now, they are making these changes, and they are affecting your way of working. So, for you to be able to meet up with the changes, work accordingly, and be able to deliver what they want at the end of maybe the sprint, you have to come up with an idea on how to manage these requests or requirements changes*." – Scrum Master at GlobalCo.
Transforming ITO Relational Tensions	Transformational learning	"*So you got a bit of this dynamic of one asking the other, how are you doing this, what questions do you get, and how are you convincing your CEO to do what they need to do? What I do see changing, and I think that's where the learning comes in, is that they are using the networks to learn better but then in a trusted way because the trusted environment provides you with the comfort that it's not a battle, it's not*

		a competition, you are there to learn. They also learn with the service provider." – Global VP at MultiCo.
	Long-term adaptation	"*We try to create a customer success plan and a customer success strategy together with the customer to ensure that we're not only solving the operational stuff but also acknowledging the problems and the long-term challenges. We kind of create an agenda for the future*." – General Director at 2AT.
	Relationship change	"*It's also about building a new relationship and getting them [the vendor] on board. Get them on your kitchen table and try to discuss the good things and the things you need. However, organizations may not be ready for it. So, you have to transform; maybe you have to start up a new department to take care of this new world. And that's something we should do; we should adapt to*." – IT Product Owner at Eurobank.
ITO Contextual Factors	Facilitating factors	"*To make transformational changes sustainable, I think that you've got first to change the mindset of the vendor management group so that they think it's not just about the deliverables, it's not just about the terms of the contract, it's about the benefit to the organization for having this third-party relationship. We can fulfill every contract term but still have a bad relationship. Let's worry about the quality of the relationship and the outcome as part of dealing with partners*." – IT Consultant II.
	Impeding factors	"*Many clients tend to be very guarded about sharing information. Even after confidentiality and non-disclosure agreements, there have been instances where, especially on the R&D side of things, customers tend to be very, very super protective of sharing any sort of information, which does not help the overall project equation*." – Lead Strategist at Bosch.

Table 3. Summary of Findings.

4.1 Sensing ITO Relational Tensions

We found sensing ITO relational tensions to be behaviors and activities that pertain to the strategic anticipation, regular scanning, and interpretation of tensions in an ITO relationship.

Strategic anticipation is about observing changes in an ITO environment and predicting future events that could impact the ITO relationship. The responses pertain to being aware of the happenings around the participants, making sense of the happenings, and predicting what could happen in the future. The exemplary comment suggests that a *EuroBank* (client) staff anticipates tension when they experience or observe a change in technology and senses that this change brings about an increase in costs by paying for new IT infrastructure while maintaining the existing one. It predicts an *exploitation-exploration* tension (Aubert et al. 2015). This is because, on the one, there is the need by EuroBank to minimize cost by exploiting its vendor's existing infrastructure, and on the other hand, there is the quest to explore the vendor's new technology for the same service, and these two are in tension.

Regular scanning is about routines that were meant to identify conflicts before they escalate, allowing for timely intervention and resolution. The exemplary comment suggests that they regularly scanned to ensure that the client and the vendor were aligned on the requirements of the project (Jun, Qiuzhen, and Qingguo 2011), reflecting an *opportunism-obligation* tension persistent in ITO relationships (Ngah et al. 2024; Susarla et al. 2010). So, on the one, participants were worried about the vendor not understanding the client's ITO requirements (Jun *et al.*, 2011; Mehta and Bharadwaj, 2015; Shi *et al.*, 2005), which pertains to opportunism, while on the other hand, they needed to resort to close project monitoring (Koh, Ang, and Straub 2004) by exchanging project status daily as a way to deliver on their ITO obligation. Regular scanning, thus, contributes to developing a sensing capability for tension management in ITO relationships.

Tension interpretation pertains to activities identified to examine the underlying reasons for conflicts, such as differences in opinions, goals, values, resources, power, and cultures; how the conflicts manifest;

and whether a conflict can be seen as a mere threat or can come along with some opportunities. The exemplary comment indicates that self-interest seeking with behavioral differences is a source of conflict between an ITO client and its vendor. Highlighting these factors as an origin for conflicts is tantamount to interpreting the tension between *opportunism* and *obligation* in ITO relationships (Ngah et al. 2024; Shi et al. 2005). This finding is corroborated by existing research (Dias and Lages 2021; Pavlou and El Sawy 2011) that shows that interpretation processes contribute to a sensing capability.

4.2 Seizing ITO Relational Tensions

Developing the capabilities to manage tensions in ITO relationships also involves activities about seizing ITO relational tensions. Informants indicated that partner firms were involved in transparent discussions, resource allocation, and being strategically agile to address the tensions they sensed.

Transparent discussions are conversations characterized by openness, honesty, and clarity, where the client and vendor parties involved are fully informed, engaged, and accountable – as indicated by informants as a common way to respond to tensions. The discussions aimed to foster trust, collaboration, and mutual understanding by ensuring straightforward and inclusive communication. For example, the exemplary comment indicates that transparent information flow through the exchange of ideas between the staff of an ITO client and those of its vendor ensures they align on project goals, enabling them to combine resources to address tensions. This corroborates existing research on dynamic capabilities, highlighting that transparency pertains to those involved in ensuring they avoid bias, deception, and hubris (Teece 2007; Warner and Wäger 2019). This encourages them to collaboratively weigh the threats and opportunities that accompany identified tensions and, as such, contribute to a seizing capability for managing the tensions that may arise in their ITO relationship.

Resource reallocation pertains to informants' accounts of how an ITO client and its vendor strategically redistribute and adjust resources (such as personnel, budget, and expertise) to address tensions, optimize the effectiveness of their relationship, and achieve ITO objectives. To this end, the exemplary comment indicates that resource reallocation involves redirecting resources such as labor and capital from less productive to more productive areas. Existing literature has suggested that this is fundamental to seizing capability within an organization or firm (Lovallo et al. 2020; Wu et al. 2021). While our result supports this view, it extends to an interfirm context, i.e., that resource reallocation is fundamental to a seizing capability for tension management in ITO relationships. It is a strategy that informants' firms deploy to manage tensions and optimize the resources in their ITO relationship.

Strategic agility is the ability of the client and the vendor in an ITO relationship to adapt quickly and effectively to changing circumstances, such as market demands and technological advancements that bring about tensions. As highlighted by the exemplary comment, this process emphasizes flexibility, responsiveness, and a collaborative approach to ensure that the outsourcing arrangement continues to meet the strategic objectives of the engagement. Our data analysis illustrates that being a fast mover, or strategically agile, in response to rapid changes is a significant mechanism through which ITO client and vendor firms develop a seizing capability to mitigate threats in their relationships. This finding is consistent with existing literature stipulating that strategic agility is a way of developing a seizing capability and is central to operating in conditions of deep uncertainty (Teece, Peteraf, and Leih 2016).

4.3 Transforming ITO Relational Tensions

Transforming tensions refers to ITO partners' capability to adapt, innovate, and thrive in the inherence of tensions. Our results show that this capability can be developed through transformational learning, long-term adaptation, and relationship change.

Transformational learning is a learning strategy that informants indicate helps transform conflicts into opportunities for growth, improved performance, and a stronger partnership. This includes interfirm learning (to handle potential misalignments), learning from resolving previous tensions, i.e., learning curve (to update their knowledge base on tension management), and continuous learning (to adapt to the dynamics that come along with the reframing nature of some tensions; Putnam *et al.*, 2016; Sheep *et al.*, 2017). The exemplary comment highlights how transformational learning facilitates significant changes in how individuals in an ITO relationship think, feel, and act when they encounter tensions. Our finding helps explain how this process extends beyond acquiring new knowledge about tension management; it fundamentally shifts the view and perception of those responsible for managing ITO relationships to embracing tensions as something they must constantly deal with in those engagements and should include the other partner in the learning process.

Long-term adaptation is a strategy that informants talked about as acclimatizing to tensions in the long term. It includes making provisions to ensure that the ITO relationship is for the long-term, creating value as a new way of working, and adopting a mindset that transforming tensions into opportunities can take some time. These practices help mitigate conflicts, ensure alignment of goals, and sustain a productive collaboration over time. For example, the exemplary quote reveals how partner firms resort to long-term adaptation to build and sustain a transformational capability to manage tensions in ITO relationships. Adapting for the long term by acknowledging that tensions will occur permits the partners to remain resilient and strategically flexible, enabling them to navigate tensions effectively and achieve long-term success. By acknowledging tensions for the long term, being able to create value from tensions, and adjusting the ITO contract, long-term adaptation enables ITO firms to transform the ever-present tensions and thrive continuously.

Relationship change – changing the form of an ITO relationship – also helps adapt to tensions. Informants suggested strategies and practices for building a different type of relationship, forming a trust-based consortium, and considering nearshoring and terminating the existing relationship. For example, the exemplary comment suggests that establishing a new ITO relationship between a client and a vendor is crucial for enhancing the transformational capability of managing tensions between them. Establishing a new relationship following a previous one (i.e., a relationship change) establishes more explicit expectations, trust, better communication, and alignment, fostering a more collaborative and flexible relationship. These elements are crucial for adapting to and transforming tensions, as they promote understanding, cooperation, and proactive problem-solving and ensure that the outsourcing partnership can dynamically navigate challenges and achieve its strategic objectives successfully.

4.4 ITO Contextual Factors

We also found various IT environmental elements to influence the development of the capability to sense, seize, and transform tensions in ITO relationships. Some of these factors facilitate, and others impede the capability development process. Understanding the details of the facilitating and impeding ITO contextual factors is crucial because they help explain why certain events occur, why people involved in ITO relationships behave in specific ways, and how various outcomes are achieved.

Facilitating factors: According to some informants, the contextual factors that facilitate developing tension management capability in ITO relationships include a trust-based environment, the possibility of implementing lessons learned in tools, relationships with third parties, and favorable governmental regulations. The exemplary comment that alludes to how relationships with third parties can facilitate the development of tension management capabilities in ITO relationships also explains how facilitating factors present a condition that helps overcome obstacles and makes it easier to acquire the identified capabilities. Identifying and leveraging facilitating factors by ITO partners can enhance the development of tension management capabilities in their relationship. Otherwise, if they neglect the influence and interference of such factors, including third-party relationships (Davis 2016), a trusted environment, and the possibility of implementing lessons learned in tools, this can inhibit development.

Impeding factors: For the factors that impede the development of ITO relational tension management capabilities, informants talked about client-vendor power asymmetry, fear of taking ownership for failure, being cagey about information, and expensive subject matter experts. The exemplary comment of being cagey about information that should otherwise be useful for the vendor helps explain how such impeding factors create barriers that limit information sharing between client and vendor relationship managers. These further hinder the client and vendor firms from being able to anticipate potential tensions, devise strategies to manage the tensions, and establish collaboration processes that would otherwise permit the firms to adapt to tensions.

5 A Conceptual Framework for Developing ITO Relational Tension Management Capability

Based on our findings and using insights from existing research, we propose a conceptual framework for developing the capability to manage tensions in ITO relationships. Our framework (as visualized in Figure 1) emphasizes the interaction between sensing, seizing, and transforming ITO relational tensions in the capability development process and the implications of having such capability, all operating at the interfirm level. Each core process of sensing, seizing, and transforming ITO relational tensions cannot be considered an isolated ITO relational tension management capability. They interact, feeding back to and reinforcing each other to constitute an ITO relational tension management capability. Our model considers this circular relationship (Aramand and Valliere 2012) between sensing, seizing, and transforming ITO relational tensions as an *intraplay* (ABC) within ITO relational tension management capability. Also, when partner firms develop an ITO relational tension management capability, this can have implications on the individual firm's tension management capability and how the ITO relationship between the two firms develops. These implications can feed back and reinforce the ITO relational tension management capability. We conceptualize this interaction as an *interplay* (DE) between ITO relational tension management capability and its implications.

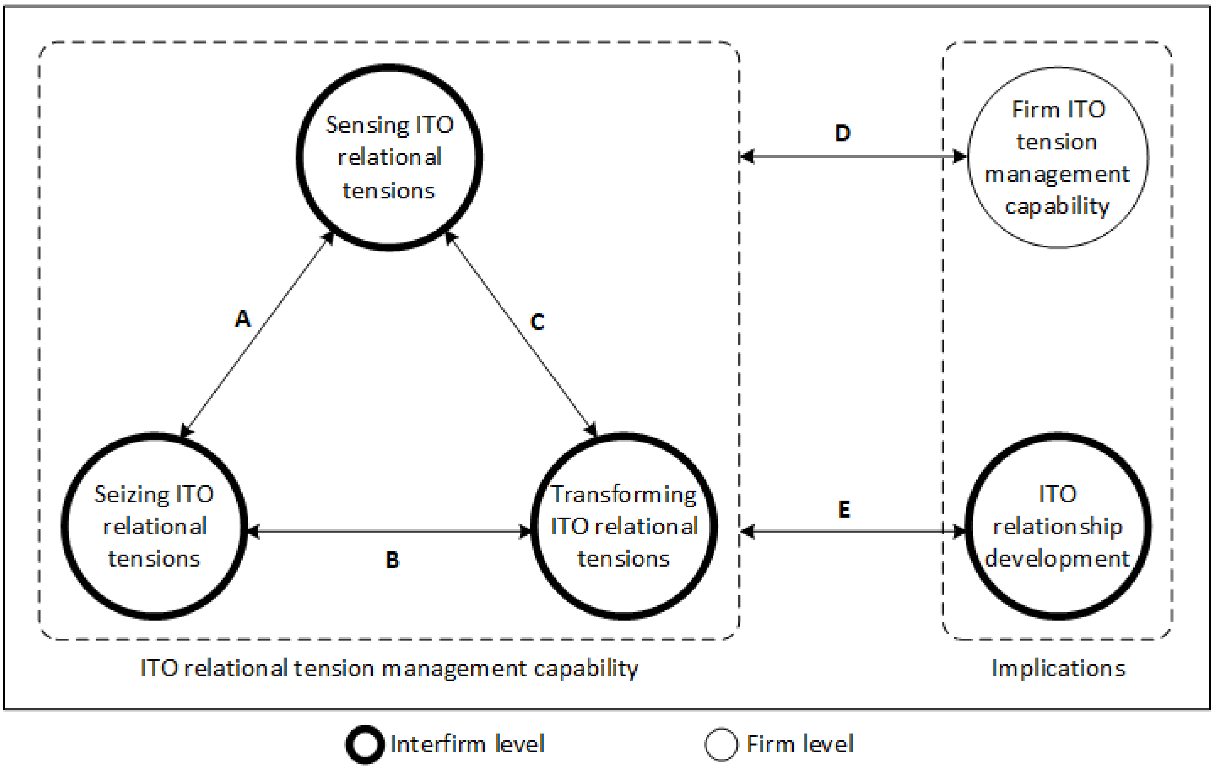

Figure 1. A proposed conceptual framework for developing ITO relational tension management capability.

5.1 Intraplay within ITO Relational Tension Management Capability (*ABC*)

An ITO relational tension management capability requires high levels of sensing, seizing, and transforming tensions at the interfirm level. Our findings have shown how each can be co-developed by the ITO partner firms. We will argue that while the three components might not be initially co-developed to higher levels, the circular interaction between them can help bring each of them to a higher level (Qiu et al. 2022), their joint effect (the *ITO relational tension management capability*) becoming an assert for the specific relationship. Otherwise, if their joint effect decreases, there would be a risk of not being able to manage ITO relational tensions.

Interaction between sensing and seizing ITO relational tensions (A): Our findings have shown that the capability to sense ITO relational tensions can be developed through strategic anticipation, regular scanning, and interpretation of tensions by both an ITO client and its vendor. Once a tension is sensed, the client and the vendor define priorities and a strategy (Markovich, Efrat, and Raban 2021) to manage the tension. These require calculated assumptions about the tension based on information and intelligence about the ITO environment that is anticipated, scanned, and interpreted using the sensing capability (Bitetti and Gibbert 2022; Pavlou and El Sawy 2011; Song et al. 2022). Thus, sensing ITO relational tensions can be seen as the driving force to seizing the tensions, which demands acting effectively on the information and intelligence about the sensed tension. Our findings indicate that this (seizing ITO relational tensions) involves the client and the vendor having transparent discussions about the tension, allocating resources (such as labor and capital), and being strategically agile (making rapid changes) to manage the tensions. According to Leemann *et al.* (2021), these seizing routines can concretely, reliably, and directly generate new insights related to sensing. Consider, for example, if a tension is not successfully seized, i.e., when attempts to manage it prove futile. In such a situation, the ITO client and vendor can take action to generate new insights and, therefore, refine and improve sensing activities. This iterative process promotes sensing ITO relational tensions to constantly evolve to become more accurate, leading to more effective and informed seizing.

Interaction between seizing and transforming ITO relational tensions (B): From our results, we also infer that seizing ITO relational tensions involves an ITO client and its vendor taking immediate actions to manage the tensions in their relationship, and this serves as a basis for transforming the tensions. The client and the vendor leverage the actions taken to seize the tensions and undertake activities about transformational learning, long-term adaptation, and a change of the IT outsourcing arrangement. While our results explain how these transformational activities can help the client and the vendor adapt to new tensions, some existing studies using the lens of dynamic capabilities (e.g., Leemann *et al.*, 2021; Quansah *et al.*, 2022) highlight that the resulting transformations can offer new opportunities to improve the seizing. Following Teece's tripartite framework (Teece 2007), we infer that the ITO client and vendor should be able to mobilize their resources to seize the opportunities. For example, our results show that transformation involves activities about transformational learning and long-term adaptation, which are a testament to a more flexible and agile ITO relationship that can adapt resources and personnel to manage emerging tensions, thereby enhancing the partners' ability to seize. In other words, each successful transformation of ITO relational tensions lays the groundwork for the partners to mobilize resources and seize new tensions. This interaction between seizing and transforming ITO relational tensions (whereby seizing can enable transforming while transforming can feed back to seizing) can progressively augment both of them.

Interaction between sensing and transforming ITO relational tensions (C): The ability of an ITO client and vendor to sense tensions in their relationship is crucial for identifying and understanding the sources of the tensions. After sensing, the partners may need to transform their resources to cope and align with the new reality (Teece 2007; Wilden and Gudergan 2015), i.e., new tensions in the ITO relationship. According to Eisenhardt and Martin (2000), sensing processes provide a foundation for transformation. Therefore, repeated sensing implies repeated learning about various changes, such as changing client requirements, changes in technology (Gelhard, Von Delft, and Gudergan 2016; Lin and Wu 2014; Teece 2007), and related opportunities and threats (Daft, Sormunen, and Parks 1988). Our findings corroborate these changes as sources of ITO relational tensions, and this knowledge can help ITO partners determine when and how to transform their resources, assets, and competencies (Markovich et al. 2021) to be capable of managing the tensions. Thus, the more frequently the partner firms engage in sensing, the more frequently they are stimulated to transform ITO relational tensions. (Leemann et al. 2021) have presented evidence that acquiring a transformation capability can be considered an essential sensing condition. This suggests that the transformational activities from our findings, i.e., transformational learning, long-term adaptation, and relationship change, can trigger the ability to sense new tensions. Thus, the more partner ITO firms can sense and transform relational tensions, the more their *ITO relational tension management capability* can develop (George 2005; Oinonen et al. 2018).

Therefore, we assert that this circular relationship (interactions) between the three capabilities (sensing, seizing, and transforming ITO relational tensions) shows the importance of considering all three to constitute an *ITO relational tension management capability*. We found various processes (including strategic anticipation, transparent discussions, and transformational learning) for co-developing the three capabilities. These suggest that for the circular relationship to occur, a fit between the ITO partners is necessary for them to partake in these processes effectively (Lai et al. 2009; Qiu et al. 2022). Otherwise, it may be challenging if, for example, both partners are better at developing the capability to sense but not to seize an ITO relational tension. However, if either or both partners can better contribute to initially sense, seize, and transform ITO relational tensions, a common understanding between the partners can foster the interactions between the three capabilities (Qiu et al. 2022) to enhance the *ITO relational tension management capability*.

5.2 Interplay between ITO Relational Tension Management Capability and its Implications (*DE*)

Once the partner firms can co-develop and deploy an *ITO relational tension management capability*, this can have two implications (as stated earlier) – one for the individual *firm's ITO tension management capability* (at the firm level) and the other for the *ITO relationship development* (at the interfirm level). We argue that these implications are not static but continue to interplay with and enhance the *ITO relational tension management capability* (at the interfirm level).

Interplay between ITO relational tension management capability and individual firm ITO tension management capability (D): We have elaborated in the previous section that the more the interactions between sensing, seizing, and transforming ITO relational tensions, the more the *ITO relational tension management capability* develops. This process, described as learning from repeated trials (Cohen and Levinthal 1990; Zahra and George 2002), suggests that the resulting capability becomes embedded in the individual firm's organizational memory (George 2005; Wilden and Gudergan 2015). Learning that is embedded within a firm's organizational memory can become a firm capability (Flores et al. 2012). Therefore, developing an *ITO relational tension management capability* at the interfirm level, i.e., a partner-specific experience (Gulati, Lavie, and Singh 2009; Niesten and Jolink 2015) can lead or spill over to a *firm ITO tension management capability* (at the firm level). The focal firm may deploy its newly acquired capability in its ITO relationship with any other firm. Thus, the newly acquired capability can be seen as generic (Gulati et al. 2009; Niesten and Jolink 2015) that can be deployed to any ITO relationship (including the focal one). Deploying this new firm capability will not be to the same extent as in the focal relationship but might facilitate the development of the ITO relational tension capability in the new relationship. For example, our findings indicate that a partner firm can leverage a capability it developed with a third party to develop an ITO relational tension management capability in a new relationship. Suppose the newly acquired firm-level ITO tension management capability is deployed in the focal ITO relationship; this can feed feedback through the processes presented in our findings and improve the *ITO relational tension management capability* at the interfirm level. This feedback is facilitated by the partners' experience working with each other, collaborative interest, willingness to share information and knowledge, and some degree of flexibility from both partners (Lai et al. 2009; Medlin, Aurifeille, and Quester 2005). If either partner is unwilling to collaborate, any potential feedback from the other partner can prove counterproductive over time.

Interplay between ITO relational tension management capability and ITO relationship development (E): While the interplays between sensing, seizing, and transforming ITO relational tension capabilities, as elaborated through the dynamic processes above, contribute to developing an *ITO relational tension management capability*, they also hint at changes of the ITO relationship form as an implication (E).

For example, after deploying processes to respond to tensions, respondents talked about building a different type of relationship, forming a trust-based consortium, and terminating the existing relationship as a consequence. This is corroborated by existing research on ITO relationships (e.g., Akkermans *et al.*, 2019, 2020), indicating that these relationships can progress or regress as a consequence. When the partners can successfully deploy an *ITO relational tension management capability*, their relationship can be extended (Susarla et al. 2010) and even progress to a new form, e.g., from a transactional exchange to a strategic partnership (Heiskanen, Newman, and Eklin 2008; Oshri et al. 2015). In contrast, if the capability is ineffective and cannot be successfully deployed to manage inherent tensions, then the relationship can regress or even terminate (Peukert 2019; Whitten et al. 2010). However, successfully deploying an *ITO relational tension management capability* can also leave the relationship form unchanged, for instance, if the client does not want or need the vendor to be deeply involved in its activities (Ngah et al. 2024).

6 Conclusions

6.1 Theoretical Contributions

Our study makes two theoretical contributions. First, we advance ITO research on tension management capabilities development from a firm to an interfirm perspective. While the prior studies consider ITO outcomes (i.e., efficiency and innovation) as an implication for a client or a vendor to develop a tension management capability, they neglect the significance of ITO relationship development, which proceeds ITO outcome and warrants an interfirm (client-vendor) perspective. We show that through processes leading to sensing, seizing, and reconfiguring tensions and through factors contextual to an ITO relationship, an ITO client and its vendor can co-develop the capability to manage any tension experienced in their relationship ex post contract. An implication for this interfirm level capability is that the partners can develop their relationship to achieve the intended ITO outcome. As a spillover, each partner firm also develops a tension management capability, which it can deploy in other relationships. By developing a capability at the level of the firm, our study also reconciles with previous studies on ITO tension management capability development (Bui et al. 2019; Cao et al. 2013; Du et al. 2020) that have focused on a firm (one-sided) perspective.

Second, we bridge the gap between ITO research on tension management capability development and ITO research on developing dynamic capabilities. Whereas the capability to manage tensions is dynamic, ITO research on tension management capability development (e.g., Kranz, 2021; Liu *et al.*, 2018), to the best of our knowledge, has not given attention to the dynamic capability lens. On the other hand, existing ITO research using the dynamic capabilities lens (e.g., Ravishankar and Pan, 2013; Song *et al.*, 2016) has investigated the development of various ITO capabilities but not the capability to manage tensions in ITO relationships. Our study fills this gap and bridges the two bodies of research by uncovering new insights about how an ITO client and its vendor can sense, seize, and transform tensions and the ITO contextual factors facilitating or impeding the development of these capabilities.

6.2 Practitioner Recommendations

Co-developing the capability to manage ITO relational tensions is critical for an ITO client and its vendor to achieve their objectives and ensure a successful and sustainable relationship. To this end, we offer two recommendations for practice. First, each ITO partner firm should invest in relationship management and assign individuals to act as primary points of contact to manage the relationship with the other partner. These relationship managers should facilitate regular interactions, promote open lines of communication, and establish clear escalation procedures for resolving conflicts and contradictions between the partners. Our study provides detailed insights into the activities that these managers can engage in. By so doing, they create a foundation for developing a collaborative capability for resolving conflicts between the partners. More importantly, it also serves as a baseline capability for each partner firm to manage conflicts in future (other) interfirm relationships, as some of these processes can be embedded as organizational routines within the firm.

Second, we recommend ITO client and vendor firms prioritize tension management and adopt an evolving mindset. This is because ITO relationships are ever-changing. The firms can provide an environment whereby those involved in their ITO engagements are empowered to regularly seek feedback, capture insights, and drive improvements to manage emerging conflicts between a focal firm and its partner. As ITO relationships constantly evolve and conflicting situations always emerge, partner firms should not wait too long; waiting too long may lead to escalating conflicts if those involved are not yet equipped to continuously identify, resolve, and adapt accordingly. Otherwise, they risk not achieving the goals of their ITO relationship, which may lead to unwanted relationship outcomes.

6.3 Limitations and Suggestions for Future Research

Our study also has some limitations. First, although rich data was accessed to conduct exploratory research using a qualitative method of inquiry, the ability to generalize the findings beyond the informants to the wider ITO business community might be constrained by the limited size and representativeness of the sample. The capability development framework developed in this study would benefit from further academic scrutiny and studies involving a quantitative research design. A quantitative approach that collects data to test our framework could further validate the findings and increase the reliability and applicability of our study.

Finally, although we relied on boundary spanners (individuals operating at the interfirm level), our study does not discuss the individuals' contribution to the interfirm capability development process. Our proposed conceptual framework involves an interplay between ITO relational tension management capability and firm ITO tension management capability. The former exists at the interfirm level and the latter at the firm level (see Figure 1). This suggests that a multilevel perspective for partner firms to co-develop an *ITO relational tension management capability* is relevant. However, our framework does not explicitly elaborate on how the individual level plays a part in the capability co-development process. Future research could build on our framework and take a multilevel approach that accounts for an interplay between the interfirm, firm, and individual levels (Knudsen and Nielsen 2010; Schruijer 2020).

References

Akkermans, Henk, Willem Oppen, Bart Vos, and Carol X. J. Ou. 2020. "Reversing a Relationship Spiral: From Vicious to Virtuous Cycles in IT Outsourcing." *Information Systems Journal* 31(2), 231–67.

Akkermans, Henk, Willem Van Oppen, Finn Wynstra, and Chris Voss. 2019. "Contracting Outsourced Services with Collaborative Key Performance Indicators." *Journal of Operations Management* 65(1), 22–47.

Aramand, Majid, and Dave Valliere. 2012. "Dynamic Capabilities in Entrepreneurial Firms: A Case Study Approach." *Journal of International Entrepreneurship* 10(2), 142–57.

Aubert, Benoit A., Rajiv Kishore, and Akie Iriyama. 2015. "Exploring and Managing the 'Innovation through Outsourcing' Paradox." *Journal of Strategic Information Systems* 24(4), 255–69.

Balocco, Raffaello, Alessia Ciappini, and Mariano Corso. 2012. "The Impact of ICT Sourcing on ICT Organisation, Competences and Continuous Innovation." *International Journal of Technology Management* 60(3/4), 179.

Barreto, Ilídio. 2010. "Dynamic Capabilities: A Review of Past Research and an Agenda for the Future." *Journal of Management* 36(1), 256–80.

Bitetti, Leandro, and Michael Gibbert. 2022. "The ROAD to Continuous Business Model Innovation: A Longitudinal Study Unveiling Patterns of Cognitive Sensing Dynamic Capabilities." *Creativity and Innovation Management* 31(1), 123–40.

Bui, Quang Neo, Ezekiel Leo, and Olayele Adelakun. 2019. "Exploring Complexity and Contradiction in Information Technology Outsourcing: A Set-Theoretical Approach." *Journal of Strategic Information Systems* 28(3), 330–55.

Cao, Lan, Kanan Mohan, Balasubramaniam Ramesh, and Sumantra Sarkar. 2013. "Evolution of Governance: Achieving Ambidexterity in IT Outsourcing." *Journal of Management Information Systems* 30(3), 115–40.

Chang, Young Bong, Vijay Gurbaxani, and Kiron Ravindran. 2017. "Information Technology Outsourcing: Asset Transfer and the Role of Contract." *MIS Quarterly* 41(3), 959–73.

Chattopadhyay, Smita Prashant, and Madhuchhanda Das Aundhe. 2019. "Vendor Boundary Spanning in Indian Information Technology (IT) Companies." *Asia Pacific Journal of Management* 38(3), 1–39.

Choi, Thomas Y., and Daniel R. Krause. 2006. "The Supply Base and Its Complexity: Implications for Transaction Costs, Risks, Responsiveness, and Innovation." *Journal of Operations Management* 24(5), 637–52.

Cohen, Wesley M., and Daniel A. Levinthal. 1990. "Absorptive Capacity: A New Perspective on Learning and Innovation." *Administrative Science Quarterly* 35(35), 128–52.

Daft, Richard L., Juhani Sormunen, and Don Parks. 1988. "Chief Executive Scanning, Environmental Characteristics, and Company Performance: An Empirical Study." *Strategic Management Journal* 9(2), 123–39.

Davis, Jason P. 2016. "The Group Dynamics of Interorganizational Relationships: Collaborating with Multiple Partners in Innovation Ecosystems." *Administrative Science Quarterly* 61(4), 621–61.

Day, George S., and Paul J. H. Schoemaker. 2016. "Adapting to Fast-Changing Markets and Technologies." *California Management Review* 58(4), 59–77.

Dekker, Henri C., Carole Donada, and Gwenaëlle Nogatchewsky. 2024. "Exploiting Cognitive Distance for Enhanced Innovative Capabilities: The Role of Collaboration Controls in Incumbent-Startup Partnerships." *Technovation* 134, 103047.

Dekker, Henri, Carole Donada, Caroline Mothe, and Gwenaëlle Nogatchewsky. 2019. "Boundary Spanner Relational Behavior and Inter-Organizational Control in Supply Chain Relationships." *Industrial Marketing Management* 77, 143–54.

Dias, Alvaro Lopes, and Luis F. Lages. 2021. "Measuring Market-Sensing Capabilities for New Product Development Success." *Journal of Small Business and Enterprise Development* 28(7), 1012–34.

Du, Wenyu (Derek), Shan L. Pan, and Junjie Wu. 2020. "How Do IT Outsourcing Vendors Develop Capabilities? An Organizational Ambidexterity Perspective on a Multi-Case Study." *Journal of Information Technology* 35(1), 49–65.

Du, Wenyu (Derek), and Shan Ling Pan. 2013. "Boundary Spanning by Design: Toward Aligning Boundary-Spanning Capacity and Strategy in IT Outsourcing." *IEEE Transactions on Engineering Management* 60(1), 59–76.

Eisenhardt, Kathleen M., and Jeffrey A. Martin. 2000. "Dynamic Capabilities: What Are They?" *Strategic Management Journal* 21(10–11), 1105–21.

Ethiraj, Sendil K., Prashant Kale, M. S. Krishnan, and Jitendra V. Singh. 2005. "Where Do Capabilities Come from and How Do They Matter? A Study in the Software Services Industry." *Strategic Management Journal* 26(1), 25–45.

Flores, Luis G., Wei Zheng, Devaki Rau, and Christopher H. Thomas. 2012. "Organizational Learning: Subprocess Identification, Construct Validation, and an Empirical Test of Cultural Antecedents." *Journal of Management* 38(2), 640–67.

Gelhard, Carsten, Stephan Von Delft, and Siegfried P. Gudergan. 2016. "Heterogeneity in Dynamic Capability Configurations: Equifinality and Strategic Performance." *Journal of Business Research* 69(11), 5272–79.

George, G. 2005. "Learning to Be Capable: Patenting and Licensing at the Wisconsin Alumni Research Foundation 1925-2002." *Industrial and Corporate Change* 14(1), 119–51.

Gioia, Dennis A., Kevin G. Corley, and Aimee L. Hamilton. 2013. "Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology." *Organizational Research Methods* 16(1), 15–31.

Gopal, Anandasivam, and Sanjay Gosain. 2010. "The Role of Organizational Controls and Boundary Spanning in Software Development Outsourcing: Implications for Project Performance." *Information Systems Research* 21(4), 960–82.

Gulati, Ranjay, Dovev Lavie, and Harbir Singh. 2009. "The Nature of Partnering Experience and the Gains from Alliances." *Strategic Management Journal* 30(11), 1213–33.

Heiskanen, Ari, Mike Newman, and Merja Eklin. 2008. "Control, Trust, Power, and the Dynamics of Information System Outsourcing Relationships: A Process Study of Contractual Software Development." *Journal of Strategic Information Systems* 17(4), 268–86.

Helfat, Constance E., and Margaret A. Peteraf. 2009. "Understanding Dynamic Capabilities: Progress along a Developmental Path." *Strategic Organization* 7(1), 91–102.

Holzweber, Markus, Jan Mattsson, Doren Chadee, and Revti Raman. 2012. "How Dynamic Capabilities Drive Performance in the Indian IT Industry: The Role of Information and Co-Ordination." *Service Industries Journal* 32(4), 531–50.

Jarvenpaa, Sirkka L., and Ji-Ye Mao. 2008. "Operational Capabilities Development in Mediated Offshore Software Services Models." *Journal of Information Technology* 23(1), 3–17.

Jun, Liu, Wang Qiuzhen, and Ma Qingguo. 2011. "The Effects of Project Uncertainty and Risk Management on IS Development Project Performance: A Vendor Perspective." *International Journal of Project Management* 29(7, SI), 923–33.

Karimi-Alaghehband, Forough, and Suzanne Rivard. 2019. "Information Technology Outsourcing and Architecture Dynamic Capabilities as Enablers of Organizational Agility." *Journal of Information Technology* 34(2), 129–59.

Karimi-Alaghehband, Forough, and Suzanne Rivard. 2020. "IT Outsourcing Success: A Dynamic Capability-Based Model." *Journal of Strategic Information Systems* 29(1), 101599.

Kern, T., and L. Willcocks. 2002. "Exploring Relationships in Information Technology Outsourcing: The Interaction Approach." *European Journal of Information Systems* 11(1), 3–19.

Ketokivi, Mikko, and Thomas Choi. 2014. "Renaissance of Case Research as a Scientific Method." *Journal of Operations Management* 32(5), 232–40.

Knudsen, Line Gry, and Bo Bernhard Nielsen. 2010. "Collaborative Capability in R&D Alliances: Exploring the Link between Organisational- and Individual-Level Factors." *International Journal of Knowledge Management Studies* 4(2), 152.

Kober, Ralph, and Paul J. Thambar. 2022. "Paradoxical Tensions of the COVID-19 Pandemic: A Paradox Theory Perspective on the Role of Management Control Systems in Helping Organizations Survive Crises." *Accounting, Auditing & Accountability Journal* 35(1), 108–19.

Koh, C., S. Ang, and DW Straub. 2004. "IT Outsourcing Success: A Psychological Contract Perspective." *Information Systems Research* 15(4), 356–73.

Kranz, Johann. 2021. "Strategic Innovation in IT Outsourcing: Exploring the Differential and Interaction Effects of Contractual and Relational Governance Mechanisms." *Journal of Strategic Information Systems* 30(1), 101656.

Kutsikos, Konstadinos, and Damianos Sakas. 2014. "A Framework for Enabling Service Configuration Decisions: The Case of IT Outsourcing Providers." *Procedia - Social and Behavioral Sciences* 148:604–10.

Lacity, Mary C., Leslie P. Willcocks, and Joseph W. Rottman. 2008. "Global Outsourcing of Back Office Services: Lessons, Trends, and Enduring Challenges." *Strategic Outsourcing: An International Journal* 1(1), 13–34.

Lai, Chi-Shiun, Da-Chang Pai, Chin-Fang Yang, and Hsiao-Ju Lin. 2009. "The Effects of Market Orientation on Relationship Learning and Relationship Performance in Industrial Marketing: The Dyadic Perspectives." *Industrial Marketing Management* 38(2), 166–72.

Langley, Ann. 1999. "Strategies for Theorizing from Process Data." *Academy of Management Review* 24(4), 691–710.

Leemann, Niklaus, Dominik Kanbach, and Stephan Stubner. 2021. "Breaking the Paradigm of Sensing, Seizing, and Transforming - Evidence from Axel Springer." *Journal of Business Strategies* 38(2), 95–124.

Liang, Saraf, Hu, and Xue. 2007. "Assimilation of Enterprise Systems: The Effect of Institutional Pressures and the Mediating Role of Top Management." *MIS Quarterly* 31(1), 59.

Lin, Yini, and Lei-Yu Wu. 2014. "Exploring the Role of Dynamic Capabilities in Firm Performance under the Resource-Based View Framework." *Journal of Business Research* 67(3), 407–13.

Liu, Yi, Yonghai Liao, and Yuan Li. 2018. "Capability Configuration, Ambidexterity and Performance: Evidence from Service Outsourcing Sector." *International Journal of Production Economics* 200:343–52.

Lovallo, Dan, Alexander L. Brown, David J. Teece, and David Bardolet. 2020. "Resource Re-allocation Capabilities in Internal Capital Markets: The Value of Overcoming Inertia." *Strategic Management Journal* 41(8), 1365–80.

Lüscher, Lotte S., and Marianne W. Lewis. 2008. "Organizational Change and Managerial Sensemaking: Working through Paradox." *Academy of Management Journal* 51(2), 221–40.

Mamédio, Diorgenes, Clarissa Rocha, Dayanne Szczepanik, and Heitor Kato. 2019. "Strategic Alliances and Dynamic Capabilities: A Systematic Review." *Journal of Strategy and Management* 12(1), 83–102.

Markovich, Amiram, Kalanit Efrat, and Daphne R. Raban. 2021. "Dynamic Capabilities: Interrelations and Distinct Effects on Performance in Low and High Competitive Intensity Environments." *Baltic Journal of Management* 16(4), 539–63.

Medlin, Christopher J., Jacques-Marie Aurifeille, and Pascale G. Quester. 2005. "A Collaborative Interest Model of Relational Coordination and Empirical Results." *Journal of Business Research* 58(2), 214–22.

Mehta, Nikhil, and Anandhi Bharadwaj. 2015. "Knowledge Integration in Outsourced Software Development: The Role of Sentry and Guard Processes." *Journal of Management Information Systems* 32(1), 82–115.

Montealegre, Ramiro, Kishen Iyengar, and Jeffrey Sweeney. 2019. "Understanding Ambidexterity: Managing Contradictory Tensions between Exploration and Exploitation in the Evolution of Digital Infrastructure." *Journal of the Association for Information Systems* 647–80.

Ngah, Elvis, Brian Tjemkes, and Henri Dekker. 2024. "Relational Dynamics in Information Technology Outsourcing: An Integrative Review and Future Research Directions." *International Journal of Management Reviews* 26(1), 54–81.

Niesten, Eva, and Albert Jolink. 2015. "The Impact of Alliance Management Capabilities on Alliance Attributes and Performance: A Literature Review." *International Journal of Management Reviews* 17(1), 69–100.

Oinonen, Minna, Paavo Ritala, Anne Jalkala, and Kirsimarja Blomqvist. 2018. "In Search of Paradox Management Capability in Supplier–Customer Co-Development." *Industrial Marketing Management* 74:102–14.

Oshri, Ilan, Julia Kotlarsky, and Alexandra Gerbasi. 2015. "Strategic Innovation through Outsourcing: The Role of Relational and Contractual Governance." *Journal of Strategic Information Systems* 24(3), 203–16.

Patton, Michael Quinn. 2014. *Qualitative Research & Evaluation Methods: Integrating Theory and Practice*. Fourth edition. Los Angeles, London, New Delhi, Singapore, Washington DC: SAGE Publications, Inc.

Pavlou, Paul A., and Omar A. El Sawy. 2011. "Understanding the Elusive Black Box of Dynamic Capabilities." *Decision Sciences* 42(1), 239–73.

Peukert, Christian. 2019. "Determinants and Heterogeneity of Switching Costs in IT Outsourcing: Estimates from Firm-Level Data." *European Journal of Information Systems* 28(3), 291–317.

Popadiuk, Silvio, Aruana Rosa Souza Luz, and Caroline Kretschmer. 2018. "Dynamic Capabilities and Ambidexterity: How Are These Concepts Related?" *Revista de Administração Contemporânea* 22(5), 639–60.

Putnam, Linda L., Gail T. Fairhurst, and Scott Banghart. 2016. "Contradictions, Dialectics, and Paradoxes in Organizations: A Constitutive Approach." *Academy of Management Annals* 10(1), 65–171.

Qiu, Xinlu, Elsebeth Holmen, Malena Havenvid, Luitzen De Boer, and Fanny Hermundsdottir. 2022. "Open for Business: Towards an Interactive View on Dynamic Capabilities." *Industrial Marketing Management* 107:148–60.

Quansah, Emmanuel, Dale E. Hartz, and Paul Salipante. 2022. "Adaptive Practices in SMEs: Leveraging Dynamic Capabilities for Strategic Adaptation." *Journal of Small Business and Enterprise Development* 29(7), 1130–48.

Ravishankar, M. N., and Shan L. Pan. 2013. "Examining the Influence of Modularity and Knowledge Management (KM) on Dynamic Capabilities: Insights from a Call Center." *International Journal of Information Management* 33(1), 147–59.

Rey-Garcia, Marta, Vanessa Mato-Santiso, and Ana Felgueiras. 2021. "Transitioning Collaborative Cross-Sector Business Models for Sustainability Innovation: Multilevel Tension Management as a Dynamic Capability." *Business & Society* 60(5), 1132–73.

Sandberg, Erik, Daniel Kindström, and Linnea Haag. 2021. "Delineating Interorganizational Dynamic Capabilities: A Literature Review and a Conceptual Framework." *Journal of Inter-Organizational Relationships* 27(3–4), 98–113.

Schilke, Oliver, Songcui Hu, and Constance E. Helfat. 2018. "Quo Vadis, Dynamic Capabilities? A Content-Analytic Review of the Current State of Knowledge and Recommendations for Future Research." *Academy of Management Annals* 12(1), 390–439.

Schruijer, Sandra. 2020. "The Dynamics of Interorganizational Collaborative Relationships: Introduction." *Administrative Sciences* 10(3), 53.

Sen, Sanjoy, Julia Kotlarsky, and Pawan Budhwar. 2020. "Extending Organizational Boundaries through Outsourcing: Toward a Dynamic Risk-Management Capability Framework." *Academy of Management Perspectives* 34(1), 97–113.

Sheep, Mathew L., Gail T. Fairhurst, and Shalini Khazanchi. 2017. "Knots in the Discourse of Innovation: Investigating Multiple Tensions in a Reacquired Spin-Off." *Organization Studies* 38(3–4), 463–88.

Shi, ZZ, AS Kunnathur, and TS Ragu-Nathan. 2005. "IS Outsourcing Management Competence Dimensions: Instrument Development and Relationship Exploration." *Information & Management* 42(6), 901–19.

Soderberg, Anne-Marie, and Laurence Romani. 2017. "Boundary Spanners in Global Partnerships: A Case Study of an Indian Vendor's Collaboration with Western Clients." *Group & Organization Management* 42(2, SI), 237–78.

Song, Jaeyong, Kyungmook Lee, and Tarun Khanna. 2016. "Dynamic Capabilities at Samsung: Optimizing Internal Co-Opetition." *California Management Review* 58(4), 118–40.

Song, Jiahe, Kang-Bok Lee, Zhongyun Zhou, Lin Jia, Casey Cegielski, and Soo Il Shin. 2022. "Enhancing Supply Chain Sensing Capability through Social Media: An Environmental Scanning Perspective." *Information Technology & People* 35(1), 367–91.

Steininger, Dennis M., Patrick Mikalef, Adamantia Pateli, and Ana Ortiz-de-Guinea. 2022. "Dynamic Capabilities in Information Systems Research: A Critical Review, Synthesis of Current Knowledge, and Recommendations for Future Research." *Journal of the Association for Information Systems* 22(2), 447–90.

Susarla, Anjana, Ramanath Subramanyam, and Prasanna Karhade. 2010. "Contractual Provisions to Mitigate Holdup: Evidence from Information Technology Outsourcing." *Information Systems Research* 21(1), 37–55.

Tan, Chengxun, and Siew Kien Sia. 2006. "Managing Flexibility in Outsourcing." *Journal of the Association for Information Systems* 7(4), 179–205.

Teece, David J. 2007. "Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance." *Strategic Management Journal* 28(13), 1319–50.

Teece, David J., and Greg Linden. 2017. "Business Models, Value Capture, and the Digital Enterprise." *Journal of Organization Design* 6(1), 8.

Teece, David J., Gary Pisano, and Amy Shuen. 1997. "Dynamic Capabilities and Strategic Management." *Strategic Management Journal* 18(7), 509–33.

Teece, David, Margaret Peteraf, and Sohvi Leih. 2016. "Dynamic Capabilities and Organizational Agility: Risk, Uncertainty, and Strategy in the Innovation Economy." *California Management Review* 58(4), 13–35.

Tsang, Eric W. K. 2014. "Case Studies and Generalization in Information Systems Research: A Critical Realist Perspective." *The Journal of Strategic Information Systems* 23(2), 174–86.
Verbeke, Alain. 2022. "Three Simple Guidelines to Make the Dynamic Capabilities Paradigm Actionable in International Business Research." *Journal of International Business Studies* 53(4), 573–82.
Warner, Karl S. R., and Maximilian Wäger. 2019. "Building Dynamic Capabilities for Digital Transformation: An Ongoing Process of Strategic Renewal." *Long Range Planning* 52(3), 326–49.
Whitten, Dwayne, Subrata Chakrabarty, and Robin Wakefield. 2010. "The Strategic Choice to Continue Outsourcing, Switch Vendors, or Backsource: Do Switching Costs Matter?" *Information & Management* 47(3), 167–75.
Wilden, Ralf, and Siegfried P. Gudergan. 2015. "The Impact of Dynamic Capabilities on Operational Marketing and Technological Capabilities: Investigating the Role of Environmental Turbulence." *Journal of the Academy of Marketing Science* 43(2), 181–99.
Willcocks, Leslie, David Feeny, and Nancy Olson. 2006. "Implementing Core IS Capabilities: Feeny-Willcocks IT Governance and Management Framework Revisited." *European Management Journal* 24(1), 28–37.
Wu, Chung-Huey, Aaron J. Dodd, Cindy E. Hauser, and Michael A. McCarthy. 2021. "Reallocating Budgets among Ongoing and Emerging Conservation Projects." *Conservation Biology* 35(3), 955–66.
Yeow, Adrian, Christina Soh, and Rina Hansen. 2018. "Aligning with New Digital Strategy: A Dynamic Capabilities Approach." *Journal of Strategic Information Systems* 27(1), 43–58.
Yin, Robert K. 2018. *Case Study Research and Applications: Design and Methods*. 6th ed. SAGE Publications, Inc.
Zahra, Shaker A., and Gerard George. 2002. "Absorptive Capacity: A Review, Reconceptualization, and Extension." *Academy of Management Review* 22(2), 185–203.
Zobel, Ann-Kristin, Lukas Falcke, and Stephen D. Comello. 2023. "A Temporal Perspective on Boundary Spanning: Engagement Dynamics and Implications for Knowledge Transfer." *Organization Science* orsc.2023.1677.
Zollo, Maurizio, and Sidney G. Winter. 2002. "Deliberate Learning and the Evolution of Dynamic Capabilities." *Organization Science* 13(3), 339–51.