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Digital Transformation in Sales: Managerial Cognition, Technology Adoption, and the Strategic Role of Innovativeness

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1. GENERAL INTRODUCTION

Digital technologies have fundamentally altered the mechanisms through which organisations operate. Although these technologies promise substantial returns and advantages (Chen & Srinivasan, 2024), they also compel firms to change. The adoption of digital tools reshapes organisational strategies (Van Zeebroeck et al., 2021), business models (Li, 2020), capabilities (Browder et al., 2024), and boundaries (Plekhanov et al., 2023). These effects also appear at lower organisational levels, where digital technologies transform workplaces and daily routines (Kaihlanen et al., 2023), require new competencies (Blanka et al., 2022), and shape organisational culture (Martínez-Caro et al., 2020). Yet the adoption of digital tools only initiates these changes. Whether they develop in a favourable direction depends on whether they are guided strategically. This distinction is reflected in the hierarchy between digitisation, digitalisation, and digital transformation, with digital transformation representing the broadest and most strategic level of change (Verhoef et al., 2021).

From this perspective, both digitalisation and digital transformation can be understood as forms of strategic change. Strategic change has classically been defined as a substantial shift in an organisation's alignment with its external environment (Van de Ven & Poole, 1995), while more recent interpretations also emphasise changes in organisational resources, processes, and structures (Acciarini et al., 2024). Although digitalisation and digital transformation do not denote identical forms of change, they are closely intertwined. Their relationship is not only hierarchical but also recursive: digitalisation enables broader transformation, while digital transformation reshapes the scope, direction, and meaning of subsequent digitalisation (Verhoef et al., 2021).

One of the most strategically consequential domains in which these processes unfold is the sales function. Prior research has already established the strategic role of sales in driving organisational performance (Cron et al., 2014), fostering innovation (Groza et al., 2021; Keszey & Biemans, 2016), and establishing and managing vital customer relationships (Weitz & Bradford, 1999; Wotruba, 1991). Sales is especially important in this regard because salespeople operate at the organisation's boundaries, linking the firm's internal and external environments (Ryan & O'Malley, 2016). Consequently, changes that

affect either external alignment or internal structures and processes become particularly consequential in sales, where this balancing, translating, and relationship-building role is continuously performed.

The dissertation is structured into six main chapters. Chapter 1 introduces the topic and develops the conceptual foundation of the study by reviewing the antecedents and consequences of sales digitalisation and digital transformation, identifying the principal gaps in the literature, and positioning the dissertation within these gaps. Chapter 2 provides an overview and integration of the included articles, showing how the three studies relate to one another conceptually and how they contribute to the dissertation's broader argument. Chapters 3, 4, and 5 present the three constituent studies. Chapter 3 focuses on the frontline enactment of digitalisation and examines how technology readiness, technology characteristics, customer-related conditions, and salesperson attitudes shape digital transformation in sales. Chapter 4 turns to the organisational and behavioural mechanisms through which digitalisation and innovativeness influence customer relationship performance. Chapter 5 broadens the analytical perspective by examining managerial cognition in the context of strategic change and thereby provides the upstream strategic and interpretive context of transformation. Finally, Chapter 6 integrates the findings of the three studies and formulates the dissertation's overall conclusions regarding digital transformation in sales as a connected process linking managerial interpretation, organisational conditions, individual adaptation, and relational outcomes.

1.1. Antecedents of sales digitalisation and digital transformation

1.1.1. Environmental drivers and enablers

At the environmental level, sales digitalisation and digital transformation are driven primarily by advances in digital technologies, changing customer expectations, and wider market pressures. One useful starting point is Drucker's (1985) notion that new knowledge is a major source of innovation. In the present context, this new knowledge is embodied in the emergence and diffusion of digital technologies. The empirical foundations of this stream are already well established in the sales literature, including work on e-commerce (Sila, 2013), social media (Dwivedi et al., 2023), salesforce

automation tools (Speier & Venkatesh, 2002), customer relationship management and mobile CRM technologies (Rodriguez & Trainor, 2016; Rodriguez et al., 2018), and artificial intelligence (Chen & Zhou, 2022). At the same time, much of this research has concentrated on organisational and individual adoption processes. As a result, broader ecosystem mechanisms through which digital knowledge diffuses, is translated, and ultimately reshapes sales organisations remain less developed.

A second major environmental trigger is the evolution of customer needs and expectations. As digital technologies develop, customers co-evolve alongside them (Diba et al., 2019). Both individual and organisational buyers increasingly expect purchasing processes that are faster, more efficient, and more valuable than before (Alamäki & Korpela, 2021). These expectations push firms to continuously participate in digital innovation processes to maintain customer engagement, satisfaction, and loyalty (Bag et al., 2022). At the same time, these developments also create opportunities. Greater customer visibility and richer digital signals allow firms to capture, interpret, and transform customer data into business outcomes more effectively (Behera et al., 2024; Schweidel et al., 2022). These pressures are especially evident in B2B settings, where firms must manage increasingly complex customer journeys while preserving relationship quality, underscoring the importance of digital tools that support analytics, communication, coordination, and delivery (Alamäki & Korpela, 2021; Goel et al., 2025).

However, the environmental trigger is often strategic dissatisfaction rather than technological enthusiasm. Firms frequently fail to realise productivity gains when they stop at data digitisation and do not redesign roles, processes, or systems (Wengler et al., 2021). Similar conclusions emerge from complex B2B sales settings, where digitalisation is constrained by organisational, technological, cultural, and security barriers (Rodríguez et al., 2020). Accordingly, environmental pressures may initiate digitalisation, but whether these pressures develop into genuine transformation depends on how the organisation interprets and responds to them (Guenzi & Habel, 2020; Wengler et al., 2021).

Overall, environmental factors create persistent pressure for digitalisation and transformation in sales, but they do not determine outcomes in isolation. These external pressures must be filtered through organisational conditions and responses, which makes the organisational level especially important.

1.1.2. Organisational drivers and enablers

At the organisational level, the literature points most consistently to leadership, managerial cognition, organisational culture, capabilities, and processes as core drivers and enablers of sales digitalisation and digital transformation. Although these dimensions can be discussed separately for clarity, they are tightly interconnected in practice.

Leadership is one of the most visible antecedents. Leadership styles and management control systems have been shown to positively affect digital transformation in sales organisations (Kusuma et al., 2024). More generally, the ways in which managers direct, evaluate, and reward salespeople influence whether digital technologies and related organisational changes are accepted and used productively (Oliver & Anderson, 1994; Baldauf et al., 2002). Similarly, managerial communication about technology influences how employees interpret its relevance and legitimacy (Sow & Aborbie, 2018). These observations point toward managerial cognition as a deeper antecedent, which is also interpreted in the technology literature as the way managers understand, frame, and translate digital technologies into organisational action.

Managerial cognition is particularly important in this context because leadership and managerial communication do not influence digital transformation solely through formal decisions or control systems, but also through how managers interpret and frame change. In sales contexts, digital transformation appears to require cognitive unlearning, as managers must reconsider inherited assumptions about selling, customer interaction, and control before new routines can take root (Mattila et al., 2021). This shifts the discussion beyond implementation toward strategic sensemaking. Managers are not merely deploying tools; they are also redefining what effective selling means in increasingly digital environments.

A similar argument appears in work on dynamic managerial capabilities. Managers need sensing, seizing, and reconfiguring capacities that are adapted to digital sales contexts, particularly in resource-constrained environments such as SMEs (Mattila et al., 2020). In parallel, cognitive and emotional readiness for change among sales managers has been shown to strengthen championing behaviour toward the sales force (Badrinarayanan et al., 2024). Even studies that do not explicitly use the term managerial cognition still point to it indirectly. Firms struggle when senior leaders treat transformation as a temporary technology project rather than as a continuing, market-oriented process (Wengler et al.,

2021). Likewise, the appropriate starting point is not fascination with tools but a careful analysis of sales goals and processes (Guenzi & Habel, 2020).

The literature, therefore, supports a strong conclusion. Managerial cognition is not merely one antecedent among many, but the mechanism through which other antecedents are activated. It shapes whether digitalisation is framed as a threat or an opportunity, whether innovativeness is encouraged or suppressed, whether salespeople experience change as a resource or a burden, and whether customer relationships are strengthened through augmentation rather than weakened through depersonalisation (Badrinarayanan et al., 2024; Guenzi & Nijssen, 2021; Mattila et al., 2021). At the same time, this role remains scattered across adjacent literatures on unlearning, change readiness, and capability building, which suggests the need for a more explicit synthesis.

Organisational culture constitutes a second major firm-level antecedent. Organisational culture can be understood as the shared values, assumptions, and ways of working that shape how employees interpret and respond to their environment (Alvesson, 2002). Culture both reflects and conditions managerial action. It is influenced by leadership and control systems, but it also affects whether employees respond to change with commitment, innovativeness, or resistance. The literature provides strong evidence that supportive and stimulating cultures are positively associated with successful digitalisation and digital transformation (Chanias et al., 2019; Leso et al., 2023). Such cultures also help create an innovative atmosphere that supports digital initiatives and encourages proactive employee behaviour. Yet within the sales management literature, the intersection of organisational culture, organisational innovativeness, and digitalisation remains underdeveloped, as sales studies still place greater emphasis on market-oriented aspects of culture (Farrell, 2005; Groza et al., 2021).

Organisational capabilities and processes form a third major antecedent stream. Firms that navigate digitalisation and digital transformation successfully tend to possess strong dynamic capabilities and align their sensing and seizing activities with digital change. Some authors go so far as to argue that digital transformation itself is a dynamic capability-building process (Warner & Wäger, 2019). In sales settings, information-processing capabilities (Li et al., 2021), salesperson enablement capabilities (Mukhopadhyay et al., 2025), and broader technology-enabled sales capabilities also appear crucial. These include technology sensing, vigilant market learning, and adaptive

sales capability, which have been linked to both financial and relational performance (Badrinarayanan et al., 2022).

Importantly, several studies emphasise that digital transformation in sales is not driven solely by IT. People, processes, and data repeatedly emerge as the core success factors, while technology primarily serves as an enabler rather than an autonomous source of value (Wengler et al., 2021). Practical implementation factors such as role design, process fit, training, and cross-functional support also remain critical (Zoltners et al., 2021). Earlier sales technology research made similar observations in more narrowly defined contexts such as SFA and CRM implementation (Hunter & Perreault, 2007; Pullig et al., 2002; Raman et al., 2006). The implication is that technology investment in itself is insufficient unless it is embedded in supportive organisational processes and capabilities.

The importance of organisational communication and mobilisation further reinforces this point. Sales managers are more likely to champion digital transformation when they experience strong change communication, change mobilisation, and psychological capital (Badrinarayanan et al., 2024). Older work on sales technology adoption similarly showed that adoption improves when organisations send consistent signals about the value and legitimacy of technology use (Cascio et al., 2010). What matters, therefore, is not merely the provision of digital tools, but the existence of a coherent organisational narrative that reduces ambiguity and directs attention.

1.1.3. Individual-level drivers and enablers

At the individual level, the sales literature began with technology adoption logic and continues to draw heavily on it. Seminal studies show that salesperson adoption depends on perceived usefulness, perceived ease of use, organisational support, and diffusion conditions operating at both firm and individual levels (Avlonitis & Panagopoulos, 2005; Parthasarathy & Sohi, 1997). Social influence also matters. Technology adoption is shaped by multilevel social influence, while management alignment, training, and support moderate the likelihood that digital technology use becomes productive in practice (Ahearne et al., 2005; Cascio et al., 2010; Homburg et al., 2010).

More recent research broadens this perspective from acceptance to adaptation. Salespeople do not simply evaluate whether they are willing to use a digital tool; they also assess a broader change in work roles, expectations, and pressures. Digital

transformation generates both demands and resources. Uncertainty-reduction initiatives can increase perceived usefulness and reduce stress, whereas excessive workload can intensify stress and hinder integration (Guenzi & Nijssen, 2021). Techno-training improves techno-efficacy, effort, and performance (Rayburn et al., 2021), while ICT orientation can also increase role stress depending on salesperson characteristics and environmental complexity (Kramer & Krafft, 2023). The emerging picture is therefore more nuanced than traditional acceptance models suggest.

This broader appraisal dimension is particularly visible in studies of salesperson role change. Role change can be understood as a process in which cognitive appraisal is followed by affective response and selective action (Oh, 2017). Research also identifies different salesperson profiles, including those who resist, accept, or actively lead customer-driven change, depending on how they interpret customer environments, assess their own capabilities, and perceive organisational support (Giovannetti et al., 2022). Similarly, the growth of digital sales channels creates challenges related to buyer education, channel conflict, and strategic purchasing, but such challenges are moderated by salesperson buy-in and empowerment for multichannel selling (Bongers et al., 2021). Individual-level antecedents should therefore be understood as an interaction among readiness, identity, innovativeness, and perceived managerial signals.

At the individual level, contextual differences also matter, as salesperson responses to digitalisation and digital transformation are always embedded in broader cultural and institutional environments. The global literature remains dominated by Europe and North America, while evidence from emerging markets remains more limited and often highly context-specific. This matters because sales structures, institutional conditions, and technology infrastructures vary substantially across contexts (Malshe et al., 2013; Sharma, 2016). Existing findings from emerging markets suggest that sales technology usage is shaped by social learning processes, managerial control, and local organisational conditions (Agnihotri et al., 2017; Kusuma et al., 2024; Onyemah et al., 2010). Hungarian evidence is also limited but indicative. Studies from Central and Eastern Europe show that both offline and online communication can strengthen trust, that innovation behaviour can improve trust and customer retention, and that technology intensity may matter more than social media use alone for customer relationship performance (Gáti et al., 2018). These findings do not contradict the broader literature, but they do suggest that

the relative importance of trust-building, channel use, managerial control, and readiness may vary across contexts.

Innovativeness is especially important at the individual level because it links cognition and transformation. At the organisational level, intellectually stimulating sales managers can foster organisational innovativeness, which in turn contributes to sales growth, particularly when the sales department is integrated with the wider organisation (Groza et al., 2021). At the individual level, personal innovativeness helps explain why some salespeople are more willing to experiment with new technologies (Agarwal & Prasad, 1998). This is important because much of the digitalisation literature treats innovativeness as a background condition rather than as a central explanatory mechanism. Yet the available evidence suggests that more adaptive and open salespeople are better able to translate digital technologies into customer-oriented behaviour and performance (Ahearne et al., 2008; Román & Rodríguez, 2015). The literature therefore supports treating innovativeness as both a product of managerial and organisational conditions and a co-driver of transformation outcomes.

1.2. Consequences of sales digitalisation and digital transformation

1.2.1. Role reconfiguration of the sales function

The first major consequence is role reconfiguration. Reviews and conceptual studies agree that digital transformation shifts the salesperson's role away from routine information provision and toward value communication, problem framing, coordination, and relationship orchestration (Alavi & Habel, 2021; Fischer et al., 2023; Singh et al., 2019). This does not imply the disappearance of the human salesperson. Rather, more routine tasks become increasingly automatable, while relational, interpretive, and problem-solving tasks become more important (Singh et al., 2019). In this sense, sales transformation is systemic, involving simultaneous changes in people, integration, acceleration, and digitalisation (Corsaro & Maggioni, 2022a).

At the organisational level, digital transformation also changes patterns of control and coordination. Research shows that digital technology use creates tensions around autonomy, innovation, information, interaction, resources, and control, and that these tensions are experienced differently by directors, managers, and salespeople (Micallef et

al., 2024). This generates a central paradox. Digital tools can improve visibility and coordination, yet they can also intensify monitoring, produce overload, and reduce local discretion (Guenzi & Nijssen, 2021; Micallef et al., 2024). For this reason, alignment between organisational ambition and frontline experience becomes essential. Where such alignment is absent, transformation risks producing resistance or superficial compliance rather than meaningful change.

1.2.2. Organisational and human consequences

A second major consequence stream concerns the human side of the process. Digital transformation can generate both positive and negative effects for salespeople. When organisations reduce uncertainty and provide support, salespeople are more likely to perceive transformation as useful and integrate it into their work. When demands escalate and workload intensifies, stress, role conflict, and fear of replacement become more likely (Guenzi & Nijssen, 2021). This human dimension remains strategically important but relatively underexplored (Alavi & Habel, 2021). Qualitative research reinforces this point by showing that digital channels can increase buyer power, intensify the need for buyer education, and create differentiated response profiles among salespeople, ranging from resistance to active leadership in change (Bongers et al., 2021; Giovannetti et al., 2022). This suggests that digital transformation should not be reduced to tool use alone, but should also be understood as a change in role identity and work meaning.

1.2.3. Consequences for customer relationship performance

The most important downstream consequence for the present dissertation is customer relationship performance. The literature broadly supports a positive relationship between digital technologies and relational outcomes, but this effect is rarely direct. Instead, digital technologies improve customer relationship performance by strengthening information exchange, collaboration, service behaviour, adaptability, customisation, and co-creation.

Earlier studies already indicate that technology usage improves outcomes when it enhances customer service and adaptability rather than when it merely increases usage intensity (Ahearne et al., 2008; Hunter & Perreault, 2006, 2007). Other work shows that customer qualification and customer-oriented selling can fully mediate the link between technology use and performance outcomes, especially when salespeople possess strong

technology self-efficacy (Román & Rodríguez, 2015). The newer relational technology literature reinforces this mechanism-based view. Social media technology can improve customer relationship performance through social CRM capability (Trainor et al., 2014), while CRM and social media technologies shape different forms of buyer-seller information exchange and co-creation (Itani et al., 2020, 2022). Mobile CRM can also improve relationship performance, particularly when embedded in a clear sales process and strong collaboration practices (Rodríguez & Boyer, 2020). Similarly, post-sale service behaviour has been shown to benefit from CRM and social media technologies in B2B contexts (Agnihotri et al., 2017).

The implication is that relationship performance is conditional rather than automatic. Technology alone rarely explains customer outcomes. Some studies show positive effects of technology intensity, while finding weak or non-significant direct effects for social media attitudes or social media use alone (Gáti et al., 2018). Other work shows that communication quality and salesperson innovation behaviour matter strongly for trust and retention (Bauer et al., 2019). Additional studies indicate that digital technology can improve customisation and relationship performance, or strengthen partner altruism, while reducing opportunism, but these effects again emerge through relational and behavioural mechanisms rather than through technology investment alone (Guo et al., 2026; Lin & Lin, 2023). Customer relationship performance should therefore be understood as an emergent outcome of digitally enabled relational work.

This conclusion also aligns closely with commitment-trust theory. Trust and commitment are foundational mediators of successful relational exchange (Morgan & Hunt, 1994). Later B2B research confirms that trust in both the organisation and the salesperson matters, with trust in the salesperson often exerting the stronger effect (Gansser et al., 2021). This insight is especially relevant in the context of sales digitalisation. The main risk is not merely weak adoption, but the erosion of relational confidence.

Digitalisation in industrial relationships can simultaneously increase cooperation and commitment while also increasing uncertainty and weakening commitment (Hadjikhani & Lindh, 2021). This duality is highly relevant for the dissertation. If digitalisation and digital transformation are to improve customer relationship performance, they must be accompanied by forms of innovativeness and managerial guidance that translate technological shift into trust-building, cooperative value creation, and stronger relationships rather than into ambiguity, distance, or depersonalisation.

1.3. Contemporary gaps in the literature

While the preceding review has demonstrated that the literature on sales digitalisation and digital transformation has generated substantial insights, it also makes clear that the field remains unevenly developed. Existing research has advanced understanding in several important respects, including the adoption of digital technologies, the changing nature of the sales role, and the growing importance of customer expectations and relational outcomes. At the same time, this body of work has not yet matured into a fully coherent and cumulative research domain. Several central constructs remain only partially integrated, several empirical findings remain context-bound, and multiple questions of both theoretical and practical relevance remain unresolved.

Against this background, the next step is not simply to recapitulate what is already known, but to identify what the literature itself indicates as insufficiently understood. Table 1 serves this purpose by synthesising the principal gaps that emerge across the thematic areas of sales digitalisation and digital transformation. More specifically, it distinguishes among theoretical, methodological, empirical, and managerial gaps. This distinction is important because the field's limitations do not stem from a single source. In some areas, the principal weakness lies in conceptual fragmentation; in others, it lies in the dominance of cross-sectional and self-reported evidence, the narrowness of empirical settings, or the limited translation of research findings into robust managerial guidance.

The table also highlights a broader structural problem within the literature. Research on sales digitalisation and digital transformation has expanded across partly overlapping streams, including sales technology adoption, digital selling, channel integration, AI-enabled sales processes, sales enablement, and customer relationship performance. However, these streams have not always been integrated into a common explanatory framework. As a result, the field has generated substantial knowledge, but that knowledge often remains segmented by topic, level of analysis, or methodological tradition. Mapping the remaining gaps is therefore not only a matter of identifying missing elements within individual streams, but also of recognising the broader fragmentation that continues to constrain cumulative theory development.

Theme	Theoretical gap	Methodological gap	Empirical gap	Managerial gap
Sales digital transformation as a field-level construct	**Fragmented conceptual core** The field still lacks a shared, integrative model that connects sales transformation, digital selling, maturity, and technology use into a single, cumulative framework. (Corsaro & Maggioni, 2022a; Wengler et al., 2021; Agnihotri et al., 2023).	**Weak cumulative validation** Existing studies rely on isolated reviews, surveys, or interviews, with limited cross-context validation of transformation and maturity constructs. (Corsaro & Maggioni, 2022a; Voss et al., 2024; Wengler et al., 2021).	**Limited contextual generalisability** Evidence remains concentrated in B2B settings and often in single industries or firms, making it difficult to assess transferability across sales contexts. (Corsaro & Maggioni, 2022a; Wengler et al., 2021; Fischer et al., 2023).	**Weak implementation guidance** Managers still lack robust evidence on which transformation paths improve productivity and how to align people, process, and data over time. (Wengler et al., 2021; Voss et al., 2023).
Human side of sales digitalisation	**Incomplete treatment of strain and adaptation** The literature rarely integrates the bright and dark sides of digitalisation into a single framework that explains usefulness, stress, workload, uncertainty, and control together. (Alavi & Habel, 2021; Guenzi & Nijssen, 2021).	**Too much reliance on static self-report designs** More longitudinal and mixed-methods work is needed to capture reactions before, during, and after implementation. (Alavi & Habel, 2021; Guenzi & Nijssen, 2021).	**Heterogeneous effects remain underexplored** More evidence is needed on how role, tenure, age, gender, digital skill, and customer portfolio shape salesperson adaptation. (Guenzi & Nijssen, 2021; Kramer & Krafft, 2023; Micallef et al., 2024).	**Limited evidence on supportive interventions** The literature still offers weak guidance on which combinations of training, communication, coaching, and workload redesign reduce strain without increasing pressure. (Guenzi & Nijssen, 2021; Badrinarayanan et al., 2022).

Multilevel tensions inside sales organisations	**Underspecified multilevel theory** Sales organisations are still too often treated as unified actors, even though digital transformation creates different tensions for directors, managers, and salespeople. (Micallef et al., 2024).	**Rare multilevel designs** Few studies capture nested effects across firm, team, manager, and salesperson or compare perceptions across these levels. (Micallef et al., 2024; Mullins & Agnihotri, 2022).	**Thin evidence on temporal and cross-functional variation** More evidence is needed on how tensions evolve over time and across interfaces with marketing, service, and operations. (Micallef et al., 2024; Bauer et al., 2024).	**Weak balancing guidance** Managers still lack tested guidance on balancing control with autonomy, standardisation with experimentation, and visibility with seller discretion. (Micallef et al., 2024; Badrinarayanan et al., 2022).
Buyer-seller interaction in digital settings	**Underdeveloped interaction theory** Classic assumptions about face-to-face exchange and information asymmetry no longer fully hold, yet theory has not yet caught up with hybrid, video, and asynchronous interactions. (Ahearne et al., 2022; Bharadwaj & Shipley, 2020).	**Need for richer interaction data** More causal, longitudinal, and trace-based studies are needed, rather than relying mainly on retrospective perceptions. (Ahearne et al., 2022).	**Limited evidence on digitally informed buyers** Important questions remain about when buyers shift from self-search to seller contact and how digital interaction affects trust, fairness, and negotiation outcomes. (Ahearne et al., 2022).	**Retraining challenge** Sales organisations still lack robust evidence on how to retrain sellers to engage in transparent, advisory, and adaptive interactions with better-informed customers. (Ahearne et al., 2022).

Digital selling and channel integration	**Unclear channel logic** The literature still lacks a unified explanation of how personal, online, and hybrid sales structures complement or cannibalise one another. (Fischer et al., 2023; Bongers et al., 2021; Ramos et al., 2023; Mullins & Agnihotri, 2022).	**Too few comparative designs** Many studies remain qualitative or cross-sectional, while matched buyer-seller and cross-channel evidence remains rare. (Bongers et al., 2021; Ramos et al., 2023; Mullins & Agnihotri, 2022).	**Open questions around migration and conflict** More evidence is needed on channel conflict, buyer education, and migration across physical and digital channels. (Bongers et al., 2021; Habel et al., 2021; Ramos et al., 2023).	**Limited multichannel guidance** Firms still lack strong guidance on channel role definition and on preventing destructive competition between digital and personal channels. (Bongers et al., 2021; Mullins & Agnihotri, 2022).
AI and predictive sales analytics	**Theory lags behind practice** The field has many tools but fewer stable theories explaining human-AI collaboration, algorithm aversion, ethics, salesperson capability, and the boundary between prediction and prescription. (McClure et al., 2024; Habel et al., 2023; Matthews et al., 2025; Weng et al., 2024).	**Scarcity of objective and experimental evidence** Field experiments, longitudinal adoption studies, and objective usage data remain limited, and stronger links are needed between surveys, logs, and performance records. (Habel et al., 2023; Glackin & Adıvar, 2023; Matthews et al., 2025).	**Unclear performance boundary conditions** More evidence is needed on when AI improves performance, which tasks should remain human-led, and how generative AI changes work and capability development. (Chen & Zhou, 2022; Rodriguez et al., 2025; Weng et al., 2024).	**Weak governance guidance** Managers still lack clear guidance on trust-building, ethics by design, algorithmic literacy, and how to avoid well-being costs while improving performance. (Habel et al., 2023; Weng et al., 2024; McClure et al., 2024).

Digital solution selling and value-based selling	**Underspecified mechanism** The link between digital solution selling and value-based selling remains theoretically narrow, and a fuller theory is needed on coordination, networking, tools, and leadership in digitally enabled value creation. (Guenzi & Nijssen, 2023; Corsaro & Maggioni, 2022b).	**Narrow evidence base** Much of the evidence comes from focused samples or single-company studies, limiting wider generalisation. (Guenzi & Nijssen, 2023).	**Open questions on sales capability** More evidence is needed on which salesperson abilities matter most, how digital tools shape behaviour, and whether findings hold across solution types and selling cycles. (Guenzi & Nijssen, 2023; Pöyry et al., 2021).	**Weak orchestration guidance** Managers still lack evidence on how to train, reward, and support sellers moving toward digitally enabled value articulation and coordination. (Guenzi & Nijssen, 2023; Corsaro & Maggioni, 2022b).
Sales enablement and sales technology infrastructure	**Immature systems-level theory** Sales enablement is increasingly treated as a strategic system rather than a single tool, but the field still lacks a stable theory of how people, process, and technology interact across management and sellers. (Friend et al., 2024; Badrinarayanan et al., 2022).	**Weak comparative evidence** More studies are needed comparing enablement configurations, maturity levels, and performance metrics across contexts. (Friend et al., 2024; Lauzi et al., 2023).	**Unresolved bundle effects** Open empirical questions remain about which enablement bundles work best and how content platforms, readiness, and digital maturity interact. (Friend et al., 2024; Hartmann et al., 2024; Lauzi et al., 2023).	**Design uncertainty** Managers need stronger guidance on how to design enablement systems that connect tools, content, process, training, and measurement to performance. (Friend et al., 2024; Lauzi et al., 2023).

Social selling as an adjacent digitalisation stream	**Partial integration into the wider field** Social selling is relatively well developed as a stream, but it still remains only partially integrated into broader sales digital transformation theory. (Terho et al., 2022).	**Measurement remains uneven** Behavioural and trace-based measures are improving, but many studies still rely on self-reported usage and uneven sample quality. (Terho et al., 2022; Rutherford et al., 2023).	**Open questions on complementarities and outcomes** More evidence is needed on cross-platform differences, complementarities with CRM and other tools, and value co-creation and cross-sell outcomes. (Terho et al., 2022; Itani et al., 2023; Itani et al., 2022; Schendzielarz et al., 2022).	**Limited comparative guidance** Managers still lack strong evidence on which social media supports, tools, and governance mechanisms improve performance without overburdening sellers. (Terho et al., 2022; Bowen et al., 2021).

Table 1 Current and contemporary gaps in the literature of sales digitalisation and digital transformation (**source:** Author's own construction)

1.4. Synthesis and positioning of the dissertation

Taken together, both the established findings reviewed and the unresolved issues synthesised in Table 2 suggest that sales digitalisation and digital transformation are best understood as multi-level, strategically mediated processes rather than simple outcomes of technology adoption. Environmental pressures, including technological advances, changing customer expectations, and market turbulence, create strong incentives for digital change. However, these pressures do not translate automatically into successful transformation. Their consequences depend on how organisations interpret them, how managers frame and mobilise change, and how salespeople ultimately respond to and enact new practices.

This also indicates that the organisational level occupies a particularly important position in the overall process. Although digital technologies often appear as the visible trigger of change, the literature consistently shows that leadership, managerial cognition, organisational culture, capabilities, and communication determine whether digitalisation remains a narrow technological initiative or develops into broader transformation. In this respect, managerial cognition appears especially significant because it shapes how digital change is understood, whether it is treated as an opportunity or a threat, and how other antecedents, such as innovativeness, support, and capability development, are activated.

At the same time, the individual level remains indispensable. Salespeople do not merely adopt or reject digital tools; they interpret broader changes in work roles, customer interaction, expectations, and control. Their responses depend not only on perceived usefulness and organisational support, but also on role appraisal, readiness, innovativeness, and the contextual environment in which digital transformation unfolds. This is especially important in sales, where employees operate at organisational boundaries and where the effects of strategic and organisational change become visible in day-to-day market interactions.

The literature on consequences points in the same direction. Digital transformation reconfigures the sales role, alters patterns of coordination and control, and generates both opportunities and tensions at the human level. Most importantly, its effect on customer relationship performance is indirect and conditional rather than automatic. The literature does not support a simple technology-determinist view in which digitalisation directly

improves customer outcomes. Instead, it suggests that stronger customer relationship performance emerges when digital tools, organisational support, and innovativeness are translated into valuable customer-facing behaviours, such as responsiveness, adaptability, collaboration, and trust-building. This broader interpretation is also consistent with the relational logic of commitment-trust theory, which holds that durable customer outcomes depend on the quality of the relational exchange rather than on technology use alone.

Accordingly, the main implication of this review is that digital transformation in sales should be analysed as a connected process linking strategic interpretation, organisational conditions, individual adaptation, and relational outcomes. This is also where the present dissertation is positioned. It does not treat managerial cognition, digitalisation of sales, innovativeness, and customer relationship performance as isolated topics, but integrates them into a single, cumulative framework. In doing so, it addresses a central fragmentation in the literature: strategic change research rarely extends to the sales interface, while research on sales digitalisation often remains focused either on adoption processes or on immediate behavioural outcomes. By linking these levels, the dissertation aims to provide a more coherent explanation of how digital transformation unfolds in sales and why its performance consequences depend on more than the presence of digital technologies.

More specifically, the dissertation addresses these gaps through the differentiated contributions of its three constituent studies. The first article primarily responds to the still underdeveloped understanding of the micro foundations of sales digital transformation by examining how technological readiness, technology characteristics, customer base, and attitudes shape acceptance and implementation in practice. In this way, it contributes to the literature on the human side of digitalisation, salesperson adaptation, and the contextual conditions of transformation in sales.

The second article addresses the gap between digitalisation and customer-facing outcomes by examining how organisational innovativeness, salesperson innovativeness, and digital technology use relate to customer relationship performance. Its key contribution lies in showing that customer relationship performance is not a simple direct consequence of digitalisation but depends on behavioural and relational mechanisms. In doing so, it contributes to the literature on buyer-seller interaction in digital settings, digitally enabled value creation, and the indirect performance logic of sales digital transformation.

The third article addresses the relative absence of strategic change and managerial cognition perspectives in the sales digitalisation literature. By synthesising the literature on managerial cognition and strategic change, it provides the upstream theoretical anchor that explains why digital transformation should be understood not merely as a technological development, but as a cognitively mediated and strategically enacted process. At the same time, it identifies a level-of-analysis gap in the existing cognition literature, which remains concentrated at the top-management level and insufficiently connected to organisational and frontline outcomes. In this respect, the article provides the theoretical bridge that allows the dissertation to connect strategic interpretation to sales-specific transformation processes.

Taken together, the three articles therefore address not the entire gap structure of the field, but a coherent subset of its most important unresolved intersections. Their combined contribution lies in connecting field-level fragmentation, the human and organisational conditions of digital transformation, the role of managerial cognition as an upstream driver, and the indirect translation of digitalisation into customer relationship performance. This cumulative structure is what gives the dissertation its integrative contribution and distinguishes it from studies that remain confined to a single level or segment of the sales digitalisation literature.

Gap area	Nature of the gap	Article 1	Article 2	Article 3
Fragmentation of sales and digital transformation as a field	The literature remains split across technology adoption, broader transformation, and relational outcomes	✓	✓	
Human side of sales digitalisation	Limited understanding of how readiness, attitudes, and contextual conditions shape salesperson adaptation	✓		✓
Organisational and individual integration	Weak integration between organisational conditions and salesperson-level outcomes	✓	✓	
Buyer-seller interaction in digital settings	Insufficient explanation of how digitalisation affects customer relationship performance	✓	✓	
Indirect performance effects of digitalisation	Digitalisation is often treated as if it directly improves performance		✓	
Managerial cognition as an upstream driver	Strategic-change and cognition perspectives rarely extend to the sales interface			✓
Multi-level explanation of transformation	The field rarely connects strategic, organisational, and frontline levels in one framework	✓	✓	✓

Table 2 The contribution of the included articles to the gaps in the literature (**source:** Author's own construction)

Taken together, the reviewed literature and the identified gaps position the dissertation as an integrative explanation of digital transformation in sales. Figure 1 summarises this overarching framework and illustrates how managerial cognition, innovativeness, digitalisation, digital transformation, and customer relationship performance are related within the firm's organisational boundaries, while recognising the boundary-spanning role of salespeople.

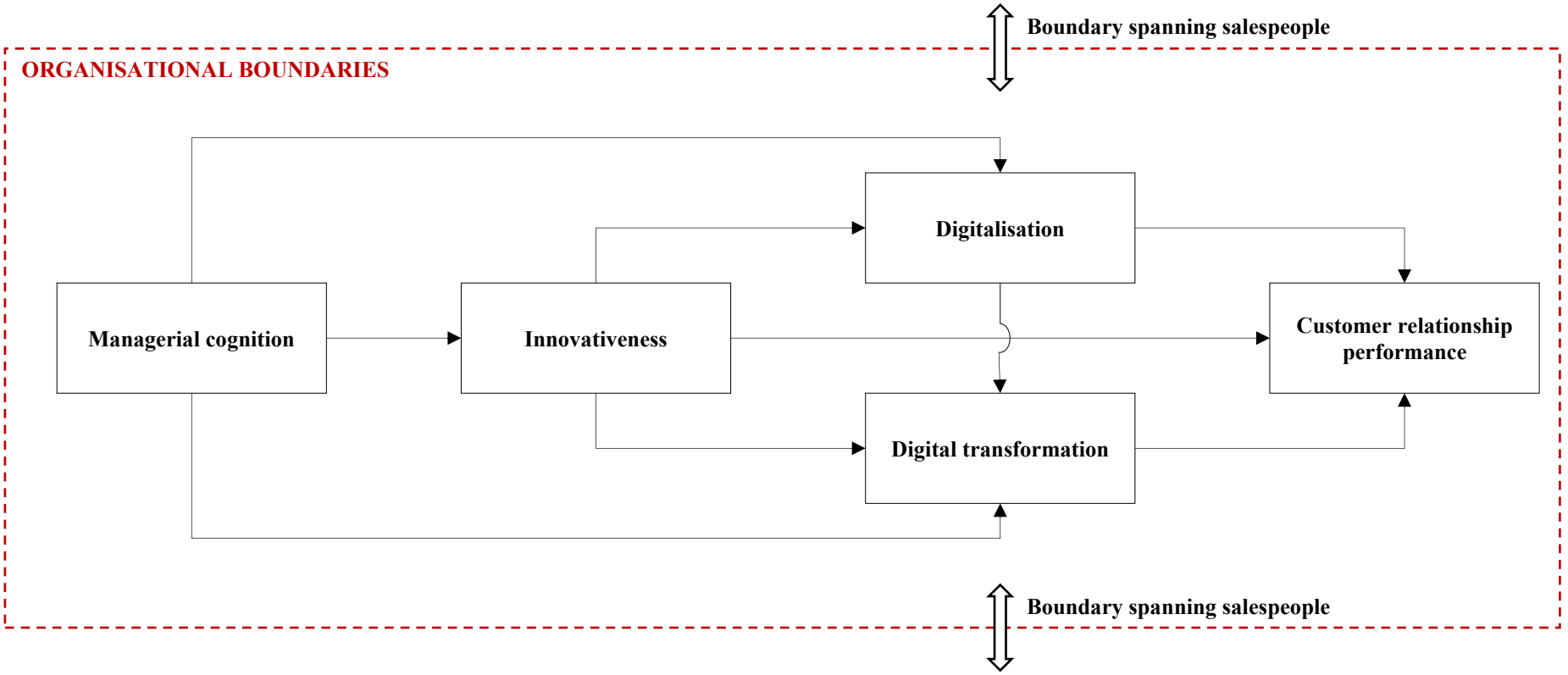

Figure 1 Conceptual framework of the dissertation (**source:** Author's own construction)

On this basis, the dissertation addresses the following research question and sub-questions.

- **RQ1. What are the main drivers and consequences of digital transformation in sales?**

Digital transformation in sales has been examined from several angles, but the field still lacks a sufficiently integrated view of how its main antecedents and outcomes are part of the same process. Existing work identifies technological development, changing customer expectations, and market turbulence as major triggers of digital change, while also showing that its consequences extend well beyond tool adoption to include changes in sales roles, organisational coordination, and customer-facing outcomes (Wengler et al., 2021; Fischer et al., 2023; Agnihotri et al., 2023). At the same time, the literature remains fragmented across sales transformation, digital selling, maturity, and technology-use streams, making it difficult to explain how drivers and consequences connect within a single cumulative framework (Corsaro & Maggioni, 2022a; Voss et al., 2023). This makes it necessary to address digital transformation in sales as a broader process that links the conditions of its emergence to the organisational and relational outcomes it produces.

- **RQ2. What organisational and individual factors shape sales digitalisation and digital transformation?**

A recurring theme in the literature is that digital transformation in sales is shaped by the interaction between organisational conditions and individual adaptation rather than by either level in isolation. Organisationally, leadership, communication, culture, and support structures influence whether digitalisation is introduced in ways that reduce ambiguity and enable productive use, while at the individual level, readiness, stress, workload, role perceptions, and adaptive capacity shape how salespeople respond to change (Alavi & Habel, 2021; Guenzi & Nijssen, 2021; Badrinarayanan et al., 2024). This interdependence is further complicated by the fact that heterogeneous effects remain underexplored: tenure, age, gender, digital skill, and customer portfolio may all influence salesperson adaptation, yet existing evidence remains limited and often based on static self-report designs (Kramer & Krafft, 2023; Micallef et al., 2024). The question, therefore, arises not simply which organisational and individual factors matter, but how these factors jointly shape sales digitalisation and digital transformation in practice.

- **RQ3. What role does managerial cognition play in framing and directing digital transformation?**

Although the sales digitalisation literature often foregrounds technology, capabilities, or customer change, a growing body of work suggests that interpreting digital transformation is itself a central part of the process. Digital change does not become strategically meaningful merely because technologies are available; it becomes consequential when managers frame its relevance, define priorities, and translate environmental pressures into organisational action. This is precisely why research on managerial cognition and strategic change becomes important in the present context: it highlights how interpretive processes, cognitive capabilities, and sensemaking shape the direction and quality of organisational change, even though these insights have only rarely been carried through to the sales interface in an explicit way (Powel et al., 2011; Volberda et al., 2021; Müller & Kunisch, 2018; Helfat & Martin, 2015; Kunisch et al., 2017). Asking more directly about the role of managerial cognition, therefore, helps connect the sales digitalisation literature to the broader strategic change perspective developed in the dissertation.

- **RQ4. How do digitalisation and innovativeness contribute to customer relationship performance?**

Customer relationship performance is one of the most important downstream concerns in the literature, yet the available evidence does not support a simple direct relationship between digitalisation and improved relational outcomes. Instead, the literature suggests that digital technologies create value when they are translated into more responsive, adaptive, and trust-supporting forms of customer interaction, while organisational and individual innovativeness appear to strengthen this translation process (Trainor et al., 2014; Itani et al., 2020; Itani et al., 2022). At the same time, several adjacent streams still point to open questions regarding digitally informed buyers, buyer–seller interaction, digital solution selling, and the conditions under which digital tools actually enhance rather than weaken customer relationships (Ahearne et al., 2022; Guenzi & Nijssen, 2023; Corsaro & Maggioni, 2022b). This makes customer relationship performance an especially important site for examining not only whether digitalisation matters, but how its effects are shaped by innovativeness at both organisational and salesperson levels.

2. OVERVIEW OF THE INCLUDED ARTICLES

This dissertation is organised as a paper-based thesis comprising three articles that examine digital transformation in sales from complementary analytical perspectives. Although each article addresses a distinct research problem, together they form a cumulative inquiry into how digital transformation unfolds across levels of analysis. The dissertation moves from frontline adoption and enactment, through organisational and customer-facing consequences, to the broader strategic and cognitive conditions that frame transformation. In this way, the three studies are connected not merely by topic, but by a shared explanatory logic.

The first article examines the early-stage mechanisms of sales digitalisation and digital transformation. Its focus lies on the practical conditions under which digital tools are accepted, interpreted, and incorporated into sales work. By examining technology readiness, technology characteristics, customer-related conditions, and attitudes, the article shows that digital transformation in sales begins not with technology alone, but with the interaction between digital tools, users, work practices, and contextual demands. It therefore establishes the micro-level foundations of transformation at the frontline of the sales function.

The second article turns from adoption and implementation to customer-facing consequences. It examines the relationships among perceived organisational innovativeness, perceived organisational digitalisation, innovative salesperson behaviour, and customer relationship performance. The findings indicate that digitalisation, in itself, does not constitute a direct source of relational performance. Its importance lies instead in the way it operates within an innovation-supportive organisational environment and is translated into adaptive, innovative behaviour by salespeople. The article, therefore, clarifies the organisational and behavioural mechanisms through which digitalisation may strengthen or weaken customer relationships.

The third article broadens the analytical frame by examining managerial cognition in the context of strategic change. A systematic review of the literature clarifies how managerial interpretation, cognitive framing, and sensemaking shape organisational transformation. Although its empirical setting is not confined to sales, its relevance to the dissertation is

direct. Digital transformation in sales is treated here as a form of strategic change, and the article provides the conceptual basis for understanding why transformation depends not only on technologies and behaviours but also on how managers interpret and assign meaning to change, and on how they mobilise organisational responses.

Taken together, the three articles form a layered account of digital transformation in sales. The first explains how digitalisation is experienced and enacted in practice, the second clarifies how digitalisation and innovativeness relate to customer relationship outcomes, and the third situates these processes within the broader literature on managerial cognition and strategic change. The dissertation thus advances an integrated perspective in which strategic interpretation, organisational conditions, individual adaptation, and relational outcomes are treated as interconnected dimensions of a single transformation process.

2.1. Integration of the included articles

The three articles included in the dissertation address digital transformation in sales from different analytical perspectives. Their relationship is not based on a single common theory or method, but on the fact that each article examines a different part of the same broader process. Considered together, they allow digital transformation in sales to be approached across levels of analysis, from frontline enactment, through organisational and customer-facing consequences, to the strategic and cognitive conditions under which transformation is framed and directed.

The first article focuses on the early-stage enactment of digitalisation in sales. Its concern is with the conditions under which digital tools are accepted, interpreted, and incorporated into everyday sales work. The second article turns to the organisational and behavioural pathways through which digitalisation becomes relevant for customer relationship performance. The third article broadens the analytical frame by examining managerial cognition in the context of strategic change and, in doing so, situates the first two studies within a wider account of organisational transformation. Read together, the three articles suggest that digital transformation in sales cannot be reduced to technology adoption alone, but must be understood in relation to organisational context, individual adaptation, and managerial interpretation.

Table 3 summarises the role of each article within this structure. The aim of the table is not to replace the dissertation's narrative, but to show, in a concise form, how the studies differ in focus, level of analysis, theoretical anchoring, and method, and how each contributes to the overall line of argument.

Dimension	Article 1	Article 2	Article 3
Focus	Early-stage sales digitalisation and technology acceptance	Digitalisation, innovativeness, and customer relationship performance	Managerial cognition and strategic change
Level of analysis	Frontline/individual	Organisational and individual	Strategic/managerial
Main theoretical anchoring	TAM, TRI, sales technology adoption	Boundary-spanning theory, relationship marketing, task–technology fit	Managerial cognition, strategic change
Method	Qualitative interviews	Quantitative survey	Systematic literature review
Sample	122 salespeople in Hungary	233 Hungarian sales professionals	85 articles
Main contribution of the article	Shows how readiness, attitudes, and contextual conditions shape the enactment of digitalisation in sales	Shows that digitalisation affects customer relationship performance indirectly through organisational and behavioural mechanisms	Shows that transformation is shaped by managerial interpretation and cognitive framing
Role in the dissertation	Explains how digital transformation begins at the frontline	Explains how digitalisation becomes relevant for customer outcomes	Explains the broader strategic logic framing transformation

Table 3 Detailed description of the included articles (**source:** Author's own construction)

The table makes visible a division of analytical labour within the dissertation. The first article addresses how digitalisation is encountered and enacted in sales practice. The second addresses the conditions under which digitalisation becomes consequential for customer relationships. The third addresses the broader interpretive and strategic context within which such processes take shape. The connection among the articles, therefore, lies in sequence and complementarity rather than in methodological or theoretical uniformity.

This structure also clarifies the dissertation's scope. The purpose is not to provide an exhaustive treatment of all aspects of digital transformation in sales, but to examine a connected set of problems that become visible at different analytical levels. The first article concerns enactment, the second translation into outcomes, and the third strategic framing. Taken together, they form a basis for analysing digital transformation in sales as a process shaped by the interaction of technologies, organisational conditions, individual responses, and managerial interpretation.

3. ARTICLE 1. DIGITAL TRANSFORMATION IN SALES – EMPIRICAL ANALYSIS OF FACTORS DETERMINING INDIVIDUAL AND ORGANISATIONAL TECHNOLOGY ACCEPTANCE

3.1. Abstract

This study explores the digital transformation occurring within the sales industry. The authors formulate a theoretical model, built upon the Technology Acceptance Model (TAM) and the Technology Readiness Index (TRI), which also incorporates literature focusing on the tools and activities of the sales industry. Their model is based on an empirical study conducted in 2018, involving interviews with 112 different sales representatives. This research identified several factors affecting the digital transformation of the sales industry and pinpoints the interaction between these factors. The most important conclusion to be drawn is that technological readiness, the attributes of technology, the portfolio of activities, and the customer base all influence individual attitudes and, ultimately, affect acceptance. Nevertheless, they find it important to highlight the limitations of the study arising from their methodology and the extreme heterogeneousness of their sample, which make further analyses and tests of their theoretical model necessary.

Keywords: sales, digitalisation, technology acceptance, technology readiness

3.2. Introduction

The ongoing digital transformation is anticipated to instigate significant social and economic changes, such as the evolution of the skills portfolio for the workforce, the emergence of Big Data, the rise of artificial intelligence in market research, and an increase in security risks (WEF, 2019; WEF, 2020). These changes will fundamentally alter the daily lives of both customers and companies. Therefore, it is imperative for organisations to adapt effectively to this transformation to maintain their competitive advantages. Vial (2019) encapsulates this notion as the development of dynamic and integrative capabilities.

This research is unique in that it specifically concentrates on the real-world experiences of sales professionals. Analysing the interactions within the customer base offers insights into the practical dimensions that elucidate the progression of technological transformation in sales and its impact on the experiences of salespersons during the digital transition.

According to Singh et al. (2019), it is anticipated that forthcoming technological innovations will exert a more pronounced impact on the sales process than those encountered to date. Such innovations encompass the extensive availability of artificial intelligence and the multitude of opportunities it engenders. This may further substantiate the conclusions drawn by Syam and Sharma (2018), which propose that in the future, sales technology may not merely assist in decision-making but also assume a proactive role in that process, thereby underscoring the significant influence of AI on sales.

However, at a concrete level, how can this be interpreted within the context of sales? On one hand, we might anticipate a significant alteration in customer behaviour, which will consequently affect the sales process. The solutions offered by digitalsation will provide customers with access to unprecedented amounts of information, thereby enhancing their position within the market. This clearly suggests a redefinition of roles within the sales process. For instance, the role of sales personnel may shift to supporting customers in executing certain process elements and activities autonomously, essentially empowering them to serve themselves (Mahlamäki, Storbacka, Pylkkönen & Olaja, 2020). While this may initially appear to diminish the necessity for sales personnel in the long term, it is vital to recognize that by reallocating certain aspects of the process and responsibilities

to the buyers, sales personnel are afforded the opportunity to enhance their own skills as well as those elements of their activities that buyers are unlikely to execute independently, even as digital solutions continue to evolve.

This approach is supported by research conducted by Park, Kim, Dubinsky, and Lee (2010). The researchers conclude that the automation of the sales process, under certain conditions, may be perceived as the customer undertaking certain tasks typically performed by the salesperson. This innovation allows sales professionals to change and enhance their selling strategies. By removing specific elements of the process that can be executed by the customer, this approach ensures that salespeople can dedicate more time to acquiring and refining their adaptive selling skills, ultimately resulting in improved performance.

Conversely, alongside the empowerment of customers, a notable expansion of the sales toolkit is anticipated, which is expected to contribute to heightened efficiency. Rodriguez and Boyer (2020) specifically highlight the positive ramifications of technologies that emerged during the coronavirus pandemic. By utilising mobile CRM (mCRM) systems as an illustrative example, their findings elucidate the advantages of integrating various technological innovations within a sales framework. Their research indicates that mCRM systems enabled sales professionals to leverage their adaptive sales competencies to a greater extent, as they were more adept at adjusting to diverse customer needs, ultimately resulting in enhanced or sustained efficiency.

In summary, it is evident that various digital innovations within the sales context can substantially influence both the sales process and the sales system from the perspectives of both customers and sales professionals. Nevertheless, one must recognise that the mere implementation of technological innovations does not inherently yield improvements in process efficiency; rather, it necessitates the adoption by sales personnel in conjunction with such implementation (Morgan & Inks, 2001).

In accordance with the aforementioned circumstances, we have delineated the primary focus of this research as well as the pertinent research questions, all of which are ultimately connected to the factors that influence sales professionals in the adoption and utilisation of digital innovations in their respective fields. To gain a comprehensive understanding of this matter, it is imperative to explore and analyse the implications that were discussed in detail previously. However, it is important to note that these

implications are not the direct focus of this study and are, consequently, organised within the research framework accordingly.

3.3. Literature review

The Technology Acceptance Model (TAM) is fundamentally grounded in Fishbein and Ajzen's (1980) Theory of Reasoned Action (TRA). This theory posits that human behaviour is initiated by individual attitudes and intentions, which are further shaped by subjective norms. Consequently, actions are regarded as products of conscious and purpose-driven decisions. In the initial TAM model introduced by Davis in 1986, this perspective is articulated through the premise that the utilisation of new technologies is contingent upon an individual's deliberate intention to engage with them, which is influenced by their attitude towards such usage. Moreover, the model identifies two additional factors that directly affect attitude, namely Perceived Usefulness (PU) and Perceived Ease of Use (PEU), as defined by Davis (1986). In simple terms, perceived usefulness pertains to the degree to which an individual believes that employing a specific technology enhances the efficacy of executing a particular task. On the other hand, perceived ease of use evaluates how time-consuming and demanding the individual perceives the process of acquiring proficiency in the new technology. It is also crucial to acknowledge that within the framework of the TAM model, perceived ease of use not only influences user attitude directly but also has an indirect effect mediated by perceived usefulness. This indicates that technologies viewed as simpler to learn tend to be regarded as more beneficial, as users can realise their advantages in a shorter timeframe.

Although the theoretical and practical contributions of TAM are unequivocal, the existing literature has, over time, presented numerous critiques concerning its simplicity and explanatory capacity. Considering these limitations, several extended and modified iterations of the model have been established, including TAM 2 (Venkatesh & Davis, 2000), TAM 3 (Venkatesh & Bala, 2008), and the Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh, Morris, Davis & Davis, 2003). These models typically build upon the TAM framework by incorporating a limited number of additional explanatory variables, thereby ensuring that Fishbein and Ajzen's (1980) Theory of

Reasoned Action remains pivotal within this array of theories related to the adoption of new technologies.

In the domain of sales and sales management, a multitude of sources also depend on the TAM. With respect to the perceived usefulness of innovative technology, there exists a consensus among various sources indicating that perceived usefulness significantly influences whether individual sales representatives embrace new technologies pertinent to sales activities (Avlonitis & Panagopoulos, 2005; Buehrer, Senecal & Pullins, 2005; Schillewaert, Ahearne, Frambach & Moenaert, 2005; Robinson, Marshall & Stamps, 2005 a; Homburg, Wieske & Kuehnl, 2010). Certain authors affirm the fundamental principles inherent within the TAM, asserting that both perceived usefulness and perceived ease of use are pivotal (Avlonitis & Panagopoulos, 2005) and that the indirect effect of perceived ease of use through perceived usefulness is likewise substantiated (Robinson et al., 2005 a). Other sources within the sales context place greater emphasis on the predominance of perceived usefulness (Homburg et al., 2010; Schillewaert et al., 2005), which is likely closely associated with the perceived and actual performance improvements connected to the adoption of technology (Ahearne et al., 2007; Avlonitis & Panagopoulos, 2005; Buehrer et al., 2005). This correlation may be elucidated by the distinctive characteristics of sales activities. Schillewaert and his colleagues (2005) further observe that sales representatives are amenable to accepting technology that is slightly more complex, as ease of use does not compensate for diminished performance. The relationship between perceived usefulness and perceived ease of use also underscores a dissonance wherein management frequently overestimates the perceived ease of use of certain technologies and undervalues the diverse employee efforts necessitated for integration into daily operations, potentially obstructing acceptance (Gohmann, Guan, Barker & Faulds, 2005). This concept is also examined in the work of Rangarajan, Jones, and Chin (2005), who investigate salesperson anxiety stemming from uncertainties associated with complexity and the implementation efforts required. The dichotomy between management and sales personnel regarding the acceptance of new technologies is discussed in several additional sources, supporting the assertion that the factors outlined within the TAM often serve as more appropriate predictors of actual acceptance at higher levels within the organisational hierarchy (Homburg et al., 2010). Furthermore, management regularly anticipates substantial productivity enhancements and increased profits resulting from the introduction of new technologies (Gohmann et al., 2005).

The aforementioned idea underscores a constellation of factors that significantly influence acceptance, specifically the role, behaviour, and tools employed by management. Numerous sources corroborate that the commitment and willingness of managers to embrace technology affect the adoption attitudes of sales personnel, despite the general absence of a close relationship between management and sales staff. The adoption process is most effectively encouraged when both upper management and operational managers demonstrate a unified acceptance of new technology (Cascio, Mariadoss & Mouri, 2010; Homburg et al., 2010). Furthermore, pertinent to this discourse is the array of barriers to adoption, which encompasses the apprehensions of sales personnel and the misconduct exhibited by management. Consequently, if management fails to clearly articulate its expectations regarding the implementation of new technology and its anticipated impact on both sales and broader business processes, sales personnel may exhibit hesitance in adopting the new technology or may even refrain from adopting it altogether (Avlonitis & Panagopoulos, 2005; Bush et al., 2005; Morgan & Inks, 2001). This observation is further supported by findings indicating that many managers remain unable to precisely define what they mean by digital transformation and the outcomes they expect from the adoption of specific technologies (Bencsik, 2021). Additionally, this issue is connected to managerial behaviour associated with various fears held by sales personnel, wherein a technological innovation may prompt managers to exert excessive control over their subordinates. This could manifest as micromanagement, heightened monitoring, or excessive accountability, or may involve excluding sales personnel from the technology adoption and implementation processes. Such effects may be mitigated through transparent communication regarding changes and expectations, the provision of appropriate incentives for adoption, and temporary revisions to performance evaluation metrics (Ahearne, Lam, Mathie & Bolander, 2010). Moreover, it is imperative that management offers ongoing support during the adoption process and actively engages salespeople as users in this initiative (Gohmann et al, 2005; Bush et al., 2005; Robinson et al., 2005 a; Morgan & Inks, 2001; Bush, Bush, Orr & Rocco, 2007) (Bush et al., 2005; Bush, Bush, Orr & Rocco, 2007; Gohmann et al., 2005; Robinson et al., 2005a).

An additional element that enhances the repertoire of managers in fostering technology adoption is the provision of training and education, which is intricately linked to the Technology Readiness Index (TRI) (Parasuraman, 2000). In contemporary academic literature, one frequently encounters the Digital Maturity Model (DMM), which serves a

comparable purpose to the TRI but is more concentrated on examining the transformation of processes, whereas the TRI exclusively analyses the initial stages of the process (Gubán & Sándor, 2021).

TRI serves as an indicator of the extent to which users can master a specific technology and employ it in their daily tasks to achieve their goals (Parasuraman, 2000). Additionally, the index facilitates the formation of user groups, thereby streamlining the introduction of new technologies (Parasuraman & Colby, 2015). The study conducted by the authors categorises users into five groups: *sceptics, explorers, avoiders, pioneers, and the undecided*. This classification bears a significant resemblance to various innovation acceptance groups, which are elaborated upon in several other sources. Consequently, it is possible to differentiate between *innovators, early adopters, early majority, late majority, and laggards*. These groups vary, among other factors, in their information-seeking behaviours and their willingness to take risks. Innovators are generally users who actively seek novel experiences and are inclined to be the first to adopt them, while early adopters necessitate a proven user experience prior to embracing the innovation. As one progresses from the early majority to the late majority, the innovation life-cycle curve reaches its inflexion point, resulting in the laggard group adopting the innovation only conditionally during the decline phase of the innovation (Rogers, 1995). In the context of B2B sales, it is crucial to acknowledge Moore's (1999) interpretation of the innovation acceptance groups as pertaining not only to individuals but also to entire organisations. It is important to recognise that for companies, the upward trajectory of the innovation life cycle is not always linear, and often, laggards may refrain from adopting the innovation altogether. While new technologies presented through sales may not universally qualify as innovations, another significant conceptual element pertinent to innovation acceptance is the characteristics of innovation itself, which can influence individuals' willingness to adopt such innovations. Drawing from Rogers (1995), five attributes can be identified: *relative advantage, compatibility, trialability, observability, and complexity*. The first four attributes can enhance an individual's likelihood of adopting an innovation, while complexity may serve as a deterrent against its acceptance and implementation.

How does this information relate to the introduction of new technologies associated with sales, as well as the previously mentioned education and training? On one hand, the literature suggests that sales personnel who possess an innovative personality – characterized by a propensity for information-seeking, openness to novelty, and a

willingness to take risks, according to Rogers (1995) – tend to adopt new technologies more swiftly and can utilize these technologies more effectively to enhance their performance (Avlonitis & Panagopoulos, 2005; Robinson, Marshall & Stamps, 2005b; Schillewaert et al., 2005). On the other hand, it is imperative to acknowledge that the complexity of technology and scepticism regarding its efficacy can significantly hinder the adoption process, a challenge that management must address. This scepticism may manifest in various forms, including a particular set of previously mentioned fears (Bush et al., 2007), concerns regarding the potential jeopardization of the salesperson's unique knowledge and skill set (Bush et al., 2005), or the time required for learning the new technology, coupled with a perceived decrease in performance (Buehrer et al., 2005; Obal & Morgan, 2018).

In addition to the commitment of management and a favourable disposition towards technology, the literature frequently highlights the necessity of continuous and structured training to effectively address these challenges. An analysis of the issue affirms that, alongside technical conditions, these human resource factors epitomise the primary challenge for management in the successful execution of digital transformation (Bencsik, 2021). According to various sources, training has been demonstrated to be the most effective motivator for usage in numerous contexts (Speier & Venkatesh, 2002). Furthermore, in scenarios where ongoing support was unavailable to sales personnel, the return on investment (ROI) was significantly diminished (Buehrer et al., 2005). Additionally, other sources reference phenomena that align with concepts presented in innovation theory, such as observability (Ahearne et al., 2007) and trialability (Gohmann et al., 2005), which also enhance the perceived ease of use (Schillewaert et al., 2005). Moreover, the duration of employment, age, and experience of sales personnel should also be regarded as significant factors (Singh, Marinova, and Sing, 2020).

Furthermore, the technological readiness of the sales force serves as a pivotal determinant of the customer base with which they engage, subsequently influencing the clientele they attract. For instance, the advent of Sales Force Automation (SFA) and Artificial Intelligence (AI) has introduced innovative solutions that unlock previously unrecognised opportunities for customer service (refer to Singh et al., 2019, for further details). It can thus be inferred that sales professionals possessing a higher level of technological readiness are more likely to access a customer base that is receptive to their efforts. Conversely, this relationship implies that these technologies possess the potential to

enhance customer value and satisfaction, which may subsequently create a feedback loop that positively influences sales attitudes.

In conclusion, the adoption and acceptance of new technologies cannot be exclusively centred on the favourable aspects of the technology; the process is significantly more intricate. Success necessitates a commitment from management, alongside ethical and transparent behaviour, as well as support during the implementation process and the positive attitudes, behaviours, and competencies exhibited by the sales force. Furthermore, it is crucial that various technologies are implemented in a strategically integrated manner, for without systemic compatibility, the anticipated benefits will not materialise (Bauer, Mitev & Gáti, 2019).

It is imperative to address the forms and applications of digital technological advancements in sales, which are intricately connected to both the TAM and the TRI. This analysis will explore various tools as outlined by Taiminen and Karjaluoto (2015) and the potential applications as discussed by Chaffey and Smith (2013).

According to the research conducted by Taiminen and Karjalouto (2015), digital sales tools can be classified based on their interactivity – designated as either unilateral or bilateral – and the extent of control that the firm can exert, categorised as either low or high. Unilateral tools can be exemplified by traditional channels, such as websites and newsletters, while bilateral tools encompass corporate blogs, various social platforms operated by the company, and CRM systems, including mobile CRM systems (mCRM), which have garnered particular attention following the COVID-19 pandemic (Rodriguez & Boyer, 2020). In this context, the level of resources allocated toward customer dialogues emerges as a crucial consideration. This is due to the possibility that certain customer groups may deem excessive contact beyond the transaction as unwarranted. Moreover, in the absence of relevant storytelling, the company's communication may risk appearing superficial. The degree of control is likely to be interpreted as a potential risk factor, given that, for instance, engagement on social media platforms characterised by low control can place significant aspects of brand representation in the hands of external individuals. Conversely, search engine optimisation (SEO) initiatives may yield unpredictable benefits yet are associated with comparatively low risk. Additional guidelines regarding the application of individual technologies are elaborated upon in the work of Sharma and Sheth (2010), who categorise such technologies according to various service lines.

According to Chaffey and Smith (2013), the 5S framework provides several solutions aimed at enhancing business performance, specifically in terms of increasing sales (Sell), adding value (Serve), initiating dialogue (Speak), saving resources (Save), and building brand identity (Sizzle). It is essential to not only delineate the technical dimensions of this application but also to explore its abstract interpretations. The elements of the 5S approach that pertain to sales enhancement (Sell) and value enhancement (Serve) exhibit a degree of complexity due to their interrelated hierarchical nature. Traditionally, the marketing approach posits that marketing extends beyond mere transactional interactions; rather, its true purpose lies in cultivating enduring relationships through the value generated for consumers. In this context, the creation of value has become an indispensable prerequisite for driving sales. This raises the pivotal question: How can specific technological innovations facilitate this objective? On one hand, the application of various technological innovations within the sales domain empowers sales personnel to enhance their targeting skills, thereby enabling them to identify the appropriate customers for their value propositions (Ahearne et al., 2007). Conversely, these innovations also allow sales professionals to refine their adaptive selling abilities, equipping them to more effectively respond to the dynamic needs and characteristics of consumers (Park et al., 2010; Robinson et al., 2005a). Consequently, these advancements provide salespeople with the capability to formulate a more precise value proposition at a reduced cost, subsequently enhancing their efficiency and the value delivered to the consumer.

For sales professionals in whom technology constitutes a significant aspect of their daily operations (for instance, SFA, CRM systems, and social media platforms utilised for sales endeavours), the capacity to employ these tools in a dedicated and professional manner is substantiated (refer to Parasuraman, 2000). It is reasonable to presume that technology readiness – as represented by the TRI in the context of this study – is correlated with the specific technologies employed by sales representatives in their professional activities and the phase of their utilisation of these technologies, aligning with the perspective of Parasuraman and Colby (2015) within a sales framework. Consequently, we aim to address the subsequent question:

RQ1: In what manner does technology readiness influence the characteristics of adopted technologies?

In a sales context, technological readiness exerts fundamental effects both within and external to the organisation. The intra-organisational impact can be characterised as the array of mechanisms that influence sales personnel or the functioning of the sales organisation, whereas the extra-organisational impact pertains to the effects on the stakeholders of the sales organisation, particularly concerning customers. Based on the methodology delineated by Singh et al. (2019), innovative approaches to customer service may influence the existing customer base while concurrently attracting new and inventive customers to the sales organisation. Consequently, we endeavour to address the following question:

RQ2: In what ways does technological readiness influence the sales force's customer base?

In numerous instances, the technology acceptance models discussed in the theoretical section, situated within a sales framework, explore the influence of technology acceptance on sales personnel's attitudes towards adoption. This notion is connected to the findings of Robinson et al. (2005a), who correlate specific attributes of technology (perceived ease of use, perceived usefulness) with the propensity to adopt and related attitudes. The prominence of perceived usefulness concerning anticipated performance enhancements (refer to Ahearne et al., 2007) suggests that various characteristics of technology yield disparate impacts on the attitudes of sellers. Accordingly, we pose the following question:

RQ3: How do the characteristics of technology influence attitudes?

A sales organisation's customer base, particularly within an inter-organisational market context, may exhibit evolving needs that necessitate the implementation of specific digitally innovative technological solutions in their sales activities to effectively cater to them, such as the integration of artificial intelligence in sales processes. While Singh et al. (2019) address the requirement for a broader array of solutions to meet customer expectations, it can be inferred that the innovative nature of the customer base also influences the disposition of sales personnel towards digitalisation; the articulated or latent demands of these clients may inherently suggest a positive orientation of the sales

team towards the adoption of advanced tools. Consequently, we aim to address the following question:

RQ4: How does the customer base affect attitudes?

The adaptation of sales personnel to digitalisation processes is of paramount importance (Morgan & Inks, 2001), particularly in light of the proliferation of contemporary innovative technologies. In the context of a sales organisation, digital transformation does not occur solely at the individual level; it is fundamentally related to the manner in which sales personnel engage with the transformation. In numerous instances, decisions are rendered at the managerial level. Homburg et al. (2010) highlight the dichotomy between management and sales personnel, suggesting that management significantly influences the actual implementation of technology. Additionally, it is essential to acknowledge the concerns and apprehensions of sales personnel regarding digitalisation, as they will ultimately be the primary users of the new technologies (refer to Avlonitis & Panagopoulos, 2005; Bush et al., 2005; Morgan & Inks, 2001). Consequently, it is imperative to explore the following question:

RQ5: How do attitudes affect digital transformation?

The extent to which digital solutions are adopted by a sales organisation, as well as the corresponding expectations of its sales force, can significantly impact the readiness of the sales force to utilise the technology (for instance, the specific level of TRI they possess). In this context, the process of technology adoption and its sequential stages necessitate the education and training that management will implement to adequately prepare the sales force for the professional utilisation of the technology (refer to Cascio et al., 2010). Drawing upon relevant findings in the literature, the following question was investigated:

RQ6: How does digital transformation affect technological readiness?

In accordance with the synthesis of the theory, the formulated research questions have been systematically organised into a proposed theoretical framework, which is detailed in the subsequent paragraph. It is imperative to acknowledge, however, that the exploratory and qualitative nature of the research necessitated a presentation of the empirical results that could not adhere strictly to the structure of the research questions. Furthermore, this limitation arises from the fact that certain elements of the model exhibit overlapping characteristics and cannot be distinctly delineated at this juncture. The research questions are addressed in the results presentation as follows:

- RQ1: Subchapters 4.1 and 4.3
- RQ2: Subchapters 4.1, 4.2 and 4.4
- RQ3: Subsections 4.4 and 4.5
- RQ4: Subchapters 4.1, 4.2, 4.4 and 4.5
- RQ5: Subchapter 4.3
- RQ6: Subchapter 4.2

As a synthesis of the theory, our conceptual model is depicted in Figure 2 as follows:

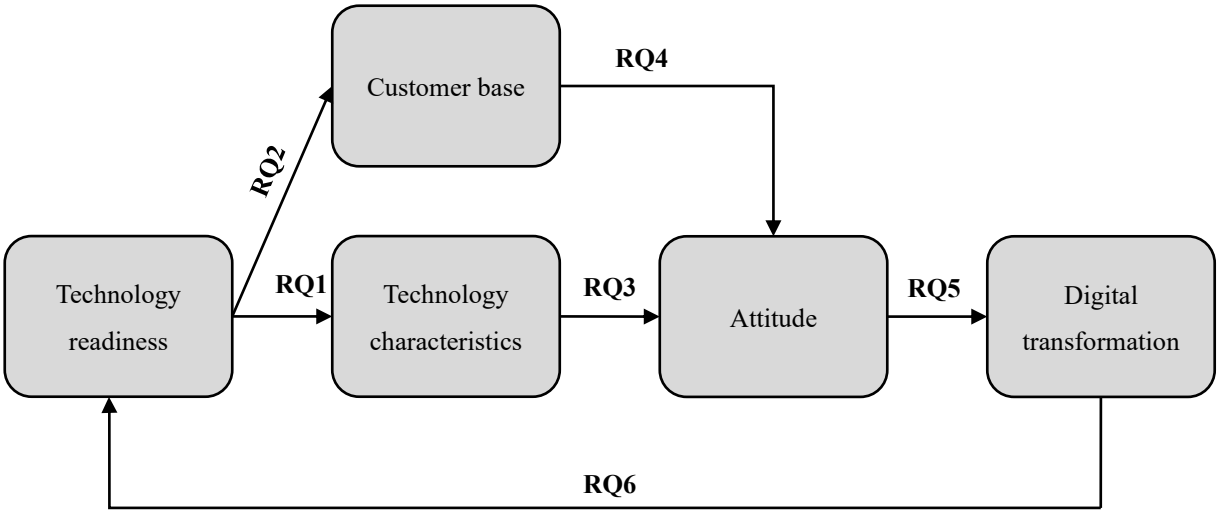

Figure 2 Conceptual model of the factors influencing the digital transformation of sales (**source:** own construction)

In the formulation of our research questions, we established a multifaceted expectation for theoretical input. Firstly, we anticipate that our results will serve as the foundation for a conceptual framework that, following subsequent quantitative testing, could facilitate focused research endeavours. Conversely, the elements incorporated in the preliminary model were interconnected in this manner due to our observation that the existing literature remains fragmented in its perspectives. Specifically, individual elements and their interrelations are often found either separately or as isolated segments within the proposed framework; however, their comprehensive integration in this manner has not yet been distinctly articulated. Furthermore, a theoretical contribution has been made to furnish a more nuanced understanding of the individual components of the model, thereby enriching the corpus of independent knowledge associated with them.

3.4. Methodology and sample characteristics

Our research was founded upon a comprehensive database comprising in-depth interviews with experts conducted in 2018, which facilitated the analysis of responses from 122 sales professionals. The sample population consisted of active sales personnel operating in Hungary. The objective of the sampling was to compile a database representative of a diverse industry composition among salespeople. Consequently, respondents were meticulously selected from the following sectors: industry (including construction, manufacturing, light industry, heavy industry, chemical industry, total: 23,9%), trade and commerce (including automotive, health, electronics, FMCG, chemicals, catering, total: 23,3%), financial and insurance services (13,2%), services (12,6%), real estate (10%), information and communication (7,5%), advertising and media (3,8%), agriculture (2,5%), and other sectors (e. g., wholesale trade, consultancy, total: 3%). Each participant was chosen from a distinct company. Of the companies surveyed, 65,4% are in Budapest or Central Hungary, with an additional 6,9% based in Central Transdanubia, 5,6% in Northern Hungary, 5% in Western Hungary, 3,8% in Southern Hungary, and the remaining 13,3% spread across the rest of Hungary. The sample encompasses a diverse mix of B2C and B2B sellers, as well as companies engaging in both market types, with a predominance of B2B sellers. The demographic profile of the sample is detailed as follows: 66% male and 34% female, aged between 21 and 64 years. All respondents were salespersons or individuals occupying managerial roles within their departments or companies that included sales responsibilities. Among this group, nearly 45,6% held managerial positions (sales manager: 18,1%, commercial manager: 4,7%, general manager: 10,7%, owner: 3,4%, and other managerial roles: 8,7%), while 28,87% were classified as salespeople, 8,7% as Key Account Managers (KAMs), 6,7% as sales consultants, 4% as account managers, and 6% were categorised as other sales personnel.

The choice of the sampling technique was grounded in non-probability sampling, as there were no preconceived notions regarding representativeness based on any sample characteristics within the context of the in-depth interview research methodology (Kvale, 2008). The interviews were undertaken to investigate the factors that influence the digital transformation of sales professionals. These interviews were carried out in a semi-structured format, primarily employing open-ended questions (Turner, 2010).

In the process of quoting from each interview, a system of numbered coding was employed to safeguard the identities of the respondents. The transcripts of each interview were organised in a sequential manner and assigned numerical codes (Interviewer 1; Interviewer 2; […] Interviewer 122). In the presentation of the results, the corresponding serial number designation is consistently used to denote the same interview.

Research on technological readiness and associated attitudinal characteristics among sales personnel is predominantly analysed utilising qualitative methodologies, including in-depth interviews. This approach is similarly employed in related studies primarily focused on SMEs, as demonstrated by Taiminen and Karjaluoto (2015). It is worth noting that explicit attitudes are not consistently disclosed through the specific attributes inherent in in-depth interviews relevant to the digitalising sales profession, as highlighted by Kvale (1994).

In the coding process, we initially developed distinct open coding categories, which were subsequently organised and interconnected. These categories were then subject to cross-validation in order to mitigate the influence of researcher subjectivity prior to the formulation of the theory (Williams & Moser, 2019). During the cross-validation process, we first analysed the interviews independently, establishing our own individual categories. These categories underwent separate verification. Subsequently, informed by our research notes, we created common coding categories to minimise the potential bias stemming from individual perceptions. The volume of interviews conducted was adequate to achieve theoretical saturation, rendering it challenging to uncover new information even with the inclusion of additional responses. The final analysis was executed using six coding categories aimed at identifying the challenges that digitisation could address, the activities currently undertaken using digital tools, the spectrum of digital tools employed, and the positive, neutral, and negative attitudinal elements associated with the adoption of digitisation.

3.5. Research results

3.5.1. Challenges of technology readiness and potential responses to digital transformation

In the coding category, we have explicitly encompassed domains identified by our respondents as present issues or opportunities for enhancement. It is imperative to underscore that this category emerged in notably lower frequencies; nonetheless, its inclusion is deemed essential from the standpoint of technological readiness. The challenges recognised as being mitigated through digitalisation have been categorised into internal operations, external compliance, and customer-related considerations.

Challenges impacting the components of the corporate value chain, primarily addressed within the boundaries of the organisation, may be regarded as issues pertinent to internal operations. Illustrative examples include the complexity of processes, inventory management, and cost optimisation. Furthermore, process integration emerges as a significant overarching element. These factors tend to underscore the influence of the material dimension of technological readiness, wherein management conditions affect sales opportunities (RQ1).

> *"The ideal would be to have a planning software that we could use very easily with the client to configure things. The software would throw out that this is the plan, these are the products that could be used for this, this is what they cost, and this is what they're available for. An online, out-of-the-box design software would help sales a lot." (Interviewee 117)*

> *"The best thing that we could do now is to have integrated software, so that we don't have four separate systems to find the information." (Interviewee 83)*

External compliance challenges may encompass practical operational considerations, such as the management of anomalies within the supply chain, and often involve issues beyond the company's full control, including the set of expectations established by regulatory bodies. Furthermore, less tangible factors, such as maintaining a competitive position, must also be acknowledged; like internal operations, management-imposed constraints remain influential (RQ1). The significance of the customer base warrants attention, particularly in the context of export activities (RQ2, RQ4). In this regard, an intermediate factor related to the customer base can be recognised, specifically the range of activities that may present inevitable challenges for sales personnel. Consequently, the

implementation of solutions that streamline these processes can yield a favourable impact on the acceptance attitude.

> *"The complexity in our case is that exporting within and outside the European Union requires different documentation. Keeping track of these and managing them is not easy" (Interviewee 66).*

> *"The central system is very old and updates data every half hour, which can lead to problems. For example, the sale of 3 pallets of "Kőbányai" beer that were out of stock, the system did not indicate in time that the product was out of stock." (Interviewee 38)*

> *"Or what would be useful is a comparison software between our competitors and us […]" (Interviewee 117.)*

Finally, all challenges associated with customer acquisition – such as finalising transactions, addressing geographical barriers, and mitigating communication impediments – and the retention of existing customers – including sustaining interest, securing supplementary sales, and enhancing the understanding of customer needs – can be classified as customer-related issues. Furthermore, beyond the importance of bidirectional communication, the impact of digitalisation on consumer perceptions has been emphasised; some contend that a company's overall image is enhanced when it conveys a sense of modernity (RQ2).

> *"[…] not only do we not have the capacity to meet with clients as much, but we're also talking about busy executives, for example." (Interviewee 17)*

> *"Unfortunately, it often happens that we cannot react quickly enough due to a lack of digital tools. For example, if a client sends us a plan to scan and give an offer, we can't always do it." (Interviewee 116.)*

> *"[…] we would have a database of our clients, so we could look for clients whose contact person no longer works for us." (Interviewee 95)*

> *"We need to have a digital underpinning for the brand, because no matter how high-end the customers are, appearances matter to them." (Interviewee 22)*

Upon analysing the responses, it has become evident that the respondents possess a cognisance of the principal challenges they are encountering and recognise how digitalisation can effectively address these challenges; thus, their level of technology

readiness is quite promising from a certain perspective. Conversely, the actual application of these solutions indicates that the learning curve remains predominantly ascendant, suggesting that there is considerable potential for improvement. This scenario is further complicated by the acknowledgement from several respondents regarding the resistance from management or the absence of prior development as a prerequisite for advancing the transformation, which serves as a barrier to the digital transformation process.

3.5.2. Current state of technology readiness and digital transformation in sales

As previously noted, the existing application domains for digital solutions do not entirely exhibit a complete and satisfactory correspondence with the challenges that digitalisation can address. An evaluation of the responses reveals that both intentional and systematic methodologies, alongside spontaneous solutions, are manifested within the sales activity system.

Solutions may be contemplated, including applications aimed at providing deeper and more precise insights into customer needs, monitoring competitors, or rationalising the deliberate and structured use of internal resources. These solutions are generally derived from the overarching corporate strategy and its associated marketing and communication sub-strategies, thus exhibiting a notable degree of structure and intentional planning.

Consequently, sales personnel generally possess restricted options or initiative regarding the utilisation of these solutions, as the tools are more profoundly integrated into organisational workflows and standardised by higher management (RQ6).

> *"It's helping us to go international in a way that I don't think we could do without digital tools." (Interviewee 114.)*
>
> *"It's like driving in the fog, we used to go into the blind world, and now we can see everything perfectly clearly." (Interviewer 14)*
>
> *"I take the orders on the tablet and transmit them to the company, where the warehouse receives the data, and so do the finance department, and the IT department, where the turnover data is tracked." (Interviewee 4)*
>
> *"[…] with the knowledge of these few parameters, I show him [the customer], either on the computer, on the phone, verbally or in person, a folder of properties that meet the parameters he has described […]" (Interviewee 119.)*

"Within the group, if they come up with something clever in one country, they try to transfer it to the other country, to integrate the processes." (Interviewee 15)

Ad hoc solutions may encompass applications that are ultimately determined by the discretion of the salesperson, including the reengineering of negotiation processes, time management, or components of the customer contact process. Although the presence of these solutions can significantly facilitate the tasks of sales personnel, their inherently ad hoc nature precludes the level of integration necessary to offer comprehensive support to other solutions. Nonetheless, it is advantageous that vendors typically possess a greater degree of control over these domains, which allows for better adaptability to the requirements of their customer base and the practicalities of their own competencies (RQ4, RQ6). In this context, the loss of control primarily arises from the inevitability of certain usage patterns, whereby a tool becomes so pervasive that, despite individual needs, one must have access to it, even if not engaged with it actively (RQ2).

"I always have my phone with me, so I can reply to messages quickly and easily, which speeds up communication considerably." (Interviewee 88)

"These software solutions, these programs keep things in mind that I don't necessarily have to keep in mind at the time." (Interviewee 13)

"[...] it used to be that you asked about it, you had to call back, you had time to collect, to look, but now, if they call me directly, I need to know right away..." (Interviewer 58)

The results indicate that the level of detail and the prevalence of certain solutions appear to be somewhat contradictory. On one hand, there are instances of structured solutions that align more closely with corporate strategy; on the other hand, respondents demonstrate a greater commitment to individual ad hoc solutions. This dichotomy plays a significant role in determining the decision points, key actors, and motivations underlying digital transformation initiatives. It is important to note that segmentation may obscure the overall picture. For instance, standardisation may be challenging to circumvent in specific sectors and among larger corporations, while smaller enterprises, which typically have a reduced customer base and a more personalised sales approach, tend to operate with greater flexibility.

Currently used digital tools with particular importance to the role of the customer base

The digital tools employed by sales professionals can be categorised based on their tangibility and intangibility, functionality, or by the degree of corporate control- unilateral versus bilateral, and low versus high- as discussed in scholarly literature. In the context of tangibility and intangibility, tangible tools are defined as those devices that possess a physical presence, such as laptops, smartphones, tablets, signature pads, or interactive televisions.

Conversely, we categorise as intangible those devices that contribute to the establishment of a channel, such as social media platforms, various communication software, and CRM systems. There exists a degree of overlap between the two categories with respect to software recognised as intangible assets that do not facilitate the creation of a new channel; this includes office software and internal ERP systems. In this regard, our findings indicate that respondents generally possess what may be deemed fundamental tools; however, specialised and complex solutions are significantly less prevalent in the responses.

> *"[…] if I have a customer who asks for a price offer, I start by picking up the phone, logging into the CRM, looking at what data they have, logging into Avalon Online, what cars we have, what I can offer and at what price. So, I can use four interfaces at the same time for one task, but sometimes one is enough." (Interviewee 82)*
>
> *"Customers can be contacted, target groups can be reached, and personalised offers can be sent to customers by e-mail recommendation." (Interviewee 77.) "*
>
> *"[…] there is a website with a configurator where you can see what the normal price of this car would be […]" (Interviewee 39)*

Regarding functionality, it is possible to differentiate between communication, operational support, and mandatory equipment. The latter, for instance, is essential for regulatory compliance and encompasses industry-specific tools, such as a laser range finder or a 3D modelling program. Communication tools may comprise one-way channels, such as corporate websites and newsletters, as well as two-way channels, which include digital customer service, social media platforms, and messaging applications. According to the interviewees, their organisations tend to uphold a significant degree of corporate control. Although this notion is not expressly reflected in the responses, the

tools and channels referenced align with the category of high control, as articulated by Taminen and Karjaluoto (2015).

The choice of these channels is typically made consciously in the sellers' sphere of influence, stemming from a recognition of their need or benefits, while in the case of their neglect, attitudinal elements, as explained later, play an important role (RQ1, RQ5).

> *"[…] when I meet a client, I always find out about their marital status, their job, for example, and often I can look up what they like on Facebook." (Interviewer 94)*
>
> *"It's a smooth process, all the sales parts are now in a CRM, salespeople don't work at their own convenience, the system acts as a line manager." (Interviewee 1)*
>
> *"[…] Until you had to count and work on paper, the process was slow and cumbersome. For example, the salesman did not calculate properly, did not write neatly, all these things led to complaints. Now the deal can be done easily on a tablet, and it's much better." (Interviewee 73)*
>
> *"[…] there is a sales tool to look at stock information, to see customers' projects, to get information from other business lines." (interviewee 116)*
>
> *"[…] we update the news; we send it to them to show that we're working on it." (Interviewee 19)*

In summary, despite the application of a relatively broad array of digital tools in the responses, complex and low-control tools did not predominantly feature. Furthermore, the comprehensive understanding of their advantages appeared to be restricted to a limited subset of respondents who are generally engaged in broader business processes within their professional endeavours.

3.5.3. Conditions leading to a positive attitude towards technology acceptance

In our research, we discovered that the positive attitudinal elements were more prominent than their contrary counterparts in the responses of the surveyed sales professionals. Based on the analysis of these responses, we systematically categorised the feedback into distinct groups, yielding the following findings. Among the characteristics of technology, the attributes most frequently cited were speed, simplicity, efficiency, and interactivity.

These attributes are perceived by respondents as intrinsically linked to the technology; in the context of the present research and based on the framework established by Davis (1986;1989), we can identify this as a facet of perceived usefulness (RQ3). Furthermore, the influence of customer expectations on attitudes is also significantly evident (RQ4).

> *"What is certain is that digital tools allow me to serve more customers in less time at the same time." (Interviewee 13)*
>
> *"Thanks to online communication, we discuss a lot of things in writing beforehand." (Interviewee 21)*
>
> *"[…] the fact that we are accessible online, that it is really easy and transparent to describe a contract, is the key to making it work[…]"(Interviewee 26)*

The outcomes of technological advancements were frequently acknowledged by respondents. The most referenced benefits included enhancements in internal workflows, customer relations, the bridging of geographical divides, customer acquisition, and an improved corporate reputation and trustworthiness. A particular focus within this category is the enhancement of employee skills, evidenced by a reduction in errors, increased confidence in their work, and heightened satisfaction with the organisation, all of which significantly impact overall performance. Furthermore, these improvements are complemented by the direct effect of digital readiness on branding, which subsequently drives further transformation in response to customer expectations (RQ2, RQ4).

> *"Using digital tools, we can interactively present our company's values from thousands of kilometres away." (Interviewer 55.)*
>
> *"We can no longer reach young people verbally, and we need digital tools to do that. These trends need to be applied." (Interviewee 32)*
>
> *"[…] information comes very quickly, but it doesn't distract you from your work. I address it when it's convenient for me." (Interviewee 83)*

Certainly, the tendency of this group of interviewees to emphasise more positive aspects than negative ones does not confer upon us the authority to make sweeping generalisations, as the diversity of the participants and the qualitative nature of the research indicate that the criteria for representativeness have not been satisfied.

3.5.4. Conditions leading to a negative attitude towards technology adoption

Responses indicating a negative or neutral attitude towards technology were less prevalent within the sample. Generally, these responses can be categorised into two distinct groups: individual factors and client-related factors.

Respondents frequently identified, as individual factors, the impersonal nature of technology and an elusive sentiment that is challenging to articulate. This sentiment may stem from their lack of opportunity or reluctance to engage with various technological innovations, resulting in their unawareness of the practical impacts. Alternatively, this could be attributed to personal characteristics that require further investigation for a more precise definition (RQ3).

> *"Indirect contact is not profitable in the long run, because it does not build the right bond between the customer and the company. Personal contact is essential." (Interviewee 8)*

> *"So even if I write it down in the digital calendar, I noticed that I procrastinate, that is, I don't complete the given task on the given day, then it just accumulates there [...]" (Interviewee 101.)*

> *"I don't feel like a child of today's modern world to the extent that I try to avoid all these digital gadgets and apps." (Interviewer 20)*

In reference to customer-related factors, the aspects of industry, market specificity, and the demographic characteristics of customers have been highlighted (RQ4). In this context, industry and market specificity should be understood as any attributes of the products or services offered that may serve as obstacles to digitalisation. For instance, the necessity of personal interaction may arise due to customary or legal obligations or in efforts to facilitate a transition towards paperless operations. Furthermore, demographic characteristics predominantly include age, place of residence, and skill levels.

> *"... legislation still often requires handwriting." (Interviewee 60)*

> *"Because we sell a product, digitalisation is more of a support function, but not a sales function." (Interviewee 103.)*

> *"People trust information, at least the majority of people, that's written down, in written form, rather than looking up a graphic on a tablet." (Interviewee 6)*

"Even though internet is becoming more and more important these days, and with it the use of smartphones and laptops, I prefer to use traditional methods." (Interviewee 32)

Nonetheless, it is crucial to highlight that negative and neutral opinions were predominantly articulated within the framework of the sales activities themselves. Furthermore, no overt scepticism regarding the technologies facilitating broad processes was discerned, which may be attributed to a deficiency in understanding of the technology.

3.6. Conclusions and future research directions

Based on the conclusions derived from our research findings, we have ultimately reshaped our theoretical model as illustrated in Figure 3. On the one hand, our analysis indicates that individual activities play a more significant role in this context. Conversely, it has become evident that it is necessary to augment the relationships among the various elements involved. The extent to which sales personnel can be deemed technologically literate can, at best, be approximated, as our study utilised a notably heterogeneous sample. It may be more precise to assert that we can identify areas requiring improvement and the observable technological readiness reflected in the tools employed by salespeople in their professional endeavours. In alignment with the approach of Parasuraman and Colby (2015), the TRI measure and the technologies utilised by sales personnel are inherently linked (RQ1). A high level of technology readiness suggests that new dimensions of customer service can be introduced, akin to the solutions proposed by Singh et al. (2019) for acquiring new clients or retaining existing ones. Although the impact on customers was only indirectly highlighted during the interviews, a reciprocal interaction between sales personnel and their clients is evident within the dimension of technology readiness (RQ2). The characteristics of the available technology and their influence on attitudes towards adoption were well articulated in the interviews: a utilitarian perspective emphasising the significance of perceived usefulness due to its direct effect on performance (see also Ahearne, Hughes & Schillewaert, 2007). However, the responses to interviews present a more complex scenario that accounts for additional attributes of the technology, extending beyond the initial propositions of Robinson et al.

(2005a). The influence of the customer base on attitudes is apparent in the sense that, as noted by Singh et al. (2019), an innovative customer base mandates a progressive and innovative disposition from sales personnel, thereby anticipating a superior quality of service (RQ4). The dichotomy of digitalisation processes, typically commencing at the managerial level, is only marginally present in the interviews (see Homburg et al., 2010). Nevertheless, it is observable that the attitude of the salesforce has an indirect effect on both the pace and the outcome of digitalisation processes through its influence on the organisation (for instance, the efficiency of implementing a CRM system integrated with social media components may be contingent upon the demeanour of the frontline staff within the organisation) (RQ5). Regarding the educational approach to digital transformation (see also Homburg et al., Cascio, Mariadoss & Mouri, 2010), it can be understood that the interview participants also recognised the potential for a higher level of preparedness achievable through a digital infrastructure as a crucial element. This aspect would ultimately empower sales personnel to implement their innovative sales systems and tools with enhanced knowledge and awareness.

Figure 3 illustrates that the influence of the customer base on attitudes is generally indirect and is contingent upon the sector, as indicated by the results. Furthermore, digital transformation exerts a direct influence on technology readiness, establishing the requisite infrastructure and foundation for transformation (refer to RQ6). Notably, there appears to be a feedback effect concerning the nature and composition of the customer base, attributable to the emergence of customers who exhibit a preference for digital solutions (see also Singh et al., 2019).

In our research, we delineate an ecosystem comprising a diverse array of salespeople and customers, which varies according to geographical location. Additionally, we can expound upon how various factors are statistically correlated with distinct participants within the ecosystem. For instance, technological readiness is predominantly associated with salespersons, while attitudes exhibit a mixed representation. Furthermore, the scope of activity, technological characteristics, and digital transformation are also primarily linked to salespersons.

Our results and answers to our research questions are shown in Figure 3.

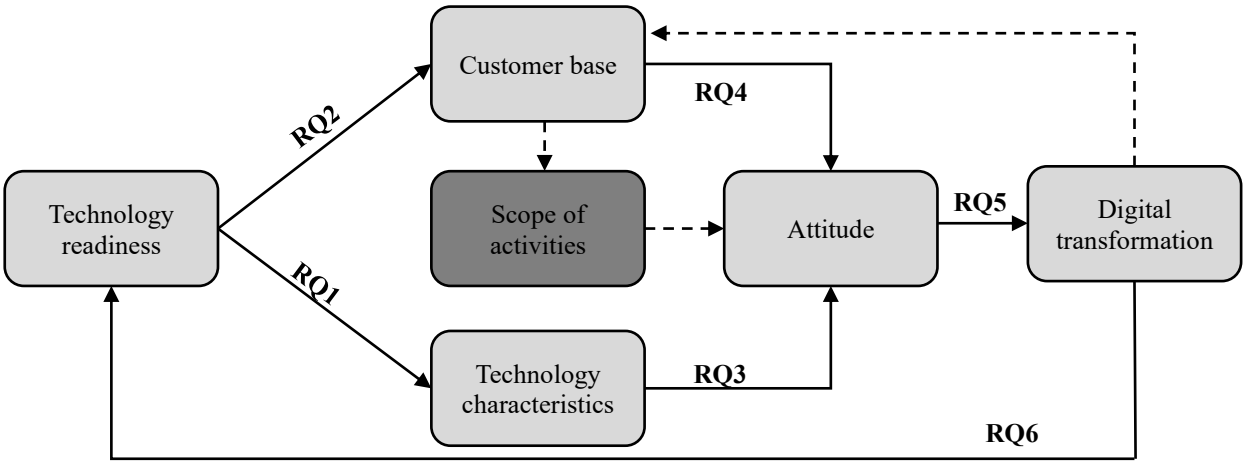

Figure 3 Final theoretical model of the factors influencing digital sales transformation (**source:** own construction)[3]

The managerial implications of our research can be summarised in the following manner. Firstly, the delineated reasoning can facilitate segmentation by incorporating not only the value of each demographic group but also their technological readiness as a critical factor. In practical terms, this suggests that servicing a segment characterised by higher technology readiness, albeit potentially possessing lower purchasing power, may prove equally advantageous for the organisation as catering to a segment with significant purchasing power yet lower technology readiness. Secondly, this framework may also enhance decision-making processes in the development of channel strategies by considering the habits, challenges, and trends associated with the utilisation of various channels. Consequently, it may draw the attention of decision-makers towards channels that are presently in an emergent phase but could become increasingly optimal for the organisation in the future.

It is pertinent to note that the qualitative methodology employed in this research is not conducive to generalising the findings to the broader population based on the sample, nor is this its primary objective; thus, the results should be interpreted within the context of the sampling framework. The characteristics of the sample inherently impose constraints,

[3] Note: Darker colours and dashed lines are used to indicate the elements and relationships that emerged after the interviews were processed.

as the respondents' responses are indicative of their subjective perceptions. Consequently, they may inaccurately assess their own technology readiness, and due to these limitations, their perspectives on digital transformation may either underrepresent or exaggerate the actual state of the sales organisation concerning digitalisation. Further refinement is warranted in delineating the activities and challenges that digital solutions can effectively address or are currently addressing.

The scope of this research did not permit a comprehensive exploration of all significant aspects of the topic, necessitating an outline of future research directions. Firstly, it is deemed important to quantitatively test the conceptual model established in this study. Secondly, the identification of additional potential moderating factors – such as the bilateral nature of sales and customer-specific characteristics – holds particular significance. Furthermore, a deeper exploration and presentation of the elements uncovered in the current model are essential.

Furthermore, the international context may merit consideration during the investigation of this topic (Malota, 2011). Moreover, a more thorough analysis of the theoretical frameworks relevant to the present context, which have been addressed in a foundational manner within this study, may present an opportunity for further research (Davis, 1986; Parasuraman, 2000).

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4. ARTICLE 2. INNOVATION LEADS TO RESULTS: THE IMPACT OF DIGITALISATION, ORGANISATIONAL INNOVATIVENESS AND SALESPEOPLE'S INNOVATIVE BEHAVIOUR ON CUSTOMER RELATIONSHIPS

4.1. Abstract

This study examines how perceived organisational innovativeness and perceived organisational digitalisation influence innovative salesperson behaviour and customer relationship performance. Building on boundary-spanning theory, relationship marketing, and task–technology fit, it tests an integrated model in which organisational innovativeness shapes both the perceived digital environment and frontline innovative behaviour, which in turn affect relationship outcomes. Drawing on survey data from 233 Hungarian sales professionals, the analysis shows that perceived organisational innovativeness has significant positive effects on innovative salesperson behaviour, perceived organisational digitalisation, and customer relationship performance. Perceived organisational digitalisation also positively influences innovative salesperson behaviour, but its direct effect on customer relationship performance is not significant. Innovative salesperson behaviour has a significant positive effect on customer relationship performance and partially mediates the effect of perceived organisational innovativeness, whereas indirect paths involving perceived organisational digitalisation are not significant. The findings suggest that digitalisation alone does not automatically improve relationship outcomes; rather, its value depends on an innovation-supportive organisational context and on salespeople’s ability to translate organisational and technological resources into innovative customer-facing behaviour. The study contributes by integrating organisational, technological, and behavioural mechanisms into the explanation of relationship performance and offers managerial implications for firms seeking to strengthen customer relationships through digitalisation.

Keywords: Innovativeness, Sales digitalisation, Customer relationship performance

JEL codes: L25, M31, O33

4.2. Introduction

Personal selling is one of the most important elements of the interface between the company and the market. Salespeople simultaneously convey information between the organisation and customers, manage relationships, and are often key players in bringing new solutions and offers to the market (Leifer – Delbecq, 1978; Rindfleisch – Heide, 1997; Ryan – O'Malley, 2016). In parallel, digitalisation, as an organisational-level capability and tool system, is transforming sales work. It changes customer interactions, decision support, information flow, and internal coordination (Ahearne et al., 2008; Ahearne – Rapp, 2010; Vial, 2019, Pelsőci et al., 2021). The interpretation of sales performance can therefore increasingly be limited to transactional indicators, as long-term relationship quality, trust, and commitment directly influence retention, repeat purchases, and recommendations (Morgan – Hunt, 1994; Doney – Cannon, 1997; Reinartz et al., 2005).

Digitalisation holds practical promise in facilitating faster, more consistent, and more personalised customer service. However, organisational outcomes depend not only on the introduction of tools but also on their actual use, their alignment with tasks, the behaviour of frontline employees, and whether their adoption is voluntary or mandated (Davis, 1989; Goodhue – Thompson, 1995; Kenesei – Cserdi, 2018; Micallef et al., 2024). Research also suggests that organisational innovativeness and a supportive climate can foster individual innovative behaviour, which may be particularly important in sales work in new customer solutions, customisation, and proactive problem solving (Liu et al., 2019; Kör et al., 2021; Groza et al., 2021). Additionally, digital sales can impact readiness and performance by improving access to information, coordination, and customer value creation (Mullins – Agnihotri, 2022; Trainor et al., 2014).

However, existing findings are less likely to provide a single, coherent explanatory chain of how organisational innovativeness is simultaneously linked to perceptions of digitalisation, innovative salesperson behaviour, and ultimately customer relationship performance. It is particularly appropriate to examine a model that interprets the organisational context (innovativeness), the technological environment (digitalisation) and individual-level behaviour (innovative salesperson behaviour) together in terms of relationship marketing outcomes, as the trust-commitment logic is one of the most stable

theoretical foundations of lasting business relationships (Morgan – Hunt, 1994; Weitz – Bradford, 1999; Wielgos et al., 2021).

This study addresses this gap with a quantitative, cross-sectional online questionnaire study, in which we test a path model on a sample of Hungarian sales professionals. In the model, we examine how perceived organisational innovativeness is related to perceived organisational digitalisation, innovative salesperson behaviour, and customer relationship performance, and we analyse the relationship between digitalisation and innovative behaviour and their impact on performance (Mullins – Agnihotri, 2022; Trainor et al., 2014). When deriving the hypotheses, we start from the boundary role of salespeople and the emergence of innovation in the workplace (Leifer – Delbecq, 1978; Ryan – O'Malley, 2016), and then interpret the outcomes based on the performance logic of relationship marketing (Morgan – Hunt, 1994; Reinartz et al., 2005). We then discuss digitalisation not simply as a technology introduction, but from the perspective of task-technology fit and embeddedness in sales processes (Davis, 1989; Goodhue – Thompson, 1995; Ahearne et al., 2008), and finally we organise the relationships into a coherent framework in which organisational innovativeness and digitalisation contribute to customer relationship performance through innovative salesperson behaviour (and potentially directly) (Wielgos et al., 2021).

4.3. Literature review

4.3.1. Salesperson and organisational innovativeness: roles, forms, and mechanisms

Every organisation has employees whose work is concentrated on its boundaries, supporting interfirm exchanges through various activities. The literature refers to these employees as boundary spanners (Leifer – Delbecq, 1978), and this role is most often taken on by salespeople. Boundary spanners act as a bridge between the organisation and its customers (Rindfleisch – Heide, 1997), and they also support innovation by acquiring resources and utilising or promoting the firm's innovative outputs (Ryan – O'Malley, 2016). This multifocal role requires salespeople to adopt an innovative mindset, but it also necessitates organisational-level innovativeness; thus, these two depend on each other.

Personal innovativeness is expressed in both behaviour and attitude (Schillewaert et al., 2005) and can be observed from different perspectives among salespeople. On the one hand, innovative salespeople engage in more extensive information searches to understand their customers and the environment in which they operate, and to identify solutions that enhance their effectiveness (Senecal et al., 2007). On the other hand, they tend to adopt novel practices and tools in the hope of delivering higher performance (Amyx et al., 2016). Innovative salespeople are often characterised as intrapreneurs within an organisation, who view and treat their customers in a more entrepreneurial, customer-centred manner through adaptive selling behaviour (Anderson – Oliver, 1987). Thus, an innovative organisational climate that supports this behaviour is a prerequisite for success.

An innovative organisation should motivate its employees to explore novel approaches to problem-solving (Volery – Tarabashkina, 2021) and be able to adopt and exploit these approaches at the organisational level (Liu et al., 2019). This capability stems from processes, infrastructure, and management's approach to innovation, and all these elements should be aligned to create a truly innovative organisation. Firms that exhibit innovative behaviour often differ from others and are considered pioneers, and this role often yields higher returns in both customer acquisition and retention (Kunz et al., 2011). This further supports the role of innovativeness in sales, as Weitz and Bradford (1999) define effective boundary spanning as building long-term relationships with customers rather than depending on transactional interactions.

4.3.2. Customer relationship performance: trust, commitment, and relational outcomes

Over three decades have passed since the concept of relationship marketing emerged in the literature, fundamentally changing how sales performance is measured. Despite traditional transactional metrics (e.g., revenue, market share) remaining part of the evaluation framework, their role and nature have evolved over the years. Morgan and Hunt (1994) emphasised the importance of viewing customer relationships as long-term commitments and treating them as such. Evidence for this argument shows that organisations that adopt this approach can achieve a higher return on investment because customer retention costs less than acquisition (Reinartz et al., 2005) and committed customers are more likely to repurchase (Doney – Cannon, 1997).

The literature identifies several key antecedents and consequences of long-term, commitment-based customer relationships. De Ruyter et al. (2001) argue that the characteristics of the offer (e.g., perceived value and quality), the relationship (e.g., support and communication), and the market (e.g., replaceability and the costs and risks associated with switching) affect the different aspects of commitment. Shukla et al. (2016) provide a more detailed view of these types of commitments. Although Morgan – Hunt (1994) theorise that trust is a direct antecedent of commitment, this view is not universally accepted in the literature. Commitment, in turn, can directly lead to decreased propensity to leave (Morgan – Hunt, 1994), repurchase intention (Verhoef, 2003; Mbango, 2018), and advocacy (Harrison-Walker, 2001), all of which can later be transformed into a performance increase measured by the traditional metrics.

4.3.3. Digitalisation in selling: task–technology fit across sales stages

Sales digitalisation is commonly approached as a question of how technologies become embedded in the work that constitutes selling. In this respect, the sales process provides a useful organising frame because its stages entail different task requirements. Given that salespeople operate at the interface of the firm and the market, effective digital tool use depends not only on access to technology but also on the capability to deploy it in ways that match the demands of specific activities, ranging from prospecting and qualification to post-sale relationship maintenance (Rangarajan et al., 2004). The task-technology fit perspective is particularly informative in this case, as it defines fit as the extent to which technology assists individuals in performing their task portfolio (Goodhue – Thompson, 1995). This emphasis on fit resonates with broader information systems research, which highlights that perceived usability and ease of use are key drivers of adaptation and sustained utilisation (Davis, 1989). Empirical work in sales similarly indicates that when technologies align with selling tasks, they can improve salesperson adaptability, facilitate knowledge acquisition, and enhance customer service, suggesting that digitalisation influences not only efficiency but also the substantive quality of salesperson work (Ahearne et al., 2008). This logic is consistent with staged models of the sales process, which treat pre-sales, sales, and post-sales as bundles of distinct sub-tasks and therefore as potential loci for differentiated digital support (Guenzi – Habel, 2020).

At the same time, the relevant technologies are heterogeneous. Sales digitalisation typically involves a portfolio that spans relatively standard hardware and a diverse set of

software-based systems, including CRM platforms, sales force automation, social media applications, mobile solutions, and analytics tools that restructure workflows and customer interactions (Ahearne – Rapp, 2010, Bányai, 2016). These technologies can affect value creation by expanding data availability, reshaping customer expectations, and enabling new patterns of coordination and interaction, with downstream implications for organisational effectiveness (Vial, 2019). Importantly, relationship outcomes are unlikely to follow from adoption alone. Rather, they depend on how salespeople appropriate digital tools in situ. Prior research treats personal innovativeness as an enabling condition for such appropriation because it is associated with technology exploration, more intensive information search, and a greater willingness to trial new solutions once tools are available (Schillewaert et al., 2005). When digital tools are used to introduce new customer-facing practices that raise customer value, relationship performance may improve through mechanisms such as increased responsiveness and greater transparency, which can support trust and commitment in interfirm relationships (Badrinarayanan – Ramachandran, 2024). Taken together, these arguments imply a process-oriented interpretation of sales digitalisation: performance gains are most plausible when the technologies deployed fit the task demands of each stage of the sales process and when salespeople leverage them in novel, value-creating ways (Goodhue – Thompson, 1995; Micallef et al., 2024).

4.3.4. Hypothesis development

Organisational innovativeness is often regarded as a contextual resource that enhances individuals' innovative behaviour, as employees detect from the organisational environment the extent to which experimentation, new idea adoption, and change are supported. For example, Kör et al. (2021) found that perceived organisational innovativeness affects employees' innovative behaviour, further supporting that the organisational climate also shapes behavioural outcomes. Translating this mechanism to a sales environment, Groza et al. (2021) show that sales management and organisational operations can be shaped in a way that increases organisational innovativeness and its impact on performance, suggesting that if salespeople perceive the organisation as more innovative, they are more likely to choose new solutions and innovative tools in customer management. The broader logical chain between support, creativity, and innovativeness is also confirmed by Volery and Tarabashkina (2021). They found that perceived

organisational support and the work environment have significant explanatory power for innovative work. Regarding the characteristics of the sales frontline, Mullins and Agnihotri (2022) show that, in relation to digital sales, the psychological climate shaped by organisational and managerial factors enhances the frontline's readiness and effectiveness in adopting new solutions (Aleksandrova et al., 2024). Finally, Kalra et al. (2022) also provide sales-specific evidence that perceived characteristics of the workplace environment (e.g., competition, climate) significantly shape creative sales behaviour, which is a close manifestation of salesperson innovativeness. Therefore, we hypothesise that:

> *H1: Perceived organisational innovativeness positively affects innovative salesperson behaviour.*

The impression that an organisation is open to new ideas and supports experimentation can be considered a key antecedent of perceived digitalisation, because innovation-friendly organisational operations are usually accompanied by strategic intentions and a willingness to invest in capability building and in digital technologies. Lin et al. (2020), for example, find that organisational innovativeness is associated with a stronger push towards e-business transformation, suggesting that more innovation-oriented firms are also more inclined to advance along a digitalisation path. Along similar lines, Mikalef et al. (2022) show that innovativeness helps explain the formation of AI-related capabilities, consistent with the idea that an innovative organisation is better positioned to absorb and normalise digital solutions. Evidence at the technology-adoption level points the same way. El-Haddadeh (2020) reports that innovativeness increases the likelihood of adopting cloud services, a core component of many digitalisation efforts. In industrial contexts, Moschko and Blažević (2023) further indicate that innovation-oriented leadership and governance can embed digital tools into innovation work and collaborative routines, reinforcing digitalisation through day-to-day practices. Finally, Cao et al. (2025) link cultures that prioritise innovation to stronger digital transformation capabilities, implying that when employees perceive their organisation as genuinely innovative, they are also more likely to interpret the firm's actions as meaningful progress in digitalisation. Therefore, we hypothesise that:

> *H2: Perceived organisational innovativeness positively affects perceived organisational digitalisation.*

Customer relationship performance should be higher if customers perceive the company as truly innovative, as these attributes typically lead to more relevant solutions, faster adaptation to changing requirements, and a better overall customer experience. In business-to-business relationships, Woo et al. (2021) provide evidence that innovative service behaviour by suppliers is associated with stronger customer outcomes and greater loyalty, indicating that innovation on the provider side can be transferred to relationship-relevant outcomes. Similar patterns can be observed in consumer services. Hollebeek and Rather (2019) show that when customers view a service as innovative, they report higher satisfaction, stronger willingness to recommend, and greater loyalty, outcomes commonly used to capture relationship strength. Kurtmollaiev et al. (2022) likewise argue that innovation pays off mainly to the extent that customers notice it and attach value to it. Pilawa et al. (2022) support the attraction mechanism in a large retail sample, indicating that service-innovative retailers are more attractive. Finally, Keiningham et al. (2024) build on this idea over time and across industries, linking customer perceptions of innovation to stronger satisfaction dynamics and market performance patterns. This reinforces the idea that an innovative reputation can help build more lasting, valuable customer relationships. Therefore, we hypothesise that:

> *H3: Perceived organisational innovativeness positively affects customer relationship performance.*

If the organisation is perceived by salespeople as seriously supporting their work with digital tools, data-driven analytics, and technology-enabled processes, it is reasonable to expect that this will have a positive impact on salespeople's innovativeness. Such a digitalised, supportive environment not only sends the message that trying new methods is acceptable but also adds concrete infrastructure, such as fast access to information, automated administration, and feedback, which reduces the effort and risk of implementing new solutions. According to the results of Mullins and Agnihotri (2022), a favourable digital sales climate increases salespeople's digital readiness, a logical prerequisite for innovative behaviour, as those who confidently use digital tools are more likely to experiment with new customer management and sales solutions. Guenzi and Nijssen (2020) also point out that digital transformation can be both a resource and a burden, but when salespeople perceive digitalisation as a useful, supportive resource, they are more likely to invest energy in developing new routines, channels, and solutions. According to Giovannetti et al. (2022), during periods of technological and process

change, not everyone remains in a merely adaptive role; some salespeople actively take a leading role in the change, which can be considered a behavioural manifestation of innovativeness. This micro-level mechanism is complemented by Biemans and Malshe (2024), who empirically demonstrate that sales and marketing use digital tools across multiple phases of innovation ideation; meaning that digitalisation provides a practical tool for generating, evaluating, and refining new ideas. Finally, according to Biemans (2023), digital tools are also transforming the connections and information flows between sales and marketing, and if this creates better coordination and greater transparency, it provides salespeople with broader access to resources and perspectives, which is conducive to creative problem solving and the development of new customer solutions. Therefore, we hypothesise that:

> *H4: Perceived organisational digitalisation positively affects innovative salesperson behaviour.*

Organisational digitalisation is expected to have a positive impact on customer relationship performance, as a digitalised organisation can provide more consistent and personalised interactions, faster response times, and a more integrated customer journey, which typically leads to satisfaction, engagement, and loyalty. This mechanism is well supported by empirical evidence that digital business capabilities improve customer performance, indicating that organisational digitalisation is reflected not only in internal efficiency but also in customer-side outcomes (Wielgos et al., 2021). In B2B environments, customer relationship digitisation often includes CRM development. The implementation of artificial intelligence-based CRM systems can enhance performance by automating customer relationship management activities and providing better decision support, thereby indirectly supporting customer relationship effectiveness (Chatterjee et al., 2021). The digitalisation perceived by the customer is particularly impressive at the omnichannel and digital touchpoint levels, when the quality of channel integration increases customer engagement and openness to relationship programs, ultimately translating into higher loyalty (Gao – Huang, 2021). A similar logic can be observed in digital customer service solutions, where the service and interaction quality of chatbots strengthens loyalty through satisfaction, so the quality of digitalisation can directly improve relationship outcomes (Hsu – Lin, 2023). Finally, in the retail omnichannel context, the strategic orientation towards digitalisation increases loyalty through consumer experience, satisfaction and engagement, which can be well interpreted as a

summary indicator of customer relationship performance (Cuesta-Valiño et al., 2023). Therefore, we hypothesise that:

> *H5: Perceived organisational digitalisation positively affects customer relationship performance.*

Salesperson innovativeness is expected to improve customer relationship performance because novel ideas and non-routine solutions enhance customer-perceived problem-solving, value creation, and interaction quality, which typically translate into satisfaction, trust, engagement, and longer-term retention. In B2B environments, for example, improvisational, situation-specific solution creation has been shown to increase customer satisfaction (Hultman et al., 2019). Similarly, salesperson skills that support creative and co-creative interactions can enhance customer participation and citizenship-like contributions, as well as engagement with the salesperson, which is an important component of relationship durability and quality (Delpechitre et al., 2018). At the front line, the raising of ideas in the customer's interest and the constructive questioning of the status quo (customer-focused voice), as well as the flexible deviation from the usual routines to solve the customer's problem, indicate mechanisms that affect the customer's perceived service effectiveness and relationship performance (Gazzoli et al., 2022). In addition, how customers perceive the salesperson is important for customer relationship performance, because perceptions of trust, expertise, and interaction quality lead to stronger relationships and more favourable outcomes, so innovative salesperson behaviour is expected to improve these perceptions (Arditto et al., 2020). Finally, the empirical operationalisation of creative selling and its role in sales also supports the view that novel, non-normative solutions can be integrated into performance logics in a relevant and measurable way, and therefore the expectation that they will also improve customer relationship performance is well-founded (Locander et al., 2023). Therefore, we hypothesise that:

H6: Innovative salesperson behaviour positively affects customer relationship performance.

4.4. Methodology

4.4.1. Research design

This research utilised a quantitative design and tested the hypotheses through a cross-sectional online questionnaire. Measurement items were drawn from established scales (Ellonen et al., 2008; Siamagka et al., 2015; Schwepker – Schultz, 2015; Gatignon – Robertson, 1989; Trainor et al., 2014) and were translated into Hungarian using a cross-validation procedure, where two researchers independently checked the wording and resolved differences.

4.4.2. Sample and data collection

Participants were recruited using convenience and snowball sampling. Due to the COVID-19 pandemic, the quantitative survey was administered online via Qualtrics between 2020 and 2022. Our sampling aim was to include only sales professionals (salespeople and key account managers) who sell complex products and work in non–in-store selling roles. A total of 233 responses were collected from sales professionals in Hungary, a country which requires improvement in digitalisation (Endrődi-Kovács – Stukovszky, 2022). As shown in Table 4, the sample is balanced in terms of the years of data collection (2020: 32.2%, 2021: 33.5%, 2022: 34.3%), gender (female: 42.9%, male: 57.1%), and market type (B2B: 45.1%, B2C: 54.9%).

		N	Valid Percent (%)
Years of data collection	2020 2021 2022	75 78 80	32.2% 33.5% 34.3%
Gender	Male Female	133 100	57.1% 42.9%
Sector	Commerce Finance-insurance Industry Information- communication Real estate Services Other	52 46 38 14 12 11 60	22.3% 19.7% 16.3% 6% 5.2% 4.7% 25.8%
Job position	salesperson key account manager (KAM)	198 35	85% 15%
Market type (B2B or B2C)	B2B B2C	105 128	45.1% 54.9%
		Mean (M)	**Standard Deviation (SD)**
Years spent in sales		9.39	8.65
Age		35.2	11.5

Table 4 Sample characteristics **(source:** Authors' own construction**)**

4.4.3. Measures

In this study, we relied exclusively on measurement scales that have been pre-tested and are suitable for a personal selling context. Perceived organisational innovativeness was measured with a three-item scale adapted for salespeople from Ellonen, Bloomqvist, and Puumalainen (2008) and Siamagka et al. (2015). Innovative salesperson behaviour was operationalised using Schwepker and Schultz's (2015) three-item value-added behaviour scale. Perceived organisational digitalisation was assessed with a four-item measure adapted from Gatignon and Robertson (1989) and reworded to reflect the use of digital tools in sales. In addition, to capture digital technology usage in sales, we followed prior work that conceptualises sales technology as a portfolio of tools that can improve both process efficiency and customer engagement (e.g., Mullins – Agnihotri, 2022). Accordingly, the framework focused on established categories that are widely used in day-to-day selling, including CRM systems, social media platforms, mobile devices (e.g., laptops and tablets), and communication technologies. Customer relationship

performance was measured with Trainor et al.'s (2014) five-item scale. All constructs were assessed using 7-point Likert-type response formats.

In this study, perceived organisational innovativeness reflects how innovative respondents consider their organisation's management practices and organisational climate to be; perceived organisational digitalisation captures the extent to which respondents believe their organisation relies on and uses digital technologies more intensively than competitors; innovative salesperson behaviour refers to respondents' self-perceived engagement in creative and innovative selling practices; and customer relationship performance indicates the extent to which respondents perceive that they or their organisation can retain customers over the long term.

4.5. Data analysis

The data analysis was conducted using Jamovi software. To test the hypotheses, a path model was used with Maximum Likelihood estimation, bootstrap standard errors (5000 repetitions), and 95% confidence intervals. The model is saturated; therefore, the interpretation of fit indices (e.g. CFI, TLI, RMSEA, SRMR) is not relevant (Hu – Bentler, 1999; Kenny et al., 2015). To assess normality, the Shapiro-Wilk test (Shapiro – Wilk, 1965) was run, and to test construct reliability, the Cronbach's alphas were calculated (Cronbach, 1951).

4.6. Results / Findings

The Shapiro–Wilk tests were significant for all constructed variables ($p < .001$), which is common in such a large sample (Fagerland, 2012); the skewness values indicated a slight negative skewness. The internal consistency of the measuring instruments was sufficiently high across all constructs (Cronbach's alpha: perceived organisational digitalisation $\alpha = .926$; perceived organisational innovativeness $\alpha = .858$; innovative salesperson behaviour $\alpha = .881$; customer relationship performance $\alpha = .882$).

The model explained 44.0% (CI 95% [0.342; 0.533]) of the variance of perceived organisational digitalisation, 16.5% (CI 95% [0.086; 0.259]) of the variance of innovative

salesperson behaviour, and 9.6% (CI 95% [0.036; 0.178]) of the variance of customer relationship performance. A supplementary analysis further showed that COVID-19-related circumstances did not have a statistically significant effect on the model results.

According to the path estimates, perceived organisational innovativeness had a significant and positive effect on innovative salesperson behaviour (b = 0.23; ß = 0.27; z = 3.34; p < .001; CI 95% [0.100; 0.375]), thus supporting H1. There was also a positive relationship between perceived organisational innovativeness and perceived organisational digitalisation (b = 0.70; ß = 0.66; z = 13.89; p < .001; CI 95% [0.599; 0.802]), thereby supporting H2. Perceived organisational innovativeness also had a significant, positive direct effect on customer relationship performance (b = 0.17; ß = 0.25; z = 2.88; p = .004; CI 95% [0.057; 0.296]), which supports H3. Furthermore, perceived organisational digitalisation positively influenced innovative salesperson behaviour (b = 0.13; ß = 0.16; z = 2.17; p < .030; CI 95% [0.013; 0.258]), thus supporting H4. In contrast, the direct effect of perceived organisational digitalisation on customer relationship performance was not significant (p = .195); therefore, H5 was not supported. Finally, innovative salesperson behaviour significantly positively affected customer relationship performance (b = 0.15; ß = 0.18; z = 2.80; p = .005; CI 95% [0.050; 0.266]), supporting hypothesis H6.

Based on the results, innovative salesperson behaviour partially mediated the effect of perceived organisational innovativeness on customer relationship performance (b = 0.03; ß = 0.05; z = 2.15; p = .031; CI 95% [0.011; 0.079]), indicating that the innovative organisational environment is partly translated into better customer relationship performance through salespeople's innovative behaviour. However, the indirect paths involving perceived organisational digitalisation (perceived organisational digitalisation → innovative salesperson behaviour → customer relationship performance, and the sequential path perceived organisational innovativeness → perceived organisational digitalisation → innovative salesperson behaviour → customer relationship performance) did not prove to be statistically significant based on the available results (p > .10). Overall, the model suggests that organisational innovativeness directly contributes to relationship building performance, and in addition, part of the effect is exerted through the activation of innovative salesperson behaviour, while perceived organisational digitalisation itself does not directly improve relationship management outcomes, but rather may have an

effect through behavioural mechanisms. The results of the structural model are visualised in Figure 4, and the hypothesis-testing decisions are summarised in Table 5.

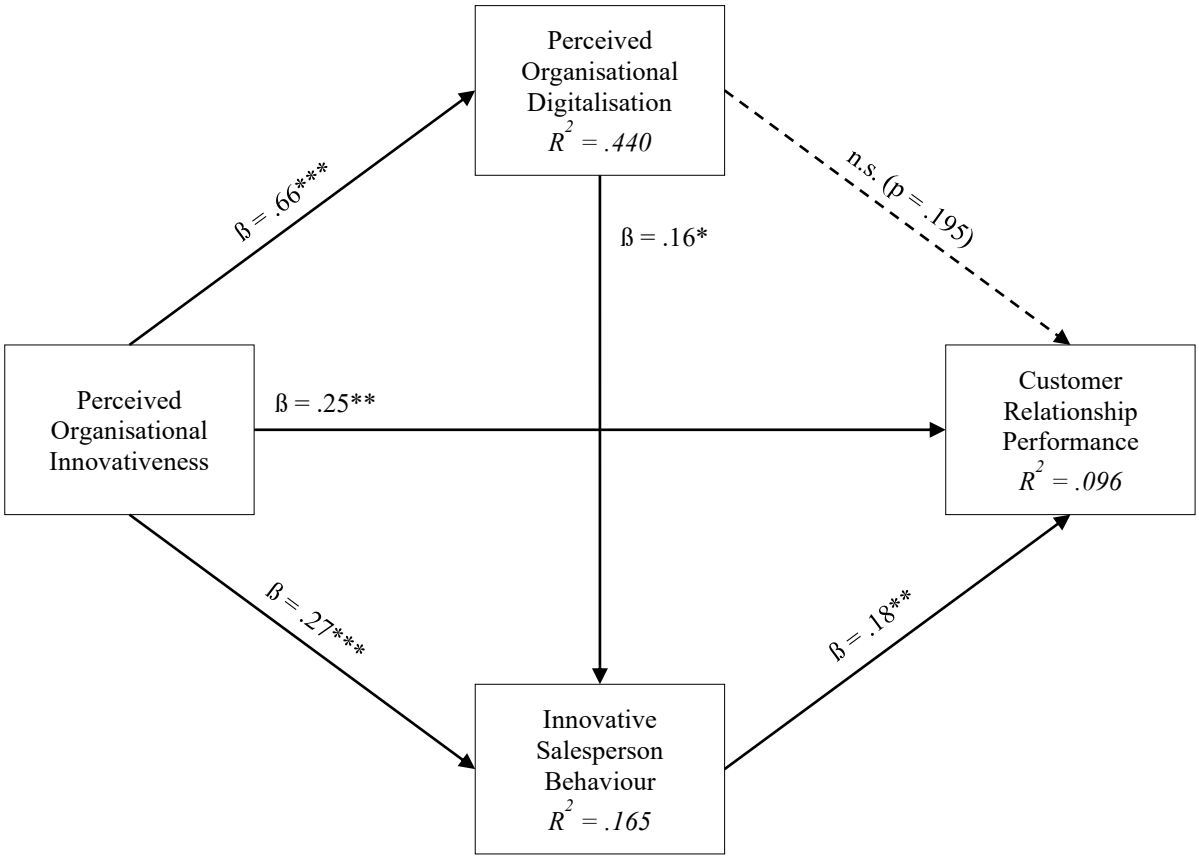

Figure 4 Results of the path analysis (**source:** own construction based on Jamovi software outputs)[4]

[4] **Note.** Standardised path coefficients (ß) are shown. The dashed line indicates a non-significant path. * p < .05. ** p < .01. *** p < .001. The indirect effect of perceived organisational innovativeness on customer relationship performance via innovative salesperson behaviour was significant (ß = .05, p = .031). Indirect paths involving perceived organisational digitalisation were not significant.

Hypotheses	Decision
H1: Perceived organisational innovativeness positively affects innovative salesperson behaviour.	Accepted
H2: Perceived organisational innovativeness positively affects perceived organisational digitalisation.	Accepted
H3: Perceived organisational innovativeness positively affects customer relationship performance.	Accepted
H4: Perceived organisational digitalisation positively affects innovative salesperson behaviour.	Accepted
H5: Perceived organisational digitalisation positively affects customer relationship performance.	Rejected
H6: Innovative salesperson behaviour positively affects customer relationship performance	Accepted

Table 5 Results of the hypothesis testing (**source:** own construction based on Jamovi software outputs)

4.7. Discussion

Overall, the results at the level of hypotheses indicate that the organisational context (perceived innovativeness) and the technological environment (perceived digitalisation) are significantly related to salesperson innovative behaviour and customer relationship performance in the examined model at several points; however, not all hypothesised relationships were confirmed with the same strength. As data collection occurred in a period influenced by COVID-19, a supplementary analysis was conducted to assess whether the pandemic had a specific effect on the estimated relationships. No statistically significant effect was found, indicating that COVID-19 did not materially alter the main results of the study. Below, we interpret the obtained relationships exclusively in terms of the hypotheses, focusing on the literary embedding of the results.

The interpretation of the hypothesis between organisational innovativeness and innovative salesperson behaviour (H1) is particularly clear from the literature. The supporting result is consistent with the fact that an innovation-friendly organisational environment and climate are stable antecedents of individual innovative behaviour (Liu et al., 2019; Kör et al., 2021; Groza et al., 2021). In the sales context, this is emphasised because, due to the boundary spanning role, salespeople often solve problems autonomously and situation-specifically, and the organisation's signals (e.g., how much experimentation is tolerated, how much initiative is supported) directly affect how much

the front line dares to come up with new solutions (Leifer – Delbecq, 1978; Ryan – O'Malley, 2016).

Regarding the hypothesis examining the relationship between organisational innovativeness and organisational digitalisation (H2), the supported result confirms that digitalisation is not just a technological investment, but an organisational capability whose development and perception are also shaped by the company's openness to innovation, experimentation norms and development orientation. This interpretation is consistent with the view that digitalisation is an organisational transformation or a capability-based phenomenon (Vial, 2019), as well as with the view that the value of technological solutions stems from organisational embeddedness and task fit (Goodhue – Thompson, 1995).

The hypothesis between perceived organisational innovativeness and customer relationship performance (H3) was supported, consistent with the literature's logic that innovative corporate operations can yield more relevant solutions, faster adaptation, and a more favourable customer experience, reflected in relationship-side outcomes. For example, in a B2B environment, innovative service provider behaviour is associated with stronger customer outcomes and loyalty, which directly supports the translation of innovation into relationship performance. A similar pattern emerges in consumer services, where customer perceptions of innovativeness are associated with higher satisfaction, willingness to recommend, and loyalty. Our results are also consistent with the argument that the returns of innovation are realised especially when customers perceive and value it, and when innovative service providers/retailers become more attractive to customers; this is also supported by longer-term, cross-industry evidence linking customer perceptions of corporate innovativeness to more favourable satisfaction dynamics and market performance patterns.

In the case of the hypothesis regarding the relationship between digitalisation and innovative salesperson behaviour (H4), the supported result enhances the empowering role of digital tools. Digitalisation can improve access to information, decision support, and coordination, facilitating innovative solution-finding and proactive customer management (Ahearne et al., 2008; Trainor et al., 2014; Mullins – Agnihotri, 2022). This conclusion also resonates with the idea of task-technology fit. If technology truly supports everyday sales tasks, it is more likely to become a "resource" for innovative behaviour, rather than an administrative burden (Goodhue – Thompson, 1995).

The hypothesis of innovative salesperson behaviour and customer relationship performance (H6) can be interpreted within the logic of relationship marketing. The supported result suggests that innovative behaviour, such as solution-oriented adaptation, customer-specific offer design, or proactive problem prevention, can contribute to customer-perceived reliability and relevance, which improves customer relationship performance through increased trust and commitment (Morgan – Hunt, 1994; Doney – Cannon, 1997; Reinartz et al., 2005). In a sales context, this is also consistent with the basic idea of adaptive selling and the partner role concept (Weitz – Bradford, 1999).

The rejection of hypothesis H5 is counterintuitive at first glance, because managerial discourse often suggests a direct, automatic relationship-improving effect of digitalisation. However, the result suggests that value in the case of digitalisation is not necessarily realised directly, but rather through conversion mechanisms, meaning that technological resources are converted into customer relationship performance when the organisation and the front line transform them into routines and capabilities that create customer value (Bharadwaj, 2000). This pattern is also consistent with the classic productivity paradox, which discusses the performance effects of IT investments, according to which the return on technological developments often becomes visible with a delay, through intermediate organisational changes and measurement issues (Brynjolfsson, 1993). In marketing and CRM research, several empirical results support the logic of indirect effects: for example, the use of social media technology does not necessarily increase performance directly, but rather exerts its effect through CRM capabilities (Foltean et al., 2019), while the impact of technological resources on customer relationship performance can often be interpreted through capability-based mediators, such as social CRM capabilities (Trainor et al., 2014). Similarly, the use of digital technology can strengthen customer relationship performance through intermediate value-creating mechanisms, such as customisation, thereby making the impact of digitalisation meaningful (Lin – Lin, 2023). Overall, the rejection of H5 does not point to the irrelevance of digitalisation, but to the condition that relationship-side outcomes are more explained by the capabilities and behaviours enabled by digitalisation, which are actually implemented in organisational and sales practice.

Finally, to the extent that the model also tested mediational relationships, the supported mediation conveys the theoretical message that the effects of organisational innovativeness and digitalisation on customer relationship performance are largely

channelled through sales behaviour. This fits well with the boundary-spanning view, as the impact of the organisation and its technological infrastructure on customer relationships is embodied in frontline actions (Leifer – Delbecq, 1978; Ryan – O'Malley, 2016).

4.7.1. Theoretical contributions

This study contributes to the theoretical frameworks of boundary-spanning and relationship marketing in several ways. First, we extend the boundary-spanning approach in a micro-based way to the digital sales environment by conceptualising the salesperson not as a mere information broker but as a resource conversion mechanism. Our findings suggest that organisational resources and conditions, especially organisational digitalisation, do not automatically translate into customer relationship performance, but rather create customer value through the innovative behaviour of the frontline. This approach refines the interpretation of the boundary role by considering the action patterns and adaptive behaviours that transform organisational and technological inputs into realisable benefits in specific customer interactions as essential for performance (Leifer – Delbecq, 1978; Ryan – O'Malley, 2016; Weitz – Bradford, 1999).

Second, the study nuances relationship marketing theory in a technology-intensive sales context by interpreting digitalisation not as a relationship-enhancing factor in itself, but as a conditional, indirect antecedent. According to the classical logic of relationship marketing, lasting business results are stabilised through mechanisms of trust and commitment; technological developments contribute to this when they perceptibly increase relevance, consistency, and service quality for customers. The rejection of H5 in the study accordingly indicates that the "presence" of organisational digitalisation does not necessarily translate directly into customer relationship performance, which theoretically reinforces the relationship marketing interpretation that relationship-side outcomes are fundamentally explained by the value creation and consistent customer experience in interactions, rather than by the underlying technological infrastructure per se (Morgan – Hunt, 1994; Doney – Cannon, 1997; Reinartz et al., 2005).

Third, the study contributes to clarifying the relationship between organisational innovativeness and customer relationship outcomes by treating organisational innovativeness not only as an internal operational characteristic but also as a contextual factor relevant to customer relationship performance. Support for H3 suggests that an

innovation-friendly, development-oriented organisational environment may be directly associated with more favourable customer relationship outcomes. This theoretically bridges organisational orientations and the performance logic of relationship marketing, and interpreted in terms of the boundary-spanning role, suggests that organisational-level perceptions of innovativeness may make behavioural and interaction patterns on the frontline more likely to increase relationship quality and performance in a way that is also perceptible to customers (Leifer – Delbecq, 1978; Liu et al., 2019; Kör et al., 2021; Groza et al., 2021).

4.7.2. Managerial implications

Based on the study's results, the primary lesson for management decision-makers is that the expected benefits of sales digitalisation do not automatically translate into improved customer relationship performance. The rejection of hypothesis H5 warns that introducing digital tools cannot, in itself, be considered a relationship-building strategy, but should be treated as part of a capability- and process-development program that creates measurable value in salespeople’s everyday customer interactions. Accordingly, it is advisable to link digitalisation initiatives to specific support for frontline work, and to define the goal of technological developments not in increasing tool usage, but in behavioural changes that lead to customer-side outcomes.

In practice, this means that when planning digitalisation investments, it is worth applying the task-technology fit logic. Systems and functions that reduce friction at critical points in sales tasks, improve information quality, and speed up decision-making are more likely to deliver relationship-side results. Usability, access to relevant data, and integration into sales processes are particularly important during implementation, as relationship performance improves when technology enables more consistent, accurate, and customer-specific sales responses, not when it creates additional administration or a sense of control.

Based on H3, organisational innovativeness can directly correlate with better customer relationship performance, so management should treat innovation not only as a product or process development issue but also as a customer relationship strategy. One consequence is that it is advisable to consciously strengthen norms, opportunities for experimentation, and rapid learning cycles in the sales organisation, as these create a context in which salespeople more easily translate organisational capabilities into

customer-level value. The leadership role here is twofold: on the one hand, the resources and autonomy necessary for innovation must be provided; on the other, a framework for experimentation must be established to ensure the consistency of the customer experience is not compromised.

The model's logic holds that innovative salesperson behaviour is a key to achieving strong customer relationship outcomes. This is why companies should work on building skills that link digitalisation and innovation. This can include training that is not based on general systems training but instead focuses on use cases specific to the customer's needs. For example, training in recognising customer data, making customised offers, preventing problems before they happen, and supporting multi-actor decision-making. Coaching and the formalisation of good practices are equally important: the dissemination of effective digital and innovative routines reduces usage variance and increases the chance that the benefits of digitalisation will also be reflected in relationship performance.

Finally, performance management systems should be aligned with relationship outcomes and the behaviours that drive them. If the organisation rewards only short-term, transactional metrics, salespeople will be less interested in using digitalisation to create value and innovative customer management. Based on the study's results, it is therefore justified to incorporate metrics and incentives that shift the frontline's focus to relationship quality, retention, recommendations, or customer satisfaction, while also making it clear how digital tools and innovative salesperson practices contribute to customer relationship performance.

4.7.3. Limitations and further research

This study has several limitations that should be considered when interpreting the findings. First, the cross-sectional questionnaire design is valuable because it can simultaneously reveal and test multiple relationships in a comparable manner, but it limits the power of causal inferences. Further research should use longitudinal or multi-level data collection to more reliably separate the dynamics of digitalisation and innovative salesperson behaviour, as well as the lagged effects of relationship marketing outputs.

Second, self-reported, single-source measures have proven well-suited for practical research, especially when examining perceived organisational phenomena, but they may increase the risk of common-method bias and perceptual bias. Future studies should

include data from multiple sources, such as management evaluations, activity or outcome measures from CRM systems, and customer feedback, to achieve a more objective and triangulated operationalisation of key constructs and performance outcomes.

Third, the research findings can be interpreted within the context of a given country and sample characteristics, which may limit generalizability across industries and sales situations. A promising direction for further research is a comparative analysis spanning multiple countries and industries, as well as the inclusion of moderators such as task complexity, customer uncertainty, product and service nature, or sales process standardisation, as these may influence when and how digitalisation translates into customer relationship performance. Despite these limitations, the study offers useful insight into how organisational innovativeness, digitalisation, and innovative salesperson behaviour jointly shape customer relationship performance.

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5. ARTICLE 3. GLOBAL PERSPECTIVES ON STRATEGIC CHANGE: UNPACKING THE MANAGERIAL COGNITION

5.1. Abstract

Purpose – This paper comprehensively reviews the extant research on the cognitive perspective in strategic change on a global scale. In doing so, this research aims to contribute to managers working in the international management and business context.

Design/methodology/approach – The paper adopts a systematic literature review (SLR) methodology. Articles incorporated in the study were selected based on relevant keywords from the Dimensions.ai database.

Findings – The study findings show the variety of strategic change measures, definitions, and the array of theoretical frameworks adopted in strategic change research. The SLR further reveals that most research appears on the TMT (top management) level of analysis, while research on the team and organizational level of analysis is scarce. The review identified several recurring research themes, illustrating the complex and multifaceted nature of cognitive perspective to strategic change: strategic change as an end result, cognitive triggers for strategic change, barriers to strategic change, the process of strategic change, and macro, meso and micro context of strategic change. Several research gaps were identified and translated into future research areas.

Originality/value – This SLR thoroughly overviews prior research on the cognitive perspective in strategic change, investigating 85 articles from 2010 to 2023. The study is one of the few to attempt to explore strategic change, providing a comprehensive mapping of individual cognitive capabilities and traits involved in the strategic change process and structuring the variety of strategic change measures and definitions. The authors present a qualitative concept map of the research agenda.

Keywords: Strategic change, Cognition, Cognitive managerial capabilities, Bibliometric analysis, Literature review

5.2. Introduction

Strategic change management is crucial for successfully implementing strategies, ensuring they align with internal and external environmental pressures and effectively achieve organizational goals (Ulrich & Wiersema, 1989). Strategic change (hereafter — SC) can be defined broadly as a difference in the form, quality, and state over time in an organization's alignment with its external environment (Van de Ven & Poole, 1995). Many scholars have widely documented SC and its outcomes. It was empirically proved that change positively impacts the company's leadership, learning, motivation, and productivity (Schendel et al., 1976; Hofer, 1980; Appelbaum et al., 1998). Moreover, change is considered an aid to enhance performance (Hofer & Schendel, 1978; Kraatz & Zajac, 2001; Zúñiga-Vicente & Vicente-Lorente, 2006). A positive significant relationship between SC and organizational performance has also been reaffirmed in studies in the last decades (Bergh & Lim, 2008; Zhang & Rajagopalan, 2010).

At the same time, scholars have started to integrate the cognitive aspect into a holistic view of international business strategy and SC. In 2011, Powel et al. (2011) noted the lack of emphasis in the strategic management theory on behavioral and psychological aspects. By 2021, Volberda et al. (2021) emphasize the cognitive aspect and propose to take three components as the basis for developing and changing strategies: cognition, routines, and hierarchy. However, a cognitive perspective has never been central to specific literature reviews on SC. Scholars either provide a broad perspective on SC (Müller & Kunisch, 2018) or focus on particular conceptualizations, e.g., succession events (Hutzschenreuter et al., 2012), dynamic managerial capabilities theory (Helfat & Martin, 2015), or time (Kunisch et al., 2017).

The cognitive perspective in SC usually relates to the actions of executives and follows the voluntarist perspective that views managers as self-sufficient actors who take initiative and use creativity to change the course of their companies (Gioia & Chittipeddi, 1991; Wiersema & Bantel, 1992; Boeker, 1997). It is still a growing area of research and remains quite diverse in its range of hypotheses. Smith and Tushman (2005), for example, suggested that top managers need to develop a paradoxical mindset that allows them to simultaneously engage in both standard activities (run) and in the search for new opportunities (change and disrupt). Plambeck and Weber (2010) discuss the issue of

ambivalence. Gavetti (2012) argues that strategic leaders with strong associative thinking can more successfully identify strategic opportunities.

A separate stream of research is devoted to the influence of biases on strategic choice. Several researchers present evidence that heuristics have a rather negative effect (Schwenk, 1984; Hodgkinson et al., 2002), while others indicate a positive impact on SC (Denrell & March 2001; Knudsen & Levinthal, 2007; Hodgkinson & Healey, 2009). The issue of creativity is considered simultaneously. Scholars have identified certain personality traits positively associated with creativity (DeCaro & Wieth, 2007): openness to new experiences and curiosity. Another trait is individualism, as non-conforming ideas often cause adverse societal reactions (Lubart, 2009). In stressful situations, creative individuals find solutions faster and more effectively predict the development of the problem (Eschleman et al., 2014). Cognitive studies entail a multidimensional and vivid line of current research. With various topics emerging in the last decades and the importance of cognition as part of a holistic view of strategy, this research aims to systematically synthesize the existing literature on the cognitive aspect of SC.

As SC is a multidimensional phenomenon, the latest literature review tends to address a particular problem within the concept of SC, which is also critical in the international business context. For example, in the governance context, Klarner et al. (2023) focus on the board of directors' role in governing SC—which could explain how boards may face complex challenges that help them with SC. Similarly, Skorodziyevskiy et al. (2024) consider the peculiarities of SC in family firms—which may help to understand how family firms manage SC to expand globally. As for a cognitive perspective on SC, the study by Narayanan et al. (2011) synthesizes the literature on strategic cognition up to the time of writing; the study of Kunisch et al. (2017) investigates time in the context of SC and provides interesting insights for the cognitive perspective of CEOs' temporal leadership abilities. CEOs or leaders often need to reconfigure or revisit their resources and strategies in the international business context with the help of SC. For instance, the study of Heubeck (2023) and Joussen et al. (2024) was focused on dynamic managerial capabilities, and even though cognition being one part of DMC, this approach has left out the opportunity to discuss other cognitive determinants outside the denoted framework. Therefore, the current literature review will dive into the cognitive perspective on SC using auditable bibliometric methods to present a holistic picture of the state of the research since 2010, following the work of Narayanan et al. (2011).

This study will build upon the fundamental review of Müller & Kunisch (2018), distinguishing between deterministic, dialectical, and voluntarist perspectives on SC. We intend to provide several thorough streams for future research on the nature of SC and actors involved in the process, not particularly investigating the cognitive angle. The differentiation that authors proposed allows for deeper acknowledgment of not only a voluntaristic perspective on cognition, but also suggests a dialectical perspective that limits managerial discretion in certain circumstances. We explore the following questions to direct the review: first, we identify the research "hotspots" in the discipline; second, the theoretical foundations of current research—as this could help us understand the evolution of the discipline; third, the methodological approaches that have been used to study cognitive aspects in SC; fourth, the levels of analysis that have been discussed in the current research; and fifth, the recurring trends that could be found in current research.

This work is significant for international business academics since it bridges the gap between cognitive psychology and global strategic management. It provides a multidisciplinary viewpoint on the decision-making processes that occur across all regions: EMEA (Europe, the Middle East, and Africa), NA (North America), LATAM (Latin America), and APAC (Asia-Pacific). The investigation of cognitive traits of managers, which could foster SC and transcend cultural differences, serves as a foundation for recognizing the possibilities and barriers that managers encounter in working across international borders.

In addition, the study's findings, which include identifying gaps in team and organizational-level assessments, urge further investigation into the dynamics of global teams and the cognitive micro-foundations of strategy alignment across multinational companies. By considering these characteristics, academics can construct models embodying the dynamism and uncertainty surrounding initiating SC.

5.3. Methodology

This literature review follows the SLR procedures of Tranfield et al. (2003) and employs recommendations by Aguinis et al. (2018), Rana (2021) and Anand et al. (2021a). The SLR procedure involves four steps and is presented in Figure 5.

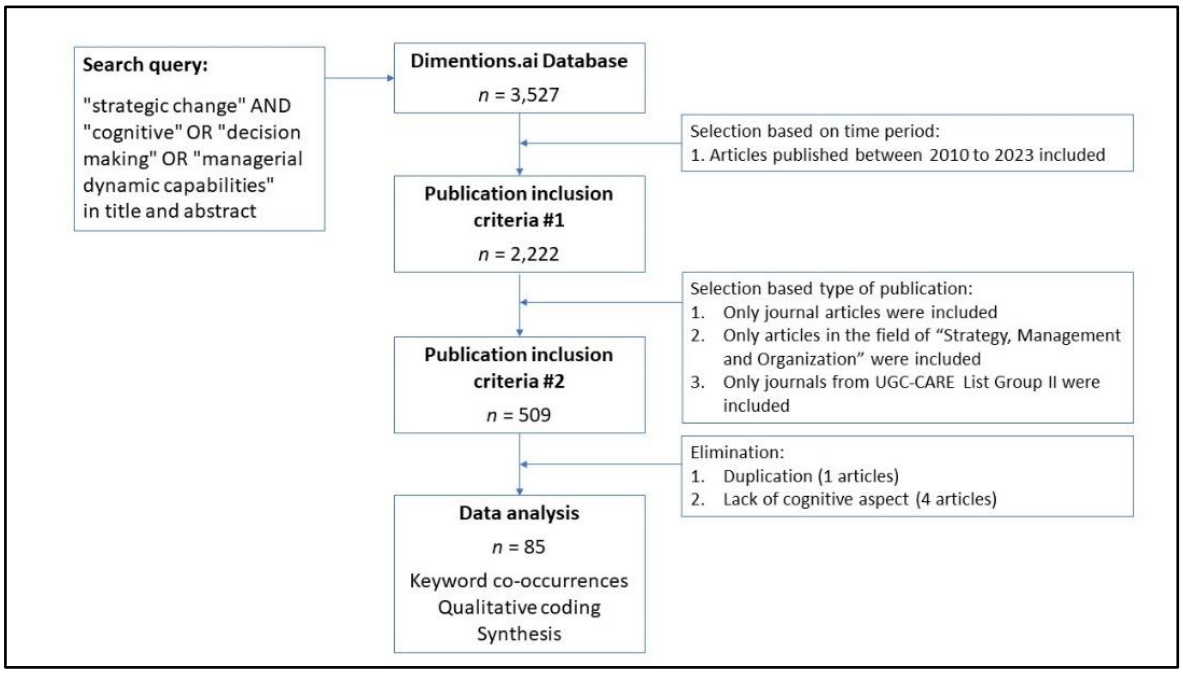

Figure 5 Methodology adopted for the literature review (**source:** Authors' own work)

5.3.1. Database selection

The Dimensions.ai database was chosen to extract the literature due to its availability to the public and the possibility of using filters and rankings. In recent years, Dimensions.ai was utilized as the primary database for several studies published in Q1 and Q2-rated journals (Verma & Yuvaraj, 2023; Petiska, 2023). Despite several shortcomings observed by Bornmann (2018), Herzog and Lunn (2018) pointed out that Dimensions.ai provides the research community with a new approach to literature review, bringing formerly siloed content types together. Dimensions provides, in both scope and accessibility a thorough and linked research database that exceeds conventional systems like Scopus and Web of Science. Dimensions.ai, with more than 305 ml entries and 1.7 bn citations, could be perceived as a reasonable alternative to other databases on the market: Semantic

Scholar (211 ml entries, 2.4 bn citations); Scopus (196 ml entries, 1.9 bn citations); WoS (84 ml entries, 1.8 bn citations); Lens (401 ml entries, 1.9 bn citations). Moreover, its open-source nature provides broad opportunities for researchers in countries that do not have direct access to such databases as Scopus. Dimensions' inclusive indexing is very helpful to scholars working in developing countries. In addition to increasing the exposure of research from underdeveloped regions, this inclusiveness gives local researchers access to a more varied and complete database (Thelwal, 2018).

5.3.2. Identification of subject area and relevant keywords

The focus of cognitive research is quite multidimensional. As this work aims to review the cognitive aspects of SC, the precise combination of keywords was used to depict that. The search query is presented in Figure 5 and combines the well-established term "strategic change" and several terms on cognitive aspects: "cognitive," "decision making," and "managerial dynamic capabilities." Managerial dynamic capabilities were included as a relevant keyword because it represents a well-established theory that provides for managerial skills such as cognition (Hambrick & Mason, 1984; Huff, 1990; Walsh, 1995; Johnson & Hoopes 2003), as well as human capital (Becker, 2009; Castanias & Helfat 1991, 2001) and social capital (Geletkanycz et al., 2001; Burt, 2000). Denoted keywords were applied in the Title and Abstract sections.

5.3.3. Inclusion and exclusion criteria

The initial search resulted in more than 3,500 publications, to which the author applied several inclusion and exclusion criteria to make the data more meaningful for further analysis. First, we have limited the publication year to between 2010 and 2023. The graph in Figure 6 shows exponential growth in published articles in the area investigated since 2010, resulting in more than 2,200 publications of different types.

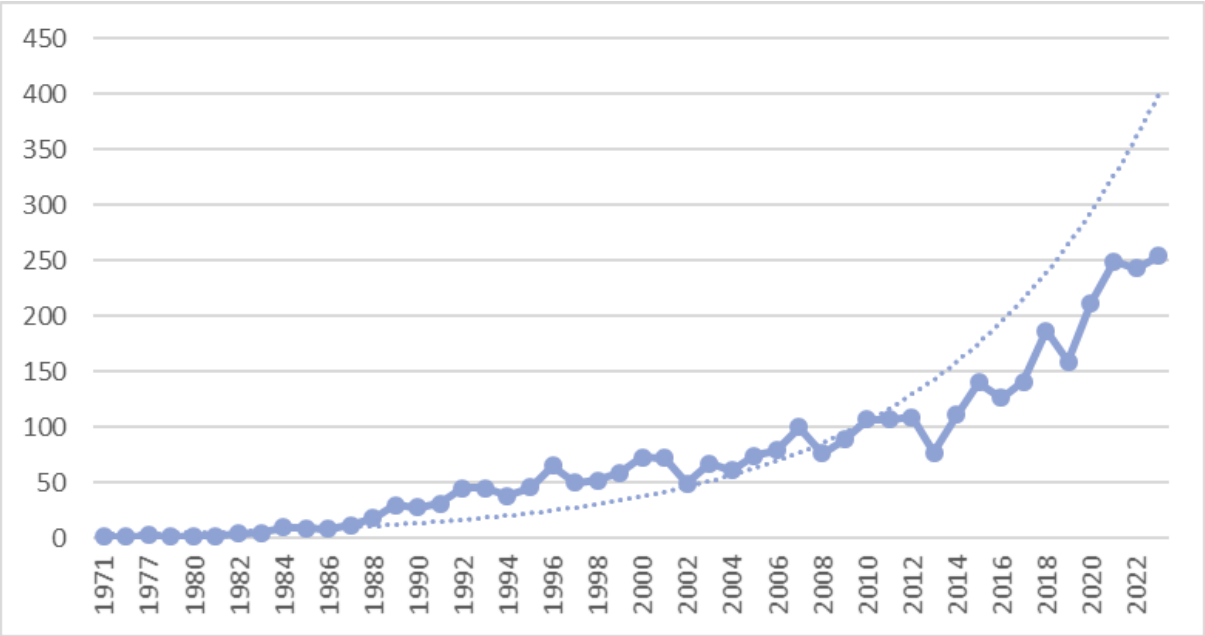

Figure 6 Distribution of the number of publications on cognitive perspective in strategic change (**source:** Authors' own work)

Then, the search was restricted to only journal articles and excluded conference papers and books because journals pursue rigorous peer review (Adams et al., 2017). Moreover, only articles in "Strategy, Management and Organization" were chosen. Finally, only journals from UGC-CARE List Group II (which is indexed in the Dimension.ai database) were included in the final dataset. The UGC-CARE List includes journals from all disciplines indexed in globally accepted databases, such as Scopus or Web of Science, which allows the alignment of results in Dimension.ai to those in Scopus (Chhetri, 2023; Patwardhan & Nagarkar, 2020).

5.3.4. Selection of data analysis method

In this study, we employ a systematic literature review (SLR) methodology, integrating bibliometric analysis to pinpoint emerging research hotspots and foster academic discourse. This approach has been successfully implemented in previous studies (Anand et al., 2021b; Kozachenko et al., 2022). The benefit of a systematic review using bibliometric analysis is that it reveals the evolution and trends in a specific field of research (Walsh and Renaud, 2017). To examine the literature, bibliometric analyses (BA) are frequently coupled with mapping tools and approaches (Ponce & Lozano, 2010). The

study was conducted in VOSviewer, as it enhances the simplicity of analytical tools used to carry out a literature review.

Firstly, we employed keyword co-occurrences analysis to identify significant research streams in a selected area (Anand et al., 2021a; Caputo et al., 2021). The co-occurrence of keywords is employed whether a scholar needs to conceptualize and structure the existing research fields (Callon et al., 1983). This type of analysis uses the content of an abstract of the paper, so it derives terminology that is of most significance to the authors since they included it in the executive summary of the article. Such a semantic map can support future scientific research (Anand et al., 2021b).

VOSviewer algorithms help to identify and plot keywords into two-dimensional maps (van Eck and Waltman, 2010). Initial analysis of the selected 507 abstracts showed 10,008 keywords. The threshold to a minimum number of 10 occurrences was set, and 236 words met the threshold. Afterward, the lineup of words was manually examined in more detail. Upon the examination, two types of terms were excluded: those concerning the structure of the research article (i.e., «abstract,» «antecedent,» «hypothesis,» «methodology,» «research limitations,» «scholar,» «theory») and those associated with generalization (i.e., «action,» «business,» «enterprise,» «firm,» «organization,» «relationship»). Both types of terms contained no specificity on the subject matter. As a result, 64 keywords were left to construct a semantic map (see Figure 7).

Secondly, we conducted a bibliographic coupling analysis of documents (BCA-D), taking publications as the unit of analysis. Using the VOSviewer analytical apparatus, the selection of articles was narrowed down to 90. One article was eliminated from further analysis as a duplicate (Fernández-Pérez et al., 2012); another four articles were eliminated due to lack of cognitive component (Ocasio & Radoynovska, 2016; Bentley & Kehoe, 2020; Li & Chen, 2020; Wu, 2021), which resulted in 85 articles for the examination. Upon completion of the computer-based analysis, a qualitative coding procedure was adopted (Anand et al., 2021a). The authors read each abstract and coded the content into seven different categories: (1) context, (2) level of analysis, (3) theoretical base, (4) research methods, (5) essential variables, and (6) outcomes. In cases of inconsistencies, the whole paper was read in detail.

5.4. Results and Discussion

This section identifies the research "hotspots" in cognitive perspective theoretical foundations, level of analysis, methodological approaches, and recurring trends in SC by using keyword text analysis and the BCA-D bibliographic method alongside the qualitative coding from the fourth step of the previously noted methodology (Appendix 1).

5.4.1. Research "hotspots"

Walter and Ribière (2013) suggested observing a general pattern emerging from all keywords. Moreover, previous studies indicate that such analysis could detect trending research topics in different periods (Pesta et al., 2018). Hence, we use overlay visualization in VOSviewer to put perspective on the evolution of the research agenda and present it in Figure 7. The data revealed growing attention to several streams of research:

- Keywords "SMEs" and "entrepreneur" in the context of SC increased in usage after 2018, which corresponds to the growing interest in entrepreneurship as a research area in general;
- The term "dynamic capability" became increasingly linked to "firm performance," "challenge," "growth," "success," and "efficiency" after 2016. It followed with the related concept of "managerial dynamic capability" as a moderator to "firm performance," "competitive advantage," and "competitiveness";
- "Uncertainty," "ambiguity," and "sustainability" were emerging keywords after 2018 with tight links not only to "change process" in general but also to core terms of "sense" and "sensemaking";
- Keywords "TMT" and "board" remained a constant research focus on SC.

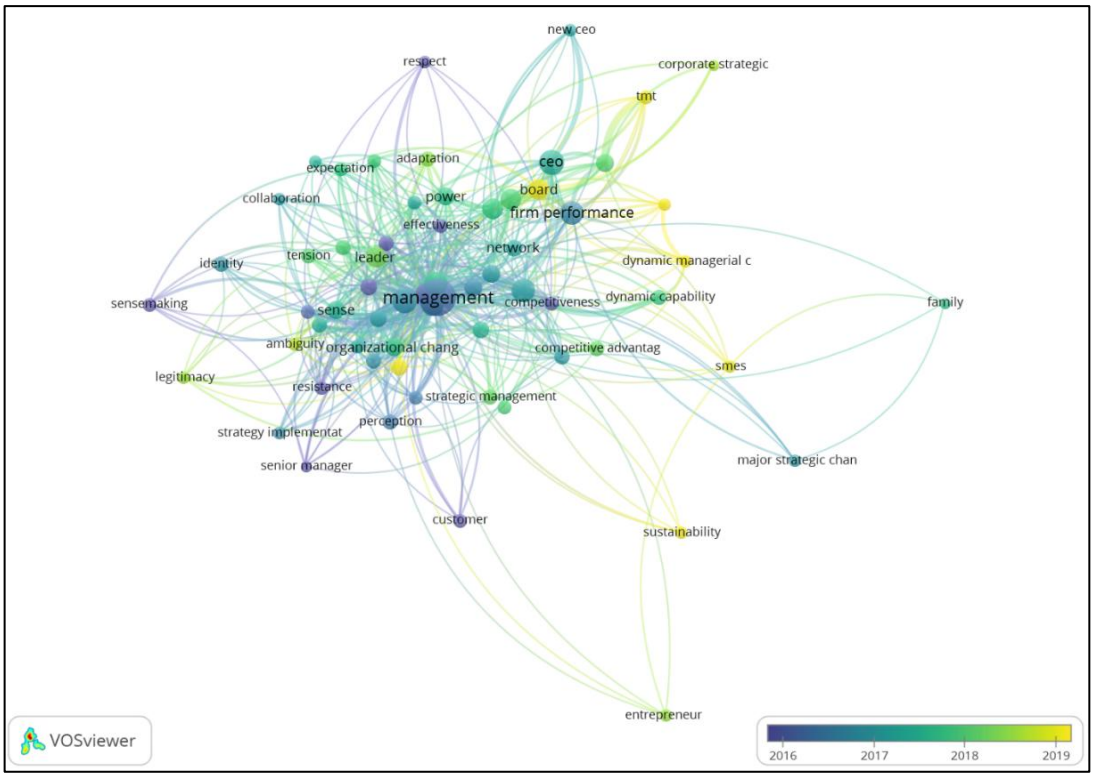

Figure 7 Important terms on strategic change (**source:** VOSviewer)

Notably, the terms surrounding the decision-making process did not emerge in this keyword map specially devoted to studying the cognitive aspect of SC. One could suggest that cognition and cognitive skills of managers are still perceived as a "black box" with the final decision on SC revealed as the outcome of some thinking and reflection. It could also be argued that studies predominantly perceive decisions on SC as binary events ("1" being if change is decided upon, "0" if it is not). Alternatively, it could be viewed as a process of receiving, decoding, and structuring incoming information with deliberation (Hambrick & Mason, 1984; Corner et al., 1994). Emerging data mining and brain activity exploration methods could deepen scholars understanding of the area. Such an approach could lead to a new avenue of future research.

5.4.2. The Adopted Theories in Strategic Change

The theoretical variation around the cognitive aspect of SC is presented in Table 6 and proves that the domain of cognition and behavior is quite complex. We follow the conceptualization provided by Müller and Kunisch (2018) and first present articles by

three theoretical perspectives and approaches to studying the cognitive aspect of SC. The majority of studies follow the Voluntaristic perspective; several studies were conducted using the Deterministic perspective (Decker and Mellewigt, 2012; MacKay and Chia, 2013; Chiu et al., 2016; Yi et al., 2017), and surprisingly, only a few pursue the Dialectical perspective (Hutzschenreuter et al., 2012; Quigley and Hambrick, 2012; MacKay and Chia, 2013; Haynes and Hillman, 2010; Díaz-Fernández et al., 2016; Napoli, 2018). The dominance of the Voluntaristic perspective on SC concerning the Deterministic perspective is logical since the very nature of the cognitive argument is rooted in the concept of bounded rationality, in which leaders form a cognitive map of their environment and act upon it (Hutzschenreuter et al., 2012). However, the narrowness of the research within the Dialectical perspective calls for further investigation. According to the dialectical perspective, organizational or environmental constraints interact with managerial decision-making to bring about change. In line with this viewpoint, organizational actors still impact the transformation process, while environmental factors and organizational structures play a crucial role in determining SC (Müller & Kunisch, 2018). Such an approach could provide additional insights on the matter.

Dialectical perspective is quite a holistic approach to our understanding. In the seminal paper, Finkelstein and Hambrick (1990) try to reconcile competing views of Upper echelons (Hambrick & Mason, 1984) and Population ecology (Hannan & Freeman, 1984); scholars follow Hrebiniak and Joyce (1985) and argue that "in some cases, environments determine organizational forms and fates; in other cases, managers, through their choices, have a great role in affecting outcomes" (Finkelstein & Hambrick, 1990, p. 484). Managerial discretion is presented as a key differentiator, and if the level of discretion is high, Upper echelons will have strong explanatory power. In our sample, only Hutzschenreuter et al. (2012), Quigley and Hambrick (2012), and MacKay and Chia (2013) follow that line of thinking. For example, MacKay and Chia (2013) introduce "owned" and "unowned" change processes: "owned" processes emphasize how managers decide on change in essential stable circumstances, and "unowned" perspective reorients attention towards destabilizing dynamic external environment. Such an outlook seems relevant in a dynamic environment and could provide a basis for more intertwined research.

Overall, the result of the articles' mapping, presented in Table 6, indicates the prevalence of Upper echelon theory as the primary foundation for the current research (Behr & Fehre,

2019; Åberg & Torchia, 2020; Kowalzick & Appels, 2023). Apart from that, from the coding procedure, it could be derived that the cognitive aspect of SC is most commonly explained via Contingency theory, Behavioral theory of the firm, and Resource-based view (RBV), with Dynamic managerial capability theory being evolutionary adherent to RBV. Among the most popular theories, sensemaking is a process that makes meaningful social action take place in an organization; it is most commonly used in research on strategy implementation (Arnaud et al., 2016; Joshi & Jha, 2017; Kieran et al., 2020), and relatively few studies employ sensemaking to investigate individual cognitive and affective processes at the stage of initiation of SC (Jalonen et al., 2018).

In addition to the most utilized theories, our review identified some studies that use relatively uncommon frameworks, such as regulatory focus (Ahn et al., 2020), paradox theory (Back et al., 2020), and research on mindfulness (Harvey & Kudesia, 2023). The appearance of those theories could be explained by the nature of cognitive traits that researchers intended to study.

Theoretical perspective	Citations
Voluntaristic perspective	
Agency theory	Pathak *et al.* (2014); Decker and Mellewigt (2012); Bednar *et al.* (2013); Napoli (2018); Belling *et al.* (2021); Huynh *et al.* (2022); Klarner *et al.* (2023)
Behavioral theory of the Firm	Vithessonthi (2010); Vithessonthi and Thoumrungroje (2011); Kunisch *et al.* (2017); Díaz-Fernández *et al.* (2019); Mohammad (2019); Bettinazzi *et al.* (2020); Xu *et al.* (2020); Sarta *et al.* (2021); Huynh *et al.* (2022); Jung *et al.* (2023)
Dynamic managerial capability (DMC) theory	Helfat and Peteraf (2015); Helfat and Martin (2015); Martin and Bachrach (2018); Åberg and Torchia (2020); Bendig *et al.* (2022); Heubeck and Meckl (2022); Huynh *et al.* (2022); Harvey and Kudesia (2023); Heubeck (2023)
Network theory	Lundgren-Henriksson and Kock (2016b); Martin and Bachrach (2018); Belling *et al.* (2021);
Resource-based view (RBV)	Decker and Mellewigt (2012); Díaz-Fernández *et al.* (2016); Yi *et al.* (2016); Dominguez-Cc and Barroso-Castro (2017); Miller *et al.* (2019); Belling *et al.* (2021); Huynh *et al.* (2022); Harvey and Kudesia (2023); Samara and Yousef (2023)

Sensemaking	Sonenshein (2010); Mantere *et al.* (2012); Sonenshein and Dholakia (2012); Guiette and Vandenbempt (2013); Balogun *et al.* (2015); Hensmans (2015); Arnaud *et al.* (2016); Lundgren-Henriksson and Kock (2016a); Lundgren-Henriksson and Kock (2016b); Joshi and Jha (2017); Jalonen *et al.* (2018); Kieran *et al.* (2020); Kieran *et al.* (2022)
Transactional cost theory	Decker and Mellewigt (2012)
Upper echelons theory	Park *et al.* (2011); Decker and Mellewigt (2012); Bednar *et al.* (2013); Karaevli & Zajac (2013); Kipkirong Tarus and Aime (2014); Weng and Lin (2014); Díaz-Fernández *et al.* (2016); Dutta *et al.* (2016); Roundy *et al.* (2016); Wowak *et al.* (2016); Lin (2017); Napoli (2018); Ramachandran (2018); Behr and Fehre (2019); del Carmen Triana *et al.* (2019); Díaz-Fernández *et al.* (2019); Richard *et al.* (2019); Wu *et al.* (2019); Åberg and Torchia (2020); Jiang *et al.* (2020); Wang *et al.* (2021); Zhang *et al.* (2021); Cummings *et al.* (2022); Klarner *et al.* (2023); Kowalzick and Appels (2023)
Strategy-as-Practice	Mueller *et al.* (2013); Arnaud *et al.* (2016); Lundgren-Henriksson and Kock (2016a); Kannan-Narasimhan and Lawrence (2018); Wei and Zhang (2020)
Stewardship theory	Napoli (2018)
Deterministic perspective	
Population ecology theory / Organizational inertia theory	Decker and Mellewigt (2012); MacKay and Chia (2013); Chiu *et al.* (2016); Yi *et al.* (2017); Sarta *et al.* (2021)
Contingency theory	Martin and Bachrach (2018); Sarta *et al.* (2021)
Variation-selection-retention (VSR) models	Sarta *et al.* (2021)
Dialectical perspective	
Managerial discretion theory	Hutzschenreuter *et al.* (2012); Quigley and Hambrick, (2012); MacKay and Chia (2013)
Resource Dependence Theory	Haynes and Hillman (2010); Díaz-Fernández *et al.* (2016); Napoli (2018)
Selection of theories that help explain cognitive aspect	
Attention-based view	Ocasio *et al.* (2018); Back *et al.* (2020); Belling *et al.* (2021); Wang *et al.* (2021)
Adaptation theory	Kunisch *et al.* (2017); Schepker *et al.* (2017)
Argumentation theory	Sorsa and Vaara (2020)
CEO life cycle theory	Hutzschenreuter *et al.* (2012); Behr and Fehre (2019)
Dialectics	Farjoun and Fiss (2022)
Disruption theory	Schepker *et al.* (2017)

Effectuation theory	Wei and Zhang (2020)
Ethics theory	del Carmen Triana *et al.* (2019)
Information-processing theory	Yi *et al.* (2017)
Language-based view of strategy	Jalonen *et al.* (2018)
Organizational sociology	Sarta *et al.* (2021)
Organizational theory	Díaz-Fernández *et al.* (2016); Sminia (2016); Miller *et al.* (2019);
Person–group fit perspective	Zhang *et al.* (2021)
Power circulation theory of control	Ramachandran (2018);
Relational capital theory	Yi *et al.* (2016);
Regulatory focus theory	Roundy *et al.* (2016); Ahn *et al.* (2020); Jiang *et al.* (2020)
Research on mindfulness	Harvey and Kudesia (2023)
Rhetorical theory of diffusion	Sorsa and Vaara (2020)
Schema theory	Roundy *et al.* (2018)
Social cognitive theory	Harvey and Kudesia (2023)
Social identity theory	Zhang *et al.* (2021)
Social exchange theory	Vithessonthi (2010)
Strategic leadership interface perspective	Cummings *et al.* (2022)
Structuration theory	Dutta *et al.* (2016)
Team mental model theory	Guiette and Vandenbempt (2013)
Transactive memory system theory	Martin and Bachrach (2018)
Threat-rigidity theory	Triana *et al.* (2014)
Paradox theory	Back *et al.* (2020);
Performance feedback theory	Ahn *et al.* (2020); Jung *et al.* (2023)

Table 6 Theoretical frameworks adopted in strategic change research (**source:** Authors' own work)

5.4.3. Methodological approaches

The article's content analysis and coding revealed that methodological approaches to studying cognitive aspects in SC are versatile. Moreover, researchers from different regions more regularly use particular types of research. Table 7 maps the study's research methodologies and countries of origin. A publication from a country is defined based on the origin of the case study or survey sample. Such mapping can distinguish several patterns in current research and promote scholars' diffusion of methods and contexts. The quantitative method is still extensively utilized to study cognitive aspects of SC, with 44 articles following that trajectory. Researchers from APAC regions utilize quantitative methods the most extensively and exclusively and investigate cognitive traits with the help of survey research methods (Yi et al., 2016; Yi et al., 2017; Lin, 2017; Richard et al., 2019; Wu et al., 2019; Wei and Zhang, 2020; Zhang et al., 2021).

Sixteen articles under review could be classified as qualitative studies employing such methods as longitudinal case studies (Mantere et al., 2012; Balogun et al., 2015; Kirtley & O'Mahony, 2023), interviews (Jalonen et al., 2018), or even diary studies (Kieran et al., 2022). The majority of such studies (eleven) were conducted in EMEA regions (Europe, the Middle East, and Africa), with the center of qualitative research in Finland (five studies) and the UK (three studies).

North American researchers are also distinguished from the sample, as they extensively employ qualitative and quantitative research methods. Several studies employ techniques other than surveys to measure cognitive traits, e.g., historiometric technique (Wowak et al., 2016); content analysis (Behr & Fehre, 2019; Back et al., 2020; Jiang et al., 2020; Wang et al., 2021); or experimental methodology (Dutta et al., 2016; Kowalzick & Appels, 2023). Qualitative studies from North American companies are also presented in the review (Sonenshein, 2010; MacKay & Chia, 2013; Kannan-Narasimhan & Lawrence, 2018; Kieran et al., 2022; Kirtley & O'Mahony, 2023), providing an explorative foundation for future hypothesis testing.

Region	Country	Research methods	Research methods subcategories	Citations
APAC	China	QUANT	survey, regression analysis	Yi *et al.* (2016); Yi *et al.* (2017); Richard *et al.* (2019); Wu *et al.* (2019); Wei and Zhang (2020); Zhang *et al.* (2021)
	Taiwan	QUANT	regression analysis	Lin (2017)
EMEA	Belgium	QUAL	case study	Guiette and Vandenbempt (2013)
	Finland	QUAL	case study, longitudinal case study	Mantere *et al.* (2012); Lundgren-Henriksson and Kock (2016a); Lundgren-Henriksson and Kock (2016b); Sorsa and Vaara (2020)
		QUAL	interviews	Jalonen *et al.* (2018)
	Ireland	QUAL	diary study	Kieran *et al.* (2020)
	Spain	QUAL	news analysis	Domínguez-Cc *et al.* (2015)
	UK	QUAL	case study, longitudinal case study	Balogun *et al.* (2015); Arnaud *et al.* (2016)
		QUAL	in-depth study	Mueller *et al.* (2013)
	Germany	QUANT	content analysis, regression analysis	Behr and Fehre (2019)
			survey, regression analysis	Plambeck and Weber (2010); Decker and Mellewigt (2012)
			survey, CFA	Heubeck and Meckl (2022)
	Italy	QUANT	survey, regression analysis	Napoli (2018)
	Kenya	QUANT	regression analysis	Kipkirong Tarus and Aime (2014)
	Nigeria	QUANT	survey,path analysis,	Mohammad *et al.* (2019)
	Norway	QUANT	survey, correlation analysis	Åberg and Torchia (2020)
	Spain	QUANT	covariance-based SEM	Díaz-Fernández *et al.* (2016)
			survey, regression analysis	Fernández-Pérez *et al.* (2012); Díaz-Fernández *et al.* (2019)
	Europe	QUAL	case study	Hensmans (2015)
LATAM	Ecuador	QUANT	survey, regression analysis	Herrmann and Nadkarni (2014)
NA	Canada	QUAL	longitudinal case study	MacKay and Chia (2013)
	North America	QUANT	survey, regression analysis	Bettinazzi *et al.* (2020); Harvey and Kudesia (2023)
	US	QUANT	survey, regression analysis	Haynes and Hillman (2010); Park *et al.* (2011); Quigley and Hambrick (2012); Bednar *et al.* (2013); Karaevli and Zajac (2013); Pathak *et al.* (2014); Weng and Lin (2014); Chiu *et al.* (2016); Joshi and Jha (2017); Roundy *et al.* (2018); Jung *et al.* (2023); del Carmen Triana *et al.* (2019); Bendig *et al.* (2022); Samara and Yousef (2023)
			historiometric technique, regression analysis	Wowak *et al.* (2016)

			content (text) analysis, regression analysis	Sonenshein and Dholakia (2012); Ahn *et al.* (2020); Back *et al.* (2020); Jiang *et al.* (2020); Wang *et al.* (2021)
			experimental methodology, regression analysis	Dutta *et al.* (2016); Kowalzick and Appels (2023);
		QUAL	case study, longitudinal case study	Sonenshein (2010); Kannan-Narasimhan and Lawrence (2018); Kirtley and O'Mahony (2023)
			diary study	Kieran *et al.* (2022)
Global	Global	QUANT	regression analysis	Cummings *et al.* (2022); Triana *et al.* (2014); Xu *et al.* (2020)
	-	Conceptualization	-	Vithessonthi (2010); Helfat and Martin (2015); Helfat and Peteraf (2015); Roundy *et al.* (2016); Sminia (2016); Martin and Bachrach (2018); Ocasio *et al.* (2018); Ramachandran (2018); Miller *et al.* (2019); Belling *et al.* (2021); Farjoun and Fiss (2022); Huynh *et al.* (2022)
	-	Literature review	-	Narayanan *et al.* (2011); Vithessonthi and Thoumrungroje (2011); Hutzschenreuter *et al.* (2012); Domínguez-Cc *et al.* (2015); Kunisch *et al.* (2017); Müller and Kunisch (2018); Sarta *et al.* (2021); Heubeck (2023); Klarner *et al.* (2023)
	-	Meta-analysis		Schepker *et al.* (2017)

Table 7 Mapping of the methodological approach to the research (**source:** Authors' own work)

5.4.4. Level of analysis

Utilizing the Upper echelons theory, the research field on SC is dominated by studies focusing on the top management teams or boards of directors. Apart from conceptual work (Helfat & Peteraf, 2015; Martin & Bachrach, 2018; Ocasio et al., 2018; Ramachandran, 2018; Miller et al., 2019; Belling et al., 2021; Sarta et al., 2021; Farjoun & Fiss, 2022; Huynh et al., 2022) and literature reviews (Narayanan et al., 2011; Hutzschenreuter et al., 2012; Helfat & Martin, 2015; Kunisch et al., 2017; Müller and Kunisch, 2018; Sarta et al., 2021; Heubeck, 2023; Klarner et al., 2023), several types of research are notably stand out.

Firstly, a few studies explain the intention for change not as a will of top management but rather as the relationship between inside and outside forces of the organization and top management, hence putting their actions into context. Several types of research link the

outside environment to the decision-making of actors inside. For example, Bednar et al. (2013) examine the role of negative media coverage on SC and show how outside constituents' evaluations of firms may influence the executives' decision-making. Similarly, Jung et al. (2023) investigate how negative performance feedback affects board diversity and empirically prove that when a firm underperforms compared with its aspirations, it increases the board's expertise diversity but decreases the board's ascriptive diversity.

Simultaneously, a line of research examines internal processes within the firm in more detail. For example, Yi et al. (2017) investigate how bottom-up learning affects the speed and magnitude of SC, showing the moderating effects of both resource flexibility and coordination flexibility between departments in this process. Ahn et al. (2020) examined regulatory focus in large manufacturing firms; the study stipulates that a promotion focus increases the magnitude of growth-oriented SC, while a prevention focus favors efficiency-oriented SC.

Secondly, several studies focus on teams, exploring circumstances where it is easier for them to embrace and foster change. Guiette and Vandenbempt (2013) investigate team mental model dynamics in the context of SC implementation; Sorsa and Vaara (2020) examine the role of team rhetoric in the strategy process, and Harvey and Kudesia (2023) explore mindful attention towards teams in ambiguous environment. Such studies stimulate a discourse towards developing and maintaining an enabling environment for employees who will be responsible for change initiation and implementation.

It was indicative that since Hutzschenreuter et al. (2012) urge to expand the scope of actors considered SC, we still can observe the dominant focus on TMT and the Board. Middle management has been and still is at the center of the research on strategy implementation rather than the initiation of SC (Vithessonthi, 2010; Arnaud et al., 2016; Lundgren-Henriksson and Kock, 2016a; Joshi and Jha, 2017; Kieran et al., 2020), while seminal work of Wooldridge and Floyd (1990) pointed out the ability of middle managers to actively participate in the strategy formation process. In that respect, the study of Kannan-Narasimhan and Lawrence (2018) stands out; the researchers propose to shift focus towards innovators as a distinct level of analysis that influences SC directly and frames internal organizational resources to morph their organization's strategy.

5.4.5. Recurring trends in research

Based on the extent review, we developed a concept map (Figure 8) of the current SC research agenda. Next, we discuss the most recurring themes that could be found in or missing from current research, as well as theoretical contributions and avenues for future research.

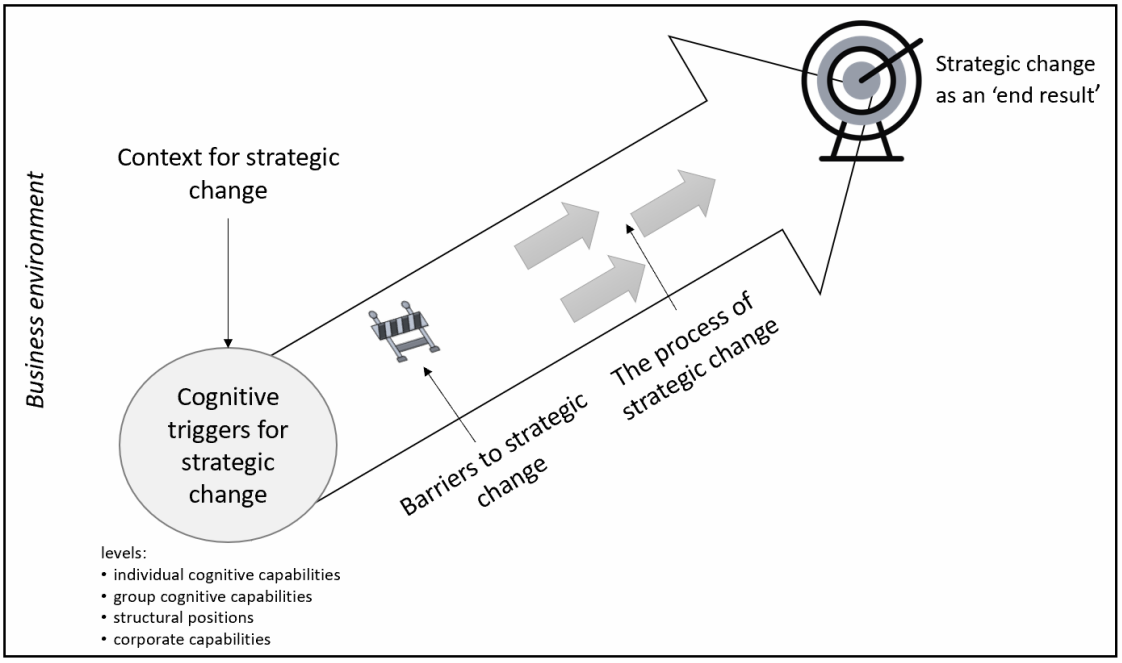

Figure 8 Qualitative concept map of the strategic change research agenda (**source:** Authors' own work)

(1) Strategic change as an 'end result'

The domain of SC differs significantly across the research. The notion of SC is fundamental while investigating the cognitive aspect of the phenomenon, as it indicates the process underlying decision-making. Researchers are pursuing various methods to separate one type of SC from another. Table 8 presents a variety of SC measures and definitions that provide a basis for further conceptualization. The authors accumulate measures of SC in 5 distinct clusters.

Most studies in the first cluster examine SC from a resource allocation standpoint. A line of studies identifies SC using a proxy of advertising, R&D, financial and selling activity, plant and equipment upgrades, and inventory levels. The popularity of such measures

could be explained by the availability of financial data in databases, such as COMPUSTAT.

The second cluster studies examine SC along the diversification-refocusing dimension, including cross-border transactions. Some studies use several indicators to explain SC, while others focus on a specific event. For example, Kowalzick and Appels (2023) use three indicators of SC: (1) change in resource diversification, (2) business segment change, and (3) corporate restructuring, while Chiu et al. (2016) focus solely on divestitures. Xu et al. (2020) investigate the circumstances of international diversification as a specific context for family firms.

Studies presented in Cluster 3 perceive SC as a change in competitive strategy: one study on entrepreneurial firms focuses on business model pivot (Kirtley & O'Mahony, 2023), and the other on the change in Porter generic strategies (Lin, 2017). Cluster 4 comprises studies on companies' structural decisions, such as the creation of new divisions and changes in organizational structure.

Cluster 5 represents a line of studies that attempt to derive a comprehensive measure of SC, and the researchers are employing a vast array of techniques to do so, i.e., surveys and content analysis. It should be noted, that having in mind the limitation of the survey method, the researchers structure questioners on profound theoretical frameworks such as Porter's generic strategies (Roundy et al., 2018), causation and effectuation theory (Wei and Zhang, 2020), or perform pilot studies in advance (Yi et al., 2016).

Strategic change as:	**Citation**
Cluster 1. Resource allocation and investment	
Four or Six resource allocation dimensions: advertising intensity; R&D intensity; plant and equipment upgrade; nonproduction overhead; inventory levels; and financial leverage	Haynes and Hillman (2010); Park *et al.* (2011); Quigley and Hambrick (2012); Weng (2012); Bednar *et al.* (2013); Karaevli and Zajac (2013); Kipkirong Tarus and Aime (2014); Triana *et al.* (2014); Weng and Lin (2014); Wowak *et al.* (2016); del Carmen Triana *et al.* (2019); Richard *et al.* (2019); Ahn *et al.* (2020)[5]; Back *et al.* (2020); Jiang *et al.* (2020); Wang *et al.* (2021); Zhang *et al.* (2021); Cummings *et al.* (2022); Samara and Yousef (2023);

[5] In Ahn *et al.* (2020) growth-oriented and efficiency-oriented strategic change was presented (advertising intensity (advertising/sales) and R&D intensity (R&D/sales) for growth-oriented; nonproduction overhead (SG&A expenses/sales) and inventory levels (inventory/sales) for efficiency-oriented)

Two multi-item measures: strategy variation index (SVI) and strategy deviation index (SDI) using indicators: inventory levels and financial leverage	Díaz-Fernández *et al.* (2016); Díaz-Fernández *et al.* (2018)
Sustainability-related investments	Bettinazzi *et al.* (2020)
Cluster 2. Corporate transactions	
Acquisition and Divestiture decisions (M&A deals; Business exit; Divestitures in M&A process; Divestment intensity; Divestiture scale; Divestiture scope; Refocusing, including asset sell-offs, spin-offs, split-ups, or management buy-outs)	Decker and Mellewigt (2012); Pathak *et al.* (2014); Chiu *et al.* (2016); *et al.* (2019); Cummings *et al.* (2022); Kowalzick and Appels (2023)
Diversification decisions (Change the number of business; Breadth and Depth of international diversification)	Wu *et al.* (2019); Li and Chen (2020); Xu *et al.* (2020)
Change in resource diversification (the (log-transformed) absolute year-on-year change in entropy measure of diversification)	Kowalzick and Appels (2023)
Reversal of decision (reversal of M&A decision)	Mantere *et al.* (2012)
Cluster 3. Change in business model and basis for competition	
Pivot of an innovative entrepreneurial technology firm	Kirtley and O'Mahony (2023)
Restructuring of product portfolio, Shift to IT business segment, Business segment change	Sorsa and Vaara (2020); Bendig *et al.* (2022); Kowalzick and Appels (2023)
Switch to co-opetition strategy	Lundgren-Henriksson and Kock (2016a); Lundgren-Henriksson and Kock (2016b)
Strategic consistency (examined three generic strategy dimensions: low cost, marketing differentiation, and technology differentiation)	Lin (2017)
Change in relative client mix (for banking industry)	Bentley and Kehoe (2020)
Cluster 4. Structural decisions	
Structural decisions (creation of new integrative division)	Balogun *et al.* (2015);
Changes in structures, processes, and incentive systems: (1) change in organizational structure; (2) restructuring or process changes; (3) increase or decrease in number of employees; (4) changes in distribution of executive team members' titles; (5) changes in formal incentives granted to executives	Herrmann and Nadkarni (2014)
Cluster 5. Intentions, words of managers and news	
Major decisions in life of the company according to news (price, product quality, quality of service, delivery time, degree of reaction to customer needs, product innovation, differentiation or exclusiveness of the product, structural or short-term company expansion, target sales, market share, advertising spending, company distribution system, width of product range)	Herrmann and Nadkarni (2014); Dominguez-Cc *et al.* (2015); Dominguez-Cc and Barroso-Castro (2017); Behr and Fehre (2019)
Explorative actions of managers (ratio expressing the number of explorative words used in letters to shareholders divided by the total number of exploitative and explorative words used)	Bendig *et al.* (2022)

Opinion of managers through questionnaire survey method and interviews (change in generic strategies; dimensions of strategic change; speed of strategic change; magnitude of strategic change)	Plambeck and Weber (2010); Herrmann and Nadkarni (2014); Fernández-Pérez *et al.* (2012); Yi *et al.* (2016); Roundy *et al.* (2018); Yi and Wei (2017); Napoli (2018); Åberg and Torchia (2020); Mohammad (2019); Wei and Zhang (2020)

Table 8 The variety of strategic change measures and definitions (**source:** Authors' own work)

The analysis indicates that scholars continue to conceptualize and structure the framework of SC. Wowak et al. (2016) examine strategic nonconformity rather than SC, i.e., the extent to which the firm's strategy deviates from the industry average; such an approach helps to put the company in the context of the industry surrounding it. Miller et al. (2019) propose strategy restoration as a distinct type of SC that fills a gap in current research. Sarta et al. (2021) put forward discourse upon strategic nonadaptation and suggest that companies may have conflicting objectives and ambitions, which might result in nonadaptive strategic decisions. The cognitive aspect of these aspects of SC was not investigated thoroughly.

(2) Cognitive triggers for strategic change

Management scholars are increasingly focusing on the cognitive antecedents of SC. Studies go beyond looking at SC from a static standpoint and offer insights into how SC is accomplished (Åberg & Torchia, 2020). Four types of cognitive triggers for SC could be derived based on the undergone procedure of the review: individual cognitive capabilities, group cognitive capabilities, structural positions, and corporate capabilities.

(2.1) Individual cognitive capabilities

Our sample article focuses on a wide array of individual cognitive capabilities and traits with respect to SC. For example, studies have identified leaders' temporal focus (Kunisch et. al., 2017; Miller et al., 2018; Back et al., 2020), regulatory focus (Roundy et al., 2016; Ahn et al., 2020; Jiang et al., 2020), entrepreneurial orientation (Wang et al., 2021), or mindful attention (Harvey & Kudesia, 2023) as predictors for SC. Some cognitive traits are argued to disturb the possibility of SC, such as executives' commitment to the status quo (Behr & Fehre, 2019) or overconfidence/hubris (Park et al., 2011; Dutta et al., 2016; Kowalzick & Appels, 2023).

Scholars predominantly choose a particular cognitive trait to study rather than a mix of them. However, there are several exceptions. The study of Herrmann and Nadkarni (2014) focuses on the Five Factor Model, which was first developed in the 1930s and, with the rise of empirical research in the 1980s, has become the called-for framework of personality due to its explanatory strength. Despite this, some researchers believe more than five traits are necessary to capture the full extent of personality (Kessler, 2013, p. 883).

Research on dynamic managerial capabilities stands out because they combine managerial cognition, human capital, and social capital under one framework and conceptualize cognitive capabilities. Since the seminal articles of Helfat and Martin (2015) and Helfat and Peteraf (2015), several successful attempts have been made to empirically test the theory (Åberg & Torchia, 2020; Bendig et al., 2022; Heubeck & Meckl, 2022). Still, it is subject for further discussion whether this acknowledged framework could in fact accumulate all research on cognition under its "umbrella."

The mapping of managerial cognition traits extracted from sample articles is presented in the Table 9, enable us to perform a comparative analysis. We have mixed results and suggest that current research could not fit into one unified framework. To start with, part of the studies fit accurately within dynamic managerial capabilities (DMC) framework (Wowak et al., 2016; Roundy et al., 2018; Wang et al., 2021), while other studies could be split between several categories of cognitive capabilities denoted by DMC (Roundy et al., 2016; Behr & Fehre, 2019; Ahn et al., 2020; Jiang et al., 2020). Secondly, some studies identify cognitive traits in question as metacognitive skills, which have not been in the focus of previously introduced frameworks (Harvey & Kudesia, 2023). Thirdly, the study of Hutzschenreuter et al. (2012) follows Hilgard (1980) and suggests treating the human mind as processes of cognition, affection, and conation. While cognition includes only "knowledge structures" and was widely expanded under the DMC framework, conation is transformed into a narrower notion of belief in more recent frameworks (see Table 9). It is indicative, however, that the search in the Dimantions.ai database has shown that there are only 11 publications that investigate affection and emotion regulation in respect to SC; only 10—beliefs regarding SC, no research on conation were found.

(2.2) Group cognitive capabilities

A group-level analysis can shift the perception of a leader as a person who thinks and reasons independently from colleagues and surroundings. With a group-level lens employed, the process of sensemaking could be seen as a social activity (Narayanan et al., 2011) rather than solely the result of attention and perception. The content analysis indicates the scarcity of such research (Appendix 1); however, two distinct lines of thought could be identified.

Several explorative case studies provide insight into SC as a process that is happening through a series of interactions between TMT members. Jalonen et al. (2018) pursue a language-based view of strategy and view language as a social practice. The study examines how strategic concepts are used in meaning-making within top management team, and how such concepts may be mobilized for the legitimation of SC. These studies suggested that with a group-level lens employed, sensemaking could be seen as a social activity (Narayanan et al., 2011), rather than solely a result of attention and perception. In a similar manner, Lundgren-Henriksson and Kock (2016a) present the idea that a new frame on the strategy of the company is constructed by a team of top management through matching an established competitive frame with an emerging coopetitive frame. Sorsa and Vaara (2020), utilizing the Rhetorical theory of diffusion and Argumentation Theory, demonstrate how setting specific types of rhetorical practices among TMT plays a crucial role in strategy making.

Another avenue of research is designed specifically to differentiate between individual and team mental models. For instance, Guiette and Vandenbempt (2013) adopt a sensemaking perspective with the objective of identifying salient determinants of team mental model dynamics through the means of an explorative case study. The authors emphasized that team mental models are not static constructs compared to individual mental models, but rather they interact with their social surroundings to decide actions. The authors identify critical determinants that shape team cognition during SC implementation and accentuate the presence of coherence between ostensive and performative aspects of organizational routines and the dominance of organizational discourse among them.

In following years, evolving on the managerial capabilities framework, Martin and Bachrach (2018) undertake a conceptual take on the Transactive Memory System (TMS)

and examine the relationship between the quality of team decisions, SC, and organizational performance. The TMS involves team members sharing cognitive labor to learn, remember, and communicate team knowledge embedded in their structures and processes. TMS's cognitive labor division alleviates the pressure of learning and recalling various areas, allowing members to focus on developing deeper, more specialized knowledge. The framework of the researcher helps to conceptualize changes in network resource decisions by managers under higher levels of environmental dynamism. Authors nevertheless argue that there is still little evidence on how social capital and cognition of individual managers interact, combined together, and then affect SC.

Managerial cognition trait	Definition	Comments	Research method	Citation
Personal / individual level, composite frameworks				
Human mind: • cognition; • affection; • conation.	**cognition** – leaders have a limited capacity to process all of the information in their surroundings and overlay so called cognitive map **affection** – emotions and states of mind that people go through. While negative affection may narrow leaders' perceptual fields and lessen their ability to notice issues, positive affection may energize them and increase their ability to notice a wide range of issues. **conation** – the volitional dimension of a leader's behavior explains that a leader's intentions—their own personal desire and belief about the relevant action – determine whether or not an action is taken. It includes everything that a person believes to be true.	Cognition includes only "knowledge structures"	Conceptualization	Hutzschenreuter *et al.* (2012)
Managerial cognition: • mental structures, models and beliefs ("knowledge structures"); • mental processes / cognitive capabilities; • emotion regulation	**mental structures, models and beliefs** – knowledge structures/schemas/schemata managers employ to represent information and their surroundings; **mental processes / cognitive capabilities** (see below); **emotion regulation** – the management and modification of leaders' own emotions	Expanded understanding of cognition. Emotion regulation is similar to affection; Mental processes – to cognition; nature of conation was not stressed by the authors.	Conceptualization	Helfat and Martin (2015); Martin and Bachrach (2018)
Mental processes / cognitive capabilities: • sensing (perception, attention); • seizing (problem solving and reasoning); • reconfiguration (language and communication, social cognition).	"the capacity of an individual manager to perform one or more of the mental activities that comprise cognition" (Helfat & Martin, 2015, p. 1286): **perception** – the mental activities or processes that organize information and interpret it; **attention** – selection of relevant information; **problem solving** – ability to find a way around an obstacle to reach a goal; **reasoning** – ability to evaluate information, arguments, and beliefs to draw a conclusion;	Further development of managerial dynamic capabilities.	Conceptualization Survey	Helfat and Peteraf (2015); Martin and Bachrach (2018); Åberg and Torchia, (2020); Bendig *et al.* (2022); Heubeck and Meckl (2022)

	language and communication – oral language (listening and speaking) and written language (reading and writing), language reception (listening and reading) and language production (speaking and writing); **social cognition** – perceiving, attending to, remembering, thinking about, and making sense of the people in our social world.			
The Five Factor Model (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism)	**openness to experience** – promotes unusual thought processes, divergent thinking, and risk taking **conscientiousness** – fit leaders to impart a strong sense of purpose, accomplishment, and direction **extraversion** – ability to be assertive, influential, talkative, and forceful in communicating processes **agreeable** – trait of being altruistic, empathetic, kind, cooperative, trusting, gentle, and modest **emotional stability** – ability of leaders to adjust their emotional state to various situations and to remain calm, self-confident in stressful situations	Openness and extraversion could be associated with mental processes (sensing and reconfiguration); emotional stability and agreeableness – with emotion regulation; and conscientiousness – with conation rather than beliefs.	Survey	Herrmann and Nadkarni (2014)

Personal / individual level, single cognitive traits				
Commitment to the status quo	conviction of a leader that the current strategy is correct and no changes are necessary, even in the case of essential changes in environmental conditions	Could be considered as a bias that influences problem solving and reasoning abilities; could influence sensing capabilities as well.	Content analysis	Behr and Fehre (2019)
Charisma	leaders who "by the force of their abilities are capable of having profound and extraordinary effects on followers" (Baetz, 1978, p. 399); will influence firm strategy through their ability to gain the support of employees that will be implementing these initiatives	Could be perceived as part of reconfiguring capabilities	Historiometric technique	Wowak *et al.* (2016)
Entrepreneurial alertness	the degree to which decision-makers sense and anticipate entrepreneurial opportunities associated with the current and future states of their business environment	Could be perceived as part of sensing capabilities	Survey	Roundy *et al.* (2018)
Entrepreneurial orientation	leaders' predisposition to focus their attention (e.g., time and mental resources) and firm resources on entrepreneurial behaviors.	Could be perceived as part of sensing capabilities	Content analysis	Wang *et al.* (2021)
Emotions (positive / negative)	positive emotions are associated with joy, security, and optimism regarding strategic change. Negative emotions are characterized by guilt, stress, skepticism, confusion, and fear.	Could be associated with affection rather than emotion regulation (no regulation component)	Case study	Lundgren-Henriksson and Kock (2016b)
Interpretive ambivalence	ability to hold competing evaluations of an issue (i.e. the leader could see a change in the firm's environment as both positive and negative)	Could be perceived as part of sensing capabilities (perception)	Survey	Plambeck and Weber (2010)
Managerial cognition	the extent to which managers consciously evaluate options for redesigning a firm's business model	Narrow view on cognition, could be perceived as part of seizing capabilities	Survey, CFA	Heubeck and Meckl (2022)
Mindfulness	ability of a leader to self-regulate their cognitive resources; ability to remain aware of the current attention levels and ensure it is allocated appropriately.	Metacognitive process	Survey	Harvey and & Kudesia (2023)

Overconfidence or Hubris	the leaders' self-confidence or pride	Could be considered as a bias that influences problem solving and reasoning abilities (i.e. confirmation bias)	Survey Option-exercising behavior Option-exercising behavior	Park *et al.* (2011); Dutta *et al.* (2016); Kowalzick and Appels (2023)
Regulatory focus	leaders' ability to self-regulate and motivate his/her own behavior to achieve goals through promotion and/or prevention focus (a promotion focus highlights development, progress, and achievable gains; a prevention focus emphasizes security, safety, and losses that can be prevented) Consists of two dimensions of psychological elements: chronic individual dispositions (e.g. narcissism and core self-evaluations) and situational and context-dependent emotions (e.g. positive and negative moods)	Comprehend both features of mental beliefs and emotion regulation in Helfat and Martin (2015), and affection and conation in Hutzschenreuter *et al.* (2012)	Conceptualization Text analysis Content analysis	Roundy *et al.* (2016); Ahn *et al.* (2020); Jiang *et al.* (2020)
Temporal focus, appreciative stance toward history	the degree to which individuals attend to the past, present, and future. Individuals with a strong focus on the past are more likely to recall past memories and base their decisions on them. In contrast, future focus is associated with visionary thinking about future events.	Could be considered as part of problem solving and reasoning abilities, but could influence sensing abilities as well	Literature review Conceptualization Psycholinguistic content analysis	Kunisch et. al. (2017); Miller *et al.* (2019); Back *et al.* (2020)

Table 9 Mapping of individual cognitive capabilities and traits (**source:** Authors' own work)

			TMT						Board											
Citation	**Dependent Variable(s)**	Ed. backgr.	Functional XP	Industry XP	Tenure	Age	Gender	Int. XP	Backgr[6].	Ed. level	Functional backgr.	Expertise (industry, functional)	Age	Tenure	Ascriptive (gender, race)	Gender	Capital breadth[7]	Capital depth[8]	Proportion of foreign directors	Proportion of outside directors
Plambeck and Weber (2010)	Ambivalence of SC		+																	
Díaz-Fernández *et al.* (2016)	Strategic change (SC)	+	+																	
Lin (2017)	Strategic consistency				–															
del Carmen Triana *et al.* (2019)	Firm performance; SC as a mediator	+					+[9]													

[6] Control variable. Diversity with regards to functional background, industrial background, educational background, personality and age

[7] Board capital breadth is indicated by functional, occupational, and relational heterogeneity

[8] Board capital depth measures industry embeddedness, depth of linkages to, and expertise in industry.

[9] The study proves positive moderating effect between senior management gender diversity and strategic change by a firm's alliance formation intensity and educational background diversity

Díaz-Fernández *et al.* (2019)	Strategy change	NS	NS	NS				+												
Wu *et al.* (2019)	ROE; SC as a mediator					+	+													
Haynes and Hillman (2010)	Strategic change																+	–		
Bednar *et al.* (2013)	Effect of negative media on SC																			+
Kipkirong Tarus and Aime (2014)	Strategic change									NS	+		–	–						
Triana *et al.* (2014)	Strategic change															_[10]				
Napoli (2018)	Strategic change in family firms																			+

[10] Authors have also found three-way interaction between board gender diversity, the power of women directors, and firm performance on strategic change. When women directors are powerful and firm performance is high, board gender diversity will have the most positive effect on the amount of strategic change

Åberg and Torchia (2020)	Strategic change								NS											
Jung *et al.* (2023)	Negative perf. feedback											+			–					
Samara and Yousef (2023)	Strategic change																		+	

Table 10 Diversity variables set (**source:** Authors' own work)

(2.3) Structural positions

Numerous studies focus on moderating the effects of diversity in the most prominent structural positions of the company, where SC serves as a mediator toward firms' performance. Scholars have shown before that diversity in work groups can increase mixed effects on cognitive task performance, positively impact decision outcomes, and enhance members creativity (Pelled, 1996; Olson et al., 2007; Shin et al., 2012), so analyzed articles continue this stream of research in respect to SC. It should be mentioned that cognitive and human capital are separated under the DMC framework, and diversity corresponds with human capital rather than cognition. Nevertheless, the authors of the framework acknowledge that recent work has expanded the concept of human capital to include not only knowledge and skills but also psychological attributes of cognitive ability (general intelligence) and other abilities (personality, values, and interests) of individuals, termed "KSAOs" (knowledge, skills, [cognitive] ability, and other abilities) (Helfat & Martin, 2015).

The level of analysis on diversity varies, whether it is the board, senior management, or top management team. Different variables are examined throughout the years: TMT culture diversity (Wu et al., 2019); gender diversity (del Carmen Triana et al., 2019); industry and functional diversity (Díaz-Fernández et al., 2019); demographic faultlines (Richard et al., 2019); expertise and ascriptive diversity (Jung et al., 2023): the summary of all diversity variables is presented in Table 10. The research remains to show mixed results on diversity variables in different contexts; in several studies, there was no significant relationship found (Kipkirong Tarus & Aime, 2014; Díaz-Fernández et al., 2019; Åberg & Torchia, 2020). The same logic was applied to research work applied to examining the effect of familiness on the SC (Napoli, 2018; Xu et al., 2020; Belling et al., 2021), suggesting that involving individuals from outside the dominant family creates a more favorable context for SC and innovation.

International diversity was considered in the research by Díaz-Fernández et al. (2019), the results show that the greater the TMT international diversity composition, the greater the SC undertaken by the company. The study of Samara and Yousef (2023) focuses on cross-border context as well, providing evidence that foreign directors rich in appropriate experience are associated with more extensive SC. Such events are all proved to be noticeable drivers for SC, showing that managerial change precedes SC, promoting international factors as «salient» drivers for SC.

It should be mentioned that several researchers argue that the results of such studies are usually consistent with other similar works done (Díaz-Fernández et al., 2019). Adherent to this argument, del Carmen Triana et al. (2019) emphasize that being tolerant of minority groups is not good enough in pursuing SC and improving performance; it is an integration that plays a key role, thus pushing research from studies that empirically test the existence of relationship towards ones that more explanatory.

On par with the concept of diversity, an array of studies examines the inclusion of a new member into the top management team and CEO succession events. Hutzschenreuter et al. (2012) describe the cognition and cognitive commitment argument in respect to company leaders, suggesting that the succession event is considered an essential vehicle for overcoming organizational inertia. As to the context of such research, it is varied as well: the studies could focus on the introduction of new CEO (Karaevli & Zajac, 2013; Weng & Lin, 2014; Dominguez-Cc et al., 2015; Ramachandran, 2018; Behr & Fehre, 2019); different CEO succession types (Zhang et al., 2021); and the introduction of a CIO position into the top management team (Bendig et al., 2022). For example, Behr & Fehre (2019) postulate that the new CEO appointment opens a "window of opportunity" to initiate SC shortly after the succession event. At the same time, Schepker et al. (2017) provide evidence in the meta-analysis conducted that inside CEOs in fact improve long-term performance and engage in less SC, while hiring an outside CEO leads to more SC that results in lower long-term performance. Such ambiguity fuels further contextualized research on both the diversity and CEO succession events (Süsi & Lukason, 2020; Kalasin, 2021).

(2.4) Corporate capabilities

The absence of a corporate perspective on cognitions is noticeable. Only a few studies investigate cognitive aspects on a corporate level. For example, Miller et al. (2019) investigate the formation of SC under the RBV perspective and focuses on such cognitive features of the company as traditionality (firms perpetuate rituals, symbols, norms, values, and beliefs) and organizational memory (individual recollections, cultural remnants, formal processes and roles, physical structures, and external archives).

However, a few more corporate-level theories have cognitive traits as a foundation. For example, the attention-based view (Ocasio, 1997) has highlighted the role of organizational attention in strategic decision-making and adaptation. Ocasio et al. (2018)

outlined the shift the corporation has undergone in recent years. The view of communication channels as “pipes and prisms” for information processing has, however, limited its ability to address SC has been shifted due to the introduction of informational technologies (Sia et al., 2016) and project-based managing style and different structures of organizations (Ocasio et al., 2023). Focusing on attentional structures and channels for communications instead of individual traits of managers could provide an opportunity for more elevated implications for practitioners and theorists.

(3) Cognitive barriers to strategic change

The research on SC implementation primarily focuses on barriers that hinder the process, frequently employing sensemaking or strategy-as-practice as theoretical frameworks. This literature examines the origins of resistance to SC and the avenues to surmount these obstacles, providing significant insights into organizational dynamics during change processes. The summary of findings derived from the coding procedure could be found in Table 11.

Stages of process of change	**Possible cognitive barriers to strategic change**	**Perspective on strategic change**	**Citations**
Change Initiation and Formulation			
Rearranging the organizational goals framework by establishing the organization's new vision and mission, strategic outlook	Difficulties to react to environmental circumstances	Dialectical	Hutzschenreuter *et al.* (2012); MacKay and Chia (2013)
	Lack of communication, discourse practices and recursive sensemaking to trigger sensemaking strategic change on organizational level (among TMTs); Difficulties in network formation and changing cognition in those networks	Voluntarist	Lundgren-Henriksson and Kock (2016a); Sorsa and Vaara (2020)
	Flawed relationships between power, politics and sensemaking	Voluntarist	Mueller *et al.* (2013)
Change Implementation			
Renewing the outlook and enthusiasm of employees to foster change process	Difficulties to overcome inertia; Difficulties in sensegiving and issue selling; Gap in understanding (the process of recipient sensemaking); Difficulties to couple discourse; Lack or meaning-making exercises and discourses; Difficulties to develop coopetitive frames.	Voluntarist	Vithessonthi (2010); Sonenshein (2010); Mantere *et al.* (2012); Sonenshein and Dholakia (2012); Guiette and Vandenbempt (2013); Arnaud *et al.* (2016); Lundgren-Henriksson and Kock (2016a); Lundgren-Henriksson and Kock (2016b); Kieran *et al.* (2020)

	Lack of engagement from supporting personnel, (e.g., MMs, HR)	Voluntarist	Balogun *et al.* (2015); Kieran *et al.* (2022)
	Flawed relationship between benefits-based motivation and cohesion-building motivation for change	Voluntarist	Sonenshein and Dholakia (2012); Hensmans (2015)
	Mismatch of leadership or leadership styles	Voluntarist	Joshi and Jha (2017)

Table 11 Cognitive barriers to strategic change (**source:** Authors' own work)

The authors predominantly investigate the employees outlook on change and examine how top managers can renew their outlook and boost enthusiasm about the change happening, following the voluntarist perspective towards SC. For instance, Sonenshein (2010) investigates the dialogue between managers and employees amid SC, analyzing the formation of resistance responses. This study emphasizes the significance of comprehending the narratives and interpretations that support resistance. Arnaud et al. (2016) examine the function of middle management in enabling SC. Their findings indicate that the practices of middle managers are crucial in navigating implementation obstacles, establishing them as essential agents in the change process.

Guiette and Vandenbempt (2013) expand this discourse by concentrating on the dynamics of team mental models. Their research indicates that implementing SC becomes progressively intricate and difficult when the sensemaking of change beneficiaries is inadequately addressed. Hensmans (2015) stresses the socio-political aspects of strategic transformation, advocating for increased focus on harmonizing new procedures with employee input. This approach elucidates the relationship between value creation goals and the workforce's contribution to their attainment.

Vithessonthi (2010) presents an alternative perspective by characterizing opposition to change as a potentially advantageous element. In this setting, resistance is a warning mechanism for senior management, indicating possible adverse outcomes of strategic alterations that may have been neglected. Future research could enhance this debate by exploring other perspectives on barriers to SC, specifically by investigating cognitive barriers within Lewin's unfreeze and refreeze stages. This emphasis may yield a deep understanding of how cognitive processes influence the efficacy of SC initiatives.

"Difficulty to react to environmental circumstances" barrier to SC identified in Table 11 stands out because it derives from a Dialectical perspective on SC, rather than Voluntarist.

Dialectical perspective acknowledges that alignment of the companies to external environment could be shaped by both structural constraints and strategic leaders' actions (Müller & Kunisch, 2018, p. 2). The study of Hutzschenreuter et al. (2012) suggests incorporating environmental conditions in the model of SC with managerial discretion as a moderator because different environments may provide leaders with different latitudes of action. They propose that leaders' choices to initiate SC are likely to be historically conditioned and path-dependent; foreign based competition or multimarket relationships are likely to affect organizational options. MacKay and Chia's (2013) study investigates the failure of NorthCo's company and argues that neither strategic choice nor population ecology explanations are able to fully account for the company's failure. The study displays cognitive barriers and limits to managerial discretion in the face of "unowned" processes and influence of "chance, relentless change, environmental circumstances, and unintended consequences" (MacKay & Chia, 2013, p. 221).

(4) The process of strategic change

Only a few studies are interested in the process of change. It is indicative that the study of Narayanan et al. (2011), in the form of a literature review, examines strategy formulation and strategy implementation as a process but perceives SC as a binary decision. Longitudinal case studies are primarily interested in strategy implementation (Sonenshein, 2010; Sonenshein & Dholakia, 2012; Mantere et al., 2012; Guiette & Vandenbempt, 2013; Balogun et al., 2015; Hensmans, 2015; Arnaud et al., 2016), rather than the process of figuring out the change (Mueller et al., 2013; Kannan-Narasimhan & Lawrence, 2018; Sorsa and Vaara, 2020; Kirtley & O'Mahony, 2023) or both (Lundgren-Henriksson & Kock, 2016a; Jalonen et al., 2018).

The summary of cognitive barriers to SC in Table 11 supports our finding. Relatively few studies are interested in the barriers that occurred in the initiation stage of SC (Lundgren-Henriksson and Kock, 2016a; Sorsa and Vaara, 2020; Mueller et al., 2013). Dominguez-Cc et al. (2015) investigates how SC processes unfold over time, building on a punctuated equilibrium model of organizational change. The study of Farjoun and Fiss (2022) stands out as well because it utilizes the theoretical foundation of dialectics to investigate the nature of change and introduces contradictions and tensions as a key "engine" for strategic renewal. Moreover, we have found only one study that was devoted to the aftermath of the SC: what processes are unraveling after SC that could be claimed as success or a failure.

(5) Context for strategic change

Research on the cognitive aspect of SC is benefiting from diving into details of different contexts. The literature review by Narayanan et al. (2011) urges incorporating context directly into theories and giving up the conveniences of remaining in the paradigm that is most closely associated with the research area, for example, considering surroundings (macro and meso-level context) or nested phenomena (micro-level context). The cognitive aspect of SC is perfectly fitted for this kind of attitude: international, environmental, and organizational factors are antecedents to SC, as well as micro-foundations that shape the cognition of a leader, a team, or an organization. So, below, we consider how higher and lower-level phenomena can influence SC.

International factors (macro-level context). The articles under review considered the international context in several ways. An array of studies based their research on large samples of companies across the world, providing support for the hypothesis on linking cognitions and SC on an international level (Triana et al., 2014; Cummings et al., 2022; Kowalzick and Appels, 2023; Samara & Yousef, 2023).

Several studies focus on barriers or adverse outcomes of SC, linking it to cognitive arguments. Decker and Mellewigt (2012) examine the business exit of German companies according to the M&A Database published by the University of St. Gallen (Switzerland), linking the likelihood of such exit with CEO turnover. Xu et al. (2020) provide insight into cognitive barriers for family firms to diversify internationally, basing the research on a sample of multiple companies from 93 countries.

Explorative research could significantly benefit from the introduction of international factors, e.g., further examining cognitive barriers to SC in global companies. For example, the study of Boyett and Currie (2004) examined how middle managers can orchestrate an emergent strategy and facilitate SC in a Jamaican subsidiary of an Irish company. The researchers demonstrated that middle managers contribute to strategy in international ventures and influence it divergently rather than passively—championing alternatives and facilitating adaptability. Such an example could demonstrate the fruitfulness of considering the cognitive aspect of SC in an international context.

Environmental dynamism (meso-level context). According to Frank et al. (2017), dynamics is a term related to turbulence in the environment or environments with high velocities. Aldrich (1979) suggests a high level of environmental instability will

encourage innovation by increasing an organization's awareness of cues to changes. In the literature review, Dominguez-Cc et al. (2015) identify distinct patterns of radical and incremental change, which explain the different methods that firms use when they are seeking how best to adapt to their environmental conditions or test the conditions for change. It could be suggested that ecological dynamism forces executives to pursue new ideas for growth at a fast pace. However, current research on environmental dynamism shows mixed results.

Richard et al. (2019) found that environmental dynamism strengthens the positive effects of task-related TMT faultline strength on SC in the context of China. Back et al. (2020) conducted supplementary analysis on a US sample. They showed that the positive moderating effect of CEOs' past focus is prevalent in the low-dynamism sample but not in the high-dynamism sample. In a US sample, Jiang et al. (2020) found that environmental dynamism strengthens the positive relationship between CEO promotion focus and the magnitude of SC. At the same time, Lin (2017) and Mohammad (2019) find that environmental dynamism is not significant in the context of Taiwan and Nigeria.

Such ambiguity could indicate a possible stream for future research, assuming that in the current BANI world, cognitive traits of management could manifest themselves differently in a dynamic environment. For example, Kunisch et al. (2017) investigate time in the context of SC and consider several streams of research apart from the mentioned temporal focus: sense of urgency and corresponding biases that leaders could be subjected to, temporal depth and ability for long-term strategic planning, pacing style of a leader, and polychronicity.

Micro-level cognition (micro-level context). Sminia (2016) acknowledges that "dynamic capabilities and the more recent move into micro foundations seem to adhere to a variance approach to process" (Sminia, 2016, p. 126) and moves towards what Johnson et al. (2003) called an activity-based view. We could systematize several microfoundations of cognitive capabilities based on this review: there are emotions and emotion regulation, language, and communication. Several studies explore the emotion regulation part of cognition. Park et al. (2011) take an interesting perspective on emotion regulation and investigate how flattery and opinion conformity directed at the CEO could influence his decision-making abilities regarding SC. The authors found evidence supporting a positive relationship between flattery and self-enhancement of a CEO and a subsequent negative relationship between that bias and change in the firm's strategy. Sonenshein and Dholakia

(2012) argue that affective commitment to change is one of the psychological resources needed for the meaning-making change adaptation model to fully function. Emotional stability was one of Herrmann and Nadkarni's (2014) five factors that linked CEO personality to the initiation and implementation of SC.

Lundgren-Henriksson and Kock (2016a), basing on a case of a Finnish Media company, suggest that middle managers, to a great extent, determine the success of SC based on how they make sense of a proposed change and associated emotional responses to organizational tensions. Later on, the authors explore how emotions (optimism and skepticism) could either reinforce or impede sensemaking during SC (Lundgren-Henriksson & Kock, 2016b). Despite the fact that emotion regulation has been one of the most widely studied constructs within the psychological field (Colombo et al., 2020), is considered as a part of managerial cognition (Helfat & Martin, 2015), and previous literature review urges to investigate more the dynamics of emotionality (Kunisch et al., 2017), there is still a limited amount of work on SC devoted to that stream of research.

Language and communication are at the center of the interest of other researchers. Guiette and Vandenbempt (2013) study micro-foundations that shape team cognition in Belgian firms and interpretation processes during SC implementation, e.g., equivocality of expectations. Jalonen et al. (2018) propose to utilize a language-based view on strategy, based on the study of a Finnish firm, and define strategic concepts as linguistic expressions that play a central role in strategy discourse.

Micro-level research is usually conducted via longitudinal case studies and thus provides rich insights. However, it lacks conceptualization, which could be a foundation for novel frameworks considering the international and cross-border context of transactions. The phenomenon is described by researchers who primarily follow the sensemaking and strategy-as-practice perspectives on SC, though there were only a limited number of such studies under our review.

5.5. Study Implications and Directions for Future Research

In reviewing the literature on the cognitive perspective in SC on a global scale, this paper suggests several implications and future research directions. Areas for future research are summarized in Table 12 according to five previously identified recurring trends in research.

Recurring trend in research	Directions for future research
(1) Strategic change as an 'end result'	• Investigate the strategic change as a decision-making process rather than an event; • Examine strategic nonadaptation (as an opposite phenomenon) and its antecedents; • Conceptualize a comprehensive measure for strategic change.
(2) Cognitive triggers for strategic change	• Conceptualize individual cognitive capabilities that include/distinguish creativity and metacognitive skills; • Conduct explorative research conducted in different regions apart from EMEA and NA; • Use advancements in team cognition to examine how cognition of individual managers interacts, combined together, and then affects strategic change; • Employ corporate-level theories that link cognition and strategic change.
(3) Cognitive barriers to strategic change	• Pursue a dialectical perspective towards barriers to strategic change.
(4) The process of strategic change	• Expand research on the change initiation; • Expand research on the aftermath of change (failure or success).
(5) Context for strategic change	• Widen research to consider cognitive abilities able to work with environmental dynamism and decision-making in the presence of ambiguity; • Conduct explorative research on sensemaking and global team dynamics across multinational corporations;

	• Acknowledge other dimensions of emotion regulations: not only managing one's own emotions but also managing others' emotions, leading by managing emotions; • Build holistic theoretical models on emotional regulation, language, and communication.

Table 12 Directions for future research (**source:** Authors' own work)

Firstly, the review of the "strategic change as an 'end result" trend has demonstrated that studies predominantly perceive SC as a previously decided-upon event, not a decision-making iterative process. It is primarily founded in the research of accounting measures employed as a proxy for SC. Kunisch *et al.* (2017) argues that such an approach to operationalizing SC assumes that SC happens linearly over time, which could be discussed. Viewing SC as a decision-making process rather than an event puts in a different perspective research questions and research methods that could be beneficial for studying the cognitive aspect of the phenomena. For example, several researchers pursue the aim to examine the breadth and speed of SC rather than the event itself (Yi *et al.*, 2016; Huynh *et al.*, 2022); others study the relationship between SC frequency and long-term firm performance (Wu *et al.*, 2019). The cognitive aspect of these aspects of SC was not investigated thoroughly. Moreover, Sarta *et al.* (2021) discourse upon strategic nonadaptation provides interesting insights into the field. The authors emphasize that the research on the antecedents of nonadaptation cannot be generalized to explain adaptation processes due to the "asymmetric causality." In order to construct an all-encompassing picture of SC as a phenomenon, nonadaptation or strategy restoration (Miller *et al.*, 2019) could be studied further.

The analysis of a variety of SC measures and definitions has also revealed an emerging line of studies that attempt to derive a comprehensive measure of SC using content analysis (Dominguez-Cc *et al.*, 2017; Behr and Fehre, 2019; Bendig *et al.*, 2022). Such an approach provides an opportunity to consider all major strategic decisions of the company and even explorative actions of managers. However, it should be conceptualized further to increase the comparability of the empirical results.

Secondly, theoretical discussion is apparent surrounding types of cognitive traits and the extent of cognition as a part of the previously identified "cognitive triggers for SC" trend.

Only one holistic theoretical framework was found during the review—Dynamic Managerial Capabilities that were empirically tested (Åberg & Torchia, 2020; Bendig *et al.*, 2022; Heubeck & Meckl, 2022; Heubeck, 2023). Still, a lot of research is conducted outside of the DMC concept, where specific theories are employed (i.e., argumentation theory, research on mindfulness, paradox theory). Moreover, even though previous studies showed particular interest in creativity traits and creativity processes (DeCaro & Wieth, 2007; Lubart, 2009; Eschleman *et al.*, 2014) and metacognitive abilities (Harvey & Kudesia, 2023), neither creativity nor metacognition appears in cognition frameworks that were under this review. With cognition being such a multifaceted discipline, it calls for further conceptualization to differentiate cognitive and metacognitive skills and creativity and acknowledge interpersonal relationships while deriving decisions in a multinational setting. That is why the authors call for more explorative research conducted in different regions apart from EMEA and NA to share insight from academics and practitioners around the globe.

The analysis of cognitive triggers for SC has also revealed that the articles under review underrepresented team-level analysis. The studies of Guiette and Vandenbempt (2013) and Martin and Bachrach (2018) were among the rare examples under our review that investigate the intricacies of team-level cognition. Recent research provides positive as well as negative determinants of team cognition onto team performance. For example, Santos *et al.* (2016) show that the less accurate the mental models of team members are, the weaker the relationship between mental model similarity and team learning will be, suggesting that sharing an inaccurate mental model leads to a closed mind. On the contrary, shared team models could, on the contrary, drive proactive problem-solving depending on the degree to which individuals strive to align their task- and team-related mental models (Carraro *et al.*, 2024).

In order to advance the field of team cognition and SC, more understanding should be obtained on how exactly cognition of individual managers interacts, combined together, and then affects SC. Martins & Sohn (2022) theorize how diversity affects cognitive processes associated with information surfacing and information combination. Mohammed *et al.* (2021) differentiate between team cognitive processes and representations and propose three differentiators of team cognition: knowledge domain, knowledge foci, and knowledge convergence. The authors urge authors to adopt network approaches to study the intersections of three identified differentiators towards SC.

Employing the group-level lens and perceiving SC as a social activity could finally shift perspective from the leader and the results of his/her cognitive abilities, such as attention and perception. An alternative way is to employ corporate-level theories, such as the attention-based view (Ocasio, 1997), that could provide an opportunity for more elevated implications for the practitioners and theorists while having a cognitive foundation. The conceptual study of Ocasio *et al.* (2018) urge for further empirical work linking organizational attention to SC through the use of different communication practices, vocabularies and rhetorical tactics.

Third, considering barriers for SC future studies could examine different circumstances in which managerial discretion is considerable or limited. Following Hutzschenreuter *et al.* (2012) and MacKay and Chia (2013) a few studies employ dialectical trajectory in the form of empirical studies; e.g., Wang *et al.* (2021) investigate the moderating role of managerial discretion on the effect of CEO entrepreneurial orientation on firm SC; Montiel-Campos (2021) examines the moderating role of entrepreneurial alertness dimensions in the relationship between SC and entrepreneurial passion. However, current research is yet to fully comprehend the opportunities arisen from a Dialectic perspective. The Dialectical perspective acknowledges that organizational actors still influence the transformation process, thus providing opportunities to show how they overcome barriers to change and structural constraints. As such, Farjoun and Fiss (2022) consider the power of the dialectic process, i.e., how the dialogue between people holding different points of view on a company's configuration and strategy can lead to strategy formation and renewal. The authors acknowledge in their model that change is often provoked by external circumstances. However, they differentiate their approach from MacKay and Chia's (2013) idea of "change as a series of a 'immobilities" and argue that the dialectic process could in fact make strategy more adaptive and path-dependent to previous configurations at the same time.

Fourth, the analysis revealed that when it comes to the process of SC, researchers were more interested in change implementation rather than change initiation or the unfreeze and refreeze stages of the process. Despite the seminal works of Gioia and Chittipeddi (1991); Balogun (2003); and Balogun and Johnson (2004) on sensemaking and strategy-as-practice, only a few studies focus on related topics (Mueller *et al.*, 2013; Lundgren-Henriksson & Kock, 2016a; Jalonen *et al.*, 2018; Kannan-Narasimhan & Lawrence, 2018; Sorsa and Vaara, 2020; Kirtley & O'Mahony, 2023). At the same time, business literature

regularly explores the idea of organizations as interpretation systems and of the construction of corporate narratives (Weick, 2012; Helmer, 2016; Bryar & Carr, 2021). Such a discrepancy provides a base for further investigation. Moreover, the process approach points out another opportunity to study the aftermath of SC. The examination of failure as a result of SC could help to derive antecedents of such an event; the examination of success could be eliminating as well. SC practitioners (Duck, 2012) emphasize that severe difficulties could occur after change and may be claimed as success, e.g., the reappearance of the problems after "victory announcement," the necessity to establish the lives of employees under circumstances of constant changes and adaptation. Exploratory research and conceptualization in these areas could provide holistic oversight of the process of SC.

Last but not least, the macro, meso, and micro-level context of SC should be investigated more thoroughly. Recent developments in emotion regulation research could provide several avenues for future research. There is existing research on relationships between managing one's own emotions (emotion regulation) and SC in different context: Brundin & Languilaire (2023) study how emotion boundaries affect the quality of strategic decisions; Gerulaitiene *et al.* (2024) study emotion-regulation capabilities and family firm innovativeness through a DMC lens. At the same time, a recent literature review of Brundin *et al.* (2022) emphasizes other dimensions of emotion regulation that could be studied more thoroughly: not only managing one’s own emotions but also managing others’ emotions, leading by managing emotions.

Additionally, we argue for the development of more intricate theoretical models that establish a connection between emotions and SC. Consequently, SC could be investigated as an inclusive model, which encompasses the relationship between cognitive capabilities (as a mediator), emotion regulation capabilities, and felt emotions. Researchers in the field of psychology have established a correlation between individual differences in cognitive control and the implementation of emotion regulation strategies. These strategies include (a) the suppression of prepotent responses, (b) the updating of information in working memory, and (c) the shifting of mental sets (Pruessner *et al.*, 2020).

Numerous studies have yielded evidence that specific emotions are associated with an individual's cognitive capabilities. For instance, Crusius and Lange (2014) examine the correlation between envy and attention. The research indicates that individuals who are

experiencing malicious jealousy frequently focus solely on the individual who is the subject of their envy, resulting in the development of tunnel thinking. However, individuals who experience benign jealousy are more inclined to investigate the root cause of their envy, which creates an opportunity for self-improvement. Oflazian and Borders (2023) investigate egocentric emotions and establish a positive correlation between the feelings of shame, guilt, jealousy, and envy and the propensity to engage in rumination. The authors propose that these egocentric emotions may be associated with inertia and a hesitancy to make decisions. One could investigate the correlation between emotions and the dynamic capabilities of managers and, as a result, their propensity to initiate SC by utilizing existing psychological research.

The study complements our theoretical understanding of global strategic management by associating cognitive processes with the success of multinational corporations, as indicated above. However, cognitive abilities able to work with environmental dynamism, global team dynamics, and decision-making in the presence of ambiguity are among the subjects that the proposed study agenda highlights. The terms “uncertainty” and “ambiguity” were emerging keywords after 2018, according to the conducted co-occurrence analysis. Mapping of keywords showed that those terms have tight links not only to “change process” in general but also to core terms of “sense” and “sensemaking,” urging for more explorative as well as explanatory research sensemaking across multinational corporations. Moreover, evidence suggests that in the post-COVID-19/digital era (Heubeck, 2023), we could find ourselves in different patterns for structuring the decision-making process whilst deriving the strategy on an international level; hence, the cognitive frameworks concerning SC should depict that new reality.

5.6. Contribution and Conclusion

5.6.1. The theoretical contribution

This literature review seeks to expand the corpus of knowledge in international business by systematically reviewing the cognitive aspects of SC. The field of this study is still developing, and the variety of theories it encompasses is rather broad. The study intends to highlight research "hotspots" in the subject, document the theoretical foundation of current research, establish the dominating level of analysis, and analyze the variety of

methodological approaches to study cognition. The study maps the reoccurring research topics that emerge from the analyses presented and gives the rationale for further studies.

Theoretical contributions are made on several levels in this study. The study's results demonstrate the range of definitions and metrics for SC and the range of theoretical frameworks used in the field. The analysis indicates that scholars continue to conceptualize and structure the framework of SC (Wowak *et al.*, 2016; Miller *et al.*, 2019; Sarta *et al.*, 2021). The SLR also demonstrated the dominance of most studies focusing on top management (TMT) level analysis, while there is a dearth of research on team and organizational level analysis (Martin & Bachrach, 2018; Jalonen *et al.*, 2018; Ocasio *et al.*, 2018). As for methodological approaches, we call for more explorative research to investigate strategic nonadaptation (as an opposite phenomenon), derive evidence from different regions apart from EMEA and NA, and examine sensemaking and global team dynamics across multinational corporations, which are limited across articles reviewed. It should be stressed that several studies employ techniques other than surveys to measure cognitive traits, e.g., content analysis, and it could be seen as a growing trend with the availability to analyze written and spoken language by means of AI.

The review identified several recurring research themes, illustrating the cognitive perspective's complex and multifaceted nature to SC. Several conceptualizations were made in order to structure diverse research on cognition. The authors attempted to map out the individual cognitive capabilities and traits that, according to our understanding, never have been done before on SC and demonstrate the influence of cognitive capabilities such as attention and perception (Helfat & Martin, 2015; Ocasio, 2018), regulatory focus (Roundy *et al.*, 2016; Jiang *et al.*, 2020; Ahn *et al.*, 2020), and cognitive reasoning (Heubeck & Meckl, 2022) on strategic decision-making in a variety of international and organizational contexts. The research identifies cognitive barriers and maps them onto stages of SC; such structuration revealed a predominance of strategy implementation research and a Voluntarist perspective toward SC. The authors emphasize that a Dialectical perspective on SC could provide more holistic insights into the intricacies between managerial discretion and external circumstances.

The qualitative concept map (Figure 8) and Directions for Future Research (Table 12) from this study will allow researchers to explore the cognitive perspective of SC in several ways that previously were not at the centre of theoretical debate. It may be prudent to consider the foremost priority as expanding the view of SC from a single event into a

process that allows several avenues of research to flourish: considering the initiation of SC, focusing on the group-level lens of the process of SC, introducing the perception of constant or regular change, and studying with greater scrutiny the aftermath of change after a "victory announcement." Additionally, the investigation of macro, meso, and micro contexts for SC could provide depth and perspective into the current understanding of organizational adaptation to external environments and include such determinants as environmental dynamism, global team dynamics, emotional regulation, and language.

One potential limitation of the research may be attributed to the utilization of the Dimension.ai database, which is characterized by its recent emergence and relatively limited recognition within the scientific community. Scientists have not yet produced a sufficient amount of research that could indicate hidden flaws in this database compared to Web of Science and Scopus that prevent it from performing a robust SLR procedure. As such, the current literature review provides a potential strong foundation and reassurance for further work utilizing an alternative database to advance the chosen field.

To conclude, the study compiled papers from a body of literature on SC during the period 2010-2023. Even though researchers put cognition as one of the components for strategy development (Volberda *et al.*, 2021), it is rarely at the center of literature reviews that could make sense of the growing influx of respective literature. Multinational corporations (MNCs) must possess these insights to surmount obstacles such as the evolvement of communicational technologies, changes in patterns of argumentation and dialectics, and shifts in attention spans and perception schemas (Ocasio *et al.*, 2023).

5.6.2. The practical contribution

Research on cognition also provides several practical contributions to SC practices in organizations. Most studies reinforce that leadership can induce SC (Bendig *et al.*, 2022) and play a key role in integration processes (del Carmen Triana *et al.*, 2019). Studies on cognitive aspects of SC highlight the importance of particular characteristics of top managers, members of the board, and team leaders. Recruitment in MNCs could be aligned with the findings of the research on individual cognitive traits, fostering entrepreneurial alertness (Roundy *et al.*, 2018), entrepreneurial orientation (Wang *et al.*, 2021), interpretive ambivalence (Plambeck & Weber, 2010), or mindfulness (Harvey & Kudesia, 2023) in the top management team. The processes of strategy deliberations could be modified knowing the cognitive traits of the company's leaders, paying more

attention to emotion regulation techniques, discourse, and communication practices for debiasing reasons (Jalonen *et al.*, 2018; Kieran *et al.*, 2020; Sorsa & Vaara, 2020).

The specter of change agents could be significantly expanded by including innovators (Kannan-Narasimhan & Lawrence, 2018), middle managers (Joshi & Jha, 2017; Kieran et al., 2020), and other opinion leaders in order to derive a comprehensive strategy using insights from managers that work closely with customers. The strategy implementation process could be constructed in accordance with study findings on barriers to SC and integrate practices to overcome inertia, streamline the issue-selling process, engage in advance supporting personnel, or fix the flawed relationship between remuneration and motivation (Balogun *et al.*, 2015; Hensmans, 2015; Kieran *et al.*, 2022). This study also offers practical insights for practitioners on a global scale to pivot their business model (Kirtley & O'Mahony, 2023) or remain resilient in the midst of continuous media coverage (Bednar *et al.,* 2013) by addressing the dynamic nature of the environment.

This study may also help policymakers because it looks at TMT and Board of Directors diversity in different international settings and summarizes the diversity variables set in the articles that were reviewed. Several researchers found a positive relationship between the inclusion of foreign directors and outside directors on the board and SC (Bednar *et al.*, 2013; Napoli, 2018; Samara and Yousef, 2023). The mixed results on age, tenure, and ascriptive diversity on TMT and the Board of Directors (Kipkirong Tarus & Aime, 2014; Triana *et al.*, 2014; Lin, 2017; Jung *et al.*, 2023) could provide a basis for more thorough consideration of MNCs governing, not limited to strict regulation but instead assessing circumstances on a more detailed level.

Educational programs could use the findings of this study to enhance managerial capabilities in the era of constant change. Change management disciplines could delve into certain details of cognitive barriers to SC and the process of SC unfolding in the company. The mapping of individual cognitive capabilities and traits could provide a structured view of the versatile nature of cognition. Students could acknowledge existing frameworks, such as DMC, to articulate the relationship between manager capabilities and strategy or their own perspective on traits that are necessary to induce change. It would be better if strategy fields were more grounded in sensemaking, language, and strategy-as-practice views. This would allow them to add to the positioning school's focus on strategy content (Mintzberg, 1998) with the real process and tensions of how strategy is renewed and changed.

5.7. References

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6. CONCLUSION

This dissertation examined digital transformation in sales as a connected and multi-level process in which managerial cognition, innovativeness, digitalisation, digital transformation, customer conditions, and customer relationship performance are interrelated within organisational boundaries. Across the three included studies, the central conclusion is that digital transformation in sales cannot be reduced to either the adoption of digital tools or a purely technological shift. Rather, it unfolds as a strategically mediated process in which the interpretation of change, the innovative capacity of the organisation and the salesperson, the enactment of digitalisation, and the conditions of customer interaction jointly determine whether digital change remains partial digitalisation or develops into broader transformation. This position is consistent with the dissertation's overarching aim to explain how managerial cognition, sales digitalisation, and innovativeness interact in facilitating digital transformation, and it also reflects the cumulative structure of the three articles, which move from frontline enactment through organisational and customer-facing consequences to the broader strategic and cognitive frame of transformation.

The integrative framework (Figure 9) summarises this overall argument. It places managerial cognition at the upstream end of the model, indicating that digital transformation in sales begins with strategic interpretation rather than technology alone. From this starting point, managerial cognition shapes innovativeness and influences both digitalisation and digital transformation. Innovativeness appears as the central linking mechanism of the framework: it connects managerial interpretation to the enactment of digitalisation and to the broader process of digital transformation, while also contributing to customer-facing outcomes. Digitalisation and digital transformation are shown as related but distinct constructs. Digitalisation refers to the adoption and use of digital tools and systems, whereas digital transformation refers to the broader reconfiguration of organisational processes, structures, and ways of creating value. The framework also incorporates customer conditions and customer relationship performance on the right-hand side, indicating that customer-facing outcomes are conditioned by the wider relational environment and do not arise automatically from digitalisation alone. Finally, the entire process is situated within organisational boundaries while explicitly recognising

the boundary-spanning role of salespeople. In substantive terms, the framework also shows how the dissertation's research questions are answered. The upstream position of managerial cognition answers the question of how it influences the adoption and effectiveness of digital sales technologies: it does so by framing priorities, enabling innovativeness, and directing organisational action. The boundary-spanning placement of salespeople clarifies the role of sales in aligning internal digitalisation with strategic and external demands. The central position of innovativeness answers how innovativeness serves as a linking element between cognitive decision-making and transformation outcomes. The figure, therefore, visualises not only the dissertation's constructs, but also the way its central questions are resolved in an integrated explanatory structure.

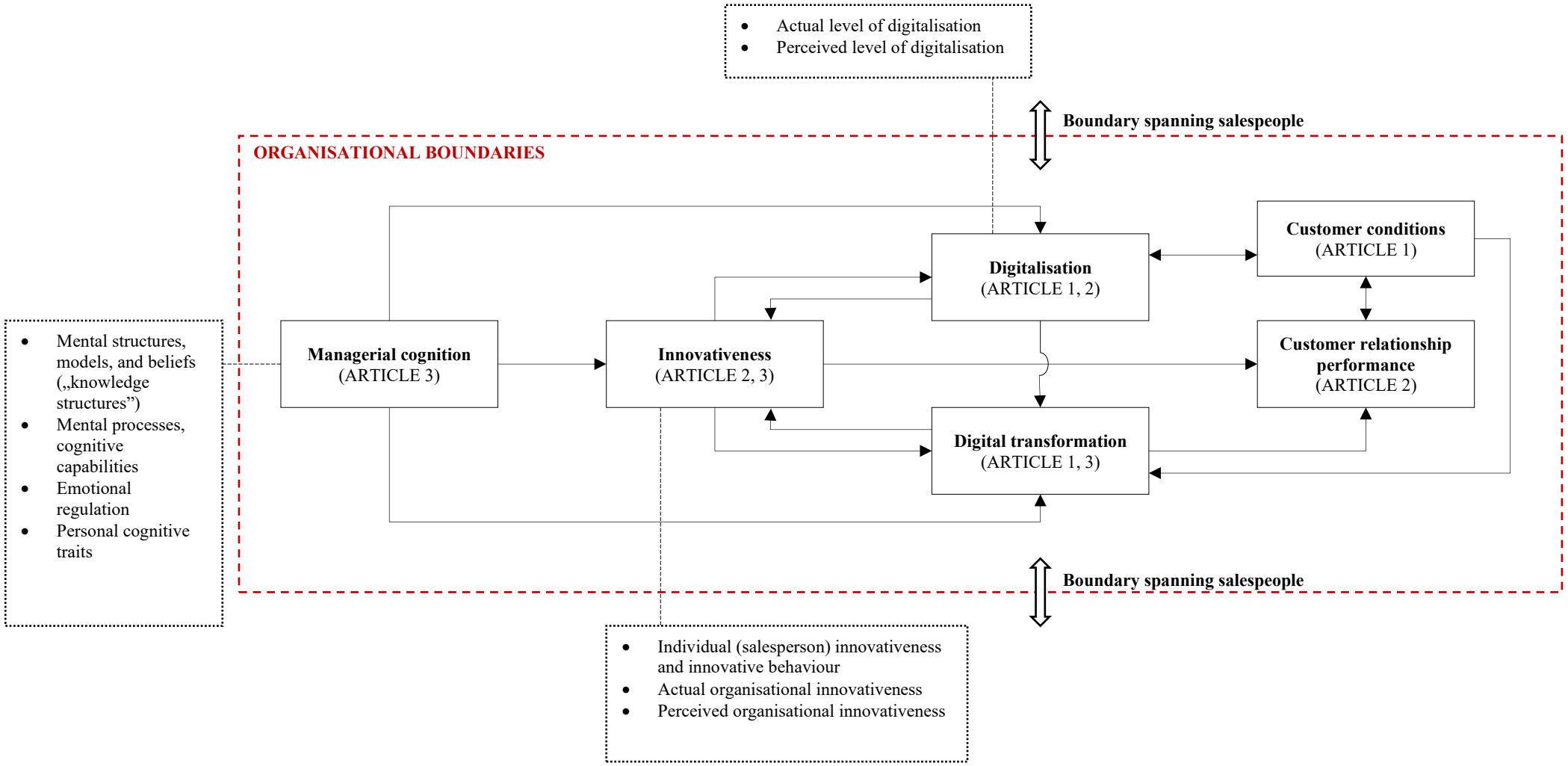

Figure 9 Concluding integrative model of the dissertation (**source:** Author's own construction)

In line with this broader argument, the dissertation's central conclusions may be condensed into five thesis statements. These statements do not merely summarise the three articles, but articulate the dissertation's overall contribution to the field.

Thesis statement 1: *Managerial cognition is an upstream driver of digital transformation in sales because it shapes how digital change is interpreted, prioritised, and translated into organisational action.*

This conclusion follows from the dissertation's positioning of managerial cognition as the interpretive mechanism through which other antecedents become strategically meaningful. The general introduction argues that managerial cognition is not simply one antecedent among others, but the mechanism through which other antecedents are activated, and that digital transformation in sales should therefore be analysed as a process linking strategic interpretation, organisational conditions, individual adaptation, and relational outcomes. The third article provides the conceptual basis for this argument by situating digital transformation within the broader literature on managerial cognition and strategic change, thereby showing that transformation depends not only on technologies and behaviours, but also on how managers assign meaning to change and mobilise organisational responses. Read in relation to the dissertation's research questions, this thesis statement provides the main answer to the question of how managerial cognition influences the adoption and efficacy of digital sales technologies: it does so not merely through approval or support, but by cognitively framing the significance, direction, and organisational relevance of digital change.

The first major conclusion of the dissertation, therefore, concerns the constitutive role of managerial cognition. The literature synthesis developed in the dissertation shows that digital transformation in sales is not simply triggered by environmental pressures or technological opportunities. Such pressures become consequential only when managers interpret and frame them in ways that mobilise organisational change. In this sense, the dissertation extends the digitalisation of sales literature by explicitly placing strategic interpretation at the centre of the explanatory framework. This is important because prior research in sales has often foregrounded digital tools, adoption conditions, or customer change, whereas the present dissertation shows that the meaning managers assign to digital change is itself decisive for the direction, coherence, and organisational significance of transformation. Digital transformation in sales is thus not only implemented; it is also cognitively framed.

Thesis statement 2: *Sales digitalisation does not begin with technology alone, but with the interaction of technology readiness, technology characteristics, customer conditions, and salesperson attitudes.*

This conclusion is anchored primarily in the first article, whose central finding is that digital transformation in sales begins not with the mere presence of digital tools, but with the interaction between digital tools, users, work practices, and contextual demands. The dissertation's own integrative discussion positions this article as the micro-level foundation of the broader argument. In terms of the underlying research design, this thesis statement also answers the set of more specific questions posed in the first article concerning technology readiness, technology characteristics, customer base, attitudes, and digital transformation. These are not separate micro-findings, but interrelated dimensions of the same enactment process.

This conclusion is theoretically important because it shifts the explanatory logic from simple adoption to situated enactment. The first article shows that technology readiness is linked to the technologies that salespeople use, that technology characteristics influence attitudes toward adoption, that customer-related conditions affect those attitudes, and that digital transformation feeds back into technology readiness by creating the infrastructural and experiential conditions for further adoption. The earlier conceptual model and the reshaped final model of the first article both support this recursive understanding by connecting technology readiness, technology characteristics, customer-related conditions, attitudes, and digital transformation. More specifically, the findings address the article's own questions by showing that technology readiness influences the characteristics of adopted technologies, that it affects the customer base salespeople can serve, that technology characteristics shape attitudes, that customer-related conditions influence those attitudes, that attitudes affect digital transformation, and that digital transformation in turn strengthens technological readiness. The broader implication is that digitalisation in sales is not introduced into an empty organisational space. It is enacted under conditions shaped by the sales role, customer conditions, the portfolio of available technologies, and the practical meanings attached to these technologies in everyday work.

Thesis statement 3: *The progress of digital transformation in sales depends on managerial support and organisational alignment, because readiness and positive attitudes alone do not ensure implementation.*

This conclusion further develops the implications of the first article and links them to the dissertation's general argument at the organisational level. The literature review and synthesis chapters already suggest that digital transformation in sales depends on leadership, communication, support structures, and capability development, but the empirical material of the first article shows more concretely that digitalisation remains partial or fragmented when such organisational conditions are weak or inconsistent. In relation to the dissertation's broader research problem, this thesis statement sharpens the answer to the question of how digitalisation becomes organisationally effective: not through individual willingness alone, but through alignment between strategic direction and frontline enactment.

What follows from this is that the organisational level cannot be treated merely as a contextual background. Even when salespeople recognise the usefulness of digital tools and demonstrate positive attitudes toward them, effective transformation still depends on whether the organisation provides clear expectations, coherent implementation logic, support, and alignment between strategic intention and frontline reality. The first article's findings show that digital solutions often appear in both structured and ad hoc forms, and that this distinction matters for the pace and coherence of transformation. Where digitalisation is not embedded in broader organisational support and integration, it risks remaining dependent on isolated individual initiatives rather than becoming part of a wider transformation trajectory. The dissertation, therefore, concludes that readiness and favourable attitudes are necessary, but not sufficient, conditions of transformation. They require managerial support and organisational alignment to become consequential at the practice level.

Thesis statement 4: *Organisational digitalisation does not improve customer relationship performance directly; its effect is realised indirectly through innovative salesperson behaviour and related value-creating frontline mechanisms.*

This is one of the sharpest conclusions of the dissertation and directly addresses a major gap identified in the general introduction: the tendency in the literature to treat digitalisation as if it directly improves performance. The second article provides clear evidence against such a direct-effect interpretation. The study shows that perceived organisational digitalisation positively influences innovative salesperson behaviour, but its direct effect on customer relationship performance is not significant. At the same time, innovative salesperson behaviour positively affects customer relationship performance. This thesis statement therefore provides the dissertation's strongest answer to the question of how digitalisation contributes to customer relationship performance: not directly, but through translation into innovative, customer-relevant behaviour.

The theoretical significance of this finding is considerable. It indicates that digitalisation should not be interpreted as a self-sufficient source of relational value. Instead, the value of digitalisation is realised only when digital resources are converted into adaptive, customer-relevant behaviours at the frontline. The second article, therefore, reframes digitalisation not as a direct performance driver, but as a conditional organisational resource whose customer-side effects depend on translation mechanisms. In the dissertation's broader logic, this conclusion also strengthens the argument that customer relationship performance emerges at the intersection of organisational support, innovativeness, customer conditions, and frontline enactment rather than as an automatic outcome of technological intensity. Digitalisation matters, but it matters through what salespeople do with it.

Thesis statement 5: *Innovativeness is the key linking mechanism between strategic intent and performance outcomes, because organisational innovativeness strengthens digitalisation and salesperson innovativeness translates digital and organisational resources into customer value.*

This conclusion primarily follows from the second article and aligns with the broader dissertation framework. The empirical model shows that perceived organisational innovativeness positively affects perceived organisational digitalisation, innovative salesperson behaviour, and customer relationship performance. In addition, innovative salesperson behaviour partially mediates the effect of perceived organisational innovativeness on customer relationship performance. Organisational innovativeness thus appears not as a peripheral background condition, but as a central force structuring both the technological environment and the behavioural capacities through which customer value is created. In terms of the dissertation's research questions, this thesis statement most directly addresses how innovativeness serves as a linking element between cognitive decision-making and the outcomes of digital transformation.

This conclusion is especially important because it allows the dissertation to connect strategic cognition to customer outcomes without collapsing the intermediate organisational and behavioural layers. Innovativeness serves precisely as that connecting mechanism. At the organisational level, it supports the emergence of a digital environment and a climate favourable to experimentation and adaptation. At the frontline level, it is expressed in salesperson innovativeness, which in turn contributes to customer relationship performance. In this sense, innovativeness links managerial framing and organisational conditions to relational outcomes. The dissertation, therefore, shows that digital transformation in sales becomes meaningful not when organisations just adopt technologies, but when they create conditions in which digital and organisational resources can be translated into novel, adaptive, and customer-oriented practices.

Taken together, these five thesis statements provide the integrated answer to the dissertation's broader research problem. They also clarify the specific role of each article within the thesis's cumulative contribution. The first article explains how digital transformation begins at the frontline, showing that enactment is conditioned by readiness, technology characteristics, attitudes, and customer conditions. The second article explains how digitalisation becomes relevant for customer outcomes, demonstrating that its effects are indirect and mediated by innovativeness and innovative

salesperson behaviour. The third article provides the broader strategic and cognitive framework, showing why transformation must be understood as a process shaped by interpretation, framing, and sensemaking. Read together, the three studies do not simply address adjacent topics. They form a layered explanatory structure in which strategic interpretation, organisational context, frontline enactment, and relational outcomes are treated as interconnected dimensions of a single transformation process. The main research question is therefore answered by concluding that managerial cognition, sales digitalisation, and innovativeness do not operate as parallel factors but as interdependent elements of a single transformation logic. The specific sub-question concerning managerial cognition is answered by the framework's upstream emphasis on interpretation and framing; the sub-question concerning boundary-spanning behaviour is answered by locating salespeople at the interface of the organisational boundaries; and the sub-question concerning innovativeness is answered by identifying it as the key mediating mechanism between strategic intent and performance outcomes.

From a theoretical perspective, the dissertation contributes by integrating research streams that have too often remained separate. Strategic change research has rarely been extended to the sales interface in an explicit and sustained way, while research on sales digitalisation has frequently remained confined either to technology adoption processes or to immediate behavioural outcomes. By linking managerial cognition, innovativeness, digitalisation, digital transformation, customer conditions, and customer relationship performance, the dissertation addresses this fragmentation and offers a more coherent explanation of how digital transformation unfolds in sales. It does not claim to resolve the entire complexity of the field, but it does establish a cumulative explanatory subset within it. Its principal contribution lies in showing that digital transformation in sales is neither purely technological nor just behavioural, but a strategically interpreted, organisationally conditioned, and frontline-enacted process whose customer outcomes depend on the translation of resources into value-creating action.

The dissertation also reinforces the idea that sales is an especially revealing domain for the study of digital transformation. Because salespeople operate at the organisational boundary, the effects of managerial framing, organisational support, digitalisation, innovativeness, and customer conditions become particularly concrete there. The sales function is where the recursive relation between internal strategic interpretation and external market adaptation becomes most tangible. For this reason, digital transformation

in sales provides an analytically fruitful setting in which strategic, organisational, and relational dimensions of change can be examined together rather than in isolation. In the framework, this is expressed by situating the entire model within organisational boundaries while simultaneously highlighting the boundary-spanning role of salespeople. This feature captures the substantive claim that salespeople are the point at which organisational cognition, innovative climate, digital resources, and customer realities are brought into relation with one another.

Several directions for future research follow from these conclusions. First, the dissertation highlights the importance of stronger multilevel and longitudinal designs. Although the three studies jointly provide a layered account of digital transformation in sales, further research is needed to trace more precisely how managerial cognition, organisational arrangements, salesperson responses, and customer conditions interact over time. Second, comparative research across countries and industries would help clarify the contextual conditions under which the identified mechanisms hold or vary. Third, future work should continue to examine the intermediate mechanisms through which digitalisation affects customer-side outcomes, especially in relation to trust-building, hybrid interaction, AI-supported selling, and the evolving boundary-spanning role of salespeople. These directions are not external additions to the dissertation's argument. They follow directly from its central conclusion that digital transformation in sales is a mediated, layered process that cannot be adequately captured by a single-level explanation.

In sum, this dissertation concludes that digital transformation in sales should be understood as a connected process of interpretation, mobilisation, enactment, and translation. Managerial cognition frames and directs the process; innovativeness functions as the linking mechanism; digitalisation and digital transformation are related but distinct layers of change; customer conditions shape how digital initiatives become meaningful in the market; and customer relationship performance improves not through digitalisation alone, but through the innovative and relational behaviours by which resources are converted into value. The research questions are therefore answered through an integrated logic: managerial cognition directs and legitimises change, boundary-spanning sales activity translates internal change into market-facing enactment, and innovativeness connects strategic intent to transformation outcomes. It is this connectedness across levels, rather than technology itself, that explains whether digital change remains fragmented digitalisation or becomes a meaningful transformation.

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8. LIST OF INCLUDED PUBLICATIONS

1. **Pelsőci, B. L.**, Nagy, Á., & Gáti, M. (2021). Digital Transformation in Sales – Empirical Analysis of Factors Determining Individual and Organizational Technology Acceptance. *Vezetéstudomány/Budapest Management Review,* 52(*10*), 14-27., doi: https://doi.org/10.14267/VEZTUD.2021.10.02
2. **Pelsőci, B. L.**, Gáti, M., & Mitev, A. Z. (accepted in *Society and Economy in Central and Eastern Europe* on the 7th of April 2026). Innovation leads to results: the impact of digitalisation, organisational innovativeness and salespeople's innovative behaviour on customer relationships
3. Aleksandrova, T., Anand, A., **Pelsőci, B. L.**, & Ciszewska-Mlinarič, M. (2025). Global perspectives on strategic change: unpacking the managerial cognition. *Review of International Business and Strategy*, *35*(2-3), 260-303. doi: https://doi.org/10.1108/RIBS-12-2024-0156

Declaration on the Use of Artificial Intelligence Tools

As English is not the author's native language, LLM tools (e.g., Grammarly, DeepL, Quillbot) have been used for translation (especially in the case of Article 1) and copy-editing purposes, and for that only to improve the document's readability, spelling, and grammar.

Overall, the document follows British English rules everywhere but in the articles. Articles already accepted or submitted follow the spelling and grammar required by the given journals.