

Leveraging digital capabilities for ESG performance: The mediating roles of innovativeness and resilience in the UK healthcare sector

Pantea Foroudi^a, Outi Blackburn^b, Nektarios Tzempelikos^{b,*}, Farbod Fakhreddin^c

^a Brunel Business School, Brunel University, UK

^b School of Management, Faculty of Business and Law, Anglia Ruskin University, UK

^c PayameNour University, Iran

ARTICLE INFO

Keywords:

ESG performance
Absorptive capacity
Business model innovativeness
Digital business capabilities
Market dynamism
Organisational resilience

ABSTRACT

This study examines the extent to which digital business capabilities (DBC) influence B2B firms' environmental, social, and governance (ESG) performance, and explores the mediating roles of business model innovativeness (BMI) and organisational resilience (OR) in this relationship. In addition, it investigates the moderating effects of absorptive capacity (AC) and market dynamism (MD), offering insights into how internal and external conditions shape the DBC–ESG performance linkage. Drawing on empirical data from managers in the UK healthcare sector, the study finds that while DBCs may not directly impact ESG outcomes, they play a crucial enabling role by positively influencing internal capabilities such as innovativeness and resilience. The direct DBC–ESG link is not significant in the pooled sample, but does emerge in the B2B healthcare context, while the most consistent pathway is the indirect effect through resilience. Furthermore, firms with higher levels of AC are better positioned to leverage digital capabilities for innovation. However, the positive effect of resilience on ESG performance is weakened under conditions of high MD. This study contributes to the literature on the drivers of ESG performance by elucidating how firms can manage ESG practices through the interplay of digital capabilities, innovation, and resilience.

1. Introduction

The global challenges of climate change, alongside ongoing social and economic crises, are compelling organisations to adopt sustainability practices that contribute to a more responsible and resilient world (Sharma, Borah, Haque, & Adhikary, 2024). In recent years, an increasing number of firms have made public commitments to achieving environmental, social, and governance (ESG) objectives. For example, large multinational corporations, such as Google and Walmart, have pledged to reach net-zero emissions. Although ESG standards have been in place for over 15 years, interest in and investment towards ESG initiatives have surged—particularly in response to the COVID-19 pandemic. As a result, the ESG perspective has emerged as a dominant framework for evaluating corporate sustainability performance (Sariyer, Mangla, Chowdhury, Sozen, & Kazancoglu, 2024) and, increasingly, as a key determinant of firm value and financial outcomes (Alshehhi, Nobanee, & Khare, 2018; Kramer & Pfitzer, 2022).

However, despite the increasing attention paid to the ESG paradigm

by scholars, practitioners, and policymakers as the key trend reinforcing the corporate sustainability movement, the existing literature has several shortcomings. First, prior research has been fragmented, focusing on single or only a few determinants of ESG performance (e.g., Garcia & Orsato, 2020) or relying on a single data provider (e.g., Orlitzky, Louche, Gond, & Chapple, 2017). Second, comprehensive empirical research in this domain remains scarce. Much of the existing work has been largely descriptive, with limited hypothesis testing, contributing to inconsistencies in the findings on what drives ESG performance (Martiny, Tagliatalata, Testa, & Iraldo, 2024). Although the emerging literature has begun to consider a broader set of determinants, including market and leadership characteristics (Gillan, Koch, & Starks, 2021), only limited attention has been paid to the role of digitisation in shaping ESG outcomes in B2B settings (Ma, Deng, Teng, Yang, & Zheng, 2023).

Digitization has transformed how firms interact with consumers, suppliers, and other stakeholders, and has strengthened business model innovativeness (BMI) and customer value creation (Matarazzo, Penco,

* Corresponding author at: School of Management, Faculty of Business and Law, Anglia Ruskin University, UK.

E-mail addresses: Pantea.Foroudi@Brunel.ac.uk (P. Foroudi), outi.blackburn1@aru.ac.uk (O. Blackburn), nektarios.tzempelikos@aru.ac.uk (N. Tzempelikos), farbodfrm@gmail.com (F. Fakhreddin).

<https://doi.org/10.1016/j.indmarman.2025.11.004>

Received 9 April 2025; Received in revised form 7 October 2025; Accepted 12 November 2025

Available online 19 November 2025

0019-8501/© 2025 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Profumo, & Quaglia, 2021). Given that digitization brings value to stakeholders, and since building and maintaining stakeholder value is the essence of ESG activity (Fang, Nie, & Shen, 2023), the organisational capabilities on digital use can significantly improve ESG, and thus, this is an important research area both for scholars and practitioners. The key issue has been to understand how firms can transform their digital investments into tangible ESG performance gains. Studies suggest that the improvement of ESG performance in business markets is challenging. For example, improving ESG performance requires firms to reduce carbon emissions, which can be achieved through green technology innovation. However, low-carbon technological innovations come with high investment costs, making them unaffordable for many firms, especially for SMEs (Ma et al., 2023). It appears, therefore, that the successful implementation of ESG strategies in business markets requires organisational resources and capabilities (Al-Kwafi, Farha, Obeidat, Yildiz, & Ahmed, 2023).

With the above gaps in mind, the current paper seeks to answer the following research question: *How do digital business capabilities influence B2B firms' ESG performance, and what roles do business model innovativeness, organisational resilience, absorptive capacity, and market dynamism play in shaping this relationship?* In this context, the study investigates the influence of digital business capabilities (DBC) on ESG performance, examining the mediating roles of BMI and organisational resilience (OR), and the moderating effects of absorptive capacity (AC) and market dynamism (MD). Furthermore, the study distinguishes between B2B and B2C markets and analyses whether the effects differ between B2B and B2C contexts. To explore these relationships, quantitative data were collected from managers in the UK healthcare sector through a structured questionnaire survey.

This study makes contributions to the literature and to practice. First, it offers a conceptual and empirical examination of how firms manage ESG practices through the mechanisms of digital capability. In response to recent calls to explore the impact of digital transformation on ESG performance (Barros, Matos, Sarmiento, & Vieira, 2024; Fang et al., 2023), DBC is positioned as a key determinant to identify mediating and moderating factors that shape its effect on ESG outcomes. This is particularly important given that extant research has predominantly examined ESG through lenses such as economic development, culture, or leadership characteristics, while largely overlooking the critical role of digitalisation. Second, the study provides practical insights into how firms can enhance their social responsiveness by identifying best practices for business model and process design, and by highlighting both internal and external conditions that influence ESG performance.

In B2B marketing contexts, these contributions are particularly salient because digital traceability, auditability, and resilience orchestration are embedded in buyer–supplier relationships. For example, procurement contracts, key account governance, and buyer audits increasingly require verifiable ESG performance (Busse, Schleper, Niu, & Wagner, 2016; Karki, Bennett, & Mishra, 2021). By linking digital capabilities to these exchange mechanisms, our study positions ESG not only as a sustainability concern but as a contractual and relational outcome in B2B markets, thereby enhancing its relevance for B2B marketing.

The remainder of the study is organized as follows. The next section outlines the theoretical background and research hypotheses. This is followed by a description of the methodology and the presentation of the key findings. The final sections discuss the theoretical and managerial implications and conclude with limitations of the study and directions for future research.

2. Literature review and hypotheses

2.1. Theoretical rationale

This research draws primarily on Dynamic Capability Theory (DCT) (Teece, 2007, 2018; Teece, Pisano, & Shuen, 1997), to explain how firms

develop and deploy digital business capabilities (DBCs) that enhance environmental, social, and governance (ESG) performance. DCT is particularly well-suited to the study of digital transformation in sustainability contexts, as it emphasises how firms adapt, integrate, and reconfigure resources to respond to rapidly changing environments.

To complement this focus, the study incorporates Stakeholder Theory and Institutional Theory, both of which highlight external pressures that influence how firms align digital investments with ESG imperatives. Stakeholder Theory (Freeman, 2010) posits that firms operate within networks of diverse groups, including customers, suppliers, investors, regulators, and the broader community, whose expectations for responsible practice affect reputation and value creation. Institutional Theory (DiMaggio & Powell, 1983) draws attention to regulatory, normative, and cultural forces, particularly salient in B2B contexts, that shape organisational responses. Together, these theories explain why firms adopt Business Model Innovativeness (BMI) as a response to ESG-related expectations. Innovative models such as circular supply chains, responsible sourcing, and socially inclusive value creation allow firms to satisfy stakeholder and institutional demands, thereby improving ESG outcomes (Lüdeke-Freund, Carroux, Joyce, Massa, & Breuer, 2018; Ma et al., 2023).

These theoretical perspectives also help explain the differences between B2B and B2C markets. In B2B markets, ESG performance is often driven by formal pressures, such as regulations and contracts set by powerful buyers (Karki et al., 2021). Consequently, firms must focus on transparency, compliance, and resilience, as a small number of powerful stakeholders make ESG compliance particularly important. On the other hand, B2C firms deal with a wider range of stakeholders, where consumer perceptions, brand image, and voluntary ESG efforts, such as CSR, play a bigger role (Martínez & Rodríguez del Bosque, 2013). Therefore, while digital capabilities support BMI in both B2B and B2C contexts, the way BMI affects ESG outcomes differs according to whether institutional or market pressures are stronger (Geissdoerfer, Vladimirova, & Evans, 2018).

Together, these theories justify the inclusion of the constructs in our conceptual model, where BMI is conceptualised as a mediating capability that allows firms to translate DBCs into new forms of ESG value creation. From the dynamic capabilities' perspective, BMI represents the reconfiguration of value logic in response to sustainability pressures (Geissdoerfer et al., 2018). Stakeholder and Institutional Theories explain why firms adopt such innovations to meet formal ESG requirements in B2B markets or to align with social norms and consumer expectations in B2C settings, respectively. Then again, Organisational Resilience (OR) captures a firm's ability to maintain ESG commitments under conditions of uncertainty and disruption. This capability is especially salient in B2B contexts, such as healthcare supply chains, where ESG compliance is contractually codified and operational disruptions can threaten reputational or regulatory standing. From the dynamic capabilities view, OR reflects the sensing and responding capacity that supports ESG continuity.

Two moderating constructs refine the model's boundary conditions. Absorptive Capacity (AC) and Market Dynamism (MD) are introduced as moderators that condition the efficacy of digital transformation. AC enables firms to recognise and internalise ESG-relevant knowledge, shaping how effectively DBCs lead to BMI and OR (Zahra & George, 2002). MD captures the uncertainty of external environments, influencing whether the internal capabilities translate into sustained ESG performance.

While other organisational constructs—such as supply chain agility, digital orientation, or environmental hostility—could plausibly influence ESG outcomes, they are less directly connected to the regulatory and contractual realities of B2B markets. In healthcare, business model innovativeness (BMI) and organisational resilience (OR) are especially salient because they capture how firms reconfigure value creation logics and maintain ESG commitments under disruption (Duchek, 2020; George, Merrill, & Schillebeeckx, 2021). Likewise, absorptive capacity

(AC) and market dynamism (MD) provide boundary conditions that sharpen our focus on internal learning and external volatility (Jansen, Van Den Bosch, & Volberda, 2006; Zahra & George, 2002), making them particularly relevant for explaining ESG performance in contract-driven exchanges.

In B2B contexts such as healthcare, institutional buyer power and procurement contracts create strong formal pressures around ESG performance (Karki et al., 2021). Public buyers, including NHS trusts, frequently require traceable reporting and auditable compliance from suppliers, which elevates digital traceability from a supporting tool to a strategic mechanism (Busse et al., 2016). Embedding digital capabilities into reporting, monitoring, and supply chain coordination allows firms to demonstrate accountability and sustain legitimacy in long-term buyer relationships (Ritter & Pedersen, 2020). This contractual enforcement distinguishes B2B ESG practices from the more perception-driven dynamics of B2C settings.

This logic also clarifies the distinction between B2B and B2C ESG pathways. In B2B healthcare markets, institutional buyers enforce ESG compliance through contracts, audits, and compliance routines (Bengtson, Morici, & Lindholm, 2022; Busse et al., 2016). Under these conditions, DBCs most reliably translate into ESG outcomes via OR, as resilience ensures that contractual obligations and safety standards are upheld even during disruption. By contrast, in B2C markets, ESG is shaped more by consumer perception and brand legitimacy (Martínez & Rodríguez del Bosque, 2013). Here, DBC often supports BMI, enabling firms to introduce new offerings, service models, and sustainability narratives that appeal to consumers. Our results suggest that while BMI is a weaker pathway to ESG in healthcare, its prominence in consumer-facing markets highlights how digital transformation supports firms in meeting normative and reputational pressures. This contrast sharpens our contribution to industrial marketing by showing that DBC → OR → ESG dominates in contract-driven B2B healthcare, whereas DBC → BMI → ESG is more visible in consumer-facing contexts (Tzanidis, Magni, Scuotto, & Maalaoui, 2024).

This conceptual model is highly relevant to the UK healthcare sector, where ESG outcomes are subject to stringent regulatory scrutiny, supply chain interdependence, and reputational risk. In such contexts, digital capabilities, BMI, and resilience are central to maintaining compliance and stakeholder trust. BMI captures how firms reconfigure value logic to meet sustainability requirements (Geissdoerfer et al., 2018), which in healthcare often entails collaborative models that embed ESG criteria into procurement and service delivery. OR reflects the ability to uphold ESG commitments under disruption, a critical capability in contract-driven B2B supply chains where failures threaten both compliance and patient safety (Duchek, 2020; George et al., 2021). AC further sharpens how firms absorb and act on ESG knowledge, while MD highlights turbulence in regulatory and technological environments (Jansen et al., 2006; Zahra & George, 2002).

While other constructs—such as process eco-innovation, green dynamic capabilities, or governance routines—could plausibly mediate or condition the relationship between digital capabilities and ESG, they are less tightly coupled to the contractual mechanisms and traceability demands that define UK healthcare. By contrast, BMI, OR, AC, and MD collectively capture how ESG performance is enforced and sustained in this sector, offering a more precise account than broader alternatives and strengthening the contribution of this study to industrial marketing.

2.2. ESG performance as a strategic outcome

ESG performance captures how effectively a firm integrates environmental, social, and governance priorities into its strategy and operations to create long-term value (Arvidsson & Dumay, 2022; Asif, Searcy, & Castka, 2023; Barros et al., 2024; Gillan et al., 2021; Martiny et al., 2024). Once approached primarily as a reporting requirement, ESG is now widely regarded as a strategic imperative that shapes investor decisions, stakeholder legitimacy, and risk management

(Eccles, Ioannou, & Serafeim, 2014; Ioannou & Serafeim, 2015). High ESG performance signals an organisation's capacity to anticipate regulatory pressures, respond to societal expectations, and sustain resilience over time.

The salience of ESG differs across markets. In B2B sectors, particularly in healthcare, ESG is evaluated by institutional stakeholders (regulators, procurement bodies, and partners) who enforce formal standards and contractual requirements (Karki et al., 2021). By contrast, B2C markets are shaped more by consumer perceptions, brand image, and voluntary initiatives (Martínez & Rodríguez del Bosque, 2013). These differences make B2B contexts more dependent on systems and processes that demonstrate compliance and transparency.

Digital transformation offers a platform for embedding ESG principles throughout the business model (George et al., 2021; Li et al., 2023). However, research has yet to fully explain the capabilities that translate digitalisation into ESG outcomes (Barros et al., 2024; Guandalini, 2022). Earlier studies have tended to examine digital innovation and sustainability in isolation (Warner & Wäger, 2019), focusing on reporting rather than on the dynamic capabilities that enable ESG-oriented change. Reporting alone has proven insufficient to improve ESG performance, creating a need to examine the mechanisms through which firms mobilise digital resources to deliver substantive results.

By addressing the research gap by drawing on DCT (Pavlou & El Sawy, 2011; Teece, 2007), we theorise that DBCs enhance ESG performance indirectly through two application-specific capabilities: BMI and OR. These pathways are influenced by AC and MD, which determine when digital investments most effectively deliver ESG outcomes. This framework positions ESG performance as a strategic outcome of digitally enabled dynamic capabilities and forms the basis for the hypotheses that follow.

2.3. Digital business capability and ESG performance

Digital business capability (DBC) is defined as a firm's ability to integrate, orchestrate, and reconfigure digital technologies—including data analytics, cloud platforms, and artificial intelligence—into strategic and operational routines (Teece, 2018; Wielgos, Homburg, & Kuehnl, 2021). These capabilities enhance information visibility, coordination, and predictive decision-making, enabling firms to adapt rapidly to changing conditions and to generate value through innovation and resilience (Wielgos et al., 2021; Zheng, 2024).

In B2B sectors, DBCs are particularly important due to the complexity of supply chains and inter-organisational dependencies. They enable firms to improve interoperability with partners, enhance supply chain visibility, ensure ESG-compliant sourcing, and automate compliance tracking (Ivanov & Dolgui, 2020). In B2C markets, DBCs are more often deployed to address evolving consumer expectations, for example, through personalised services and brand engagement, although the pathways to ESG impact are less direct and more perception-driven (Martínez & Rodríguez del Bosque, 2013; Matarazzo et al., 2021).

Regardless of market type, DBCs are typically conceptualised as comprising three elements: (1) digital strategy (the alignment of digital investments with corporate goals), (2) digital integration (embedding digital processes across operations), and (3) digital control mechanisms (using data-driven insights for monitoring and decision-making). These capabilities create the technological and organisational foundation for ESG progress by improving traceability, resource efficiency, and stakeholder responsiveness. Recent empirical studies confirm that firms with advanced digital capabilities demonstrate superior ESG performance (Wang, Jiao, Bu, Wang, & Wang, 2023; Zhao & Cai, 2023). However, such effects are not always direct, as DBCs must be channelled into routines—such as innovation or resilience—that convert technological potential into ESG outcomes. Accordingly, we hypothesise:

H1: Digital business capability positively influences ESG performance.

2.4. Business model innovativeness and ESG performance

Business model innovativeness (BMI) refers to a firm's ability to reconfigure its value creation and delivery logic in response to changing market demands (Clauss, 2017; Geissdoerfer et al., 2018). It is widely recognized as a strategic response to sustainability pressures, enabling firms to incorporate ESG considerations into both offerings and operations (Bocken, Short, Rana, & Evans, 2014; Boons & Lüdeke-Freund, 2013).

In healthcare and other regulated B2B sectors, BMI often takes the form of systemic, collaborative innovations, such as redesigning inter-organisational processes, developing platform-based service models, or co-creating solutions with industry partners to meet contractual and regulatory ESG standards (Ellis & Mayer, 2001). These innovations tend to be relational and compliance-driven. By contrast, in B2C markets, BMI is more consumer-facing, linked to brand positioning and voluntary initiatives rather than formal compliance (Bamberger, Reinartz, & Ulaga, 2025; Shankar et al., 2022).

Through reconfigured business models, firms can embed ESG principles into their value propositions, improve resource efficiency, and generate shared value, all of which support ESG outcomes. However, empirical evidence on the direct impact of BMI on ESG performance remains limited, with prior studies focusing more on conceptual arguments than on observed relationships. We therefore propose:

H2: Business model innovativeness positively influences ESG performance.

2.5. Organisational resilience and ESG performance

Organisational resilience (OR) is the capability to anticipate, prepare for, and adapt to disruptions while sustaining core objectives (Duchek, 2020; Mallak, 1999; Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). This capability strengthens adaptive learning, stakeholder alignment, and continuity of operations, all of which enhance a firm's ability to maintain environmental and social commitments under uncertainty (George et al., 2021; Lengnick-Hall, Beck, & Lengnick-Hall, 2011; Liu et al., 2024).

In the B2B markets, firms typically operate within tightly coupled value chains governed by long-term contractual relationships. In such contexts, OR assumes a strategic role in risk mitigation, as disruptions can quickly propagate through interconnected actors. Resilient B2B firms are more likely to uphold environmental standards and social commitments, even under adverse conditions, thereby reinforcing their ESG orientation (Lengnick-Hall et al., 2011; Liu et al., 2024). By contrast, OR in B2C contexts tends to centre on managing demand-side volatility and reputational risk exposure.

In B2B sectors, resilience is particularly critical because firms operate in tightly coupled supply chains where disruptions propagate quickly and ESG obligations are formalised. Resilient firms are better able to uphold compliance, mitigate systemic risk, and preserve ESG-related practices even during crises (Broadstock et al., 2021; Wang, 2024). By contrast, in B2C contexts, resilience is more often associated with managing demand volatility and reputational risks. Research shows that resilience contributes to ESG outcomes by enabling organisations to allocate resources strategically, maintain sustainability commitments under pressure, and protect stakeholder trust (Eccles et al., 2014; Liu et al., 2024). We therefore propose:

H3: Organisational resilience positively influences ESG performance.

2.6. The effect of digital business capability on business model innovativeness

Digital business capability (DBC) represents a firm's ability to strategically deploy and reconfigure digital technologies to support transformation and competitive advantage (Teece, 2018; Wielgos et al., 2021). These capabilities enable firms to sense market changes,

integrate resources, and redesign their value creation logic (Boons & Lüdeke-Freund, 2013; Evans et al., 2017; Geissdoerfer et al., 2018; Inigo, Albareda, & Ritala, 2017; Jibril, Kesidou, & Roper, 2024).

Research shows that DBC acts as a higher-order dynamic capability that enables business model innovativeness (BMI), a lower-order capability focused on reconfiguring products, services, and delivery systems (Geissdoerfer et al., 2018; Pavlou & El Sawy, 2011). Through tools such as advanced analytics, AI and automation, firms with strong DBC can identify sustainability opportunities and adapt their business models accordingly (George et al., 2021).

In B2B contexts, DBC facilitates systemic innovation by supporting digital collaboration and data-driven integration across partners, enabling initiatives such as predictive maintenance, closed-loop supply chains, and ESG-compliant value networks (Bamberger et al., 2025; Ritter & Pedersen, 2020). In contrast, in B2C markets, DBC more often drives customer-centric innovation, including personalisation and user experience (Shankar et al., 2022).

By providing the technological infrastructure and agility needed for new value configurations, DBC is expected to stimulate BMI, particularly in industries where ESG and regulatory pressures demand rethinking of value creation. We hypothesise:

H4: Digital business capability positively influences business model innovativeness.

2.7. The effect of digital business capability on Organisational resilience

Organisational resilience (OR) enables firms to maintain strategic objectives and ESG commitments during disruption by anticipating risks, adapting to shocks, and recovering effectively (Duchek, 2020; Williams et al., 2017). Digital technologies are integral to these capabilities: monitoring systems improve visibility across supply chains, analytics predict potential disruptions, and automation supports rapid and coordinated responses (Ivanov & Dolgui, 2020; Warner & Wäger, 2019).

In B2B markets, resilience is particularly important because inter-dependent supply chains and long-term contractual obligations amplify the impact of disruptions. Digital business capabilities (DBC) strengthen OR in these contexts by enabling early detection of risks, data-driven scenario planning, and coordinated action across partners (Ivanov & Dolgui, 2020; Wielgos et al., 2021). These digitally enabled routines enhance a firm's adaptive learning and ensure continuity of ESG-compliant operations, even in turbulent conditions. Accordingly, the following hypothesis is proposed:

H5: Digital business capability positively influences organisational resilience.

2.8. The mediating roles of BMI and OR

Although digital business capabilities (DBC) provide the technological foundation for sustainability, their impact on ESG performance is unlikely to be direct. Instead, DBC must be channelled into more specific organisational routines that translate digital assets into measurable outcomes (Guandalini, 2022; Pavlou & El Sawy, 2011).

In B2B markets, where ESG expectations are formalised through regulations, contracts, and audits, digital transformation alone does not ensure compliance or performance. Firms use DBCs to develop innovative business models that incorporate ESG criteria into their value propositions and delivery systems (Boons & Lüdeke-Freund, 2013; Clauss, 2017), such as platform-based or product-service models (Blackburn, Ritala, & Keränen, 2023). DBC also underpins organisational resilience by enabling adaptive supply chain strategies, risk monitoring, and continuity planning—all of which help firms maintain ESG commitments under uncertainty (Pavlou & El Sawy, 2011).

This logic reflects dynamic capabilities theory, which posits that higher-order capabilities (e.g., DBC) deliver value by enabling more proximate, lower-order capabilities (Teece, 2007). In the context of ESG,

both constructs, BMI and OR, act as mediators that translate digital infrastructure into innovation, adaptability, and compliance. Firms that fail to channel DBC into these capabilities often struggle to realise sustainability benefits, whereas those that do so demonstrate improved ESG performance (George et al., 2021; Guandalini, 2022). By contrast, those that channel DBC into BMI and OR tend to deliver stronger ESG outcomes, particularly in B2B contexts where ESG performance is closely audited.

The mediating role of OR is especially salient in turbulent environments, as resilience enables firms to uphold sustainability commitments during external shocks (Liu et al., 2024). Digital tools enhance this adaptability by enabling firms to reconfigure resources and routines quickly in response to regulatory and stakeholder pressures (George et al., 2021; Liu et al., 2024). Therefore, the following hypotheses are proposed:

H6: Business model innovativeness mediates the relationship between digital business capability and ESG performance.

H7: Organisational resilience mediates the relationship between DBC and ESG performance.

2.9. The moderating role of absorptive capacity

Absorptive capacity (AC) is the organisational capability to acquire, assimilate, transform, and apply external knowledge (Roberts, Galluch, Dinger, & Grover, 2012; Zahra & George, 2002). It enables firms to recognise new opportunities, integrate external insights with internal resources, and adapt processes accordingly, making it a critical driver of BMI and OR (Zahra & George, 2002).

Firms with a high AC are better positioned to leverage DBCs because they can interpret the insights generated by digital systems, combine them with external knowledge, and integrate them into new products, services, and processes (Roberts et al., 2012; Teece, 2018; Zahra & George, 2002). This allows DBC to be translated into innovative business models that incorporate ESG considerations rather than remaining as isolated technological investments.

Similarly, AC strengthens the impact of DBC and OR. Even sophisticated digital monitoring systems have limited value unless firms can contextualise and act on the information they produce. High-AC firms can interpret digital signals, learn from disruptions, and embed these lessons into routines that support resilience and continuity of ESG-related activities (Li & Zhang, 2024; Todorova & Durisin, 2007; Zahra & George, 2002).

In today's interconnected, data-rich environments, AC ensures that digital information becomes a basis for strategic action: detecting opportunities and risks, coordinating adaptive responses, and integrating ESG goals into long-term planning (Kang, Zhao, & Battisti, 2022; Li & Zhang, 2024; Roberts et al., 2012). Accordingly, AC is expected to moderate the relationship between DBC and both BMI and OR. While DBCs provide the infrastructure for sensing and reacting to market conditions, AC enables firms to convert these insights into sustained innovation and resilience. Hence, we hypothesise:

H8: Absorptive capacity positively moderates the relationship between DBC and BMI.

H9: Absorptive capacity positively moderates the relationship between DBC and OR.

2.10. The moderating role of market dynamics

Market dynamism (MD) refers to the rate and unpredictability of change in the external environment, driven by factors such as regulatory shifts, geopolitical tensions, technological advances, and evolving customer expectations (Dess & Beard, 1984; Jansen et al., 2006). In such turbulent contexts, firms face frequent disruptions to stakeholder requirements and compliance obligations, particularly in industries with strong ESG oversight.

Dynamic conditions heighten the importance of business model

innovativeness (BMI). Firms must frequently reconfigure their value creation logic to align with new regulations and stakeholder expectations, making BMI an essential capability for sustaining ESG performance (Geissdoerfer et al., 2018). Consequently, the benefits of organisational resilience (OR) may be constrained when environmental turbulence becomes extreme, as even robust resilience systems can be challenged by continuous and unpredictable change. In B2B markets—such as healthcare—where supply chains are tightly coupled and regulatory expectations evolve rapidly; MD therefore acts as a boundary condition that influences whether BMI and OR can translate their potential into improved ESG outcomes. Accordingly, the following two hypotheses are proposed:

H10: Market dynamism moderates the relationship between business model innovativeness and ESG performance.

H11: Market dynamism moderates the relationship between organisational resilience and ESG performance.

To account for contextual variation, this study incorporates market structure as a critical differentiator. B2B markets, characterised by concentrated power among institutional buyers, complex decision-making processes, and a focus on long-term value co-creation, are contrasted with B2C markets, which are typically fragmented and shaped by individual consumer preferences. The study proposes an integrated conceptual model (Fig. 1) that explicates how firm-level capabilities DBC, OR, and BMI influence ESG performance. The model suggests that these relationships are non-linear and conditioned by AC and MD. By disentangling these causal pathways and contextual interactions, the study addresses a critical gap in the literature: the lack of empirical evidence on how digital transformation translates into ESG outcomes in specific market contexts. This framework provides a clearer understanding of the organisational and environmental factors that shape the ESG benefits of digitalisation. The following section sets out the research design and methods used to test the proposed hypotheses. (See Table 1.)

3. Methods

3.1. Data collection and sample characteristics

The data collection process was meticulously structured to evaluate the study's hypotheses using a sample of managers within the UK healthcare sector. The healthcare sector in the UK presents a highly regulated environment, characterised by stringent compliance requirements, complex public-private partnerships, and persistent resource constraints. These institutional pressures are particularly salient in ESG reporting, procurement transparency, and operational accountability, making healthcare an ideal empirical context to examine how digital business capabilities interact with organisational capabilities to influence ESG outcomes. Public providers such as NHS trusts are subject to transparency mandates and strict sustainability regulations, while private healthcare organisations must navigate both market-driven demands and public service obligations. These dual pressures reinforce the strategic importance of internal capabilities, particularly resilience and business model innovativeness, in translating digital investments into sustainable outcomes. Moreover, the sector's mixed B2B and B2C operational modes, ranging from contract-bound institutional procurement to patient-facing services, enable a comparative analysis of how digital capabilities are mobilised under different governance structures and stakeholder accountability regimes. This complex institutional landscape intensifies the need for robust digital infrastructure and adaptive capacity, which are crucial for achieving ESG objectives in practice. To distinguish between B2B and B2C respondents in this mixed healthcare context, firms were classified based on self-report. Participants indicated whether their organisation's primary activity was institutional contracting (e.g., procurement relationships with NHS trusts, insurers, or other healthcare providers) or direct patient-facing services (e.g., clinics, pharmacies, diagnostics). Organisations reporting institutional contracting were coded as B2B, while those engaged

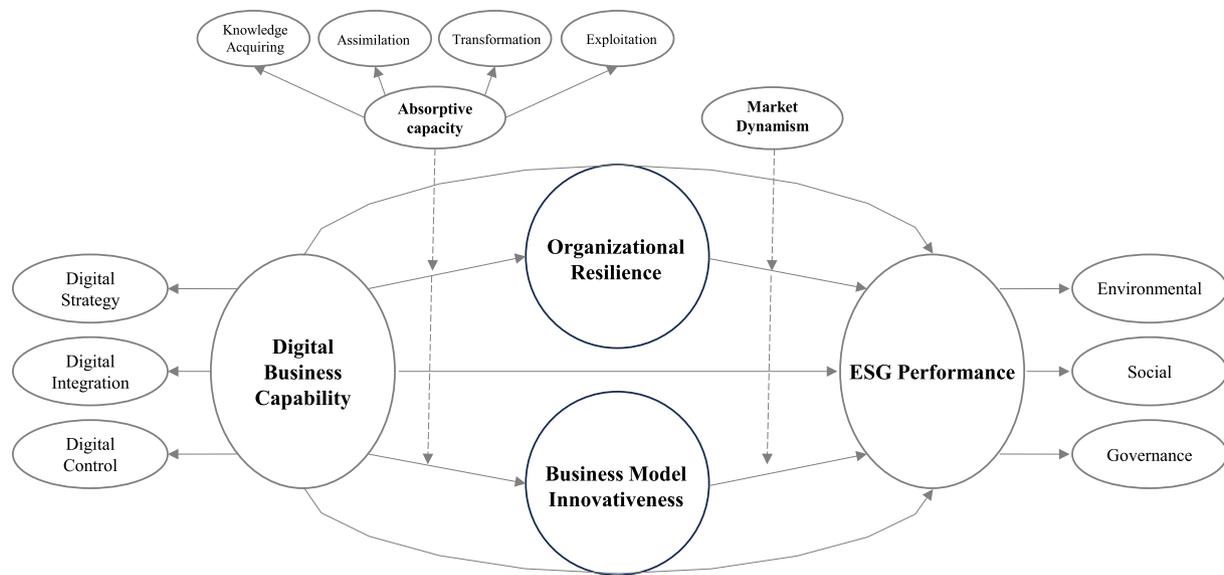


Fig. 1. The Proposed ESG Performance Model.

Table 1
Summary of Hypotheses.

Hypothesis	Statement
<i>Direct Effect</i>	
H1	DBC positively influences ESG performance.
H2	BMI positively influences ESG performance.
H3	OR positively influences ESG performance.
H4	DBC positively influences BMI.
H5	DBC positively influences OR.
<i>Mediating Effect</i>	
H6	BMI mediates the relationship between DBC and ESG performance.
H7	OR mediates the relationship between DBC and ESG performance.
<i>Moderating Effect</i>	
H8	AC positively moderates the relationship between DBC and BMI.
H9	AC positively moderates the relationship between DBC and OR.
H10	MD positively moderates the relationship between BMI and ESG performance.
H11	MD moderates the relationship between OR and ESG performance.

primarily in patient-facing services were coded as B2C. For firms that straddled both modes, respondents identified their dominant revenue stream, and these mixed models were recoded according to the majority activity to ensure consistent categorisation.

Initially, convenience sampling was employed, following the approach outlined by McDaniel and Gates (2006), and this was later complemented by snowball sampling to increase the sample size and improve representativeness (Goodman, 1961). In total, 409 surveys were fully completed by participants and were collected by a research company over a two-month period, from January to March 2025. The survey aimed to investigate the impact of DBC, OR, and BMI on ESG performance. The study addressed potential non-response bias by employing strategies to ensure participation diversity and confidentiality, as recommended by Sekaran (2003). Participants were assured of the strict confidentiality of their responses, encouraging a broad range of perspectives. Additionally, to check for any impact of non-response bias, the Mann-Whitney *U* test compared the responses of the first 50 participants with the last 50 (Lambert & Harrington, 1990), with results indicating no significant response pattern differences, suggesting minimal non-response bias in the data. Table 2 provides a detailed summary of the sample characteristics, revealing a higher proportion of female respondents (52.1%), a younger age profile with 58.4% under 34, and a majority holding undergraduate qualifications (47.4%). Junior management was the most common role (69.2%) working at B2C firm (51

Table 2
Respondents' characteristics n = (409).

	Frequency	Percent		Frequency	Percent
Gender			Position		
Male	196	47.9	Chief	8	2
			Executive		
Female	213	52.1	Senior	10	2.4
Education			Management		
			Middle	108	26.4
PhD	5	1.2	Management		
Postgraduate	46	11.2	Junior	283	69.2
Undergraduate	194	47.4	Management		
Colleges	138	33.7	Years of Experience		
A level or below	26	6.4	Less than 1	77	18.8
Age			1 to less than	140	34.2
Under 25	48	11.7	3 years		
25–34	191	46.7	3 to less than	55	13.4
35–44	124	30.3	5 years		
45–54	41	10	5 years and	137	33.5
55 and above	5	1.2	more		
Firm type			Firm size		
B2B Firm	200	48.9	Small	74	18.1
B2C Firm	209	51.1	Medium	59	14.4
			Large	276	67.5

%).

This study employed measurement scales adapted from well-established and validated research instruments, in line with Churchill's (1979) guidelines, to ensure psychometric soundness and reliability. Respondents rated their answers using a seven-point Likert scale, ranging from 1 ("strongly disagree") to 7 ("strongly agree"). The survey was organized into distinct sections, beginning with questions to capture demographic and background information. It included 39 items, which focused on DBC (Wielgos et al., 2021), BMI (Anwar, Scheffler, & Clauss, 2024), OR (Shao & An, 2024), ESG performance (Barbosa et al., 2024), AC (Kang et al., 2022), and MD (Maltz & Kohli, 1996). For a detailed list of the specific items used, see Table 3. Items with standardized loadings below 0.50 or with cross-loadings above 0.30 on competing constructs were removed during scale purification. Table 3 shows the final retained

Table 3
Descriptive, reliability and validity.

Sub-construct	Codes	Item measurements	Factor Loading	Mean	Std. Deviation	
Digital Business Capability (Wielgos et al., 2021)- Cronbach's alpha = 0.953						
Digital Strategy	DS1	Our digital strategy opens up entirely new opportunities to create value for our customers.	0.800	3.16	1.88	
	DS2	Our digital strategy opens up entirely new opportunities to create value for our firm and its partners.	0.735	3.51	1.85	
	DS3	Our digital strategy aims to continuously deliver digital product and service innovations.	0.768	3.44	1.87	
Digital Integration	DI1	Our firm is increasingly digitally interconnected with customers, suppliers, and partners.	0.801	2.96	1.96	
	DI2	Digital business transformation increasingly pervades and interconnects all areas of our firm.	0.797	3.11	1.94	
	DI3	Our digital skills increasingly change the business processes of our firm.				
	DI4	Our business processes along the entire value chain are increasingly digitally interconnected.	0.782	3.59	1.79	
Digital Control	DI5	Our firm is increasingly digitally interconnected via digital platforms.				
	DC1	Our firm has concrete specifications for the implementation of digital business transformation.	0.821	2.78	1.91	
	DC2	Our firm systematically and regularly monitors the progress of its digital business transformation.	0.842	2.88	1.86	
Digital Control	DC3	Our firm systematically and regularly analyses performance metrics to inspect its digital business transformation.	0.820	2.99	1.85	
	Business Model Innovativeness (Anwar et al., 2024) Cronbach's alpha = 0.938					
	BMI1	Our business model offers new combinations of products, services, and information.				
BMI2	Our business model attracts a lot of new customers.	0.755	3.05	1.99		
BMI3	Our business model attracts a lot of new suppliers and partners.	0.741	3.42	1.84		
BMI4	Our business model brings participants together in novel ways.	0.701	3.26	1.92		
BMI5	Our business model links participants to transactions in novel ways.					
BMI6	We frequently introduce new ideas and innovations into our business model.					
BMI7	We frequently introduce new operational processes, routines, and norms into our business model.	0.723	3.34	1.86		
BMI8	We are pioneers of the business model.					
BMI9	Overall, our business model is novel.					
Organisational Resilience (Shao & An, 2024) Cronbach's alpha = 0.934	OR1	Our firm can cope with the changes brought about by external disruption.				
	OR2	Our firm can maintain the effective operation of its core functions in the crisis.	0.745	3.69	1.89	
	OR3	Our firm can quickly respond to disruption and recover to the previous state.	0.729	3.57	1.94	
	OR4	Our firm can adapt to pressure after the crisis and learn to grow.	0.718	3.63	1.92	
	OR5	Our firm often maintains high situational awareness.				
ESG (environmental, social, and governance) Performance (Barbosa et al., 2024) Cronbach's alpha = 0.934						
Environmental	ENV1	Our firm implements corporate environmental education policies.				
	ENV2	Our firm implements corporate initiatives aimed at green innovation.	0.863	5.08	1.68	
	ENV3	Our firm considers that climate change issues impact the design of its undertakings, processes, products, and corporate services.	0.857	5.47	1.70	
	ENV4	Our firm implements initiatives to reduce energy consumption.	0.841	5.02	1.72	
	ENV5	Our firm implements initiatives for the protection of the corporate work environment, providing quality of life and satisfaction to workers.	0.892	5.23	1.72	
Social	SOC1	Our firm implements corporate initiatives aimed at gender diversity.				
	SOC2	Our firm implements adequate corporate remuneration (salary) policies.	0.859	5.09	1.74	
	SOC3	Our firm implements initiatives for the intellectual qualification of workers (training, courses, among others).	0.762	4.84	1.87	
	SOC4	Our firm implements social action initiatives in the communities (examples of social actions: Prevention of child labor, incentive to practice sports, incentive to culture, among others).	0.882	5.00	1.77	
Governance	SOC5	Our firm implements corporate initiatives of social interests of the stakeholders.				
	GOV1	Our firm carries out audits (internal and/or external) of its corporate processes.	0.786	5.23	1.82	
	GOV2	Our firm implements corporate initiatives to improve its financial performance and competitiveness.				
	GOV3	Our firm implements initiatives to improve human capital.	0.907	5.08	1.81	
	GOV4	Our firm implements initiatives to fight corruption.	0.886	5.11	1.74	
GOV5	Our firm implements initiatives to improve the quality of its products, services, and processes, enhancing the company's image.					
Absorptive Capacity (Kang et al., 2022) Cronbach's alpha = 0.868						
Knowledge Acquiring	ACQ1	We have frequent interactions with others in the industry to acquire new knowledge related to product development.	0.910	5.18	1.53	
	ACQ2	We organize special meetings with customers, suppliers, or third parties to acquire new knowledge on process, product, logistics and distribution related innovation.	0.910	4.81	1.65	
Assimilation	ASN1	We are able to quickly identify new opportunities to serve our customer needs.	0.854	5.15	1.62	
Transformation	ASN2	We quickly analyse and interpret changing market demands.	0.822	5.05	1.65	
	TRN1	We regularly consider the consequence of changing market demands in terms of new products and services.	0.854	5.40	1.54	
	TRN2	We quickly recognise the usefulness of new external knowledge to existing knowledge.	0.853	4.85	1.61	
	TRN3	We record and store newly acquired knowledge for future reference.	0.714	4.41	1.93	

(continued on next page)

Table 3 (continued)

Sub-construct	Codes	Item measurements	Factor Loading	Mean	Std. Deviation
Exploitation	EXP1	It is clearly known how activities within our company should be performed.	0.752	2.69	1.69
	EXP2	We constantly consider how to better exploit knowledge.	0.689	2.80	1.69
	EXP3	Our company has a clear division of roles and responsibilities.	0.756	3.41	1.55
Market dynamism (Maltz & Kohli, 1996) Cronbach's alpha = 0.869	Please indicate how quickly the following factors change in the market in which your firm operates.				
	MKD1	Competitors' products and models.	0.804	5.47	1.50
	MKD2	Customers' preferences for product features.			
	MKD3	Competitors' selling strategies.	0.824	5.23	1.48
	MKD4	Competitors' promotion/advertising strategies.	0.780	5.28	1.52

Note: All values are standardized factor loadings. *N* = 409. DI = Digital Infrastructure; BMI = Business Model Innovativeness; OR = Organisational Resilience; GOV = Governance; ESG = Environmental, Social, and Governance performance.

items; deleted items are noted accordingly. All retained indicators loaded strongly on their intended constructs, with CR ≥ 0.70 and AVE ≥ 0.50, indicating satisfactory reliability and convergent validity.

4. Analysis and findings

4.1. Assessment of measurement instruments

To confirm the reliability and validity of the measurement instruments, the study closely followed well-established methodological procedures. Cronbach's alpha values, which assess the internal consistency of each scale, ranged from 0.868 to 0.953 (refer to Table 3), demonstrating excellent reliability. Furthermore, the average variance extracted (AVE) for each construct was calculated, with all values meeting or exceeding the recommended 0.50 benchmark set by Fornell and Larcker (1981), thereby affirming both the reliability and validity of the constructs. To further evaluate the measurement model, confirmatory factor analysis (CFA) was conducted using Amos software, which is widely recognized for producing accurate and dependable estimates for both normally and non-normally distributed datasets. The CFA results indicated a strong model fit, and the factor loadings were statistically significant, confirming the presence of convergent validity. Table 4 provides a summary of the constructs' reliability, validity, and inter-construct correlations. All constructs exhibited high composite reliability (CR values above 0.7) and AVE values exceeding the 0.5 threshold, further supporting convergent validity. Discriminant validity was also established, as each construct's AVE was greater than its maximum shared variance. We augmented the common-method assessment by applying the common latent factor approach in CFA. Compared with the measurement model (CFI = 0.96, TLI = 0.96, RMSEA = 0.05), the single-factor model indicates significantly poorer fit (CFI = 0.48, TLI = 0.44, RMSEA = 0.21). Hence, common method bias is not a main concern. Furthermore, assessment of endogeneity bias was taken into consideration. In order to ensure that the results are not subject to endogeneity bias, two-stage least squares regression analysis approach was applied. As the instrumental variable should affect the endogenous variable, but should not be related to the dependent variable, organisational exploration was considered as the instrumental variable (Zaefarian, Kadile, Henneberg, & Leischnig, 2017). The conducted analyses and the Durbin-Wu-Hausman test indicate that Digital Business Capability is not endogenous ($F(1, 404) = 0.2244$; p -value = 0.6359); thus, results of the regression analyses are robust and reliable and are not subject to endogeneity bias.

4.2. Hypotheses testing results

To assess the main effects model, regression analysis was conducted using SPSS PROCESS Macro (Model 21), integrating a bootstrapping technique with 5000 resamples. As Preacher et al. (2007) emphasize, bootstrapping offers a robust alternative to traditional parametric methods, as it does not depend on the assumption of normality, thus

enhancing the reliability of confidence intervals and significance testing. Model 21 captures our theorised structure with digital business capability as the independent variable, business model innovativeness and organisational resilience as sequential mediators, and absorptive capacity and market dynamism as moderators, enabling simultaneous testing of direct and conditional indirect effects. The overall model was statistically significant, with an F-statistic of 20.3787 and an R^2 of 0.3818, indicating that 38.18 % of the variance in ESG performance was explained by the proposed model (see Table 5).

The direct relationship between DBC and ESG performance was not statistically significant ($\beta = 0.0739$, $p = 0.1285$), suggesting that digital capabilities alone do not directly enhance ESG outcomes. However, DBC had a strong and statistically significant positive effect on both BMI (TBMI; $\beta = 0.5459$, $p < 0.001$) and OR (TOR; $\beta = 0.4974$, $p < 0.001$). In this context, TBMI refers to the total effects of business model innovativeness and TOR refers to the total effects of organisational resilience as estimated in the mediation analysis. Among the mediators, only OR significantly influenced ESG performance ($\beta = 0.6000$, $p < 0.001$), whereas BMI did not exhibit a significant effect ($\beta = 0.1702$, $p = 0.1959$). These findings highlight the importance of resilience over innovativeness in driving ESG performance directly.

The mediation analysis further clarified the indirect pathways. DBC positively influenced ESG performance indirectly via both TBMI and TOR. The indirect effect through BMI was statistically significant (indirect effect = 0.0724, BootSE = 0.0372, 95 % CI [0.0002, 0.1488]), albeit modest. The indirect effect through OR was stronger and more substantial (indirect effect = 0.1734, BootSE = 0.0286, 95 % CI [0.1181, 0.2339]). These findings confirm that while DBC may not directly affect ESG outcomes, it plays a crucial enabling role through its positive influence on internal capabilities such as innovativeness and resilience.

Moderation analysis revealed nuanced insights. The interaction between DBC and AC (TCDC) had a significant effect on BMI ($\beta = 0.0307$, $p = 0.0272$), suggesting that firms with higher levels of AC are better positioned to leverage digital capabilities for innovation. Fig. 2a illustrates the positive relationship between digital business capability and business model innovativeness is significantly stronger when absorptive capacity is high. However, this moderating effect did not extend to OR ($\beta = 0.0180$, $p = 0.2799$), indicating that AC does not significantly influence the DBC–TOR link. Regarding MD (TMKD), its interaction with BMI was not significant ($\beta = -0.0107$, $p = 0.5932$), showing that the external environment did not condition the impact of innovativeness on ESG outcomes. However, a significant negative interaction emerged between OR and MD ($\beta = -0.0460$, $p = 0.0226$), suggesting that the positive effect of resilience on ESG performance diminishes under conditions of high MD. Fig. 2b illustrates that organisational resilience contributes more strongly to ESG performance under low market dynamism, while this effect weakens under high market dynamism. This implies that in volatile markets, resilience alone may not be sufficient to maintain ESG performance.

Effect sizes were assessed using Cohen's f^2 to gauge the practical significance of individual predictors. According to Cohen (1988), f^2

values of 0.02, 0.15, and 0.35 represent small, medium, and large effects respectively. The paths from DBC to TBMI and TOR reflected medium to large effect sizes, emphasizing the substantial influence of digital capabilities on innovation and resilience. The effect of TOR on ESG performance showed a large effect, underscoring the critical role of resilience in driving sustainability outcomes. Meanwhile, the interaction between TOR and TMKD showed a small-to-medium effect, yet its significance indicates that market conditions should be carefully considered when building resilient ESG strategies. The findings demonstrate that while DBC does not directly enhance ESG performance, it exerts a significant indirect influence through OR and, to a lesser extent, BMI. Moreover, the effectiveness of these capabilities is shaped by contextual factors such as AC and MD. These insights contribute to a deeper understanding of the complex pathways linking digital transformation to sustainable performance in dynamic business environments.

B2B vs B2C – Before comparing path coefficients by business model type, we assessed measurement invariance of the model across B2B and B2C groups using multi-group confirmatory factor analysis. Configural invariance demonstrated acceptable fit ($\chi^2 = 1076.94$, $df = 574$, $CFI = 0.953$, $TLI = 0.947$, $RMSEA = 0.046$). Metric invariance and scalar invariance also resulted in minimal change in fit ($\Delta CFI = 0.001$, $\Delta TLI = 0.002$, $\Delta RMSEA = 0.001$). These results confirm that the measurement model is equivalent across B2B and B2C groups, justifying comparison of path coefficients across groups. Based on the moderation analysis comparing B2B and B2C business models, the results reveal nuanced differences in how digital business capability influences ESG performance and the mediating roles of business model innovativeness and organisational resilience. For B2B firms, digital business capability had a significant positive effect on ESG performance ($\beta = 0.1344$, $p = 0.0449$), indicating that increased digital maturity in B2B settings is associated with better ESG outcomes. In contrast, this relationship was insignificant in B2C firms ($\beta = -0.0362$, $p = 0.6249$), suggesting that digital business capability does not directly predict ESG performance in B2C contexts. Digital business capability had a strong, significant effect on business model innovativeness for both B2B ($\beta = 0.7855$, $p < 0.001$) and B2C firms ($\beta = 0.4610$, $p < 0.001$), though the effect was stronger in B2B. Similarly, digital business capability significantly predicted organisational resilience in B2B firms ($\beta = 0.7408$, $p < 0.001$), but this relationship was not significant in B2C firms ($\beta = 0.1292$, $p = 0.1155$). Business model innovativeness did not significantly influence ESG performance in either group ($\beta = -0.1537$, $p = 0.318$). However, organisational resilience significantly influenced ESG performance in both B2B ($\beta = 0.4569$, $p < 0.001$) and B2C ($\beta = 0.1950$, $p = 0.0022$) settings, with a notably stronger effect in B2B. The indirect effect of digital business capability on ESG performance through business model innovativeness was not significant for either B2B (Effect = -0.0016 , BootCI = $[-0.0951, 0.1019]$) or B2C (Effect = 0.0690 , BootCI = $[-0.0021, 0.1460]$) models. However, the indirect effect of digital business capability on ESG performance via organisational resilience was significant in B2B (Effect = 0.3385 , BootCI = $[0.2604, 0.4204]$), indicating a strong mediating role. This pathway was not significant in B2C (Effect = 0.0252 , BootCI = $[-0.0175, 0.0831]$).

5. Discussion

The findings indicate that DBC enhances ESG performance indirectly through the mediating effects of business model innovativeness (BMI) and organisational resilience (OR), consistent with dynamic capability theory (Teecce, 2007). This highlights the interdependence between digitalisation and sustainability and the benefits of embedding digitalisation into responsible business strategies. Importantly, the direct DBC–ESG link is not significant in the pooled sample but does emerge in B2B healthcare, and the strongest, most reliable pathway is the indirect effect via OR (Duchek, 2020). Of note, OR emerges as a stronger mediator compared to BMI, likely due to healthcare’s regulatory stringency, complex operations, and sensitivity to external shocks. In this sector, maintaining service continuity, compliance, and patient safety are core to ESG outcomes (George et al., 2021; Liu et al., 2024). While BMI promotes long-term innovation, the benefits from ESG efforts may take longer to appear due to ethical and legal limits. In contrast, resilience offers more immediate ESG benefits as firms can quickly adapt to potential disruptions. This likely explains why OR, rather than BMI, plays a more important role in translating digital capabilities into ESG outcomes in highly regulated, risk-sensitive sectors like healthcare.

The moderation results were mixed, indicating non-linear effects of DBC on ESG, consistent with prior research on digitally driven ethics-focused organisations (e.g., Barros et al., 2024; Ma et al., 2023). Specifically, MD weakens the positive relationship between OR and ESG, particularly during sudden regulatory changes, technological disruptions, or health crises. In volatile markets, managers may need to support existing resilience strategies with more agile, digitally enabled tools such as real-time monitoring, scenario planning, and predictive analytics, which could help them to adapt more quickly and flexibly to changing ESG demands. The analysis also shows that AC strengthens the link between DBC and BMI. This finding emphasises the role of AC in external knowledge transformation and exploitation, highlighting the necessity of equipping firms with digital capabilities to support ESG activities (Tallarico et al., 2024).

Finally, the results show that DBC has a stronger impact on ESG performance in B2B healthcare markets, where contracts and audits dominate ESG enforcement. In contrast, B2C firms respond primarily to consumer expectations, making ESG-related BMI more visible through product innovation and brand-driven sustainability initiatives (Karki et al., 2021; Martínez & Rodríguez del Bosque, 2013). This divergence can be further explained through institutional theory (formal ESG compliance pressures) and stakeholder theory (reputation-driven ESG demands). In B2B contexts, particularly in sectors such as healthcare, ESG compliance is embedded within formal governance mechanisms, such as regulatory mandates, procurement criteria, and supply chain audits. Institutional buyers (e.g., NHS trusts or large corporate clients) require verifiable ESG performance, making digital capabilities crucial for operational transparency, traceability, and real-time monitoring. Thus, digital investments in B2B environments are more directly aligned with ESG outcomes, as they enable automated reporting and regulatory compliance. In contrast, B2C firms operate in fragmented, perception-driven markets where ESG depends more on brand reputation, CSR messaging, and consumer engagement than on compliance infrastructure. These contextual differences provide a theoretical and practical

Table 4
Validity, Reliability, and Correlation Matrix.

Construct	CR	AVE	MSV	MaxR (H)	Digital Business Capability	Business Model Innovativeness	Organisational Resilience	ESG Performance
Digital Business Capability Business Model	0.935	0.827	0.555	0.942	0.909			
Innovativeness	0.938	0.791	0.555	0.950	0.745	0.889		
Organisational Resilience	0.933	0.824	0.411	0.934	0.607	0.637	0.908	
ESG Performance	0.827	0.615	0.411	0.832	0.474	0.504	0.641	0.784

Note: All coefficients are standardized. N = 409. CR = Composite Reliability; AVE = Average Variance Extracted.

Table 5
Hypotheses results.

Direct effect	Coeff	SE	t	P	LLCI	ULCI	Coeff	SE	t	P	LLCI	ULCI	Sig/Insig					
				Model 4							Model 21							
Digital business capability - > ESG performance	0.0774	0.0498	1.5542	0.1209	-0.0205	0.1753	0.0739	0.0485	1.5233	0.1285	-0.0215	0.1692	Insig					
Digital business capability - > Business model innovativeness	0.7154	0.0385	18.5593	0	0.6396	0.7912	0.5459	0.0775	7.0406	0.0000	0.3935	0.6983	Sig					
Digital business capability - > Organisational resilience	0.6113	0.0461	13.247	0	0.5206	0.702	0.4974	0.0930	5.3509	0.0000	0.3147	0.6802	Sig					
Business model innovativeness - > ESG performance	0.1007	0.0487	2.0682	0.0393	0.005	0.1964	0.1702	0.1314	1.2956	0.1959	-0.0881	0.4286	Insig					
Organisational resilience- > ESG performance	0.3368	0.0407	8.2825	0	0.2569	0.4168	0.6000	0.1318	4.5510	0.0000	0.3408	0.8592	Sig					
Interaction																		
Digital business capability x Absorptive capacity - > Business model innovativeness							0.0307	0.0139	2.2175	0.0272	0.0035	0.0579	Sig					
Digital business capability x Absorptive capacity - > Organisational resilience							0.0180	0.0166	1.0821	0.2799	-0.0147	0.0506	Insig					
Business model innovativeness x Market dynamism - > ESG performance							-0.0107	0.0200	-0.5347	0.5932	-0.0501	0.0287	Insig					
Organisational resilience x Market dynamism - > ESG performance							-0.0460	0.0201	-2.2883	0.0226	-0.0855	-0.0065	Sig					
Indirect effects																		
		Effect		BootSE				Effect		BootSE								
Digital business capability - > Business model innovativeness - > ESG performance		0.072		0.0368		0.0002		0.147		0.0372		0.0002	0.1488	Sig				
Digital business capability - > Organisational resilience - > ESG performance		0.2059		0.0292		0.1493		0.2636		0.0286		0.1181	0.2339	Sig				
Control Variables																		
Gen		0.0551						-0.0082										
Age		0.1483						0.1795										
Edu		-0.0544						-0.0529										
Pos		-0.0507						-0.0595										
OrgSize		-0.0979						-0.1504										
YExp		0.0639						0.0313										
F-statistic		23.2699						20.3787										
R ²		0.3442						0.3818										
														Interaction B2B vs. B2C (p-value)				
Direct effect		Coeff		SE	t	P	LLCI	ULCI	Sig/Insig	Coeff	SE	t	P	B2C				
Digital business capability - > ESG performance		0.1344		0.0668	2.0119	0.0449	0.0031	0.2657	Sig	-0.0362	0.074	-0.4893	0.6249	-0.1817	0.1093	Insig	0.00	Sig
Digital business capability - > Business model innovativeness		0.7855		0.0457	17.1957	0	0.6957	0.8752	Sig	0.461	0.0717	6.4328	0	0.3202	0.6019	Sig	0.00	Sig
Digital business capability - > Organisational resilience		0.7408		0.0522	14.1894	0	0.6382	0.8435	Sig	0.1292	0.0819	1.5774	0.1155	-0.0318	0.2903	Insig	0.00	Sig
Business model innovativeness - > ESG performance		-0.1537		0.1537	-0.9998	0.318	-0.4559	0.1485	Insig	-0.1537	0.1537	-0.9998	0.318	-0.4559	0.1485	Insig	0.00	Sig
Organisational resilience- > ESG performance		0.4569		0.0586	7.7927	0	0.3416	0.5721	Sig	0.195	0.0632	3.0875	0.0022	0.0709	0.3192	Sig	0.00	Sig
Indirect effects																		
		Effect		BootSE						Effect		BootSE						
Digital business capability - > Business model innovativeness - > ESG performance		-0.0016		0.0493		-0.0951	0.1019	Insig		0.069		0.0378		-0.0021	0.146	Insig		
Digital business capability - > Organisational resilience - > ESG performance		0.3385		0.0412		0.2604	0.4204	Sig		0.0252		0.0258		-0.0175	0.0831	Insig		
Control Variables																		
F-statistic		31.8472																
R ²		0.3573																
Indirect Path: DBC → OR → ESG																		

(continued on next page)

Table 5 (continued)

Direct effect	Coeff	SE	t	P	LLCI	ULCI	Coeff	SE	t	P	LLCI	ULCI	Sig/Insig
AC (mMCDC)	MD (mMMKD)	Effect	BootSE	LLCI	ULCI								
Low (1.0)	Low (1.0)	0.2856	0.1008	0.1164	0.5052								
Low (1.0)	High (7.0)	0.1434	0.0334	0.0791	0.2086								
High (7.0)	Low (1.0)	0.3453	0.1085	0.1504	0.5790								
High (7.0)	High (7.0)	0.1734	0.0286	0.1181	0.2339								
Indirect Path: DBC → BMI → ESG													
Low (1.0)	Low (1.0)	0.0920	0.0979	−0.0660	0.3246								
Low (1.0)	High (7.0)	0.0549	0.0311	0.0001	0.1231								
High (7.0)	Low (1.0)	0.1214	0.1260	−0.0894	0.4072								
High (7.0)	High (7.0)	0.0724	0.0372	0.0002	0.1488								
Conditional Indirect Effects at ± 1 SD of Moderators													
Moderator Conditions	Indirect Path	Effect	BootSE	LLCI	ULCI								Sig/Insig
Low AC, Low MD	DBC → OR → ESG	0.2856	0.1008	0.1164	0.5052								Sig
Low AC, High MD	DBC → OR → ESG	0.1434	0.0334	0.0791	0.2086								Sig
High AC, Low MD	DBC → OR → ESG	0.3453	0.1085	0.1504	0.5790								Sig
High AC, High MD	DBC → OR → ESG	0.1734	0.0286	0.1181	0.2339								Sig
Low AC, Low MD	DBC → BMI → ESG	0.0920	0.0979	−0.0660	0.3246								Insig
Low AC, High MD	DBC → BMI → ESG	0.0549	0.0311	0.0001	0.1231								Sig
High AC, Low MD	DBC → BMI → ESG	0.1214	0.1260	−0.0894	0.4072								Insig
High AC, High MD	DBC → BMI → ESG	0.0724	0.0372	0.0002	0.1488								Sig

Note: All coefficients are standardized betas. N = 409. Results are based on 5000 bootstrap resamples. DBC = Digital Business Capability; BMI = Business Model Innovativeness; OR = Organisational Resilience; ESG = Environmental, Social, and Governance performance; AC = Absorptive Capacity; MD = Market Dynamism. Sig = significant at $p < 0.05$.

rationale for why digital capabilities significantly predict ESG performance in B2B but not in B2C markets.

5.1. Theoretical implications

The broader theoretical debate addressed by this study concerns how firms can adapt their business practices to create environmental and societal value while maintaining financial performance. While there is substantial research on the ESG performance relationship with firm value, reputation, and profitability, the capability-based drivers of ESG performance in the context of digital transformation remain underexplored, and existing studies have focused on isolated determinants of ESG outcomes rather than examining how these factors interact systematically (Martiny et al., 2024). A critical question for firms aiming to achieve ESG objectives in the current digital era is how to integrate digital capabilities into the firms strategy. A central question, therefore, is how digital capabilities can be integrated into a firms strategy to enable ESG outcomes. This study addresses that gap by developing a comprehensive conceptual framework that links digital business capabilities (DBC) to ESG performance through a set of mediating and moderating organisational factors. In doing so, it contributes to the limited quantitative research examining ESG performance in B2B contexts (e.g., Ma et al., 2023; Tzanidis et al., 2024), focusing on how the DBCs drive ESG outcomes both directly and indirectly through internal mechanisms such as business model innovativeness and organisational resilience, and boundary conditions such as absorptive capacity and market dynamism.

Second, this study deepens understanding of the mechanisms through which DBCs shape ESG performance by examining the mediating effects of BMI and OR, along with the moderating roles of AC and MD. Using a large-scale quantitative dataset, the study demonstrates how these internal and external contingencies condition the effects of digital transformation on ESG outcomes, providing a more nuanced perspective on the capability–performance link in the ESG domain.

Finally, findings advance theory by uncovering the micro-foundations of ESG performance in digitally transforming firms, and by comparing diverse B2B vs B2C contexts, which remain largely unexplored so far. Our study clearly shows that DBC had a significant positive direct effect on ESG performance, as opposed to B2C firms. This implies the vital role organisational DBCs play in addressing environmental issues in B2B markets, where flexibility, entrepreneurial orientation, and adaptive learning enable firms to rapidly identify environmental and social risks and translate digital insights into actionable ESG strategies (Al-Kwafi et al., 2023; Nagy, Jaakkola, & Koporcic, 2019). While both B2B and B2C sectors need to leverage digital capabilities in their sustainability efforts, they appear to be particularly critical in B2B sectors because of the greater operational complexity, interdependence, and governance pressures associated with global supply chains.

5.2. Managerial implications

The findings of this study offer guidance for managers and organisations seeking to achieve ESG goals. First, we suggest that DBCs should not be pursued in isolation and urge senior managers in B2B organisations to embed the ESG objectives in all digital investment decisions (e.g., by defining objectives such as traceability in the supply chains, monitoring the compliance via data analytics, and applying these to investment requirements).

Second, firms should adapt their ESG strategies depending on how stable or dynamic the market is, considering the moderating influence of market dynamism (MD) found in the study. When market dynamism is low, strengthening organisational resilience (OR) by one standard deviation predicts an increase of approximately 0.27 in ESG scores, whereas under high dynamism the same increase in OR yields only about 0.12. These marginal effects illustrate that the benefits of resilience are contingent on environmental conditions. Accordingly, in relatively stable markets firms should prioritise compliance automation and employee training programs to ensure ESG standards are met, while in turbulent markets they should emphasize predictive analytics and real-time monitoring tools to offset the weakening effect of MD.

Third, given that digital business capabilities (DBC) change over time, managers are encouraged to adopt a structured digital transformation plan when adopting ESG practices. Initially, firms should focus on establishing essential digital infrastructure, such as cloud-based ESG reporting platforms. Later on, firms can use more advanced analytics to predict ESG outcomes, for example using machine learning models to improve ESG decision-making.

Fourth, building relationships with external partners is crucial in strengthening the organisational resilience and improve ESG outcomes. Managers should consider engaging with suppliers, policy makers, technology providers, and industry groups to form partnerships with several stakeholders. Through these partnerships, they will have the opportunity to develop common ESG data standards, which is particularly important in complex healthcare supply chains.

Fifth, firms should use financial performance indicators alongside ESG metrics to fully assess the overall value of their digital sustainability efforts. Combined ESG-financial dashboards will enable firms to assess the financial returns of their ESG practices, such as savings from lower energy uses and less regulatory penalties. As a result, these practices can improve decision-making and help build investor trust in the firm’s growth strategies.

Sixth, it is important to recognise that the effectiveness of ESG is highly dependent on market structure. The external brand image is highly relevant in the B2C context; however, in the B2B context, ESG success depends on the firm’s compliance, audit, and operational transparency. Therefore, instead of adopting consumer-market relevant ESG strategies, B2B firms should invest in digital tools that support reporting, tracing, and emission tracking, ensuring evidence-based

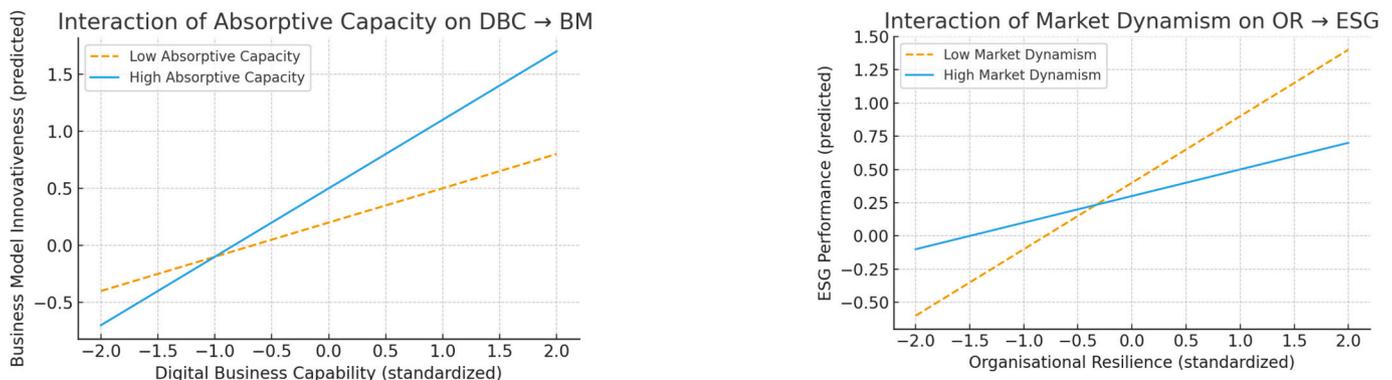


Fig. 2. Interaction effect.

access to ESG performance for institutional stakeholders. More specifically, managers can operationalise resilience through the three sub-dimensions of DBC. Digital strategy should align ESG objectives with continuity planning, digital integration should embed ESG analytics across procurement and supplier networks, and digital control should use dashboards and traceability tools to monitor compliance in real time. By aligning these capability areas with ESG routines such as emission monitoring and supplier audits, firms can make resilience measurable and actionable.

Finally, our findings suggest that managers should treat the interaction of OR and MD as a guide for building resilience playbooks tied to specific digital business capabilities. For instance, firms can strengthen digital strategy by aligning ESG objectives explicitly with continuity planning, use digital integration to ensure interconnectivity across suppliers and partners, and deploy digital control mechanisms (e.g., ESG dashboards, audit trails) to monitor compliance under turbulence. KPIs such as downtime frequency, reporting accuracy, and ESG audit pass rates can serve as practical benchmarks. Embedding these measures into contracts and supplier scorecards helps mitigate the weakening effect of MD while demonstrating accountability to institutional buyers.

5.3. Social implications

Digitally enabled resilience also carries direct social implications in healthcare. When digital tools support rapid reconfiguration of processes, firms can sustain patient safety and service continuity during supply shocks or regulatory changes. For example, traceability platforms enable faster recalls of defective materials (Tachizawa & Yew Wong, 2014), while predictive analytics help anticipate shortages of critical supplies (Ivanov & Dolgui, 2020). These mechanisms illustrate that resilience is not only a managerial concern but also a safeguard for societal outcomes, aligning digital transformation with the public value objectives embedded in healthcare ESG mandates (Tzanidis et al., 2024).

In addition to these benefits, resilience enabled by digital tools also helps protect patient safety and fairness in access to care. When service continuity is preserved during shocks such as pandemics, cyber-attacks, or supply shortages, fewer treatment delays occur, and vulnerable populations are better protected. For example, predictive analytics in hospital procurement can reduce gaps in medicine availability, while traceability systems speed up recalls of unsafe products. In B2B healthcare exchanges, these capabilities are not only operational safeguards but also contractual requirements that buyers demand from suppliers (Madanaguli, Dhir, Talwar, Singh, & Escobar, 2022), linking resilience to public value goals around safety, continuity, and equitable access (Aranyossi & Halmosi, 2024).

6. Limitations and directions for future research

This study has certain limitations that open avenues for future exploration. Although it identifies a causal link between DBCs and ESG performance within B2B firms, the impact of digital adoption is likely to differ across various industries and organisational settings. First, the research draws on cross-sectional data gathered from managers in the UK healthcare sector. While this sector offers a pertinent backdrop for examining the intersection of ESG and digital transformation, the results may not be directly applicable to other industries. Future studies should examine these dynamics in a range of sectors to test the robustness of the findings and improve their generalisability.

Second, all respondents in this research were in the UK, which may limit the geographical scope of the conclusions. Given that countries differ in terms of economic development, digital maturity, regulatory environments, and ESG performance, future research would benefit from cross-national comparisons. Such studies could explore how country-level heterogeneity shapes the relationship between digital capabilities and ESG outcomes.

Third, different ownership status (privately owned vs. state owned

enterprises) or firm size (large firms vs. SMEs) can potentially impact firms' ESG performance (e.g., Zhao & Cai, 2023), and thereby, this is also an interesting direction for future research. Examining these factors in future studies could offer more nuanced insights into how different types of firms approach ESG through digital means.

Fourth, examining the differences in ESG outcomes before and after digital transformation could yield valuable insights into the transformation journey and highlight the critical role that digital tool adoption plays in achieving ESG objectives.

Fifth, one notable limitation concerns the sample composition, which includes a high proportion of junior management respondents. While junior managers may offer valuable insights into ESG operations, strategic ESG initiatives are typically driven by senior leadership and C-suite executives. This raises the possibility of perspective bias, as junior managers may not fully capture the strategic intentions or implementation constraints of ESG policies. Future research should adopt stratified sampling techniques to ensure balanced representation across all management levels, especially targeting senior executives who are key ESG decision-makers. Furthermore, the current focus on the healthcare sector, while contextually rich, limits generalisability. Expanding the study to include other critical sectors such as manufacturing, technology, and professional services would enhance external validity and uncover sector-specific nuances in how digital capabilities influence ESG performance. Comparative multi-sector studies could also reveal how institutional settings, resource availability, and market pressures shape ESG strategies and digital integration differently across industries.

Finally, future research could employ qualitative research. In-depth interviews with managers could provide deeper insights into the conditions and complex relationships between digital capabilities, BMI, and ESG outcomes, possibly explaining the non-significant relationships identified in this study (e.g., BMI and ESG performance).

CRediT authorship contribution statement

Pantea Foroudi: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Outi Blackburn:** Writing – review & editing, Writing – original draft, Supervision, Investigation, Conceptualization. **Nektarios Tzempelikos:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization. **Farbod Fakhreddin:** Resources, Methodology, Investigation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

References

- Al-Kwafi, O. S., Farha, A. K. A., Obeidat, S., Yildiz, H., & Ahmed, Z. U. (2023). The influence of managerial perceptions on adopting environmental strategies in B2B: An exploratory study from emerging countries. *Industrial Marketing Management*, 115, 550–563.
- Alshehhi, A., Nobanee, H., & Khare, N. (2018). The impact of sustainability practices on corporate financial performance: Literature trends and future research potential. *Sustainability*, 10(2), 494.
- Anwar, M., Scheffler, M. A., & Clauss, T. (2024). Digital capabilities, their role in business model innovativeness, and the internationalization of SMEs. *IEEE Transactions on Engineering Management*, 71, 4131–4143. <https://doi.org/10.1109/TEM.2022.3229049>

- Aranyosy, M., & Halmosi, P. (2024). Healthcare 4.0 value creation—the interconnectedness of hybrid value propositions. *Technological Forecasting and Social Change*, 208, Article 123718.
- Arvidsson, S., & Dumay, J. (2022). Corporate ESG reporting quantity, quality and performance: Where to now for environmental policy and practice? *Business Strategy and the Environment*, 31(3), 1091–1110. <https://doi.org/10.1002/bse.2937>
- Asif, M., Searcy, C., & Castka, P. (2023). ESG and industry 5.0: The role of technologies in enhancing ESG disclosure. *Technological Forecasting and Social Change*, 195. <https://doi.org/10.1016/j.techfore.2023.122806>
- Bamberger, B., Reinartz, W., & Ulaga, W. (2025). Navigating the future of B2B marketing: The transformative impact of the industrial metaverse. *Journal of Business Research*, 188, Article 115057. <https://doi.org/10.1016/j.jbusres.2024.115057>
- Barros, V., Matos, P. V., Sarmiento, J. M., & Vieira, P. R. (2024). ESG performance and firms' business and geographical diversification: An empirical approach. *Journal of Business Research*, 172, Article 114392.
- Bengtson, A., Morici, B. C., & Lindholm, C. (2022). Becoming a public sector insider—a case study of Swedish digital healthcare start-ups entrepreneurial business formation processes. *Industrial Marketing Management*, 105, 340–350.
- Blackburn, O., Ritala, P., & Keränen, J. (2023). Digital platforms for the circular economy: Exploring meta-organizational orchestration mechanisms. *Organization and Environment*, 36(2), 253–281. <https://doi.org/10.1177/10860266221130717>
- Bocken, N. M. P., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. In *Journal of Cleaner Production*, 65, 42–56. <https://doi.org/10.1016/j.jclepro.2013.11.039>
- Boons, F., & Lüdeke-Freund, F. (2013). Business models for sustainable innovation: State-of-the-art and steps towards a research agenda. *Journal of Cleaner Production*, 45, 9–19. <https://doi.org/10.1016/j.jclepro.2012.07.007>
- Busse, C., Schleper, M. C., Niu, M., & Wagner, S. M. (2016). Supplier development for sustainability: Contextual barriers in global supply chains. *International Journal of Physical Distribution and Logistics Management*, 46(5), 442–468.
- Claus, T. (2017). Measuring business model innovation: Conceptualization, scale development, and proof of performance. *R and D Management*, 47(3), 385–403. <https://doi.org/10.1111/radm.12186>
- Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 52–73. <https://doi.org/10.2307/2393080>
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160.
- Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. *Business Research*, 13(1), 215–246. <https://doi.org/10.1007/s40685-019-0085-7>
- Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835–2857. <https://doi.org/10.1287/mnsc.2014.1984>
- Ellis, N., & Mayer, R. (2001). Inter-organisational relationships and strategy development in an evolving industrial network: Mapping structure and process. *Journal of Marketing Management*, 17(1–2), 183–223. <https://doi.org/10.1016/j.jbusres.2020.10.033>
- Evans, S., Vladimirova, D., Holgado, M., Van Fossen, K., Yang, M., Silva, E. A., & Barlow, C. Y. (2017). Business model innovation for sustainability: Towards a unified perspective for creation of sustainable business models. *Business Strategy and the Environment*, 26(5), 597–608. <https://doi.org/10.1002/bse.1939>
- Fang, M., Nie, H., & Shen, X. (2023). Can enterprise digitization improve ESG performance? *Economic Modelling*, 118, Article 106101.
- Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. Cambridge university press.
- García, A. S., & Orsato, R. J. (2020). Testing the institutional difference hypothesis: A study about environmental, social, governance, and financial performance. *Business Strategy and the Environment*, 29(8), 3261–3272.
- Geissdoerfer, M., Vladimirova, D., & Evans, S. (2018). Sustainable business model innovation: A review. In *Journal of cleaner production*, 198, 401–416. Elsevier Ltd. <https://doi.org/10.1016/j.jclepro.2018.06.240>
- George, G., Merrill, R. K., & Schillebeeckx, S. J. D. (2021). Digital sustainability and entrepreneurship: How digital innovations are helping tackle climate change and sustainable development. *Entrepreneurship Theory and Practice*, 45, 999–1027. <https://doi.org/10.1177/1042258719899425>
- Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, 66, Article 101889.
- Guandalini, I. (2022). Sustainability through digital transformation: A systematic literature review for research guidance. *Journal of Business Research*, 148, 456–471. <https://doi.org/10.1016/j.jbusres.2022.05.003>
- Inigo, E. A., Albareda, L., & Ritala, P. (2017). Business model innovation for sustainability: Exploring evolutionary and radical approaches through dynamic capabilities. *Industry and Innovation*, 24(5), 515–542. <https://doi.org/10.1080/13662716.2017.1310034>
- Ioannou, I., & Serafeim, G. (2015). The impact of corporate social responsibility on investment recommendations: Analysts' perceptions and shifting institutional logics. *Strategic Management Journal*, 36(7), 1053–1081. <https://doi.org/10.1002/smj.2268>
- Ivanov, D., & Dolgui, A. (2020). Viability of intertwined supply networks: Extending the supply chain resilience angles towards survivability. A position paper motivated by COVID-19 outbreak. *International Journal of Production Research*, 58(10), 2904–2915. <https://doi.org/10.1080/00207543.2020.1750727>
- Jansen, J. J. P., Van Den Bosch, F. A. J., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Science*, 52(11), 1661–1674. <https://doi.org/10.1287/mnsc.1060.0576>
- Jibril, H., Kesidou, E., & Roper, S. (2024). Do digital technologies enable firms that prioritize sustainability goals to innovate? Empirical evidence from established UK Micro-businesses. *British Journal of Management*. <https://doi.org/10.1111/1467-8551.12821>
- Kang, Y., Zhao, C., & Battisti, M. (2022). Organizational learning in SMEs' internationalization: A moderated mediating effect of absorptive capacity. *Long Range Planning*, 55(4). <https://doi.org/10.1016/j.lrp.2022.102220>
- Karki, S. T., Bennett, A. C., & Mishra, J. L. (2021). Reducing food waste and food insecurity in the UK: The architecture of surplus food distribution supply chain in addressing the sustainable development goals (goal 2 and goal 12.3) at a city level. *Industrial Marketing Management*, 93, 563–577.
- Kramer, M. R., & Pfitzer, M. W. (2022). The essential link between ESG Targets & Financial Performance. *Harvard Business Review*, 100, 128–137.
- Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, 21(3), 243–255. <https://doi.org/10.1016/j.hmr.2010.07.001>
- Li, W., & Zhang, M. (2024). Digital transformation, absorptive capacity and enterprise ESG performance: A case study of strategic emerging industries. *Sustainability (Switzerland)*, 16(12). <https://doi.org/10.3390/su16125018>
- Li, Y., Cui, L., Wu, L., Lowry, P. B., Kumar, A., & Tan, K. H. (2023). Digitalization and network capability as enablers of business model innovation and sustainability performance: The moderating effect of environmental dynamism. *Journal of Information Technology*. <https://doi.org/10.1177/02683962231219513>
- Liu, H., Zhang, Q., Xia, X., Yang, X., Yi, Z., Yue, L., & Huang, L. (2024). ESG performance and organizational resilience—based on an extreme heat event. *Borsa Istanbul Review*, 24(2), 304–313. <https://doi.org/10.1016/j.bir.2023.12.007>
- Lüdeke-Freund, F., Carroux, S., Joyce, A., Massa, L., & Breuer, H. (2018). The sustainable business model pattern taxonomy—45 patterns to support sustainability-oriented business model innovation. *Sustainable Production and Consumption*, 15, 145–162.
- Ma, Y. M., Deng, Z., Teng, Y., Yang, Z., & Zheng, X. V. (2023). Firms' multi-sided platform construction efforts and ESG performance: An information processing theory perspective. *Industrial Marketing Management*, 115, 455–469. <https://doi.org/10.1016/j.indmarman.2023.10.018>
- Madanaguli, A. T., Dhir, A., Talwar, S., Singh, G., & Escobar, O. (2022). Business to business (B2B) alliances in the healthcare industry: A review of research trends and pertinent issues. *Journal of Business & Industrial Marketing*, 37(8), 1688–1705.
- Mallak, L. A. (1999, July). Toward a theory of organizational resilience. In *PICMET '99: Portland international conference on Management of Engineering and Technology. Proceedings Vol-1: Book of summaries (IEEE cat. No.99CH36310)*. <https://doi.org/10.1109/PICMET.1999.808142>
- Maltz, E., & Kohli, A. K. (1996). Market intelligence dissemination across functional boundaries. *Journal of Marketing Research*, 33(1), 47–61. <https://doi.org/10.2307/3152012>
- Martínez, P., & Rodríguez del Bosque, I. (2013). CSR and customer loyalty: The roles of trust, customer identification with the company and satisfaction. *International Journal of Hospitality Management*, 35, 89–99. <https://doi.org/10.1016/j.ijhm.2013.05.009>
- Martiny, A., Tagliatala, J., Testa, F., & Iraldo, F. (2024). Determinants of environmental social and governance (ESG) performance: A systematic literature review. *Journal of Cleaner Production*, 456, Article 142213.
- Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, 123, 642–656.
- Nagy, G., Jaakkola, M., & Koporci, N. (2019). Complementarity versus substitutability of dynamic and operational capabilities in B2B firms: A configurational approach. *Industrial Marketing Management*, 83, 42–58.
- Orlitzky, M., Louche, C., Gond, J. P., & Chapple, W. (2017). Unpacking the drivers of corporate social performance: A multilevel, multistakeholder, and multimethod analysis. *Journal of Business Ethics*, 144, 21–40.
- Pavlou, P. A., & El Sawy, O. A. (2011). Understanding the elusive black box of dynamic capabilities. *Decision Sciences*, 42(1), 239–273. <https://doi.org/10.1111/j.1540-5915.2010.00287.x>
- Ritter, T., & Pedersen, C. L. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management*, 86, 180–190. <https://doi.org/10.1016/j.indmarman.2019.11.019>
- Roberts, N., Galluch, P. S., Dinger, M., & Grover, V. (2012). Absorptive capacity and information systems research: Review, synthesis, and directions for future research. *MIS Quarterly*, 36(2), 625–648. <http://www.misq.org>
- Sariyer, G., Mangla, S. K., Chowdhury, S., Sozen, M. E., & Kazancoglu, Y. (2024). Predictive and prescriptive analytics for ESG performance evaluation: A case of fortune 500 companies. *Journal of Business Research*, 181, Article 114742.
- Shankar, V., Grewal, D., Sunder, S., Fossen, B., Peters, K., & Agarwal, A. (2022). Digital marketing communication in global marketplaces: A review of extant research, future directions, and potential approaches. *International Journal of Research in Marketing*, 39(2), 541–565. <https://doi.org/10.1016/j.ijresmar.2021.09.005>
- Shao, M., & An, L. (2024). Contradiction or consistency: The “double-edged sword” effect of asset specificity on organizational resilience. *IEEE Transactions on Engineering Management*, 71, 1900–1911. <https://doi.org/10.1109/TEM.2022.3164429>
- Sharma, A., Borah, S. B., Haque, T., & Adhikary, A. (2024). Engaging customers and suppliers for environmental sustainability: Investigating the drivers and the effects on firm performance. *Journal of the Academy of Marketing Science*, 1–26.
- Tallarico, S., Pellegrini, L., Lazzarotti, V., & Lazzini, S. (2024). Boosting firms' absorptive capacity: The digital technologies edge. *European Journal of Innovation Management*, 28(6), 2558–2580 (ahead-of-print).

- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40–49. <https://doi.org/10.1016/j.lrp.2017.06.007>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Management Journal*, 18(7), 509–533. <https://www.jstor.org/stable/3088148>.
- Todorova, G., & Durisin, B. (2007). Absorptive capacity: Valuing a reconceptualization. *Academy of Management Review*, 32(3), 774–786. <https://doi.org/10.5465/amr.2007.25275513>
- Tzanidis, T., Magni, D., Scuotto, V., & Maalaoui, A. (2024). B2B green marketing strategies for European firms: Implications for people, planet and profit. *Industrial Marketing Management*, 117, 481–492.
- Wang, H., Jiao, S., Bu, K., Wang, Y., & Wang, Y. (2023). Digital transformation and manufacturing companies' ESG responsibility performance. *Finance Research Letters*, 58. <https://doi.org/10.1016/j.frl.2023.104370>
- Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326–349. <https://doi.org/10.1016/j.lrp.2018.12.001>
- Wielgos, D. M., Homburg, C., & Kuehn, C. (2021). Digital business capability: Its impact on firm and customer performance. *Journal of the Academy of Marketing Science*, 49, 762–789. <https://doi.org/10.1007/s11747-021-00771-5/Published>
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals*, 11(2), 733–769. <https://doi.org/10.5465/annals.2015.0134>
- Zaefarian, G., Kadile, V., Henneberg, S. C., & Leischnig, A. (2017). Endogeneity bias in marketing research: Problem, causes and remedies. *Industrial Marketing Management*, 65, 39–46. <https://doi.org/10.1016/j.indmarman.2017.05.006>
- Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *In Source: The Academy of Management Review*, 27(2). <https://www.jstor.org/stable/4134351>.
- Zhao, X., & Cai, L. (2023). Digital transformation and corporate ESG: Evidence from China. *Finance Research Letters*, 58. <https://doi.org/10.1016/j.frl.2023.104310>
- Zheng, X. (2024). How does a firm's digital business strategy affect its innovation performance? An investigation based on knowledge-based dynamic capability. *Journal of Knowledge Management*. <https://doi.org/10.1108/JKM-05-2023-0410>