

## RESEARCH ARTICLE OPEN ACCESS

# Blockchain Technology as a Catalyst for Business Model Transformation and Organizational Change: Insights From Finnish Case Studies

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## ABSTRACT

Blockchain technology entails more than new operational tools; it is a strategic decision-making challenge that reshapes how organizations create, deliver, and capture value. This research uses a multiple-case study approach in the Finnish context, conducting 11 semi-structured interviews. Based on our findings, blockchain adoption affects both the strategic and operational levels of an organization, disrupts the traditional value-creation process, and requires changes in leadership, stakeholder trust, and communication patterns. This study established that blockchain adoption depends on change management practices related to decision-making structures, stakeholder trust, and communication dynamics, rather than technological readiness. In this context, this study explores the organizational changes associated with blockchain technology and their implications for the business model, thereby helping develop managerial preparedness and the literature.

## 1 | Introduction

From the Industrial Revolution 1.0–5.0, technology has created a pattern of change driven by the need for “adaptability.” Unlike other emerging technologies, blockchain redefines how businesses conceptualize and implement decision-making processes by introducing decentralization and immutable ledgers. This, in turn, challenges traditional business structures and the way value is captured (Gattringer et al. 2021). This phenomenon highlights the importance of understanding the changes that innovative technologies, such as blockchain technology (hereafter referred to as “BT”), may bring and how private enterprises, in our case, may be influenced by these disruptions (Kusi et al. 2024).

The idea of blockchain was first introduced as part of the cryptocurrency system: Bitcoin (Nakamoto 2008). Today, interest in blockchain is increasing due to its potential benefits, including automation and transparency of processes, tracking

management, and quality control, which can improve both the speed and efficiency of business activities (Shahzad et al. 2024; Marikyan et al. 2021; Ghobakhloo et al. 2024; Clohessy et al. 2020). Scholars such as Gunasekera and Valenzuela (2020) comment that the technology has the potential to change both internal and external operations of an organization. In this case, “change” refers to an organizational process that shifts the direction or structure of an organization’s model (Edmondson 2018). This is a strategic step, mostly driven by business model innovation, though also by the need to adapt to current business environments.

The potential of BT has been evident in several consortium networks. However, its adoption within individual organizations is essential for expanding to a broader, decentralized network of participants. Organizations need to engage in an internal change process focused on governance, trust, data architecture, transparency, and the adaptability of their strategic positioning. This process lays the groundwork for becoming effective

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## Research Highlights

- The paper shows how the adoption of blockchain technology impacts business models and organizational change.
- This research is rooted in business model literature and highlights the impact on different elements of the business model.
- Our findings highlight that blockchain technology adapts both the internal (value creation, cost, customer alignment, and sustainability) and external (regulation, competition, and institutional context) components of the business model.
- These changes are managed by organizational openness toward the technology and the sense-making process between leaders and the organization.
- This requires a process of organizational reconfiguration that redefines how value is created, delivered, and captured in that company.

partners in a decentralized network, facilitating data sharing and collaboration (Lumineau et al. 2021; Shahzad et al. 2024; Kolade et al. 2022; Tapscott et al. 2019). This makes the adoption of BT relevant.

However, to become competent partners, organizations adopting BT need to revise and sustain their business models amid innovations arising in a changing market. In this sense, the article appeals to business model innovation, which implies the creation, delivery, and capturing of new value despite various challenges such as resistance and resource constraints (Ernst et al. 2023). It can establish a clear path to competitive advantages and improved financial performance (Ahlgren Ode and Louche 2024; Chesbrough 2007; DaSilva and Trkman 2014; Ramdani et al. 2019; Yu et al. 2021; Bhattacharjee et al. 2024). Parallel to this, the article also appeals to organizational change, which assists businesses in updating or changing their structure, as well as their strategies, policies, processes, and culture, all for the sake of responding to internal and external pressures (Phillips and Klein 2023). Organizational change is a recurrent process in any business, and it mostly involves changes in leadership, structures, or processes (Kusi et al. 2024; Asikhia et al. 2021; Errida and Lotfi 2021; Varriale et al. 2021).

In the early phase of the emergence of the BT, and considering the changing nature of the business market, Tapscott et al. (2019) pointed out that this new technology is going to shift the nature of private organizations by changing the essence of their business model structure. In return, the authors anticipated that this would create a shift in how businesses are managed, their source of funding, as well as the means of creating value for the enterprise and for the customers (Morkunas et al. 2019), therefore initiating a change process.

As further research on these claims progressed, the literature developed in several streams. Academic literature is fairly abundant, with studies focusing on BT across components of the business model; for example, Weking et al. (2020) discuss 5 typologies of blockchain business models, mainly focusing

on implications for value creation and revenue logic. Similarly, Chen et al. (2022) investigated the costs and transactions associated with blockchain functionality. Other authors, such as Gomez-Trujillo et al. (2021), examined the effects of blockchain on transparency and trust, bringing consistency in both and referencing the UN 2030 Agenda as a standard. Juszczak and Shahzad (2022) examined the inclusion of BT in the business model to improve coordination and communication in renewable energy ecosystems. Moreover, Morkunas et al. (2019) studied blockchain's influence on business model components, including key partnerships, customer segments, and cost structure, with a strong focus on the Business Model Canvas.

As these studies add valuable insights to the body of literature, they often present isolated components of the business model without linking them to a unified organizational perspective. Therefore, we observed fragmentation in how business model components are presented in the literature. Based on these observations, we concluded that a holistic perspective is needed to understand how blockchain adoption influences the transformation of entire business models and the organizational change process in the BT adoption journey. As mentioned by Purusottama et al. (2022) and Pooja et al. (2025), it remains unclear which internal and external elements shape how BT affects organizations and their business models during the adoption phase. Moreover, existing studies tend to focus on outcomes, such as transparency, security, and decentralization, rather than on all elements of business models, and explain the processes underlying adoption decisions and their impact on business model components and their impact on business model components.

For this study, we employed a multiple-case study approach and collected data from 11 top-level leaders of Finnish private-sector organizations through semi-structured interviews, focusing on the following research question: How do organizations change to support blockchain adoption, and what impact does this have on their business model?

Our study addresses this gap by integrating business model elements and organizational change to examine how leaders recognize and interpret cues, and act accordingly when considering blockchain as a strategic choice. The novelty of this study lies in the unified perspective we present, which integrates business model elements with an analytical perspective on organizational change. In doing so, we contribute to the literature on BT adoption and organizational change by bringing together the components of the business model. We also provide practical insights for leaders managing blockchain adoption across the business landscape. Our findings indicate that when managers and executives assess whether to adopt BT in their corporate structures, they seek to make sense of the technology and consider its potential use within their organizations, taking into account both internal and external variables. In this case, the data demonstrate that blockchain adoption affects organizations at both the human and operational levels. The adoption process for BT introduces new dynamics that disrupt established value structures, thereby requiring not only changes in processes but also strategic shifts at the mind map level (see results section). Moreover, the study explains that using blockchain requires revising concepts such as organizational resilience, internal collaboration, and adaptability in communication.

## 2 | Literature Review

BT is currently positioned in the “ascending” phase across different markets. This effect, despite sufficient time for development, stems from a lack of general understanding of the technology’s applicability, leading to uncertainty about adoption and literature (Lustenberger et al. 2021). As organizations adapt technological advancements to their needs and given the novel nature of blockchain, managers and executives are trying to structure the unstructured to understand how the technology can be tailored to their companies’ needs. Otherwise, they remain “delayed [in] participation, [with a] tendency to stick with familiar technologies, a reluctance to fully commit to an emerging technology, and a lack of persistence when pursuing technologies new to the firm” (Gattringer et al. 2021, 3). In this context, understanding and adopting BT is aided by an assessment of the strategic advantages and impacts the enterprise could experience, serving as the basis for this logic mapping. This, in turn, can offer solutions and mitigate risks when unexpected events arise in the market, and it can gain stakeholders’ trust during the operational phase of adoption.

Gattringer et al. (2021) helped participants in their study view BT from a new perspective by understanding and simplifying the technology’s complexity through mental models. Furthermore, Wang et al. (2019) examined the impacts of blockchain on supply chains, making it one of the very few studies to explicitly examine how blockchain might change supply chain practices. Similarly, Croxson et al. (2019) studied the hype and excitement surrounding blockchain in the supply chain. They identified potential advantages, patterns, and themes within the agriculture industry related to blockchain, with the aim of providing recommendations and insights to support supply chains in this field. Also, Schüßler et al. (2017) examined how diverse actors in the FinTech field comprehend, organize, and manage BT, particularly focusing on foreseeing the future in the online market in a highly distributed fashion.

### 2.1 | Blockchain Technology and Business Model Innovation

Researchers studying (BT) note that as it integrates into business processes, it often prompts managers and executives to reshape traditional business models (Marikyan et al. 2021; Weking et al. 2020). BT does not merely optimize existing processes; it demands a fundamental redesign of business model logic. Through decentralization, disintermediation, and immutable record-keeping, blockchain not only alters operational workflows but also the core structures of value creation, capture, and delivery (Lumineau et al. 2021; Gattringer et al. 2021; Egwuonwu et al. 2022). Adoption, therefore, requires organizations to rethink governance frameworks (Kolade et al. 2022; Chen et al. 2022), redefine trust relationships, and create new value propositions, making business model innovation in blockchain adoption fundamentally different and more radical than in previous technological shifts (Pooja et al. 2025). Openness to innovation plays a particularly critical role in blockchain adoption. Blockchain directly challenges existing hierarchies, redistributes decision-making authority, and forces new patterns of stakeholder collaboration.

These shifts demand greater strategic flexibility and cultural openness than the adoption of technologies such as cloud computing or big data analytics (Tapscott et al. 2019; Varriale et al. 2021).

Also, “while the term business model has gained widespread use in the practice community, the academic literature on this topic is fragmented and confounded by inconsistent definitions and construct boundaries” (George and Bock 2011, 83). The first mention of the business model in academia dates back to 1957, when Bellman et al. (1957) linked it to business games designed for managerial training, a precursor later adopted by organizations formed soon after. Thereafter, understanding how a business operates and how it creates value for its stakeholders has been a focus of management scholars (DaSilva and Trkman 2014). However, despite its popularity and centrality to so many organizations, the nominal definition and concept have been vague and inconsistent across multiple disciplines.

To clarify this theoretical ambiguity, DaSilva and Trkman (2014) present a definition rooted in theory that connects a firm’s resources and transactions to the processes of creating, delivering, and capturing value. They describe the business model as a logical framework that explains how a specific combination of resources is assembled and used through transactions to generate value for both the firm and its stakeholders. Their explanation draws on the resource-based view (RBV) and transaction cost economics (TCE) to illustrate this opportunity. Moving beyond a purely operational perspective, they advocate for a dynamic approach to understanding value creation, capture, and delivery from both internal and external viewpoints.

Grounded in a theory-driven perspective, Osterwalder and Pigneur (2010) conceptualize the business model through four core, interdependent components: value proposition; customers and/or partners; key resources and/or activities; cost/revenue structure. Collectively, these components explain the logic of value creation, capture, and delivery within a given field. In addition, da Silva Momo et al. (2019) define the business model as the map by which an organization operates, emphasizing operational management and methods for value creation through strategic, financial, and resource planning to benefit the customer. Much of the prior literature separates value-creation components, cost structures, and customer views (e.g., Weking et al. 2020; Chen et al. 2022), resulting in fragmented perspectives. However, from a holistic perspective, factors such as internal and external resources, stakeholders, costs, and legislative regulators make sense, with organizational change understood as an iterative reality.

Thus, we define the components of the business model as five interconnected elements: value proposition; customers/partners; key resources/activities; cost/revenue structure; regulatory framework of the state (such as environmental regulations and others) (Osterwalder and Pigneur 2010; DaSilva and Trkman 2014; da Silva Momo et al. 2019). These components are not arbitrarily preselected but rather emerged inductively from our empirical data as key themes consistently reported from the managerial perspective on blockchain adoption. Momo et al. (2019) argue that technological and industry changes can

affect business model elements over time, which is relevant to our analysis.

From a collective perspective, the available literature describes blockchain features that can impact business model innovation, such as immutability and disintermediation, which can optimize business connections, sustainability, and creativity (Drljevic et al. 2022; Oz et al. 2025). Scholars (e.g., Lustenberger et al. 2021; Benchis et al. 2025) have used the Technology-Organization-Environment (TOE) framework to study the reasons organizations adopt BT. Their survey of 350 respondents in the DACH region found that key factors include relative advantages, observability, and regulatory uncertainty, which indicate how blockchain reduces costs and supports innovation (Lustenberger et al. 2021). The work of Vella et al. (2023) reviewed 61 scientific articles published between 2008 and 2020. The authors note that while the technological and financial aspects of blockchain have been well researched, there is a need to investigate how it affects the components of a business model. Similarly, Weking et al. (2020), through their classification and characterization of typical blockchain business models, showed that it has the potential to reduce middleman costs, increase trustworthiness, and create new forms of organization. However, they do not offer an active model to follow and replicate. Morkunas et al. (2019). However, it was one of the few papers to analyze how blockchain affects each component of the business model by applying Osterwalder and Pigneur's approach to highlight the benefits of BT. They further showed that blockchain enables secure, transparent transactions while opening new customer segments and value propositions that unlock previously inaccessible services. By changing vital partnerships, customer links, and revenue flows, the key principles of blockchain consequently affect business models. Even so, their research focused on describing what happens (the outcome) rather than on how the business model is affected by BT implementation.

## 2.2 | Blockchain Technology and Organizational Change Dynamics

In this sense, BT requires new roles, responsibilities, and skills for decision-making and to support various aspects of technology adoption (Varriale et al. 2021, 7). By integrating BT into organizations, Weking et al. (2020) argue that a reevaluation of traditional business models is necessary for the success of new technologies. In this context, organizational change helps companies adapt to new conditions, technologies, or market demands. Yet, it often faces serious obstacles, including resistance, lack of transparency, and inefficiency (Čižmešija and Vrček 2021; Phillips and Klein 2023; Oz et al. 2025). It is important to note that the literature on changes during BT adoption focuses on outcomes (advantages) rather than the process. These outcomes usually refer to structuring efficient processes, cutting costs, or simply innovating to stay ahead in the market (Clohessy et al. 2019; da Silva Momo et al. 2019; Holotiuk and Moormann 2018; Lin et al. 2022). This, in turn, strengthens the literature's argument that BT can affect the entire organization, leading to changes in strategy (Goli et al. 2024; Varriale et al. 2021; Weking et al. 2020). However, it does not specify

exactly how the organizational change occurs or how the business's elements are affected.

The transformation of an organization is both beneficial and necessary (Weking et al. 2020), and BT is presented as a means to transform the business (Varriale et al. 2021) or to address the factors affecting organizational acceptance of BT; however, the literature provides no explicit information on how this occurs. We concluded this section by arguing that there is a pressing need for research to understand the context of organizational change in blockchain adoption. This process is essential to understanding BT's full impact and implications for organizational structures and models. This stems from the fact that blockchain implementation will require not only a redesign of network systems and production processes but also changes in human relationships, practices, and behavior, as well as the redefinition of traditional business models (Kwok and Treiblmaier 2023) (see Table 1).

## 3 | Methodology and Data Collection

For this study, we used a qualitative research design and applied it across multiple case studies to capture variations across cases (Hyett et al. 2014). The choice of this approach is based on the emerging nature of BT and the availability of several blockchain cases in Finland. We focused on Finnish cases, selected through purposive sampling, because Finland is internationally known as a stable, technologically advanced economy with strong public-private collaboration, high levels of institutional trust, and blockchain piloting (Taherdoost and Madanchian 2023). This angle was relevant to the Finnish cases, given the phenomenon under study. The selected cases also contributed to the study by offering variation within the same national context.

While the qualitative research design limits our ability to generalize beyond the settings of the selected case studies, we collected data across multiple cases in different industries in Finland. In line with guidelines for multiple case study analyses (Eisenhardt 1989; Yin 2018), we aimed to allow variation in case selection across several dimensions: the role/position within the company of the selected interviewees, the industry in which companies operate, and the firms' experience in their business areas. The sectors selected follow the logic of analytical replication, as presented by Yin (2018), with variation in the theory rather than in the statistical representation of the sectors. The goal of the study was not to represent the sectors, but to examine variation in BT adoption patterns. The sectors selected were information technology services, energy, automation, and education, as they are representative of different configurations with respect to the applicability of the BT, namely information technology services as an early adopter and developer of the technology, the energy sector as a multi-actor system with decentralization as a key aspect, the automation sector as an operational/supply chain sector, and the education/network-oriented sectors as facilitators of cooperation in the sharing of knowledge. The sectors of finance, health, and so forth, although important to BT's applicability, were not selected, as the goal was not to represent these sectors but to explore patterns of business model transformation and organizational change. The selected cases comprise eleven companies operating in Finland (listed in

**TABLE 1** | Conceptual framework used in this article.

Theme	Key element	Key articles	Main insights
Business model impact	Openness to innovation	Tapscott et al. (2019), Kusi et al. (2024), Varriale et al. (2021)	Innovation culture and leadership readiness are key enablers of blockchain adoption.
	Value creation	Weking et al. (2020), Morkunas et al. (2019), Marikyan et al. (2021)	Blockchain alters value logic via transparency and decentralization.
	Cost structure & ROI	Bhattacharjee et al. (2024), Weerawarna et al. (2023), Drljevic et al. (2022)	Highlights potential for cost reduction and new revenue streams.
	Customer alignment & trust	Gomez-Trujillo et al. (2021), Juszczak and Shahzad (2022), Shrivastava et al. (2022)	Improves traceability, trust, and personalization through data transparency.
	Sustainability & energy use requirements	Alhasan and Hamdan (2023), Goli et al. (2024)	Raises environmental efficiency concerns and new sustainability standards to align with the given legislation.
	Regulatory & institutional environment	Chen et al. (2022), Egwuonwu et al. (2022), Kolade et al. (2022)	Blockchain challenges existing legal frameworks and necessitates new governance models.
	Competitive & market environment	Purusottama et al. (2022), Vella et al. (2023)	Competitive imitation accelerates adoption and ecosystem development.
Organizational change	Organizational evolution and knowledge development for blockchain adoption	Varriale et al. (2021), Čižmešija and Vrček (2021), Ostern et al. (2022)	Describes blockchain's key characteristics, applications, and integration with emerging technologies. Reviews current research on blockchain adoption and organizational adaptation. Identifies behavioral and cognitive factors influencing adoption and capability building. Examine how priorities, regulations, and structures evolve as new business models emerge.
	Building trust in blockchain implementation	Geleziunaite and Fbba (2023), Kramer et al. (2022), Ostern et al. (2022)	Emphasizes blockchain's potential to enhance transparency in business and government. Notes challenges to create a trust-based, collaborative organizational culture. Links leadership, communication, and psychological safety to successful adoption.
	Understanding blockchain	Wang et al. (2019), Gattringer et al. (2021), Maitlis and Christianson (2014)	Discussion of the role of comprehending/decoding BT to help managers and organizations become aware of the BT innovation, sense its potential disruptive effect, conduct an initial exploration, and hence decide whether to embrace or ignore the innovation.

Table 2 below) that have experimented with BT as a means of business model innovation.

We gathered data primarily through semi-structured interviews and supplemented them with secondary sources, including

corporate websites and reports published between 2022 and 2024. The documents helped clarify each case's historical trajectory and technological landscape. We conducted the interviews in English via online platforms such as Zoom and Microsoft Teams. To reduce bias, two researchers conducted the interviews

**TABLE 2** | Overview of interviews.

Sector	Company	Interviewees positions	Organization	Firm experience
Energy sector	Company B	CEO (2)	Energy production	70
	Company C	Project Manager (PM) (1)	Energy production	12
	Company H	CEO (5)	Energy production	4
IT & digital services	Company A	CEO (1)	Agile software development	10
	Company D	CEO (3)	IT services	14
Automation & industrial technology	Company J	Executive Vice President, Marketing and Sales	Automation, protection, and distribution	35
	Company E	CEO (4)	Delivery and installation of solutions for the marine and rolling stock industries	10
	Company F	Project Manager (PM) (2)	Technology center	34
Circular economy/ environmental solutions	Company K	CEO (6)	Supplier of waste-to-value products	20+
Education, networks & business services	Company G	Board Member (BM)	Education, community, and networking	4
	Company I	Communication and Branding Manager (CBM)	Business services	12

simultaneously, and participants were asked to reflect on their experiences with BT. We concluded this stage with 132 pages of transcripts, noting that the interviews were anonymized at the interviewees' request. This methodology enabled empirical exploration of an emerging phenomenon that requires further investigation. The exploratory nature of the study allows for an incremental theoretical contribution to the literature, which requires further theorization (Corley and Gioia 2011). However, we collected new empirical data on several relevant cases of Finnish companies that have experimented with BT as a catalyst for business model renewal. The cases analyzed in the study are drawn from different organizations operating across industries such as energy, technology services, innovation development, and industrial solutions.

### 3.1 | Data Analysis

We began our methodological approach by reading the interview transcripts without coding to familiarize ourselves with the data and record initial comments. The next step was to analyze and code the primary data using MaxQDA software, following the approach recommended by Gioia et al. (2013). This approach uses a tactical-based method to organize raw data into codes and develop themes, with secondary documentation providing contextual insight. We employed an inductive approach while coding, in line with Gioia et al. (2013), beginning with raw data and systematically deriving first-order concepts. We chose this strategy to remain grounded in the participants' narratives, which allowed constructs specific to blockchain's impact on strategic and organizational concepts to emerge. To avoid confirmatory biases, we took a semi-ignorant position toward prior

literature (Gioia et al. 2013). This process produced first-order themes (based on the interviewees' views) that led to 22 codes (Gioia et al. 2013).

Additionally, these initial concepts were expanded inductively by applying a theoretically driven structural coding approach that grouped them under 5s-order themes inspired by the literature on organizational change (Geleziunaite and Fbba 2023), comprehending, organizing, and managing blockchain (Wang et al. 2019), and the business model impact from the perspective of blockchain adoption (Nowiński and Kozma 2017). Theoretical saturation was reached through iterative refinement of our coding structure until no new themes emerged. This approach enabled us to model qualitative data and present our findings narratively, following the approach of Gioia et al. (2013). To ensure coding dependability, we used the interview transcripts in MaxQDA. We resolved initial coding inconsistencies through iterative discussion to attain inter-coder reliability. Throughout this process, we used theoretical saturation as a guideline for data validity, refining the coding until no new themes emerged. We also minimized confirmation bias by adopting a semi-ignorant stance toward existing blockchain and organizational literature, thereby increasing the trustworthiness of the findings. Two aggregated categories derived from the overarching themes are as follows: 1. Identifying Blockchain Impact on Business Models; 2. Blockchain Change Management. We refined the themes, resulting in a narrative that clarified the complexities of the impact of business models on blockchain adoption and organizational change. The method used enabled the detection of different patterns and trends that led to this paper's findings. In this regard, Figures 1 and 2 offer details on the thematic coding logic and structure.

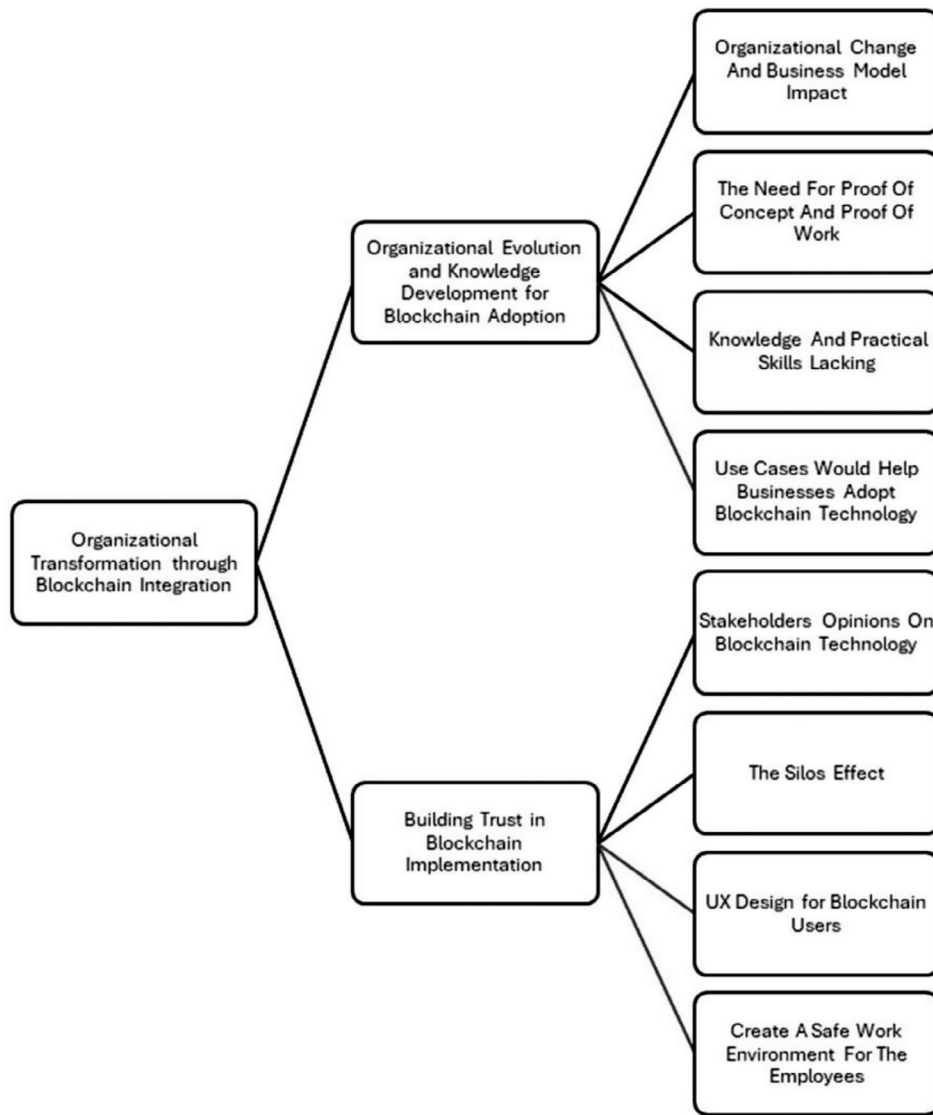


**FIGURE 1** | Data structure: Identifying blockchain's impact on business models.

#### 4 | Findings

The results presented in this section are based on a comparative analysis of interviews with managers across different

organizations, as previously discussed in the methodology section. Across cases, distinct patterns emerged, suggesting common concerns across all organizations. Although organizations may differ in their knowledge of and application of BT, one



**FIGURE 2** | Dara structure: Organizational transformation through blockchain integration.

aspect became clear: all organizations are interested in understanding blockchain's impact on their business. This reflects both the newness of technology and the ambiguity and risks associated with its adoption. The data showed that managers are aware of knowledge gaps and are seeking to fill them before making any adoption decisions.

According to our results, during the pre-adoption stage, managers emphasized the need to analyze internal factors and anticipate potential changes within the organization. From this, we identified the major components of the business model likely to be affected by the adoption of BT. The frequency of the themes in each coded case determined the importance of these components.

As mentioned in the literature section, Osterwalder and Pigneur (2010) view the business model as a set of interconnected components, namely the value proposition, customers and partners, key resources and activities, and cost/revenue structure, which collectively describe an organization's logic for value creation, delivery, and capture. To organize our findings,

we used the same business model framework. We extended the framework to include sustainability-related risk factors, as they are increasingly important in the current business environment and were prevalent in interviewees' internal considerations. The sustainability component can be linked to costs, but it was treated as a separate component based on the data. Our findings also show that the external factors (presented here) affect the adoption of blockchain indirectly, that is, by influencing how managers and stakeholders perceive the value and feasibility of technology. In this context, initiative-taking leadership is a crucial success factor. In the data, initiative-taking leadership was associated with accessing relevant knowledge, structuring BT information, and identifying how to create value for existing business processes by adopting BT.

It is important to note that changes to the business model are closely tied to the internal factors discussed in this section, as they require a shift in the organization's mindset. This is because firms need to bridge the gap between identifying the concept and knowing how to apply it before moving to implementation.

As an overview of the cases, for some companies, such as Company A, the logic of adopting blockchain was analytical, with value creation, knowledge, and applicability serving as prerequisites for adoption. In contrast, at companies such as Company B, engagement with blockchain was broader, evaluated across various aspects, including customer relationships and potential applications of the technology, without integrating them into an overarching decision framework. A similar diversity of aspects was observed in the case of Company C; however, unlike the previous case, this diversity was not driven by exploratory efforts but by organizational constraints, as the company lacked the time and resources to thoroughly assess the technology's applicability. Other companies, such as Company D and Company K Corporation, seemed to follow the logic of evaluating the technology's applicability to their operations and its relevance to their customers. In the case of Company J, the rationale for adopting the technology was future-oriented, as the company recognized the innovation's value without initially focusing on its applicability. In the cases of Company E and Company F, the logic for adopting the technology was evaluative, as the companies focused not only on the value of innovation but also on its sustainability. Although in the latter case the adoption of the technology was initially postponed due to organizational constraints at the time, in the case of Company G, Company H, and Company I, the logic of adopting the technology was driven by the organizational structure of the company, as well as the developments in the industry and the competition, respectively.

However, interviewees emphasized that before examining variables that may influence the adoption of BT and, therefore, their business model, a certain level of openness to innovation and technology is required to begin the blockchain adoption process.

#### 4.1 | Openness to Innovation

Organizations can adopt innovative technologies by fostering openness and creativity. According to respondents, private organizations will consider BT only when executives are aware of it, leading them to evaluate these technologies in the context of organizational strategic direction and business models. Interviewees commented:

I heard often about blockchain technology but not in the detail level... This is a totally new area... and we don't use it at the moment, but I hope to use it in the future.

(CEO 5)

While there is internal enthusiasm for blockchain, we would love to implement blockchain really in some sort of project.

(CEO 3)

Results emphasize the significance of a leader's role, which requires not only openness to technological innovation but also actively seeking it. As stressed by the CEO of Company F,

“executives seek to get an edge on the competition and to maintain “front-line” positions in their industries.”

This is why organizations need to be aware of technological advancements. Therefore, we can say that awareness and interest exist, but leaders must anticipate organizational and business model changes. As a CEO stated:

They (stakeholders) need to see the use case and return on investment.

(CEO 3)

Furthermore, the cross-case analysis reveals that organizations differed in their preparedness levels. Organizations such as Companies A and F discussed blockchain at a more general strategic and operational level, whereas others had a more basic or less developed understanding of the topic, starting from a level of “relevance,” “feasibility,” or “understandability” in their current context. Companies B and E discussed BT more cautiously, focusing on whether it was relevant to them at the time. Company D showed greater openness to innovation and experimentation in exploring BT's possibilities.

#### 4.2 | Identifying Blockchain's Impact on Business Models

Data indicates that during the pre-adoption stage, managers and executives need to assess the impact of introducing BT on the organizational business model to secure approval from all stakeholders. Organizations faced several challenges in this process, including a lack of understanding of blockchain. This required proactive efforts to access relevant knowledge, structure unstructured information, and identify benefits that align with their organizational needs.

##### 4.2.1 | Internal Variables

**4.2.1.1 | Blockchain's Impact on Value Creation.** Data indicates that during the pre-adoption stage, integrating BT requires managers and executives to assess the impact of introducing the technology on the organizational business model. Private organizations face several challenges in this process, including a lack of understanding of the subject. Although companies open to innovation may be aware of emerging technologies, the topic of BT remains obscure. This requires proactive efforts to acquire relevant knowledge, structure unstructured data, and identify benefits that align with their specific needs.

The concept of “degree of value creation” is important from an internal perspective. The leaders of private organizations need to understand how BT can efficiently create value for the enterprise if implemented. According to representatives,

I mean, we don't use technology because it's available, we use it only if we can and if there is a benefit for using it.

(CEO 2)

Just waiting for when the blockchain gives some extra value, then it's welcomed.

(PM 2)

While some organizations took a more analytical, economically driven approach, others viewed blockchain as a future-oriented opportunity or were unable to articulate its value clearly. Company A, for example, followed a strict cost-value logic, arguing that adopting the technology was justified only if the economic benefits outweighed the implementation cost. By contrast, organizations such as Company J and Company D viewed blockchain as an opportunity to drive future innovation, focusing on efficiency gains and potential business opportunities that could emerge from implementing the technology. Company B and Company C, for example, found it difficult to quantify the value of blockchain due to a limited understanding of the technology and a lack of applications.

**4.2.1.2 | Blockchain's Impact on Cost Structures.** Stakeholders and management groups needed to see the benefits that can be achieved through blockchain adoption, such as cost reduction, operational efficiency, or new leads to expand the business. Introducing innovative technologies can incur costs, but according to our data, "cost" was of secondary importance during internal assessments. However, spending depends on the expected benefits (e.g., profit) from adopting blockchain. The "cost" variable can also include the initial investment in implementing the blockchain, maintenance, transaction costs, additional personnel expenditures, infrastructure development, training, and networking events for developing expertise. On this basis, the perceived value of BT should align with the corresponding costs. Transaction fees and infrastructure expenses are difficult to forecast, according to the interviewees, and contribute another risk element to the investment. In this context, interviewees commented:

Then the rate of return on their investments needs to be at a good level for anything they do.

(CEO 3)

Let me put it this way: it's not that the cost is a barrier in the way that it's expensive. It's just that sometimes the power of acquisition from the CBMs is not under budget, or it's not under forecast, or even plans to do it.

(CEO 1)

The cost factor was present in all cases, though it was understood differently. In some instances (Company B and E), managers treated ROI as a threshold issue that had to be addressed before any further discussion could take place. In others (Company A and Company F), it was discussed as a secondary concern once a compelling use case, value proposition, or usage was identified. This further indicates that blockchain adoption is subject to different management logics. Despite facing similar kinds of uncertainty, some firms strictly follow cost logic, while others follow an opportunity logic.

**4.2.1.3 | Blockchain's Impact on Customer Relationships and Partnerships.** In evaluating the adoption

of BT, organizations were required to consider the technology's advantages, customer needs, and inter-organizational fit with partners and suppliers, all of which are equally important for implementation. When developing business models, BT solutions were not always deployed as stand-alone solutions because the technology's advantages are realized through the integration of organizations and other stakeholders within the business ecosystem. Notably, when perceived value exceeded cost, organizations preferred to use blockchain applications to increase customers' satisfaction and loyalty. As per the interviewees.

So, in that relationship, you can, of course, implement any technology you want to benefit your customers.

(CEO 2)

To get started, perhaps more when you go to the efficiency, how efficiently can you implement these things? And how efficiently can you run things at the customer's premises?

(CEO 3)

Although this is a factor considered in all cases, the role of customer alignment is understood differently across firms with different strategic orientations. While companies such as Company K and Company B were focused on direct customer proximity, as they are concerned with the role of BT in terms of efficiency and direct value creation for customers, especially in high-value transactions, companies such as Company A and Company J were concerned with the role of customers in a broader ecosystem, in which value is created in a broader sense rather than in a direct manner.

In addition to customer-related issues, the interviewees highlighted the importance of collaborating with partners, suppliers, and industry stakeholders when implementing blockchain technologies. This is mainly because blockchain technologies are often associated with distributed technology infrastructure. Thus, the question of whether the partners are ready to cooperate on a distributed technology platform is important. Some of the interviewees highlighted the importance of coordinating BT adoption processes with partners. This is mainly because the technology infrastructure may not be compatible between the partners. The interviewees also pointed out the importance of monitoring the partners' and competitors' adoption behaviors. This shows that the adoption of BT is not only dependent on the firm's business model. Instead, technology adoption also depends on the overall readiness of the surrounding business network. The interviewees also highlighted the importance of building trust among stakeholders when implementing BT. This is mainly because the technology is often associated with a distributed decision-making model.

Not all stakeholders are going to follow up... that's probably the biggest problem.

(Executive Vice President)

The significance of partnerships also varies across cases, both in degree and kind. For firms such as Company A and Company

J, partnerships were considered an essential prerequisite for blockchain adoption, owing to the decentralized nature of BT and hence the need for coordinated adoption. On the other hand, firms such as Company B and Company K considered partnerships primarily from an operational perspective, focusing on challenges such as technological compatibility and integration with existing infrastructure. This suggests that all firms acknowledge partnerships, but some see their role as essential to value creation, while others see them as obstacles to blockchain adoption.

#### 4.2.1.4 | Blockchain's Impact on Risk and Sustainability Factors.

The “energy consumption” factor has also been a challenge for private organizations deciding whether to integrate BT into their systems. According to the business model framework used in this study, sustainability is closely linked to cost structure, risk exposure, and reputational value. The managers explained that they are concerned about rising costs and environmental contamination associated with blockchain use. Interviewees commented in this context that:

If you're going to have something using blockchain, you actually have to have the proof somehow that this is not an environmental disaster...Every time you use electricity (for BT) in any form, it has to be produced, and this production will incur CO<sub>2</sub> emissions.

(CEO 5)

The theme of sustainability was raised in a few cases, but was strongly promoted in Company C and in the cases of Companies E and I, where the sustainability of BT was discussed. The other firms recognized the theme but were more focused on BT's economic and operational aspects.

Therefore, they prefer to think realistically about how environmentally friendly such measures are. The interviewees noted that they cannot overlook blockchain's energy consumption because it has financial, legal, and reputational (branding) consequences. During periods of heightened environmental awareness, companies are pressured to align their activities with sustainability requirements, both legal and social. This leads to embracing eco-friendly blockchain solutions and engaging in open dialogue with all relevant parties, including customers and investors, to reduce environmental impact.

## 4.2.2 | External Variables

### 4.2.2.1 | Institutional Policies and Market Drivers of Blockchain Adoption.

After discussing internal variables of great concern, the interviewees turned to themes that contribute to external variables in determining the impact of BT on business models. While these are not fundamental to the business models, institutional and environmental factors are crucial to how they are perceived within the broader BT narrative. In our analysis, the external variables influence adoption and the blockchain narrative to a medium degree. The external influence of “regulations, legislation, and governance” created a division that was explained as either aiding or delaying progress.

Managers were concerned about the need for clarity in regulations to avoid potential future legal liability for the company. Representatives commented:

But then what they fail to see is that there are still rules, regulations, laws in place, that are not in favor of going there (towards BT)...So, for the time being, I think Finland is waiting for the EU to have like an EU-wide legislation and regulations for that.

(CEO 1)

As long as it's not regulated, the playing field is unknown. It's the wild west.

(CEO 3)

According to some participants, what is missing is clear regulatory guidance, especially in Finland, as public organizations still struggle to determine what documentation BT will require or how this technology will be taxed. Public organizations support the need for regulation to ensure safety and stability. However, business leaders and managers remain uncertain, as the government's response is “painfully” slow and appears to them like riding into the darkness of the unknown frontier of the “Wild West” (CEO 3).

The analysis revealed that organizations wanted EU policies to enable blockchain adoption and expressed concern that government action is required to navigate markets and engage with clients and partners across borders.

By observing another indirect variable, namely the “market-place and competitors,” managers and leaders affirmed that they would gain a better understanding if they could follow a blockchain use case as a guiding tool. The data showed that competition drives blockchain adoption, with actions by market leaders setting industry trends and shaping its standards. Representatives commented:

I would still look for examples, but not only for my own domain... I would like just to collect the information about successful blockchain use cases, something that I get where I can see statements of value at and not just like generic mumbo jumbo.

(CEO 1)

But then if it's too late, then it's probably everyone else is doing this, we have to do it also.

(Executive VP)

In this regard, firms varied in their responses, reflecting differing perceptions of how market dynamics and competition drive blockchain adoption. For example, firms such as Company H and Company I emphasized the role of major players in the industry, implying that blockchain adoption was often driven by industry leaders. In addition, these firms highlighted imitation effects, suggesting that blockchain adoption was often driven by other industry players. On the other hand, firms such as Company A, which are more analytically focused, adopted

a more cautious approach. In this regard, these firms assessed blockchain adoption independently of competition. This showed that competition was perceived as both an enabling and an auxiliary driver of blockchain adoption.

This narrative indicated that blockchain was neither popular nor foreign in business. Firms were cautious. This risk perspective stemmed from the idea that outright technology purchases are rare and that managers doubt whether competitors' strategies can be replicated without knowing the specifics of implementation. This was why managers emphasized the need to seek use cases outside their own domains of expertise and to focus on tangible value propositions rather than general claims. The data pointed to social competition as a driver of blockchain adoption, with actions by market leaders setting industry trends and shaping its standards. To remain relevant and avoid being left out by their clients, private organizations may feel compelled to consider BT as they strive to catch up with competitors and align with market expectations.

We therefore acknowledged how managers and executives analyze internal and external variables and anticipate changes to organizations and business models in the pre-adoption stage through their research and calculations. This is driven by the incentive to prepare and present findings to stakeholders, thereby building credibility for BT adoption. In this regard, managers and executives can develop a clearer understanding of the business (model) elements that will change (value proposition, customer relationships, costs, energy management, etc.) and plan accordingly. A key point is that these elements do not resist the adoption process but are shaped by it, unlike the "organizational change" process that takes place after deciding to adopt BT. This stage is explained below.

### 4.3 | Organizational Change Through Blockchain Integration

#### 4.3.1 | Blockchain's Impact on Internal Structure and Capabilities

The themes in the data further indicate that the successful implementation of BT is related to the following elements: a culture of openness and innovation, stakeholder trust, knowledge management, communication, and external expertise to support employee safety during the organizational change process of adopting blockchain. The discussions highlighted that, as CEO 3 explains,

It involves changing their way of working and the processes in these companies. And that is also where we see the most gains in efficiency when you combine a new way of working with digital systems and tools.

(CEO 3)

Yet organizational change is uncertain because it relies heavily on "human" factors such as stakeholder trust, communication, and knowledge-building. These elements are not within

managers' discretion and may lead to resistance. To overcome such resistance, interviewees emphasized the need for use cases and external expertise.

It's about the process. It's about the way of working. And I think that it's the same thing about blockchain that we would very much like to get the chance to redesign the way of working and processes for the blockchain process.

(CEO 3)

The key to BT adoption is stakeholder participation, as workers, investors, consumers, and providers define success in implementation. CEO 6 indicated:

Not all stakeholders are going to follow up, and hence their participation is vital.

Also, CBM emphasized that:

Change management with people takes everybody's feelings into account.... Then everybody is very much on board, and the change happens fast.

The presence of real-world use cases appears to be a key differentiator in how these companies perceive the technology. For companies such as Company B, the lack of real-world business cases appeared to be a key hindrance, acting as a de facto barrier to further exploration. By contrast, companies such as Company H emphasized the need for practical solutions rather than engaging in discussion. On the other hand, companies such as Company A took a more evaluative role, acknowledging the presence of real-world use cases while questioning whether it offers any real advantage over other technologies. This indicates that, while all companies acknowledge the role of real-world use cases, the threshold for actual adoption differs significantly when implementing them in the organization.

According to the data, during organizational change, managers must build a culture of trust through communication to ensure transparency, align investors with the strategy, and gain credibility.

They will not give you their money (investors) if you cannot explain to them what you're doing.

(CEO 5)

I think the biggest barriers are that the stakeholders are not ready to share information so deeply that it should be shared.

(CBM)

Going further, one of the most significant organizational challenges highlighted by the interviewees was developing "knowledge" about BT at the organizational level. This element was as important as the internal variable "the value of creation" from the previous section, as CEO 3 stated:

Education is key. If you can spread the correct knowledge and educate people, then the adoption will also increase.

To provide both theoretical knowledge and practical skills, training programs were deemed essential for helping organizations navigate BT's complexities.

Representatives commented.

It takes quite a different skill to innovate around that, if you are not just taking it as simple data storage... I think somehow, there's a general collective, willing to learn more about blockchain.

(CEO 1)

We have to find some way to increase the competencies. And at the moment, I think that they have a willingness to learn more.

(BM)

We also mention some notable minor, frequent themes. One of them was creating a safe working environment for stakeholders, especially employees, is highly significant because it improves innovation and creativity. This safety not only creates room for active participation in blockchain learning processes among workers but also fosters a sense of ownership. Moreover, each organization should strive for intuitive, user-friendly interfaces. Another minor, recurring theme was the need for good UX design to build usability and trust when using BT, thereby widening the circle of stakeholders involved with blockchain. Interviewees commented:

We need to avoid working in silos, where teams or functions lack the overall picture of where we are heading or where the company is heading.

(PM 2)

It's also a very, very important factor in managing change that the employees feel safe in this environment, in this company, and with this group of people...and hopefully, which is how we do things here, that you have such a feeling of safety, that all of the personnel are contributing with their own ideas and want to try these new things.

(CEO 3)

Another minor theme was the time required to implement BT, which emerged as an issue of interest. This key differentiator reflects how these companies perceive technology in terms of time and implementation constraints. While companies such as Company C emphasized limitations in terms of actual time and cognitive capacity to explore the technology, companies such as Company H emphasized structural limitations in terms of actual industry readiness, rather than willingness. On the other hand, companies such as Company F recognized the need for blockchain as a future necessity but were unable to implement it due to higher-priority initiatives.

Nonetheless, the importance of the organizational implications was highlighted in different ways across the cases. Companies D and F discussed blockchain in relation to organizational transformation, ways of working, collaboration, and innovation processes, while Companies B and E emphasized more adjustments, such as coordination among stakeholders or the development of needed competencies before implementing new technologies.

In conclusion, the evidence suggests that a strategic approach is needed before and during the implementation of BT in organizations. This entails examining both the internal and external factors previously mentioned. Furthermore, as organizations apply these factors, they can forecast which areas of their business models would be affected. As organizations progress through the adoption and post-adoption phases, we emphasize the need to focus on managing change through communication, knowledge, and skill-building, as these are crucial for building trust and facilitating BT implementation.

In addition to these descriptive findings, we have developed a summary table (Table 3) that outlines key common characteristics and differences across cases, based on the themes developed. This summary table shows how BT adoption generates similarities in strategic considerations and highlights how different organizational contexts may influence the BT adoption journey.

Overall, the cross-case differences indicate that there is no single, homogeneous approach to decision-making in BT adoption, and that firms employ different decision logics in this regard. Some firms employ analytical logic in their decisions, basing them on demonstrated value, knowledge, and use cases, while others employ more exploratory logic, engaging with BT across various dimensions without seeking to combine them comprehensively. At the same time, there are firms whose decisions on BT adoption are influenced by structural limitations, such as resource constraints and other organizational issues, and this is where a better understanding of both similarities and differences is possible. From this perspective, our framework presented in the following Discussion Section (Figure 3) shows that BT adoption is a matter of broader strategic change, rather than simply an operational change.

## 5 | Discussion and Conclusions

### 5.1 | Discussion

Our findings address the rationale for potential research streams raised by Pooja et al. (2025), who recommended that future research focus on how organizations can strategically plan for blockchain adoption and address the challenges they face. Based on our findings, we also support Haq et al.'s (2025) argument that an organization with an innovative culture is likely to view BT as a potential competitive edge, thereby fostering an open mindset toward emerging technologies. Based on our findings, the first obstacle to BT adoption is a lack of openness to innovation. This element serves as the key to blockchain adoption and helps attract the interest of a company's different stakeholders.

**TABLE 3** | Summary table of similarities and differences across cases.

<b>Theme</b>	<b>Common characteristics</b>	<b>Differences</b>
Openness to innovation (4.1)	Organizations are aware of and interested in blockchain but recognize gaps in their knowledge and the need to assess its relevance and feasibility before adoption. Openness to innovation is required to begin exploration.	The level of awareness and preparedness varies: some firms discuss blockchain at a general or strategic level (e.g., Companies A and F); others cautiously assess its relevance (e.g., Companies B and E); while some actively explore use cases and experiment (e.g., Company D).
Value proposition (4.2.1.1)	Firms agree that blockchain should create value and support the business model; adoption is conditional on demonstrating clear benefits that align with organizational needs.	Some firms follow a strict value-cost logic and require clear ROI before adoption (e.g., Company A); others adopt a “wait-and-see” approach (e.g., Company F); while some view blockchain as a future opportunity to drive innovation and efficiency (e.g., Companies D, J).
Cost considerations (4.2.1.2)	Cost is secondary to value, but it must align with expected benefits; investment decisions depend on perceived returns and feasibility.	Some firms treat ROI as a threshold criterion (e.g., Companies B and E), while others consider cost only after identifying a viable use case (e.g., Companies A and F). Budget constraints and forecasting challenges also vary across firms.
Customer relationships and partnerships (4.2.1.3)	Firms recognize that blockchain adoption must enhance customer value and require coordination with partners, suppliers, and stakeholders across a broader business ecosystem, including alignment on technological compatibility and trust.	The role of customers and partners varies: some firms focus on direct customer efficiency and value creation (e.g., Companies B and K), while others adopt a broader ecosystem perspective (e.g., Companies A and J). Partnerships are viewed either as prerequisites for adoption or as operational challenges.
Sustainability and risk considerations (4.2.1.4)	Firms acknowledge sustainability concerns, particularly energy consumption and environmental impacts.	Some firms emphasize reputational and environmental risks (e.g., Companies C, E, and I), while others prioritize economic and operational considerations or highlight regulatory and governance uncertainties.
External factors: regulation and market dynamics (4.2.2.1)	Firms emphasize the need for clear regulations and acknowledge that external factors shape the perceived feasibility and legitimacy of blockchain adoption, given the associated financial, legal, and reputational risks. Market trends and competitors also influence decision-making.	Some firms wait for EU-level regulatory clarity (e.g., Company A), while others view the environment as uncertain or a “Wild West” (e.g., Company D). Some firms are influenced by competitors and industry leaders, whereas others take a more independent, analytical approach.
Organizational change (4.3)	Firms recognize that blockchain adoption requires organizational change, including shifts in how work is done, stakeholder collaboration, communication, trust, and knowledge development.	Firms differ in their approach to change: some emphasize collaboration, trust, and participation (e.g., Companies D and K), while others focus on developing competencies, training, and avoiding silos (e.g., Companies A, F, and G). Constraints such as time, resources, and industry readiness also shape their responses.

According to our findings, the elements involved in business model transformations are internal components, namely: value propositions; financial structures (e.g., revenue streams, ROI); marketing components (customer needs, partner relationships, and branding); and operational activities, including energy considerations and risk management. While earlier studies on BT have focused on these variables in isolation Clohessy et al. (2019) for financial structures; da Silva Momo et al. (2019) and Geleziunaite and Fbba (2023) for marketing components such as customer relationships and branding; Drljevic et al. (2022) and Lin et al. (2022) for operational activities including risk management; Marikyan et al. (2021) for value proposition, our study has advanced and contributed to the academic literature on business model innovation and organizational change (Table 1) by bringing all the affected elements together in one study and adopting a holistic firm perspective.

To provide better grounding, this paper builds on the Osterwalder and Pigneur (2010) framework to visualize BT adoption from a managerial perspective within organizational structures. Drawing on Osterwalder and Pigneur (2010), we developed an integrated framework that illustrates how managers' mental models shape decision-making regarding blockchain adoption. The framework spans openness to innovation, internal factors (value creation, cost alignment, customers, partner relationships, and energy efficiency), and external influences (regulation, market, and competition). Figure 3 visualizes this process, providing structure to the unstructured in the context of business models and organizational changes.

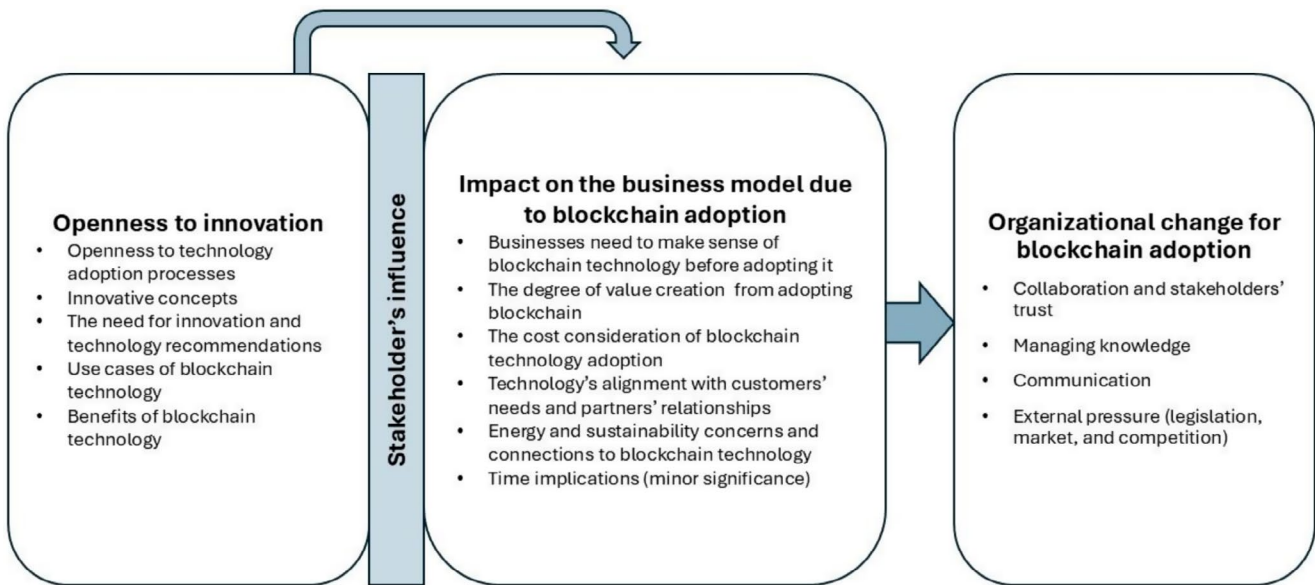
The developed framework first explains the potential implications of BT adoption for the business model through internal and external factors, and then incorporates elements such as collaboration, trust building, communication, and leveraging new knowledge to drive organizational change toward successful blockchain integration. With a systematic approach, this framework connects the various elements involved in blockchain adoption and provides actionable guidance toward organizational goals concerning stakeholder expectations. Furthermore, we emphasize that if these factors are not adequately addressed, organizations may face risks such as the loss of resources and time.

To test and contrast our findings, we conducted a critical assessment to determine how the outcome of our study developed, added to, or debated the existing academic literature. Following this line of inquiry, the work of Angelis and Ribeiro da Silva (2019) indicates that organizations need to ensure BT is aligned with their corporate strategy before conducting market analysis and cost assessment. Our findings further support this, identifying strategic alignment as a significant factor in BT adoption. Regarding the business model change, which incorporates internal and external variables, we emphasize that an organization should consider both to ensure successful BT adoption. In terms of the *value proposition*, Berneis and Winkler (2021) and Ostern et al. (2022) argue that BT can achieve end-to-end traceability in supply chain management, reduce counterfeiting, and improve quality control. Our findings support these observations and further advance the argument that BT adoption may also lead to the launch of new products or services (e.g., digital products), thereby altering how value is created and delivered to clients.

Regarding *cost structure and revenue streams*, scholars (e.g., Weerawarna et al. 2023; Bhattacharjee et al. 2024) emphasize that financial models need to be updated to include expenses such as initial investment, ongoing operations, and training and maintenance costs to integrate BT. The results of our study support previous findings (Daidai 2023; Weerawarna et al. 2023) and further indicate that BT can provide long-term strategic benefits for organizations, such as increased security, transparency, and efficiency Weking et al. (2020) have also stated. In the context of marketing, scholars (e.g., Raddatz et al. 2023; Rejeb et al. 2020) highlight that, in BT adoption, *customer trust and brand image* are moderately important. Our results support the argument that organizations should ensure that BT adoption increases client satisfaction and overall brand perception. Furthermore, our findings suggest that susceptibility to threats, the severity of trends, and awareness of BT can influence consumers' perceptions of BT benefits and their switching intentions. Therefore, organizations should address these facets diligently. For example, by considering third-party influence in the market (e.g., media, lobbying activities) and making rational decisions.

Regarding *partnerships*, Lumineau et al. (2021) and Kostić and Sedej (2022) highlight that BT can redesign partnerships between firms by enabling coordination, transparency, and information exchange without resorting to centralized control mechanisms. From this perspective, BT is considered a facilitator of trust and cooperation among autonomous actors in the network. More recent empirical research has also emphasized BT's capacity to enhance partnerships by increasing relational and calculative trust among supply chain actors. Our research results support the literature and confirm that BT adoption is closely related to inter-organizational collaboration; however, they also highlight that partnerships are not only facilitators of blockchain adoption but also essential precursors, as the decision to adopt blockchain depends on partners' technological readiness, compatibility, and willingness to collaborate. Moreover, this research extends the literature by highlighting that partnerships can be both facilitators and barriers to blockchain adoption, as BT may not solve coordination issues among actors in the network; instead, it may reveal them, as aligning the partner network is also required.

On *sustainability issues*, Alhasan and Hamdan argue that the total energy consumption of blockchain infrastructure should be considered to assess its environmental impact. Our study endorses this assertion and establishes that an organization must be concerned with the legal and reputational implications of BTs environmental impact as it relates to production processes and brand image among internal and external stakeholders. Kusunoki observed the critical issue of organizational culture. There is a need for specialized training programs, workshops, and practical activities to develop BT understanding among workers. Our findings sustain this observation and further indicate that human resource managers should serve as mentors and supporters by providing personalized coaching and establishing channels to track feedback on BT adoption. Čižmešija and Vrček further assert that organizational readiness and culture are non-technical issues that should not be neglected during BT adoption. We find in our study that resistance may stem from either top management's or employees' misunderstanding of BT, aligning with Oz et al.'s (2025) findings. We also note that subjective changes without observable external causes may elicit greater



**FIGURE 3** | Blockchain-driven business model and organizational transformation framework. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1002/jsc.701)]

resistance, which calls for strategic trust-building and coherent communication to secure stakeholder buy-in.

Gattringer et al. (2021) also argue that a deep understanding of BT's impact on business models provides a solid foundation for successful adoption. Our study confirms this by clearly identifying elements that need to be changed, such as updating technologies, building stakeholder trust through communication strategies, and strengthening knowledge management. Scholars such as Weking et al. (2020) and Kusi et al. (2024) argue that BT can transform business models, operations, and profitability. This view is supported by our findings, which delve into the details of specific components that might need alteration.

We also reiterate the need for comprehensive, reliable information to drive stakeholder consideration of BT adoption and, as Kosmarski (2020) outlined, to ensure that communicative strategies are well designed. Therefore, the paper's results question the stance that blockchain is a tool for innovation by pointing out that, first, its practicalities and impact must be understood prior to implementation. Before adopting and utilizing BT in the organization, managers and executives are required to examine BT and assess it fairly and accurately, identifying it as an opportunity or a threat to organizational strategies.

## 5.2 | Theoretical Contributions

In this article, we advance the study of business model theory by explaining how blockchain's unique elements and nature restructure value creation and the logic of costs within an organization's business model. We extend the notion proposed by DaSilva and Trkman (2014) that a business model would focus on strategic decisions with short-term consequences. Our findings show that blockchain fundamentally reshapes the core decision-making structure to achieve lasting effects. At the same time, blockchain opens new opportunities for value creation and

revenue streams (e.g., tokenization or transaction fees). These changes reshape value creation and the expectations and trust stakeholders attribute to the organization. In this way, we extend the notions explained by Morkunas et al. (2019), which hold that new trust facilitates new partner and customer relationships. These concerns arise because blockchain adoption affects multiple components of the business model, including customer segments, key partnerships, and cost and revenue structures, as outlined in Osterwalder and Pigneur's Business Model Canvas. We contribute to business model theory by demonstrating how increased transparency and reduced mediation enabled by blockchain foster new value creation and shift cost/revenue logics, changing existing business model patterns or creating new ones.

Second, we contribute to organizational change theory by positioning blockchain adoption as a digital innovation that complicates change. As many change management theories argue, adopting blockchain is best undertaken when change readiness and trust are extensive. Asikhia et al. (2021) note that organizations can apply change readiness to enhance adaptive routines; this study indicates that companies rely on cultural communication to provide such empowerment. Furthermore, this research extends the role of sensemaking in blockchain adoption by highlighting the active role that managers play in involving employees in interpreting the uncertain and ambiguous implications of BT. Consistent with Gattringer et al. (2021), this research finds that exposing teams to different perspectives leads to new ways of thinking, which, in turn, reframes the meaning of BT within the organization. This research extends this perspective by highlighting the role of sensemaking not only as a cognitive process but also as a collective, continuous process that supports the adoption of BT.

Finally, we offer a connected lens for previously disconnected streams of literature. Previous research has treated business model change and organizational transformation as two distinct endeavors. From this intersecting perspective,

blockchain-driven changes to the business model require simultaneous internal organizational transformation. DaSilva and Trkman (2014) note that a business model paints a picture of the company, revealing how those elements work together; we examine these elements from a co-evolutionary perspective in light of blockchain's disruption. Therefore, we respond to a call for a more integrated approach linking the business model component lens and change management-related frames, offering a coherent theoretical lens for contemporary digital innovations. Thus, our results do not fill a major theoretical gap but rather constitute a more refined, nuanced contribution to an existing body of theory and knowledge.

### 5.3 | Managerial Implications

From an empirical perspective, this article provides a qualitative understanding of how firms process and view the operationalization of BT beyond the theoretical perspective. The paper offers insights for managers and policymakers. It explains that successful adoption involves aligning the potential, benefits, and downsides of BT with a culture of innovation and change, organizational readiness, and stakeholder trust management. Recognizing the impacts of blockchain adoption on the

**TABLE 4** | Actionable recommendations.

Implications	Actionable recommendations
Business managers	<ul style="list-style-type: none"> <li>• Initiate organizational readiness evaluations prior to BT adoption (including organizational culture, trust, and communication).</li> <li>• Assess the clarity of regulations before BT adoption.</li> <li>• Create strategies based on use cases aligned with the organization's business model and strategic goals.</li> <li>• Invest in training and development to fill the knowledge gap.</li> <li>• Evaluate environmental and reputational risks and foster a supportive environment that enables organizational change.</li> </ul>
Policymakers	<ul style="list-style-type: none"> <li>• Offer the needed regulations to minimize the uncertainty for technology.</li> <li>• Support national-level programs for use case experimentations.</li> <li>• Address BT-related sustainability concerns by offering certain environmental standards.</li> </ul>
Other ecosystem actors	<ul style="list-style-type: none"> <li>• Designing the user-friendliness of BT interfaces.</li> <li>• Provide scalable solutions.</li> </ul>

business model is expected to enable faster strategic planning and preparation for change. Nonetheless, our findings indicate that adopting blockchain technologies introduces complexities beyond what can be controlled through preparation alone, affecting business models. Business managers should evaluate organizational readiness before adopting BT and develop strategies aligned with use cases and business models. Investments are needed in training, bridging knowledge gaps, and creating an environment that enables organizational change. Trust, communication, and stakeholder involvement are difficult to manage during organizational transformations; therefore, a comprehensive pre-evaluation is required before embracing new systems and educating stakeholders. Our research offers valuable insights for managers seeking to integrate blockchain into a rapidly evolving environment. Furthermore, strategic planning and stakeholder engagement enable firms to utilize the advantages of BT while minimizing risks, fostering innovation, and supporting long-term digital growth. In addition, based on our empirical findings, the study offers recommendations for policymakers and other stakeholders, as defined in Table 4.

### 5.4 | Conclusion

In conclusion, drawing on multiple case studies from Finland, this study explored how BT adoption transforms business models and organizational structures, and how managers make sense of blockchain as they implement it. Our data analysis showed that blockchain modifies both internal (value creation, cost, customer alignment, partnership relationships, sustainability) and external (regulation, market and competition, institutional context) components of the business model. These changes are identified and managed through organizational openness toward the technology and the sense-making process between leaders and the organization, making it a process of organizational re-configuration that redefines how value is created, delivered, and captured in that company. Overall, our paper contributes by organizing the discussion on blockchain and business models, even without introducing a shift in the research perspective on how to approach this phenomenon. Thus, it represents a cumulative contribution (rather than a revelatory one). Incremental contributions are also valuable, precisely because they help structure the debate and serve as a foundation for future work, providing empirical evidence in a field still marked by conceptual studies or technical descriptions. This is particularly true when addressing a phenomenon that is still maturing in society, as blockchain and business models still fall into this category.

### 5.5 | Limitations and Future Research

The limitations of this study are as follows: it focuses only on certain private organizations and may not capture a wide range of scenarios, cases, and adoption experiences across different regions. To address this issue, further research could consider diverse samples, including public-sector organizations, small firms, and large firms, to develop a common understanding across contexts. Another limitation is that, although we differentiate the characteristics across cases, our findings reflect a qualitative perspective on the process of BT adoption, which may be open to debate regarding generalizability and

applicability. The findings present the Finnish context and, therefore, are influenced by it; they are representative of the Finnish case and may apply to other European contexts, but they do not reflect the general situation of BT adoption and change at a European or international level. To improve the generalizability of our findings, future research can adopt a mixed-methods approach to further triangulate the insights and patterns with different contexts and cases. Given the rapid pace of blockchain evolution, research results can quickly become obsolete. At the same time, we realize that these findings may not be universally applicable, as the convenience-based selection process for companies did not cover every organization operating with BT or considering its adoption. Subsequent research should expand the geographic and industrial boundaries by including additional companies in their sample, thereby better positioning them to evaluate the impact of BT across different settings. Longitudinal studies can help examine the long-lasting consequences and the long-term sustainability of adopting BT. In addition, future research can focus on purposive sampling across different industries, for instance, banking and finance, the healthcare sector, and supply chain and coordination, to understand their dynamics and impact on organizational change and business model transformation.

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### Conflicts of Interest

The authors declare no conflicts of interest.

### Data Availability Statement

The data that support the findings of this study cannot be shared and is not publicly available due to privacy and anonymity agreement.

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