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THE ROLE OF RESOURCE SHARING IN BUILDING AMBIDEXTROUS SUPPLY CHAINS

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Purpose: This paper explores the relationship between supply chain ambidexterity (SCA) and resource sharing (RS). It also identifies the key enablers and barriers influencing successful resource-sharing practices.
Design/methodology/approach: The analysis was conducted on data from a survey study based on an original questionnaire, carried out among 150 Polish firms. Scale reliability was assessed using Cronbach's Alpha, and hypotheses were tested with Spearman's rank correlation.
Findings: Findings show a low-to-moderate level of RS (M = 2.11). Correlation analysis confirmed a strong, positive link between RS and perceived impact on both efficiency and adaptability/innovation. A key paradox emerged: firms' strategic ambidextrous orientation is neutral (M < 3.0), yet the perceived impact of sharing on ambidextrous outcomes is positive (M > 3.1). Relational factors, notably "Mutual trust" (enabler) and "Lack of trust" (barrier), were found to be paramount.
Research limitations/implications: Limitations include reliance on perceptual data, the low reliability of the "Exploration Level" scale, and a single-country sample, which limits generalizability. Future research should use objective KPIs and a validated exploration scale.
Practical implications: For practitioners, RS is a tool for both efficiency and innovation. Managerial priority should be building relational capital (trust, communication), which are the key enablers and barriers. The low overall RS engagement (M = 2.11) suggests a significant untapped opportunity for competitive advantage.
Originality/value: This paper fills a research gap by providing empirical evidence of the link between various RS types and both perceived dimensions of SCA (efficiency and adaptability). It also empirically reinforces the importance of the Relational View in SCM.
Keywords: ambidexterity, ambidextrous supply chain, sharing resources, supply chain ambidexterity, supply chain collaboration.
Category of the paper: Research paper.

1. Introduction

The current market environment is placing increasing demands on enterprises. To achieve a sustainable competitive advantage, organizations must not only ensure superior product and service quality but also significantly reduce order fulfillment times. Consequently, both individual firms and entire supply chains are actively seeking new development opportunities. In an era defined by globalization and dynamic market changes, organizations are increasingly turning to new solutions, such as resource sharing, to enhance their capabilities.

In this unpredictable context, supply chain ambidexterity is emerging as a critical factor for success. Defined as the organizational ability to simultaneously pursue contradictory objectives (Gibson, Birkinshaw, 2004), ambidexterity addresses an essential modern challenge: consumers demand increasing product variety delivered quickly and efficiently, while operational stability seeks to maintain low costs and high quality. Supply chain ambidexterity, therefore, is the capacity to achieve both efficiency (cost minimization and process optimization) and flexibility (rapid response to demand changes and capacity for innovation). In essence, it is the skill of balancing operational stability with innovation, enabling an organization to maintain and develop its current activities while simultaneously creating new solutions for long-term growth (Pelagio Rodriguez, Hechanova, 2014).

One potential strategy for fostering this dual capability is resource sharing, a practice in which physical or immaterial assets are shared among entities within the supply chain (Soosay et al., 2008). This can range from sharing physical infrastructure, such as warehouses or transport, to collaborating on equipment, training services, research and development, or co-developing new products. Such relationships may be established directly between participants or through a third party, such as a logistics service provider (LSP).

A review of the world literature reveals a significant research gap concerning the connection between these two concepts. Although resource sharing is known to offer benefits such as increased efficiency, flexibility, and innovation, it also presents challenges, such as trust, intellectual property protection, and coordination, and its specific impact on ambidexterity is poorly understood. Until now, resource sharing in supply chains and supply chain ambidexterity have been investigated mainly independently.

Therefore, this paper aims to recognize and explore the relationship between supply chain ambidexterity and the strategic implementation of resource sharing. In addition, it seeks to identify and analyze the key factors that decisively influence the success of resource sharing practices within complex supply chain networks. By addressing these objectives, this work provides crucial insight into how collaboration helps supply chains become both efficient and flexible.

To achieve these objectives and address the identified research gap, this study is guided by the following specific research questions:

RQ1: What is the observed relationship between the degree of resource sharing and the level of supply chain ambidexterity?

RQ2: What factors are perceived by supply chain professionals as critical for the successful implementation and operation of resource sharing practices in the supply chain?

RQ3: What are the main barriers that hinder or limit the adoption and development of resource sharing practices in supply chains?

The remainder of this article is structured as follows. Section 2 provides a comprehensive review of the literature, beginning with the initial concepts of organizational ambidexterity (2.1) and its specific application in the ambidextrous supply chain (2.2). This is followed by an analysis of resource sharing practices (2.3). Essentially, subsection 2.4 synthesizes these topics to explore the theoretical links between resource sharing and the ambidextrous supply chain, establishing the foundation for our empirical inquiry. Section 3 details the research methodology used in this study. Section 4 presents the core results of our investigation. These findings are then interpreted and contextualized in Section 5, the Discussion. Finally, Section 6 offers a summary of the entire study, highlighting key conclusions, implications, limitations, and avenues for future research.

2. Literature review

2.1. Ambidexterity

Ambidexterity is a recurring theme in organizational literature (Gibson, Birkinshaw, 2004) and is widely regarded as a necessary condition for sustained success (Kristal et al., 2010; Lin et al., 2013). At its core, ambidexterity refers to the capacity to pursue two seemingly contradictory objectives simultaneously (Chen et al., 2016; Lee, Rha, 2016; Gibson, Birkinshaw, 2004). The primary and most established contrast within this field concerns the challenge of merging exploitation and exploration (Lee, Rha, 2016; Aslam et al., 2020; Shams et al., 2021; Wamba et al., 2020)

Exploitation focuses on the use and refinement of existing resources, knowledge, processes, and competencies (Chen et al., 2016; Im, Rai, 2008; Kristal et al., 2010; Lee, Rha, 2016; Lee et al., 2020a). The objective of exploitation is operational efficiency, cost reduction, selection, and implementation, typically oriented towards ensuring short-term success (Aslam et al., 2020; Gu et al., 2021; Kristal et al., 2010).

In contrast, exploration centres on the search for new opportunities (Lee, Rha, 2016), the development of new competencies (Lee et al., 2020a), and the acquisition of new knowledge (Kristal et al., 2010) through experimentation, risk-taking, and innovation (Lee, Rha, 2016; Lee et al., 2020a; Gu et al., 2021). This aims to build future competitiveness and ensure long-term survival (Aslam et al., 2020; Kristal et al., 2010).

These two strategies essentially compete for limited organizational resources and require different mindsets and organizational procedures (Gu et al., 2021; Gupta et al., 2006; Lin et al., 2013). An exclusive focus on exploitation can lead the organization into a "competence trap," risking obsolescence as the market evolves. Conversely, excessive exploration, without sufficient exploitation to fund it, threatens operational efficiency and risks falling into a "failure trap" through costly, unsuccessful ventures (Kristal et al., 2010; Hadi et al., 2025; Gupta et al., 2006; Shams et al., 2021).

Organizational ambidexterity (OA) refers to a firm's capacity to balance exploitation and exploration throughout the entire business unit (Chen et al., 2016; Lee et al., 2020a). The pursuit of OA is widely considered a requirement for creating more sustainable operations, developing durable practices (Payán-Sánchez et al., 2022), and achieving superior business performance and competitive advantage (Chen et al., 2016; Lin et al., 2013).

In modelling OA, two main approaches dominate the literature: Structural Ambidexterity and Contextual Ambidexterity. Structural Ambidexterity involves creating dual structures or separate organizational units (subsystems). Under this model, each unit specializes in a different activity, one focused on exploitation and the other on exploration. Alternatively, structural ambidexterity can be achieved temporarily by sequentially switching the organization's focus between these activities (Shams et al., 2021; Chen et al., 2016; Gibson, Birkinshaw, 2004; Gupta et al., 2006). Simultaneously, Contextual Ambidexterity is defined as a behavioural capacity to simultaneously demonstrate alignment (exploitation) and adaptability (exploration) within the same business unit (Lee, Rha, 2016; Aslam et al., 2020; Gibson, Birkinshaw, 2004; Im, Rai, 2008). Contextual ambidexterity is achieved not by separating tasks but by building organizational systems and processes that encourage individual employees to make their own decisions about how to allocate their time across conflicting demands (Gibson, Birkinshaw, 2004; Lee et al., 2020b). This capability is shaped by an organizational context built on a combination of stretch, discipline, support, and trust (Lin et al., 2013; Gibson, Birkinshaw, 2004).

2.2. Ambidextrous Supply Chain

The concept of organizational ambidexterity has naturally been extended beyond the boundaries of a single firm to the broader context of the supply chain (SCM) (Aslam et al., 2018; Kristal et al., 2010). An ambidextrous supply chain (SCA) strategy represents a deliberate strategic choice, often by the focal firm, to simultaneously pursue exploitation and exploration practices across its network. This involves balancing SC exploitation (characterized by

efficiency, cost reduction, and reliability) with SC exploration (characterized by flexibility, innovation, and the search for new competencies) (Aslam et al., 2018; Kristal et al., 2010; Lee, Rha, 2016; Wamba et al., 2020).

SCA is increasingly viewed as a critical dynamic capability (Aslam et al., 2020; Lee, Rha, 2016). Firms that successfully implement an SCA strategy tend to perform better. This is attributed to their ability to achieve combinatory competitive capabilities, that is, the capacity to simultaneously reach high levels of quality, delivery speed, flexibility, and low cost, rather than being forced to trade one objective for another (Kristal et al., 2010). Furthermore, SCA is instrumental in building Supply Chain Resilience (SC-Resilience) by enabling the network to more effectively mitigate the negative impacts of disruptions (Aslam et al., 2020; Lee, Rha, 2016; Wamba et al., 2020).

Within the SCA framework, two capabilities are highlighted as particularly crucial: Supply Chain Agility (SC-Agility) and Supply Chain Adaptability (SC-Adaptability). SC-Agility is the ability to respond rapidly to short-term, temporary changes, such as volatile market demand or sudden supply-side disruptions (Aslam et al., 2018; Dubey et al., 2018; Wamba et al., 2020). In contrast, SC-Adaptability refers to the ability to adjust the fundamental design of the supply chain, including its structure and resource base, to meet long-term changes in the market environment (Aslam et al., 2018; Dubey et al., 2018; Wamba et al., 2020).

2.3. Resource Sharing

Resource sharing (RS) stands as a basic mechanism for inter-firm collaboration within the supply chain (Payán-Sánchez et al., 2022; Cao et al., 2010). It is broadly defined as the process of utilizing and jointly investing in capabilities and assets with supply chain partners. Firms engage in the sharing of both tangible (physical) and intangible resources. Physical resources typically include production equipment, facilities, and technology (Cao et al., 2010), while intangible resources encompass valuable assets such as knowledge, know-how, strategic information, and organizational capital (Cao et al., 2010; Payán-Sánchez et al., 2022; Brandon-Jones et al., 2014; Dubey et al., 2018; Klein, Rai, 2009).

Organizations gain competitive advantage not only from their internal assets, but from the synergetic combination of resources, knowledge, and capabilities developed in partnership with other firms (Klein, Rai, 2009; Payán-Sánchez et al., 2022; Cao et al., 2010; Im et al., 2019; Paulraj et al., 2008). Collaboration, therefore, provides access to partners' critical resources that might otherwise be unreachable (Payán-Sánchez et al., 2022; Cao et al., 2010; Klein, Rai, 2009).

Within this collaborative background, information sharing (IS) is a crucial intangible resource that must be timely, accurate, complete, and relevant to be effective (Brandon-Jones et al., 2014). Integration of high-quality information sharing with technological resources, such as IT infrastructure and connectivity, creates the essential capability of Supply Chain Visibility (SCV) (Brandon-Jones et al., 2014; Dubey et al., 2018), which is necessary for effective

coordination, alignment, and risk management across the network (Brandon-Jones et al., 2014; Patnayakuni et al., 2006).

2.4. Resource Sharing and Ambidextrous Supply Chain

Resource sharing (RS) functions as a key enabling mechanism for the ambidextrous supply chain (SCA) by directly addressing the challenge of resource shortage (Gupta et al., 2006). Access to external resources from partners, such as specialized teams, additional production capacity, or unique knowledge, serves to mitigate the internal resource constraints that firms typically face. This functionality is crucial for organizations seeking to pursue exploration and exploitation within their supply chain simultaneously (Gupta et al., 2006; Kristal et al., 2010).

The resources subject to sharing include both intangible and tangible assets. Although intangible assets are critical, the literature equally emphasizes physical assets (Cao et al., 2010). RS definitions explicitly include tangible assets such as manufacturing equipment, facilities, and technology (Cao et al., 2010). Effective collaboration often requires specific investments in complementary assets, creating "relational assets" that partners could not generate independently (Cao et al., 2010; Payán-Sánchez et al., 2022). This integration is also evident in logistics practices (Beske-Janssen et al., 2014), such as Vendor-Managed Inventory (VMI) or co-managed inventory, where the sharing of intangible data is essential for the co-management of tangible physical inventory (Cao et al., 2010).

A specific mechanism of resource sharing in inter-firm relationships is Knowledge-Sharing Ambidexterity (KSA), which involves the simultaneous engagement in both exploitative and exploratory knowledge sharing (Im, Rai, 2008; Im et al., 2019; Lee et al., 2020b). KSA, considered a form of resource-sharing ambidexterity, has been shown to lead to higher relationship benefits (Im et al., 2019). Joint use of both exploitative and exploratory knowledge enables partners to integrate their know-how, skills, and efforts (Im et al., 2019). This, in turn, promotes the development of combinative capabilities (Lee et al., 2020b), supporting both short-term and long-term value creation pursuits (Im et al., 2019).

Information technology (IT) represents another essential resource in this dynamic (Dubey et al., 2018). Ambidextrous use of IT is considered critical for achieving SC resilience (Gu et al., 2021). Exploitative IT use focuses on automation and efficiency within existing processes (Gu et al., 2021), while exploratory IT use facilitates more dynamic information sharing, enabling process reconfiguration and agile responses to disruptions (Gu et al., 2021). The complementary use of both forms supports both standardized, rapid responses (exploitation) and long-term knowledge acquisition (exploration) (Gu et al., 2021).

Furthermore, the link between resource sharing and SCA is strongly manifested through the dynamic capability of Supply Chain Adaptability (Aslam et al., 2020; Wamba et al., 2020). Defined as the ability to reconfigure the structure and resource base of the supply chain to meet long-term market shifts (Aslam et al., 2020; Wamba et al., 2020), adaptability inherently relies on the management of shared physical resources. This capability can be achieved by

reconfiguring assets (Lee, Rha, 2016; Aslam et al., 2018), such as identifying new supply bases (Wamba et al., 2020), or by shifting fixed costs to variable costs through outsourcing to 3PLs (Wamba et al., 2020). Practices such as establishing joint logistics systems or sharing warehouses are specific examples of leveraging RS to improve adaptability (Wamba et al., 2020).

Although the literature suggests strong theoretical links, particularly in the contexts of knowledge and IT, there remains a clear gap in empirically validating the relationship between the overall degree of resource sharing and the achieved level of supply chain ambidexterity. To address this gap, this study will test the following hypotheses:

H1: A positive relationship exists between the degree of resource sharing in a supply chain and its level of ambidexterity, such that increased sharing leads to growth in both efficiency (exploitation) and flexibility (exploration) of the chain.

H2: There is a positive relationship between the degree of resource sharing and the perceived impact of that sharing on the adaptability and innovation of the supply chain.

3. Methods

The analysis presented in this paper uses empirical data gathered through a diagnostic survey. The research was conducted between July 2025 and October 2025, employing a dual-mode survey that used both CAWI (Computer-Assisted Web Interview) and CATI (Computer-Assisted Telephone Interview) methods. The final sample comprised 150 respondents from 150 firms. The participating companies were segmented by size: 93 small, 27 medium, and 30 large enterprises.

The survey instrument captured responses using a 5-point Likert scale for each question (Table 1). To facilitate analysis, aggregated variables were constructed to represent the average response for the key aspects under study. A reliability analysis confirmed the internal consistency of these constructs, allowing them to be treated as composite indices (as detailed in Table 2). Thus, the following indices were developed:

Resource Sharing Indices (from Q1):

- Index 1: Physical Resources (Q1.1.1-Q1.1.5).
- Index 2: Human Resources (Q1.2.1-Q1.2.5).
- Index 3: Information Resources (Q1.3.1-Q1.3.5).
- Index 4: Financial Resources (Q1.4.1-Q1.4.5).
- Index 5: Knowledge and Know-how (Q1.5.1-Q1.5.5).

Ambidexterity Orientation Indices (from Q2):

- Index 6: Exploitation Level (Q2.1-Q2.4).
- Index 7: Exploration Level (Q2.5-Q2.8).

Perceived Impact Indices (from Q3 & Q4):

- Index 8: Impact of Sharing on Efficiency (Q3.1-Q3.4).
- Index 9: Impact of Sharing on Adaptability (Q4.1-Q4.4).

Table 1.
Questions from the survey questionnaire on the sharing of resources, ambidexterity orientation indices, and the impact of sharing resources on efficiency and adaptability

No.	Question					
Q1	To what extent does your company engage the following stakeholder groups in different areas of its operations?					
	Resources / Partners	With suppliers	With customers	With logistics providers	With companies within the same capital group	With competitors
	Physical Resources	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5
	Human resources	1.2.1	1.2.2	1.2.3	1.2.4	1.2.5
	Information resources	1.3.1	1.3.2	1.3.3	1.3.4	1.3.5
	Financial resources	1.4.1	1.4.2	1.4.3	1.4.4	1.4.5
	Knowledge and know-how	1.5.1	1.5.2	1.5.3	1.5.4	1.5.5
Q2	To what extent does your company plan to:					
	2.1	implement improvements to current technologies, products, and services				
	2.2	strengthen cooperation with existing partners				
	2.3	focus on reducing operational costs				
	2.4	conduct efficiency analyses				
	2.5	increase the number of alternative suppliers				
	2.6	develop production in new geographical locations				
	2.7	modernize currently used technologies				
	2.8	accept orders for products and services that go beyond the current offer				
Q3	How resource sharing has affected current efficiency and operational optimization in the supply chain					
	3.1	Reduction of operational costs				
	3.2	Shortening of the total order fulfillment time				
	3.3	Reduction of inventory levels throughout the supply chain				
	3.4	Better utilization of existing resources				
Q4	How resource sharing has affected adaptability and innovation in the supply chain					
	4.1	Speed of response to market changes and demand fluctuations				
	4.2	Ability to cope with unexpected disruptions				
	4.3	Effectiveness and frequency of introduction of new solutions and innovations				
	4.4	Possibility of entering new markets or implementing new technologies				

Source: own calculations based on Author's research.

The analytical approach involved several statistical methods. Descriptive statistics, mainly mean and standard deviation, were calculated to determine the central tendency and the distribution of responses for key research indices. This descriptive approach, supplemented by frequency distribution analysis, was also used to identify critical success factors and barriers related to resource sharing, thus addressing RQ2 and RQ3. As detailed in Table 2, the reliability of these indices was assessed using Cronbach's Alpha prior to the main analysis.

Finally, to test the research hypotheses, a non-parametric correlation analysis was conducted, as detailed below. Given the ordinal nature of the data gained from these scales, Spearman's rank correlation coefficient (Spearman, 1904) was selected as the primary statistical method. This non-parametric approach was considered appropriate as it allows not only the identification of a statistically significant relationship but also the determination of its strength and direction.

Table 2.
Results of reliability analysis

Index	Combined questions	Cronbach's Alpha Value
Index 1	Q1.1.1, Q1.1.2, Q1.1.3, Q1.1.4, Q1.1.5	0.878
Index 2	Q1.2.1, Q1.2.2, Q1.2.3, Q1.2.4, Q1.2.5	0.856
Index 3	Q1.3.1, Q1.3.2, Q1.3.3, Q1.3.4, Q1.3.5	0.701
Index 4	Q1.4.1, Q1.4.2, Q1.4.3, Q1.4.4, Q1.4.5	0.763
Index 5	Q1.5.1, Q1.5.2, Q1.5.3, Q1.5.4, Q1.5.5	0.843
Index 6	Q2.1, Q2.2, Q2.3, Q2.4	0.742
Index 7	Q2.5, Q2.6, Q2.7, Q2.8	0.410
Index 8	Q3.1, Q3.2, Q3.3, Q3.4	0.784
Index 9	Q4.1, Q4.2, Q4.3, Q4.4	0.670

Source: own calculations based on Author's research.

4. Results

The analysis begins with a descriptive overview of the resource-sharing practices between the surveyed firms (Table 3). The overall mean across all resource-sharing activities is 2.11, indicating a generally low-to-moderate level of participation in the sample's sharing practices (on a 5-point scale). When analysed by resource type, Knowledge and know-how are the most commonly shared assets, with the highest total mean score (2.47). This is followed by Physical Resources (2.11). From the perspective of collaborative partners, companies share more strongly with their suppliers (2.36) and logistics providers (2.34). The highest-rated activity was sharing knowledge and know-how with suppliers (2.81).

Table 3.
Mean scores for the extent of resource sharing, by resource type and partner

Resources / Partners	With suppliers	With customers	With logistics providers	With companies within the same capital group	With competitors	Total mean
Physical Resources	2.50	1.99	2.39	2.05	1.61	**2.11**
Human resources	2.36	1.91	2.39	1.82	1.65	2.03
Information resources	1.98	1.81	2.17	2.16	1.68	1.96
Financial resources	2.15	1.91	2.03	2.19	1.55	1.96
Knowledge and know-how	**2.81**	2.65	2.70	2.30	1.88	**2.47**
Total mean	**2.36**	2.06	**2.34**	2.10	1.67	2.11

Source: own calculations based on Author's research.

The mean scores (Table 4) for both the Exploitation Level (2.99) and the Exploration Level (2.87) are moderate. This indicates a slight lack of a strong, proactive orientation towards either ambidextrous dimension within the sampled firms.

Table 4.
Mean scores for ambidexterity orientation and perceived impact indices

Index	Index 6: Exploitation Level	Index 7: Exploration Level
Mean	2.99	2.87

Source: own calculations based on Author's research.

In contrast, the perceived impact of resource sharing was rated more positively (Table 5). The Impact of Sharing on Efficiency achieved the highest mean score among these constructs (3.30). Similarly, the Impact of Sharing on Adaptability also scored highly (3.17). This suggests that while firms may be moderate in their ambidextrous orientation, they perceive a distinct positive contribution of resource sharing to both efficiency (exploitation) and adaptability (exploration).

Table 5.
Mean scores for ambidexterity orientation and perceived impact indices

Index	Index 8: Impact of Sharing on Efficiency	Index 9: Impact of Sharing on Adaptability
Mean	3.30	3.17

Source: own calculations based on Author's research

To test the research hypotheses, a Spearman's rank correlation was performed. A strong, positive, and highly significant correlation was found between all five types of shared resources and the Exploitation Level (Table 6). The strongest relationships were observed for Financial Resources (0.571) and Knowledge and know-how (0.545).

In contrast, the relationship with the Exploration Level was notably weaker and less consistent, with only Financial Resources (0.367) and Knowledge and Know-how (0.376) showing a significant positive correlation. These mixed results, combined with the low reliability of the Exploration Level index (as shown in Table 2), led the analysis to focus on the perceived impact of sharing rather than on orientation.

Table 6.
Spearman's correlation coefficients showing the relationship between the exploitation level (Index 6), the exploration level (Index 7), and the type of shared resources (Index 1-5)

	Index 6: Exploitation Level	Index 7: Exploration Level
Index 1: Physical Resources	0.468***	0.081
Index 2: Human resources	**0.493*** **	0.059
Index 3: Information resources	0.477***	0.193*
Index 4: Financial resources	**0.571*** **	**0.367*** **
Index 5: Knowledge and know-how	**0.545*** **	**0.376*** **

p-value: $p < 0.001$, then ***; $0.001 \leq p < 0.01$, then **; $0.01 \leq p < 0.05$, then *.

Source: own calculations based on Author's research.

The results of correlating resource sharing with its perceived impacts (Table 7) show strong support for the research hypotheses. The efficiency (exploitation) component of Hypothesis 1 is strongly supported: all five resource-sharing indices are positively and highly significantly correlated with Impact on Efficiency. Knowledge and know-how (0.562) and Financial Resources (0.527) demonstrated the strongest links. Clear support was also found for

Hypothesis 2, which predicted a positive link between sharing and perceived impact on adaptability and innovation. All five types of resource-sharing are positively and significantly correlated with Impact on Adaptability. Again, Knowledge and know-how (0.502) and Financial Resources (0.404) achieved the highest correlation coefficients. In summary, the correlation analysis confirms that while the orientation towards exploration is weakly related to sharing, the perceived impact of sharing on both efficiency (H1) and adaptability/innovation (H2) is strong, positive, and statistically significant across all types of shared resources.

Table 7.
Spearman's correlation coefficients showing the relationship between the impact of sharing on efficiency (Index 8), the impact of sharing on adaptability (Index 9), and the type of shared resources (Index 1-5)

	Index 8: Impact of Sharing on Efficiency	**Index 9: Impact of Sharing on Adaptability**
Index 1: Physical Resources	0.441***	0.348***
Index 2: Human resources	**0.472*** **	0.372***
Index 3: Information resources	0.408***	0.298***
Index 4: Financial resources	**0.527*** **	0.404***
Index 5: Knowledge and know-how	**0.562*** **	**0.502*** **

p-value: $p < 0.001$, then ***; $0.001 \leq p < 0.01$, then **; $0.01 \leq p < 0.05$, then *.

Source: own calculations based on Author's research.

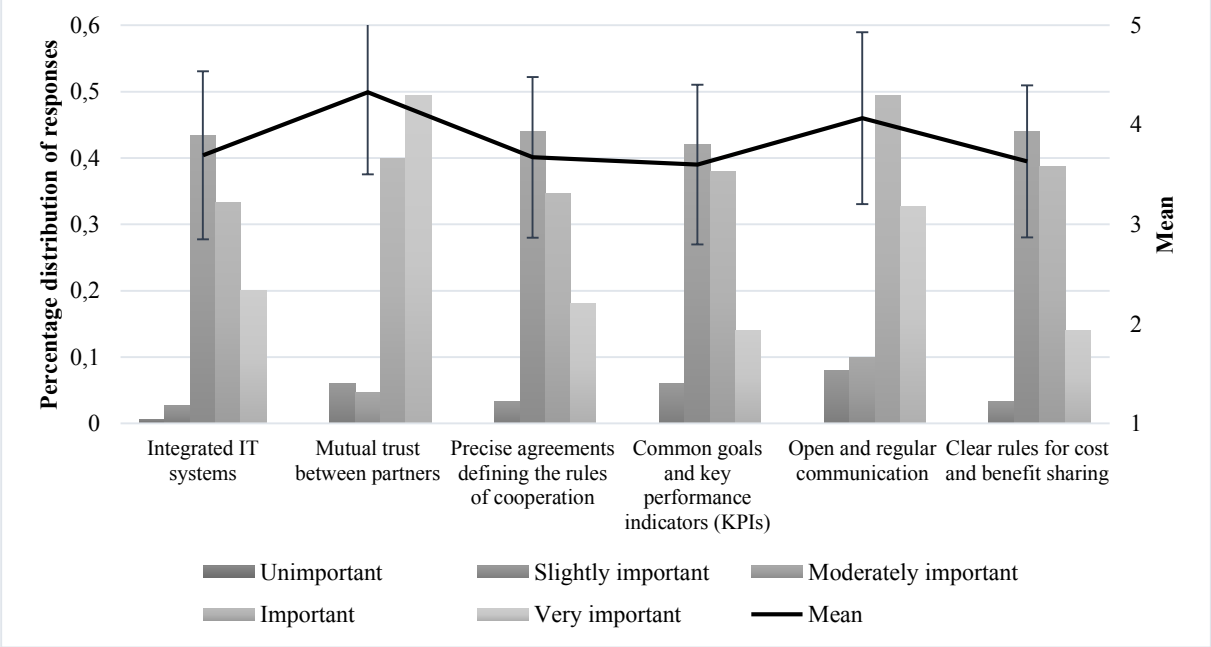

Figure 1. Percentage distribution of responses, mean, and standard deviation: Factors enabling effective resource sharing.

Source: own preparation based on Author's research.

The analysis of enabling factors (Figure 1) that address RQ2 reveals that relational factors are paramount. "Mutual trust between partners" was identified as the most critical enabler, achieving the highest mean score (4.33). The response distribution confirms this, with the vast

majority rating it as "Very important" or "Important". This is followed by "Open and regular communication" (4.07). However, the standard deviation bars for these relational factors are notably wide, indicating a diversity of opinion on their importance, despite the high mean.

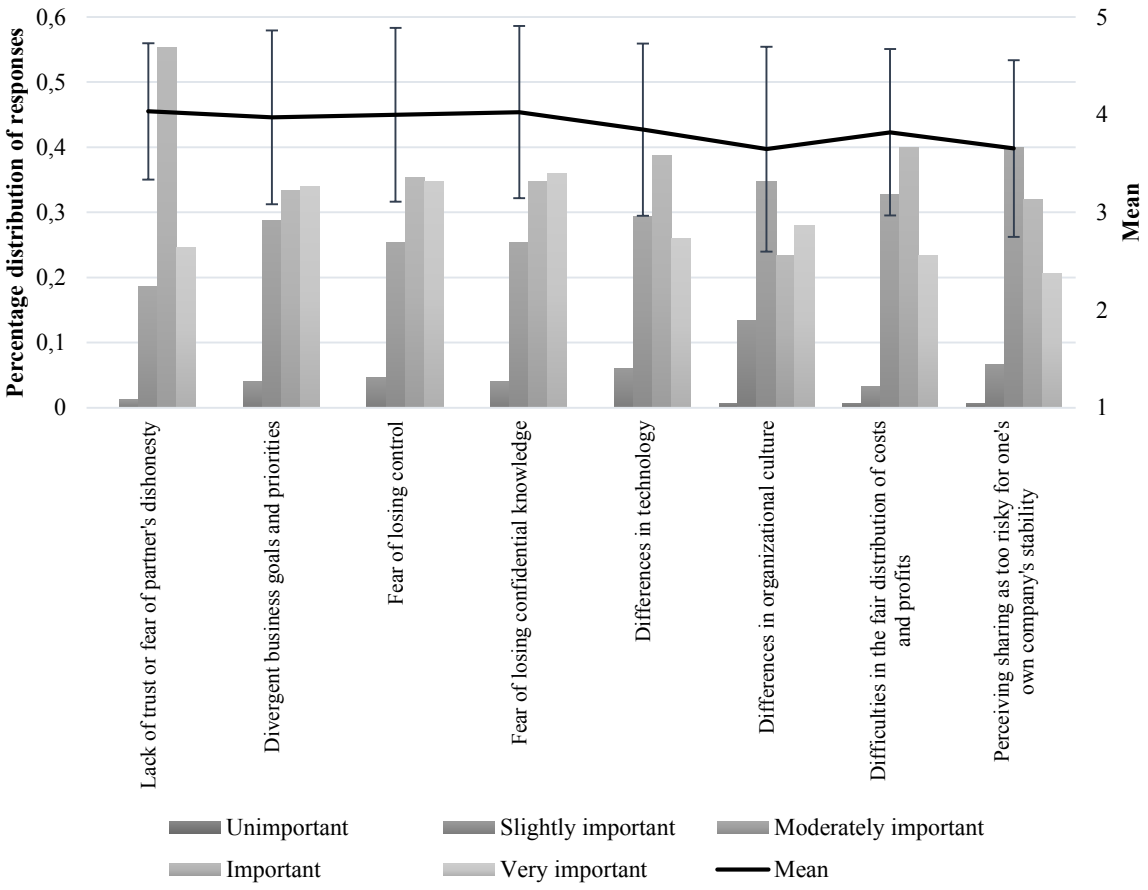

Figure 2. Percentage distribution of responses, mean, and standard deviation: Barriers to resource sharing.

Source: own preparation based on Author's research.

The barrier analysis (Figure 2) addressing RQ3 indicates that relational and knowledge-protection fears are the most significant obstacles. The most critical barriers identified by the respondents were "Lack of trust or fear of partner's dishonesty" (4.03), "Fear of losing confidential knowledge" (4.03), and "Fear of losing control" (4.00). Furthermore, the standard deviation data reveal a strong consensus (0.70) among respondents on the high importance of "Lack of trust".

5. Discussion

The primary objective of this study was to recognize the relationship between resource sharing (RS) and supply chain ambidexterity (SCA). The results provide strong empirical support for this connection.

The findings do not provide a basis for rejecting Hypothesis 1. A statistically significant, positive correlation was found between all five types of resource sharing and the Impact on Efficiency. This addresses the "exploitation" dimension of ambidexterity. The strongest links were observed with "Knowledge and know-how" and "Financial Resources". This aligns with traditional supply chain literature, where collaboration is primarily viewed as a mechanism for process optimization (Im, Rai, 2008; Im et al., 2019), cost reduction (Wamba et al., 2020; Im et al., 2019; Kristal et al., 2010; Aslam et al., 2020), and the use of partner assets to improve existing operations (Lee, Rha, 2016; Cao et al., 2010).

Similarly, no basis was found for rejecting Hypothesis 2. A positive and significant relationship was confirmed between all types of RS and the Impact on Adaptability, which directly measures perceived outcomes of flexibility and innovation. This finding addresses the exploration dimension and helps fill the identified research gap, providing empirical evidence that RS is not only an efficiency tool but also a critical mechanism for improving the supply chain's ability to adapt, innovate, and respond to market changes (Im et al., 2019). This supports the theoretical arguments that RS facilitates access to diverse knowledge and capabilities, thus fostering the dynamic capability of adaptability (Im et al., 2019; Wamba et al., 2020; Aslam et al., 2020; Lee, Rha, 2016).

Collectively, the inability to reject both H1 and H2 suggests that resource sharing serves as a key mechanism for supply chain ambidexterity, enabling firms to simultaneously pursue contradictory goals of exploitation (efficiency) and exploration (adaptability).

A particularly insightful finding appears from comparing the descriptive results for ambidextrous orientation (Table 4) and perceived impact (Table 5). The mean scores for the firms' strategic orientations towards Exploitation (2.99) and Exploration (2.87) were neutral. This suggests that ambidexterity may not be a conscious, formalized strategy for many of the sampled firms.

However, these same firms reported a clearly positive perceived impact of resource sharing on both Efficiency (3.30) and Adaptability (3.17). This paradox suggests that while managers may not be actively formulating a dual ambidextrous strategy, they are experiencing the dual benefits of ambidexterity (both efficiency and flexibility) as a positive outcome of collaborative resource sharing (Aslam et al., 2020; Gibson, Birkinshaw, 2004).

The analyses of enablers (Figure 1) and barriers (Figure 2) provide clear answers to RQ2 and RQ3, strongly validating the Relational View (Payán-Sánchez et al., 2022; Patnayakuni et al., 2006; Paulraj et al., 2008; Klein, Rai, 2009). The findings demonstrate that relational

factors are paramount, outweighing formal or technical ones. The most critical enabler identified by respondents was "Mutual trust between partners" (Klein, Rai, 2009; Patnayakuni et al., 2006; Beske-Janssen et al., 2014). Concurrently, the most significant barrier was "Lack of trust or fear of partner's dishonesty" (Payán-Sánchez et al., 2022; Patnayakuni et al., 2006; Klein, Rai, 2009). This dual finding places trust as a priority upon which the success or failure of resource-sharing centres depends. Although technical factors such as "Integrated IT systems" were believed to be important, they are secondary to the establishment of relational capital (Klein, Rai, 2009; Patnayakuni et al., 2006; Brandon-Jones et al., 2014; Paulraj et al., 2008; Gu et al., 2021). This explains the low overall level of resource sharing (Total mean 2.11) observed in Table 3, although the benefits are perceived as positive (Table 5). The difficulty in building the necessary trust (Figure 2) acts as a significant bottleneck, preventing firms from realizing this potential (Paulraj et al., 2008; Patnayakuni et al., 2006; Klein, Rai, 2009).

The interpretation of the strength of the correlation coefficients provides critical guidance for managerial resource allocation. While all forms of sharing are beneficial, the "Knowledge and know-how" category demonstrated the strongest link to both efficiency (0.562) and adaptability (0.502). From a decision-making perspective, this suggests that investments in intangible assets, such as inter-organizational training, joint R&D, and shared knowledge platforms, offer a higher "return" on ambidexterity than sharing physical infrastructure, which showed comparatively lower correlation values (e.g., 0.348 for adaptability). Consequently, managers facing budget constraints should prioritize the development of "relational capital" and IT systems that facilitate the flow of know-how. Furthermore, the high correlation between financial resource sharing and efficiency (0.527) indicates that joint investment mechanisms are key secondary priorities.

6. Summary

This study was motivated by the increasing demands of the modern market, which forces supply chains to seek new solutions, such as resource sharing (RS), to achieve a competitive advantage. While the literature has established supply chain ambidexterity (SCA), the ability to be simultaneously efficient (exploitative) and flexible (explorative), as a critical success factor, the empirical link between RS and SCA remains poorly understood. This paper aimed to address this gap by investigating the relationship between the degree of resource sharing and ambidextrous outcomes, and by identifying the key factors that enable and hinder such collaboration.

Based on a dual-mode survey of 150 supply chain professionals, the study employed descriptive statistics and Spearman's rank correlation to test the research hypotheses. The findings revealed that the overall level of resource sharing among firms is relatively low

(M = 2.11), with "Knowledge and know-how" being the most shared asset and "Suppliers" the most common partners.

The correlation analysis provided no basis to reject the research hypotheses. A strong, positive relationship was confirmed between all types of resource sharing and the perceived impact on both Efficiency (H1) and Adaptability/Innovation (H2). This empirically confirms that resource sharing is a key function of ambidexterity, supporting both exploitation and exploration. Furthermore, the analysis of enablers and barriers (RQ2 and RQ3) confirmed the Relational View's priority. "Mutual trust" was identified as the most critical enabler. In contrast "Lack of trust" and "Fear of losing confidential knowledge" were the most significant barriers, suggesting that relational capital is the core for successful collaboration.

For supply chain professionals, this study provides key takeaways. Resource sharing should not be viewed only as a cost-saving tactic (exploitation). The data clearly show that it is an equally powerful tool for driving innovation and adaptability (exploration). Managers who collaborate build more flexible and innovative supply chains. Managerial efforts and investments should be prioritized. Although IT integration and contracts are necessary, the data suggest that resources are best spent on activities that build mutual trust and open communication, as these are the true enablers and most significant barriers to successful collaboration.

This research reveals a significant strategic paradox: firms report a clearly positive impact of resource sharing on ambidextrous outcomes ($M > 3.1$), but lack a conscious, formalized strategic orientation towards either exploitation or exploration ($M < 3.0$). This suggests that for many Polish firms, supply chain ambidexterity is currently an emerging or reactive property rather than a deliberate strategic choice. To move beyond accidental benefits, practitioners must transition to a proactive, ambidextrous strategy where resource sharing is treated as a core competency for long-term resilience.

Furthermore, the findings highlight a significant relational barrier that explains the relatively low overall engagement in resource sharing (M = 2.11). Although sharing knowledge and know-how is confirmed as the most effective driver of both efficiency and adaptability, it is also the domain where concerns regarding lack of trust and fear of losing control are most critical. This situation creates a collaborative dilemma, in which firms demonstrate the hesitation to engage in the very practices that offer the highest potential for competitive advantage. Therefore, the most critical managerial implication of this study is that the success of an ambidextrous supply chain depends less on technical or financial alignment and more on psychological and cultural capacity to establish mutual trust.

This study is subject to several limitations that offer opportunities for future research. First, the research is based on perceptual data from a single respondent per firm. Although this provides valuable managerial insight, it does not capture objective performance metrics. Future research should aim to correlate resource sharing with objective, financial, or operational KPIs. Second, a significant limitation was the low reliability of the Exploration Level scale

(Cronbach's Alpha = 0.410). This methodological issue prevented a reliable analysis of the orientation of exploration and required a turn to the H2 testing using the perceived impact scale. Future studies should focus on developing and validating a reliable scale for ambidextrous orientation specific to the SCM context. Finally, the sample of 150 firms from a single national context limits the generalizability of the findings. Future research could replicate this study in different countries or in specific industries.

References

1. Aslam, H., Blome, C., Roscoe, S., Azhar, T.M. (2018). Dynamic supply chain capabilities: How market sensing, supply chain agility and adaptability affect supply chain ambidexterity. *International Journal of Operations and Production Management*, *38*(12), 2266-2285. https://doi.org/10.1108/IJOPM-09-2017-0555
2. Aslam, H., Khan, A.Q., Rashid, K., Rehman, S.U. (2020). Achieving supply chain resilience: the role of supply chain ambidexterity and supply chain agility. *Journal of Manufacturing Technology Management*, *31*(6), 1185-1204. https://doi.org/10.1108/JMTM-07-2019-0263
3. Beske-Janssen, P., Land, A.L., Seuring, S.A. (2014). Sustainable supply chain management practices and dynamic capabilities in the food industry: A critical analysis of the literature. *International Journal of Production Economics*, *152*, 131-143. https://doi.org/10.1016/j.ijpe.2013.12.026
4. Brandon-Jones, E., Squire, B., Autry, C.W., Petersen, K.J. (2014). A Contingent Resource-Based Perspective of Supply Chain Resilience and Robustness. *Journal of Supply Chain Management*, *50*(3), 55-73. https://doi.org/10.1111/jscm.12050
5. Cao, M., Vonderembse, M.A., Zhang, Q., Ragu-Nathan, T.S. (2010). Supply chain collaboration: Conceptualisation and instrument development. *International Journal of Production Research*, *48*(22), 6613-6635. https://doi.org/10.1080/00207540903349039
6. Chen, Y., Tang, G., Cooke, F.L., Jin, J. (2016). How Does Executive Strategic Human Resource Management Link to Organizational Ambidexterity? An Empirical Examination of Manufacturing Firms in China. *Human Resource Management*, *55*(5), 919-943. https://doi.org/10.1002/hrm.21797
7. Dubey, R., Altay, N., Jebbor, I., Blome, C., Papadopoulos, T., Childe, S.J. (2018). Supply chain agility, adaptability and alignment: Empirical evidence from the Indian auto components industry. *International Journal of Operations and Production Management*, *38*(1), 129-148. https://doi.org/10.1108/IJOPM-04-2016-0173

8. Gibson, C.B., Birkinshaw, J.M. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, *47*(2), 209-226. https://doi.org/10.2307/20159573
9. Gu, M., Yang, L., Huo, B. (2021). The impact of information technology usage on supply chain resilience and performance: An ambidexterous view. *International Journal of Production Economics*, *232*, 107956. https://doi.org/10.1016/J.IJPE.2020.107956
10. Gupta, A.K., Smith, K.G., Shalley, C.E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, *49*(4), 693-706. https://doi.org/10.5465/AMJ.2006.22083026
11. Hadi, N.U., Almessabi, B.N., Khan, M.I. (2025). Leveraging industry 4.0 and circular open innovation for digital sustainability: The role of circular ambidexterity. *Journal of Open Innovation: Technology, Market, and Complexity*, *11*(2). https://doi.org/10.1016/j.joitmc.2025.100545
12. Im, G.P., Rai, A. (2008). Knowledge sharing ambidexterity in long-term interorganizational relationships. *Management Science*, *54*(7), 1281-1296. https://doi.org/10.1287/mnsc.1080.0902
13. Im, G.P., Rai, A., Lambert, L.S. (2019). Governance and Resource-Sharing Ambidexterity for Generating Relationship Benefits in Supply Chain Collaborations*. *Decision Sciences*, *50*(4), 656-693. https://doi.org/10.1111/deci.12353
14. Klein, R., Rai, A. (2009). Interfirm strategic information flows in logistics supply chain relationships. *MIS Quarterly: Management Information Systems*, *33*(4), 735-762. https://doi.org/10.2307/20650325
15. Kristal, M.M., Huang, X., Roth, A. v. (2010). The effect of an ambidextrous supply chain strategy on combinative competitive capabilities and business performance. *Journal of Operations Management*, *28*(5), 415-429. https://doi.org/10.1016/j.jom.2009.12.002
16. Lee, J., Taras, V., Jimenez, A., Choi, B., Pattnaik, C. (2020a). Ambidextrous Knowledge Sharing within R&D Teams and Multinational Enterprise Performance: The Moderating Effects of Cultural Distance in Uncertainty Avoidance. *Management International Review*, *60*(3), 387-425. https://doi.org/10.1007/s11575-020-00416-9
17. Lee, J., Yang, Y., Park, B. il. (2020b). Interplay between dual dimensions of knowledge sharing within globalized chaebols: The moderating effects of organization size and global environmental munificence. *International Business Review*, *29*(6). https://doi.org/10.1016/j.ibusrev.2019.101637
18. Lee, S.M., Rha, J. (2016). Ambidextrous supply chain as a dynamic capability: building a resilient supply chain. *Management Decision*, *54*(1), 2-23. https://doi.org/10.1108/MD-12-2014-0674
19. Lin, H., McDonough, E.F., Lin, S., Lin, C.Y.-Y. (2013). Managing the exploitation/exploration paradox: The role of a learning capability and innovation

ambidexterity. *Journal of Product Innovation Management*, *30*(2), 262-278. https://doi.org/10.1111/j.1540-5885.2012.00998.x

20. Patnayakuni, R., Rai, A., Seth, N. (2006). Relational antecedents of information flow integration for supply chain coordination. *Journal of Management Information Systems*, *23*(1), 13-49. https://doi.org/10.2753/MIS0742-1222230101
21. Paulraj, A., Lado, A.A., Chen, I. (2008). Inter-organizational communication as a relational competency: Antecedents and performance outcomes in collaborative buyer-supplier relationships. *Journal of Operations Management*, *26*(1), 45-64. https://doi.org/10.1016/j.jom.2007.04.001
22. Payán-Sánchez, B., Pérez-Valls, M., Plaza-Úbeda, J.A., Vázquez-Brust, D.A. (2022). Network ambidexterity and environmental performance: Code-sharing in the airline industry. *Business Strategy and the Environment*, *31*(3), 1169-1183. https://doi.org/10.1002/bse.2948
23. Pelagio Rodriguez, R., Hechanova, Ma.R.M. (2014). A Study of Culture Dimensions, Organizational Ambidexterity, and Perceived Innovation in Teams. *Journal of Technology Management & Innovation*, *9(3),* pp. 21-33. Available at: https://doi.org/10.4067/S0718-27242014000300002.
24. Shams, S.M.R., Vrontis, D., Belyaeva, Z.S., Ferraris, A., Czinkota, M.R. (2021). Strategic agility in international business: A conceptual framework for "agile" multinationals. *Journal of International Management*, *27*(1). https://doi.org/10.1016/j.intman.2020.100737
25. Soosay, C.A., Hyland, P.W., Ferrer, M. (2008). Supply chain collaboration: capabilities for continuous innovation. *Supply Chain Management: An International Journal, 13(2)*, 160-169.
26. Spearman, C. (1904). The Proof and Measurement of Association between Two Things. *The American Journal of Psychology*, *15(1),* 72-101. doi: 10.2307/1412159
27. Wamba, S.F., Dubey, R., Gunasekaran, A., Akter, S. (2020). The performance effects of big data analytics and supply chain ambidexterity: The moderating effect of environmental dynamism. *International Journal of Production Economics*, *222*. https://doi.org/10.1016/j.ijpe.2019.09.019