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Nuanced but important: A literature-based comparison between B2B and B2C platforms

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ABSTRACT

This paper compares the potential characteristics of B2B platforms as identified in the information systems literature with those in the general platform literature. Our analysis reveals that these characteristics are not exclusive to B2B platforms and suggests that the differences between B2B and B2C platforms may be more subtle. Moreover, it remains unclear whether these differences serve as success factors for B2B platforms or merely represent the current approaches of the platforms under examination. We identified five potential differences that warrant further investigation. Therefore, this literature-based comparison lays the groundwork for further research on supporting decision-making when building a B2B platform ecosystem or joining a B2B platform ecosystem. Especially important is the fact that building on insights from B2C could lead to wrong decisions and platform failure or unintended outcomes for participants. Thereby the study contributes to understanding of the unique aspects of digital B2B platforms and has implications for B2B platform managers and policymakers because the presence of these ecosystems can considerably influence competitive dynamics in markets.

1. Introduction

Business-to-business (B2B) platforms and platform ecosystems have recently gained significant traction. They are much-debated topics in conferences [1] and in the literature (see, for example, [2–5]). However, apart from a few well-known examples, such as Alibaba or Amazon Business, B2B platforms attract less attention from the media and regulators compared with their business-to-consumer (B2C) counterparts. It also seems unclear in the academic literature whether B2B platforms can create the same dynamics as their B2C[1] counterparts [4,6]. Based on a systematic review of the information systems (IS) literature to capture the characteristics of B2B platforms, the goal of this paper is to compare their characteristics with those of B2C platforms and discuss potential differences.

The term 'platform' is used to refer to many different concepts. However, from an economic point of view, platforms are defined as two- or multi-sided markets that connect two groups of users, enable interaction between them, and reduce transaction costs [7–11]. According to this definition, network effects are the main difference between a platform and traditional pipeline business models. Participants from different user groups benefit from each other's presence on the platform [12]; they exert a positive externality on each other. The platform internalizes the network externalities between the user groups and provides the infrastructure and governance for two parties to find each other and interact securely [10,13]. Without this central coordination mechanism, the market would either not exist, the cost of interaction would be (much) higher, or there would be (much) less interaction.

Looking at the information systems literature, however, the role of network effects for B2B platforms is controversial: The main argument is that network effects are less critical because B2B markets tend to have fewer participants and, therefore, the tighter markets are less favorable to fully exploiting the positive network externalities between participants [4,6]. In addition to having fewer participants, it is much more difficult for existing companies to join the network. The existing IT infrastructure, legal issues, or potential conflicts of interest are some reasons why it is more difficult for B2B platforms to attract participants. At the same time, the literature emphasizes the importance of network effects for B2B platforms [14,15]. Compared to business-to-consumer (B2C) platforms, for example, B2B IoT platforms can also develop network effects at the asset level, meaning that the more assets (like machines or other production facilities) that are connected to the network, the more valuable the network becomes for companies to join [5]. However, leveraging network effects is challenging for B2B platforms, especially in the start-up phase [16]. In addition, the potentially weaker network effects due to market conditions require

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[1] For business-to-consumer (B2C) platforms, at least one user group consists of private consumers.

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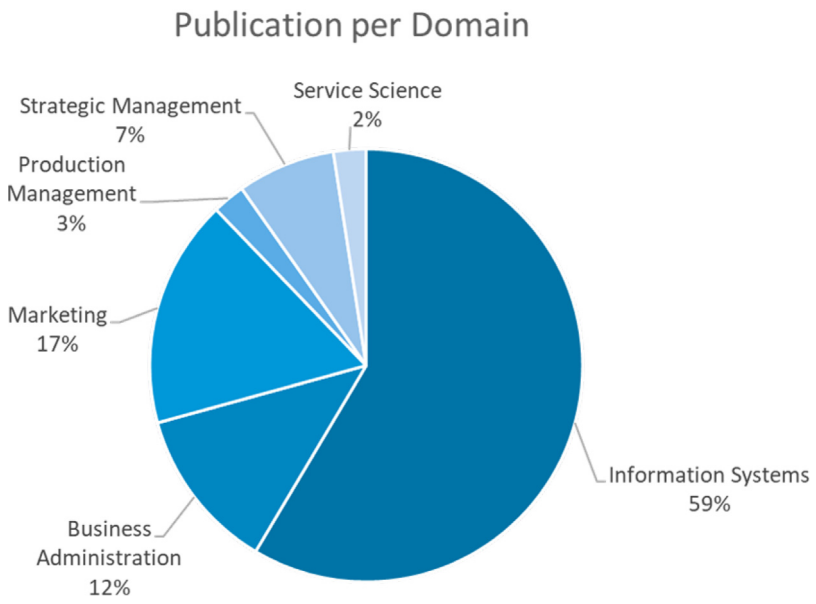

Fig. 1. Publication per domain in the final sample.
Source: Own graphic based on data from Web of Science.

stronger orchestration to increase and sustain network effects after reaching critical mass [14,17].

This paper asks whether B2B platforms are fundamentally different from their B2C counterparts. Although B2C and B2B platforms rely heavily on network effects, network effects may play a different role depending on whether one market side is consumers or both market sides are business users. One important factor for B2B platforms is, for example, that most of the usage occurs as part of a predefined process or as a representative of a specific role within an organization instead of private interests [see, for example, 18]. In addition, the high complexity of B2B markets due to specialized niche products, heterogeneous and fragmented market structure, and limited market size makes it more difficult to transfer capabilities from one market to another [3,18]. In contrast, B2C platforms' strengths are, among other things, the realization of economies of scope on the supply side across markets [12,19,20].

A deeper understanding of B2B and B2C platforms could lead to practical implications. First, a better understanding helps small and medium-sized companies create their own platforms or benefit from positive network externalities as participants on a central platform of the industry. Second, a digital platform or platform ecosystem might lead to a change in the competitive environment in an industry. Former competitors may work together in a business ecosystem [14,21]. This bears interesting consequences for antitrust authorities trying to maintain a competitive market environment. As such, policymakers should be interested in a clear separation of B2B and B2C characteristics, as B2B platforms might help leverage positive externalities within a B2B industry, but this may also come with a price of reduced competition.

To approach the question of how B2B and B2C platforms differ, we first present the methodology and the results of our systematic literature review (SLR) in Section 2 and show how we use these results for the comparison. In Section 3, we compare the identified peculiarities of B2B platforms with general literature on B2C platforms. In Section 4, we discuss the results and present avenues for future research as well as implications for different stakeholders. The paper ends with a conclusion in Section 5.

2. Systematic literature review

This reports an SLR [22] investigating the distinctions between B2B and B2C platforms. The original SLR focuses on market-related factors, such as the actors on the platforms, the reasons for their participation, the mutual benefits derived from their mutual presence on the platform, and the nature of their interactions. The literature review followed the methodology outlined by Webster and Watson [23].[2] We initially focused on information systems literature due to its rich research on this subject [24,25]. Then, we expanded our comparison to incorporate the broader management and economic literature on platforms. This allowed us to assess the characteristics of B2B platforms identified in the information systems literature within the context of digital platforms more broadly, thereby determining whether these B2B-specific traits are unique or commonly found. Fig. 1 shows the distribution of different domains in the final sample. Due to our sampling approach, the information systems literature holds the biggest share; however, more management-oriented (strategic and production) as well as general business administration and marketing literature complement the sample to allow broad insight into the current discussion.

For the systematic literature search, we developed a search string including all relevant terms regarding B2B platforms, for example, "platform", "marketplace", "ecosystem", "IoT", "multi-sided", "platform economy", and more, combined with B2B-specific terms. This approach aimed to capture as much relevant literature as possible. Our initial search yielded 1081 results and an additional 33 papers from relevant information systems conferences, highlighting the significance and variety of research on this topic in the past six years (2018–2023). After scrutinizing the titles and abstracts to ensure alignment with our platform definition, we short-listed 42 papers that specifically addressed market, user-related, and data-related factors, using the methodology proposed by Webster and Watson [23].[3] Fig. 2 shows the paper selection process for the underlying SLR. As the literature search was conducted in January 2023, we complemented the initial set of publications after this date with relevant literature in the sense

[2] The pure systematic literature review [22] reflects the essence of the identified papers without interpretation or comparisons. It does not include any literature on B2C platforms and focuses purely on the current B2B platform literature. This paper builds upon the results and uses the systematic identification of factors characterizing B2B platforms.

[3] To increase the quality of the chosen literature, we applied the JOURQUAL3 ranking system limiting results to publications with a ranking of B or higher, as major contributions are likely to be published in the leading journals.

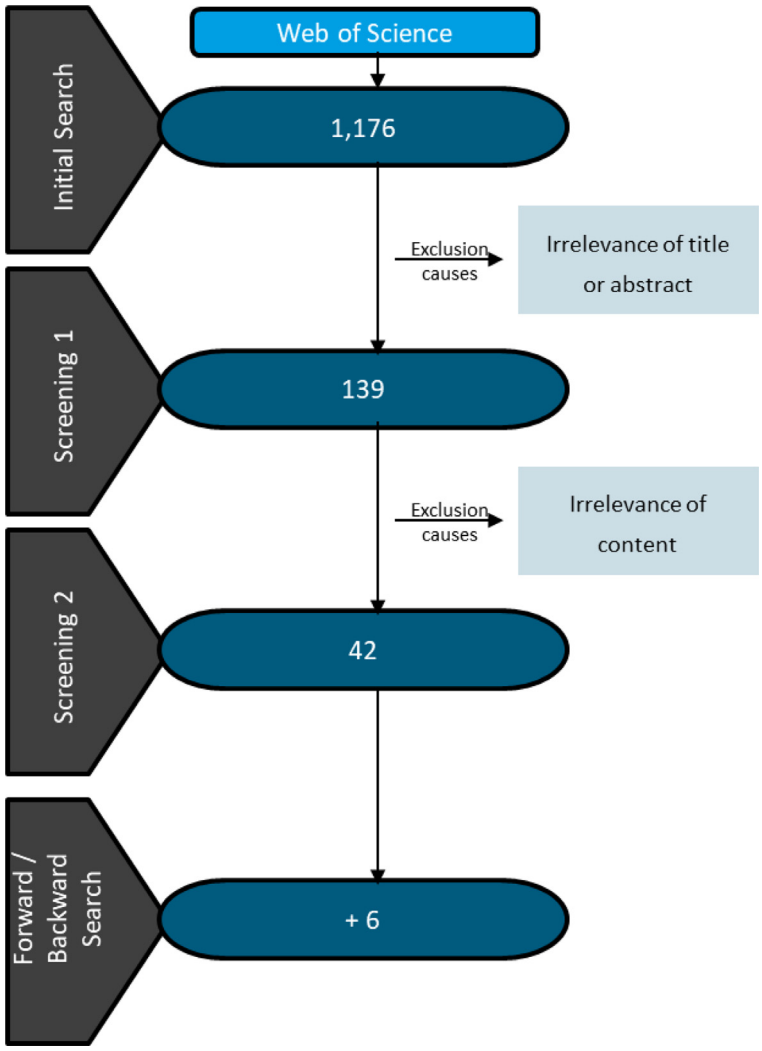

Fig. 2. Paper selection process for the underlying SLR.
Source: Own graphic.

of a forward and backward search [23] based on the question of what characterizes B2B platforms to compare those with the general platform literature [17,26–28].

The literature on B2B platforms has increased considerably in the last five years. Fig. 3 shows that the chosen time span (2018 to 2023) captures this surge in academic papers. We further assume that the chosen sample of literature represents the current research and includes the main and most important results of earlier work.

The results of the original SLR showed that the current literature sees peculiarities of B2B platforms regarding relational and market-related aspects. Additionally to the original SLR, we added data-related aspects discussed in the selected literature. However, the identified peculiarities are not linked to the ample literature on B2C platforms. To make the results of our SLR [22] comparable to the general platform literature, we used network effects as the guiding element to compare the characteristics of B2B and B2C platforms with the platform design and platform-management framework [12,29].[4] Platform design includes all activities aimed at identifying and utilizing network effects. This involves providing technical infrastructure to facilitate participant onboarding and offering incentives to foster interactions that would not be possible without the platform (or only possible with significantly higher transaction costs). The platform design, therefore, primarily focuses on achieving critical mass [30,31]. On the other hand, platform management deals with handling interactions after reaching critical mass. It involves orchestrating interactions, managing quality, incentivizing suppliers to meet user demands, exploring new markets, protecting network effects from decline, and establishing and enforcing platform governance [12,19,20,29,32]. This framework is particularly valuable in differentiating between B2B and B2C platforms regarding platform development and operations, as the strategies employed may vary significantly. Using this framework, we shed light on the distinctions between B2B and B2C platforms, helping unravel the complexities involved in building and managing successful platforms in both contexts.

3. Comparison of B2B and B2C platforms

3.1. Platform design I: Market structure and barriers to entry

Market structure significantly influences key strategic decisions for B2B platforms [33]. The current information systems literature on B2B platforms has a strong emphasis on manufacturing-related industries, where companies offer highly specialized products and services tailored to specific customer requirements [34]. This specialization leads to

[4] This approach leads to a continuous shift in focus: We describe the identified peculiarities of B2B platforms and then switch to B2C platforms to show that these peculiarities are (at least partially) rather common in B2C markets too. Therefore, we sometimes focus on B2B platforms and then on the comparison between B2B and B2C platforms.

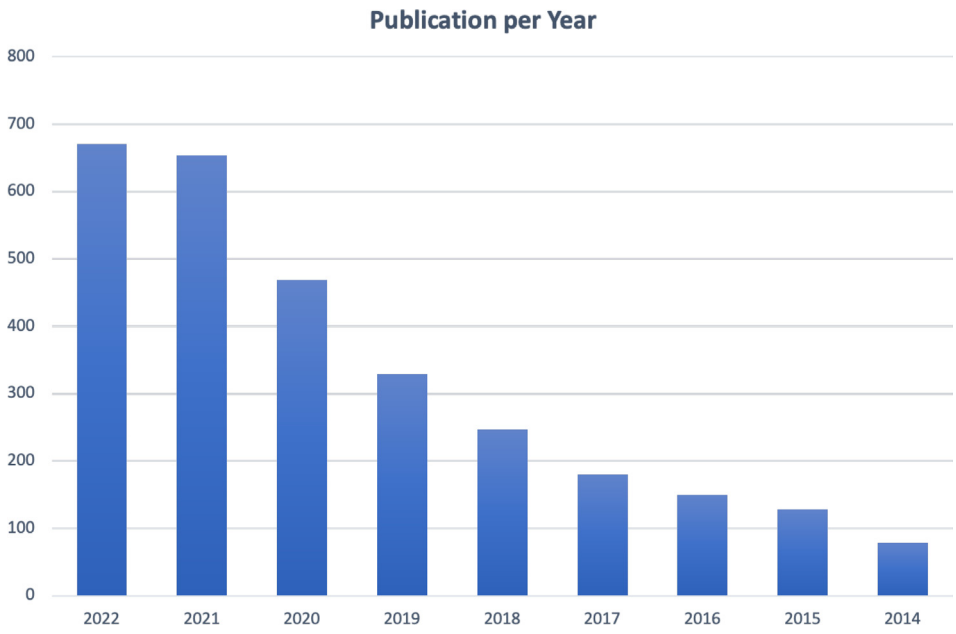

Fig. 3. Overview of publication per year for our search query.
Source: Own graphic based on data from Web of Science.

significant product heterogeneity and fragmented markets [3]. Building a digital platform in such an environment demands higher complexity and customized solutions, often requiring industry-specific platform strategies [2]. Consequently, the market structure remains fragmented, with the platform catering to a relatively small target segment [3,27].

On the other hand, B2C platforms have driven changes in the structure of the market and introduced new forms of interaction, thus transforming traditional markets [see, for example, 10, 37, 38]. The frequently used examples of Airbnb, Uber, and the Google and Apple app stores exemplify the disruptive power of platforms in these markets. Airbnb, for instance, expanded the market for private accommodation by establishing the technical infrastructure and building trust among participants, enabling hosts to rent their homes to strangers profitably and safely. As a result, guests have embraced this alternative form of accommodation and have adapted their travel behavior. Airbnb has effectively expanded the market for tourist accommodation, attracting new or inactive participants who had not previously considered entering the market [see for example, 34, 39]. The platform attracted new participants by lowering entry barriers (reducing risk, transaction costs, and hassle) and delivering greater value to new users (lower prices, exceptional accommodations, better locations, and interaction with local hosts).

In contrast, B2B markets have not yet shown the same dynamics [see, for example, 36]. Although successful B2B platforms like Alibaba and Amazon Business exist, instances of B2B platforms disrupting markets and fundamentally changing market dynamics are less prevalent and less well-known. In summary, market structure profoundly influences strategic decisions for B2B platforms [33], resulting in fragmented markets with specialized products and services. B2C platforms, on the other hand, have demonstrated a greater capacity to disrupt and expand markets by appealing to larger audiences and transforming traditional market dynamics through internalizing network effects, lowering barriers to entry, and ignoring existing boundaries between markets.

Derived difference 1: B2B platforms tend to support existing business practices and do not challenge them to disrupt existing market structures.

3.2. Platform design II: Infrastructure and boundary resources

B2B platforms play a critical role in bridging the gap between fragmented segments of the market by offering technical solutions that aim to facilitate collaboration among diverse (potential) participants facing high cross-market heterogeneity [35]. These technical solutions address the challenge of integrating actors and resources spread within organizations or across niche markets [36]. In the information systems literature, the term "boundary resources" has emerged to describe the integration of actors, encompassing (mostly intangible) resources, such as software development kits (SDKs) or application programming interfaces (APIs) provided by the platform. These boundary resources enable the integration of complementary assets and the platform into existing IT infrastructures. If the platform participants start using these boundary resources, standards can evolve on both the supply and the demand sides, facilitating value co-creation interactions and expanding the platform's scope through supply-side economies of scope [5,35]. Heimburg et al. [35] extended the concept of boundary resources to "auxiliary services", which enhance the platform's attractiveness for all potential participants. By removing process- and system-related barriers, these services facilitate interactions between market sides with disparate organizational structures, leading to greater standardization and interoperability in the market and positive feedback loops through the acceptance of boundary resources and auxiliary services [37].

B2C platforms also provide the technical infrastructure for new forms of user connectivity, aiming to create a "plug-and-play" infrastructure [32]. B2C platforms offer easy and frictionless onboarding with no need for additional technical solutions. Most are accessible through smartphones or web browsers, and some even allow usage without registration, utilizing existing accounts for login. In comparison, B2B platforms may require integration with established IT infrastructure. Additionally, joining and using a B2B platform is typically the decision of the company rather than of individual users. The processual and strategic decisions of the company influence platform adoption, often driven by process necessity rather than personal choice [see, for example, 3]. This indirect access to platform participants represents a significant barrier to entry for B2B platforms [35].

Early B2C platforms also faced infrastructure challenges and needed to develop technical solutions—but for a relatively homogeneous group of business users with limited existing IT infrastructure. For example,

OpenTable created a software-as-a-service tool for restaurants to manage reservations before opening the platform to restaurant clients [31]. In contrast, B2B platforms must provide value-added services in addition to the core platform service to cater to both sides of the market [33]. They must integrate with different IT landscapes on both sides, posing a more complex challenge than that of B2C platforms, which can typically reach the consumer via standardized infrastructures like Android or iOS apps [for example, 18, 40].

In summary, B2B platforms act as mediators, uniting fragmented segments of the market through technical solutions and boundary resources. The technical challenges are, therefore, potentially significantly higher than in B2C markets.

Derived difference 2: B2B platforms need to develop more customized technical solutions for all user groups to join and use the platform.

3.3. Platform design III: Leveraging network effects & initial supply

Openness and partner management play pivotal roles in shaping the strategies of both B2B and B2C platforms [38]. For B2C platforms, key strategic considerations in platform design include defining participant access, designing platform governance, and expanding to encompass additional markets to secure network effects [20,39–41]. In B2B markets, it is more a matter of actively involving key partners [36]. This involvement poses technical and operational challenges, as discussed earlier [42], but also requires individual partner management [27,36].

An essential aspect affecting B2B platform strategies is the question of which side of the market to attract first: suppliers or demand-side participants. In markets with customized products, suppliers generally face higher switching costs than their demand-side counterparts, so B2B platforms should initially focus on attracting the supply side [37]. However, pressure from customers serves as a compelling argument for suppliers to join the platform [43]. Thus, effective partner management becomes even more crucial, as B2B platforms must entice the demand side to participate, attracting the supply side. Furthermore, the limited market size in B2B industries restricts the impact of word of mouth and virality [2]. These marketing strategies, often influential in B2C contexts, have only a limited effect in the B2B domain due to the specific market characteristics [2].

Attracting initial supply and demand, often called the chicken-and-egg problem, is a fundamental problem for both B2B and B2C platforms [30,44–46]. Focusing initially on a very small target group is also well-known in B2C markets: A common strategy employed by B2C platforms, known as the “marquee strategy”, involves focusing on attracting a select few but highly influential partners to join the platform strategy [31,44]. Case studies about Airbnb, for example, also demonstrate the criticality of cultivating close personal relationships, even in mass markets, particularly during the early stages of the platform’s development (for example, [47]).

However, the landscape differs for B2B platforms, where the decision to join a platform is influenced by various individuals and roles within an organization [3]. The relationship between B2B customers and suppliers is inherently more complex than private interactions, necessitating substantial coordination and additional consultation [2,5]. As a result, companies often base their decision to join a platform on long-standing business relationships with the platform owner [33]. This aspect drives B2B platforms to prioritize existing supply-side partners before targeting potential demand-side customers [48]. Schaffner et al. [36] recommended building extensive partnerships with existing business partners, allowing them to become complementors and sales partners on the platform—an approach aligned with the finding that incumbents with leading market positions are more likely to initiate platforms due to their strong network of partners and customers [49]. However, Marzi et al. [50] also identified adoption cost as a barrier to joining a B2B platform and, more importantly, adoption fatigue, which makes joining a platform less likely.

Derived difference 3: Incumbents have an advantage in establishing a B2B platform, as they can leverage existing partnerships to reach critical mass.

3.4. Platform management I: Increase and protect network effects

B2B and B2C platforms can have distinct impacts on the market structure. B2C platforms like Airbnb, eBay, UBER, Amazon, Google, and Facebook have significantly transformed business processes and user interactions [for example, 38, 52]. In contrast, B2B platforms typically begin by establishing ecosystems with existing partners, gradually reshaping the competitive landscape, and fostering cooperative relationships with former rivals [14,21,51]. However, successful standardization and automation within B2B platforms may also lead to weakened buyer–supplier relationships compared to the prior direct interaction without the platform [52]. Additionally, participants’ roles in the ecosystem can evolve over time, with innovation or implementation partners potentially becoming integral parts of the platform [4,36]. Such dynamic changes within B2B platforms can fundamentally alter the relationships between participating organizations.

On-platform competition also has different impacts on B2C and B2B platforms. B2C platforms benefit from strong on-platform competition, leading to price reductions, increased consumer choices, and potential product and service quality improvements; suppliers also indirectly benefit from this competition as the lower prices and wider choices attract more consumers. That is, suppliers benefit from indirect network effects [53]. As B2C platforms reach critical mass, they can rely on a decentralized network of suppliers and developers [5]. To enhance network effects, B2C platforms establish rules, control interactions, and increase overall user interactions [44,54].

On the other hand, in the B2B environment, platform owners must prioritize building and maintaining strong relationships with existing and potential participants [33,55]. Unlike B2C platforms with a more or less anonymous mass of participants, B2B platforms foster close collaboration among equal partners within an ecosystem, working together for mutual benefit [55]. Consequently, B2B platforms play a role not only in creating and operating a market but also in assisting partners in increasing business efficiency, leading to a more symmetrical power distribution compared to B2C platforms [2,3].

Once critical mass is reached, ongoing partner management becomes crucial in driving mutual value across user groups on B2B platforms [18]. This becomes particularly significant as former competitors may become key partners, creating complex, competitive situations (coopetition) on the platform and in the marketplace [14]. To balance the tensions that may arise between competing providers, well-designed incentive mechanisms are crucial for B2B platforms; these mechanisms reconcile cooperation and competition as independent yet complementary forces [56]. Thus, B2B platforms can create an environment where competing firms continue to use the platform while striving to maintain network effects, competing for customers based on factors like price and quality—which can typically also be observed for B2C platforms.

Derived difference 4: B2B platforms lead to a more symmetrical power distribution, changing markets gradually over time.

3.5. Platform management II: Data & data network effects

In the context of B2B and B2C platforms, data sharing is perceived as mutually beneficial but with distinct implications. B2C platforms are known for their data-driven approach, utilizing data collection and analysis to generate knowledge and introduce new products and services to the market [19]. Similarly, on B2B platforms, access to

high-quality and consistent data is a significant advantage for participants [33,35]. Data sharing fosters greater dependency and loyalty among participants, strengthening buyer–supplier relationships. For incumbents, the ability to share data across organizations is a key driver for building on platforms, enhancing their databases, and making them accessible on the platform [4,49]

However, it is important to note that while end-users on B2C platforms may be willing to share data in exchange for free services or convenience, organizations, as B2B platform participants, typically require compensation for sharing data [2]. In contrast, the data used by B2C platforms is often generated directly on the platform. Consequently, the willingness of potential B2B participants to share data is a critical factor for the success of B2B platforms [49]. The platform is also responsible for ensuring data quality and safeguarding participants from inaccurate, incomplete, or potentially harmful data [6].

Data and data network effects play a central role in driving the success of B2C platforms, enabling them to realize economies of scope on both demand and supply sides, with data collected in one market optimizing usage in others [12,19]. B2C platforms often have a strong motivation to transfer their capabilities from their core market into new markets and integrate data from these new markets with their core market data [19]. Additionally, beyond data access and collection, the ability to generate novel ideas from data and test their efficacy is critical to B2C platform success [12].

Given the substantial value platforms derive from data, the conventional zero price charged to users might not adequately capture its worth [57]. Alternatively, offering incentives to users, such as negative pricing, to join and use the platform may lead to opportunistic behavior [58]. Hence, the access and utilization of data appear to be a significant distinction between B2C and B2B platforms. B2C platforms can often leverage end-user data through the provision of free services, whereas B2B platforms necessitate compensating business users for data access [49].

Derived difference 5: To benefit from data network effects, B2B platforms must provide an immediate incentive to provide and share data.

4. Discussion and implications

In our research, we comprehensively examined current information systems literature on B2B platforms and compared it with the broader literature on platforms. We show that the disparities between B2B and B2C platforms are nuanced rather than distinct. This is in line with previous research and other approaches. Täuscher and Laudien [59] used a mixed methods approach to analyze 100 marketplaces; in their cluster analysis, B2B platforms were not identified as a separate category but rather as a part of web-based platforms selling physical goods. Muzellec et al. [60] used an exploratory approach based on case studies and found that B2C platforms shift their focus to the business side in the growth stage: over time, B2C platforms become more "B2B oriented". Trabucchi et al. [61] also identified differences and commonalities for the C-side and B-side in three out of four categories. In all these cases, the boundaries between B2B and B2C platforms are, therefore, rather blurred. Our literature-based approach shows that each category or dimension identified in our systematic literature review has counterparts in the general platform literature, indicating that these categories are not exclusive to B2B platforms. Nonetheless, our analysis revealed significant variations within each category. For an overview of our findings, we present a comprehensive summary in Table 1.

4.1. Discussion

The analysis provides valuable insights into potential distinctions between B2B and B2C platforms. However, it cannot definitively determine whether these differences are intrinsic to B2B platforms or merely strategic choices made by the analyzed B2B platforms. The analysis, therefore, raises important questions regarding the effectiveness of the solutions identified in the literature for addressing B2B market conditions. For instance, the first difference is the following: Should B2B platforms adapt to market conditions, or is it not possible for a single player to disrupt the B2B market without the help of existing firms? Similarly, the second difference leads to questioning whether the strong focus on technical solutions is influenced by the manufacturing orientation of the literature. Moreover, different types of B2B platforms, such as e-marketplaces, (I)IoT platforms, AI service platforms, and industrial service platforms [21,38,52,62], may require distinct infrastructure strategies. It is unclear whether building such infrastructure is a critical success factor or simply a strategy chosen by current B2B platforms.

The third difference seems to arise due to the tight market structures in B2B environments, where the focus lies on onboarding existing relationships onto the platform. However, this approach may not necessarily create additional value or draw new players into the market and may even reinforce existing market structures. This would be in stark contrast to B2C platforms that typically significantly change market structures. The fourth difference goes in a similar direction and indicates that B2B platforms may prioritize the quality of existing relationships rather than seek to attract new players. This could lead to increased market power for established players, creating barriers to entry rather than cutting down existing ones and potentially reducing competition, which may lead to higher prices. Nonetheless, the last derived difference suggests a different perspective on the differences between B2B and B2C platforms. Despite the benefits of closer relationships among industry players, establishing sustainable trust, particularly for data sharing and building a common data infrastructure, proves challenging.

In general, trust is a pivotal theme that underpins the discussed factors. Trust is defined in the B2B platform literature as the expectation that participants will avoid opportunistic behavior [63,64]. B2B platforms bear the responsibility of fostering trust among participants and different groups [18,64]. Trust hinges on the platform owner's reputation, the partner involved in platform creation, and existing participants [4,16]. Governance elements, including openness, rules, and compliance, also significantly impact on-platform trust [35]. The establishment of trust is one of the most crucial elements to internalize network effects [6], enabling inter-organizational collaboration [42], fostering more frequent and higher-quality interactions [14] and encouraging data sharing [49].

While the analysis highlights potential differences between B2B and B2C platforms, it also raises critical questions about the effectiveness of various strategies in B2B markets. The nuanced nature of these differences warrants further exploration and understanding, especially regarding the impact on market dynamics and the roles of relationships, trust, and data sharing in shaping B2B platform strategies. Regarding the role of trust and the competitive landscape, research on cartels has extensively explored the stability and breakdown of illegal cooperation between firms [65–68]. Leveraging insights from this literature can offer valuable insights into comprehending the dynamics of cooperation among platforms, participants, competitors, and complementors. Particularly, it can shed light on the crucial mechanisms required to establish transparency regarding each participant's behavior and efficient methods to sanction any misconduct. Understanding these aspects can enhance our comprehension of cooperation dynamics in the context of digital platforms.

Our literature-based approach shows another interesting fact: The analyzed papers do not follow a strict classification of platforms. Some authors distinguish between marketplaces, (I)IoT platforms, AI service platforms, and industrial service platforms; others [21,38,52,62] develop further B2B archetypes like product-service-platformizer, platform ecosystem orchestrator, and platform market guardian, or industrial product efficiency platform, industrial transaction platform, industrial product-service platform, or industrial platform ecosystem [26].

Table 1
Overview of results of comparison between B2C literature and IS literature on B2B platforms.

#	Category	Topic	Derived difference
1	Platform design	Market structure and barriers to entry	B2B platforms tend to support existing business practices and do not challenge them to disrupt existing market structures.
2		Infrastructure and boundary resources	B2B platforms need to develop more customized technical solutions for all user groups to join and use the platform.
3		Leveraging network effect and initial supply	Incumbents have an advantage in establishing a B2B platform, as they can leverage existing partnerships to reach critical mass.
4	Platform management	Increase and protect network effects	B2B platforms lead to a more symmetrical power distribution, only changing markets gradually over time.
5		Data and data network effects	To benefit from data network effects, B2B platforms must provide an immediate incentive to provide and share data.

Other authors use existing categories and discuss the difference between transaction and innovation platforms and find that the differences are blurring [17]. But, in general, the literature does not consequently consider the different underlying platform typologies. This is at least partially a surprise, as such typologies are rather established in B2C research. One basic distinction is between transaction and innovation platforms [69], which is also considered, for example, by Svendsrud et al. [17]. Whereas a transaction platform is characterized by two user groups that meet over the platform and exchange a good or a service, with an innovation platform, at least one group is enabled to build new products and services for the platform, such as Apple's iOS or Android systems (the App-/Playstore is then a transactional platform [28]). Regarding derived difference 2, it would be interesting to see how concepts like the orthogonal platform [28,70] change discussion of the findings. Anderson et al. [2], for example, emphasized the importance of creating a stand-alone value for one user side, which resembles the orthogonal platform concept where the platform first creates value for one user group that does not depend on a transactional value and therefore does not depend on the second user group in the first place. Only after the platform has created sufficient value can it open the platform for a second user group that benefits from the presence of the first user group on the platform. In the economic literature, this is called audience making [11,31] and is an established platform model for newspaper or Free-TV stations. Evans and Schmalensee [31] used the example of OpenTable, a restaurant reservation platform, to demonstrate that building a stand-alone solution for the business-user side of the platform can be a successful market entry strategy: Once restaurants adopted the software-as-a-service tool, OpenTable opened the service for the end-user side to conveniently make reservations online. Here, the platform added a transactional side; in the B2B sector, however, data or (I)IoT platforms could also consider an orthogonal approach with a client-as-a-target strategy [28], where the original client can access further services, or a client-as-a-source strategy [28] where, for example, further data service is built upon the first user group. This short discussion shows that a consequent consideration of existing typologies could help in better understanding the differences and dynamics of B2B platforms.

Another interesting discussion is about the different characteristics of each of the business sides. Anderson et al. [2] raised the question of how big the "b" is (b vs. B), meaning that the characteristics of the businesses joining the platform might be very important. However, this could also mean that the way a B2B platform is used by individuals within a company might be very different depending on the type of platform and the respective value proposition. For instance, in B2C markets, multiple dating platforms can coexist due to diverse user requirements, while large social media platforms can cater to a wide range of users with varying interests. Similarly, in B2B markets, specialized procurement platforms, like, for example, for transport ship spare parts, might coexist with broader platforms like Microsoft Teams or Jira used across the entire organization. This prompts us to question the underlying definition of "B" on each side of the platform: Does it, for example, refer to an individual user or an entire organization? Is the platform used as part of a standardized process, or can users decide when and how to use it? And also: who is making the decision to join the platform, and who is making the decision to use it? Understanding this distinction can provide insights into the dynamics of B2B platforms and the varying requirements they seek to address. This thought can also be connected with Muzellec et al. [60], who claimed that a platform focuses on the embryonic and the emerging stages more than on the consumer side and then shifts focus toward the business side of the platform. They used four categories to compare the consumer side (C-side) and business side (B-side). Here, they found subtle differences in three categories, namely trustworthy environment, data-driven extensions, and community building; however, for personalized experience, they did not find a difference between the sides of platforms. The example of data-driven extensions shows that consumers value efficiency in the match-making process, whereas the business side values value-added services. However, the study examined platforms with a private-user and a business-user side; here, we aimed to discover differences between platforms without a private-user side, where both sides are represented by business users.

Moreover, our literature selection has left several questions unexplored. One involves B2B platforms' monetization strategies, which received little attention in the considered literature. The most important exemption is Petrik et al. [71], who reviewed the literature on platform pricing and applied it to digital industrial platforms. Based on the literature review, they created a taxonomy consisting of 14 dimensions and 51 pricing characteristics. This taxonomy can be used to evaluate the pricing behavior of digital industrial platforms. However, they emphasized the need for further empirical research regarding pricing and monetization strategies. Another exemption is Madanaguli et al. [26], who explicitly named "designing platform revenue models". However, in both cases, it remains unclear if and how these strategies differ from those employed by B2C platforms (identified, for example, by [60]). Interestingly, while the general platform literature suggests that the value of data could justify paying users for their data, paying users might lead to opportunistic behavior [57,58]; however, incentivizing data sharing by participants may be a crucial strategy for B2B platforms [49]. Furthermore, it is worth noting that many monetization models for B2C platforms are either advertisement-based or rely on the platform's business-user side running a business model on the platform and earning money on it. In contrast, B2B markets do not necessarily follow this pattern, and it may not be the case that both sides of the B2B platform to generate revenue directly. Instead, one side might benefit from cost savings or increased choice facilitated by the platform. However, commission-based pricing strategies on B2B platforms focus on revenue generation rather than cost savings. To gain a comprehensive understanding of monetization strategies on B2B platforms, further research is required to explore the specifics of how these strategies operate and the implications they may have for platform dynamics and participant behavior.

The identity of the platform owner is also only indirectly addressed. The information systems literature states that participant relationships evolve over time and that platforms can transform complementors into

Table 2
Overview of future research opportunities.

#	Category	Problem	Possible Approach
1	Platform types and platform categorization	• Existing typologies are not consistently considered • New categories must be defined	• Collection of all existing typologies and categories • Clustering of existing typologies and categories • Empirical assessment on which typologies and categories describe B2B platforms best
2	Size and characteristics of each B-side	The characteristics of the users and the usage of each side of B2B platforms might be very heterogeneous	An empirical assessment of at least two business market sides regarding usage behavior and frequency as well as integration into existing processes
3	Monetarization strategies	Optimal monetarization strategies regarding platform types (1) and characteristics of each market side (2)	Comparison of different B2B platforms, for example, like [59]
4	Identity of platform owner	Who can better establish a B2B platform: a single player or a consortium?	Further empirical investigation regarding the success factors depending on the platform owner

partners [14,21,51]. The discourse surrounding ecosystems, particularly platform ecosystems (see, for example, Pidun et al. 2019), implies that a single player may not be able to create a market-disrupting platform alone. This leads to an interesting research question: Can a single market participant develop a B2B platform, or must multiple players collaborate to establish such a central market maker and intermediary? A related question is whether an incumbent firmly rooted in its non-platform core business model can effectively serve as this central intermediary in the market.

Table 2 gives an overview of the identified research gaps. While the empirical literature on B2B platforms is growing, B2B platforms are rather opaque, which makes it challenging for researchers to apply quantitative methods. Therefore, mixed method approaches like that of Täuscher and Laudien [59] appear promising to tackle those questions. The research should lead to an analytical framework supporting both platform owners and participants on the platform to decide whether to build the platform or join the platform or how to generate the most value with or on a B2B platform.

4.2. Implications

Understanding the critical distinctions between B2B and B2C platforms is essential for small and medium-sized companies to formulate effective digital strategies. While the success of B2C platforms serves as a valuable model for digital transformation, it is crucial to avoid the false analogy fallacy [72–74] as B2B platforms may have different dynamics, or B2C strategies may apply only to specific types of B2B platforms. Blindly following the B2C platform approach without considering these differences may result in failure for B2B platforms, leading to the potential misconception that platforms have limited potential in B2B markets. This also requires a better understanding of different types of B2B platforms and their differences.

Enhancing the value derived from data requires continuous coordination and cooperation among firms. The information systems literature highlights the significance of data access and sharing and the crucial aspect of data consistency across companies [4,49]. However, data sharing introduces various challenges, especially regarding concerns about data accessibility and value-creation ownership. As a result, companies may be hesitant to fully share their data, fearing that others could exploit it. Interestingly, the problem of sharing and providing data so everyone benefits from it is also a problem within companies. An illustrative example is Jeff Bezos's strategy at Amazon, where all departments were compelled to provide and share data through interfaces, thereby establishing a comprehensive data infrastructure and enabling optimal data utilization [75]. The European Data Governance Act[5] represents a step forward in fostering secure and reliable cross-company data sharing. Its implementation is geared toward facilitating a harmonious data-sharing environment that prioritizes safety and security for all stakeholders involved.

[5] https://digital-strategy.ec.europa.eu/en/policies/data-governance-act.

A clear understanding of the distinctions and nuanced differences between B2B and B2C platforms provides valuable insights for policymakers. The concept of business platform ecosystems sheds light on how competition dynamics may evolve in these markets [14,21,51,56]. As companies strive to establish stable business ecosystems, policymakers may express concerns about the potential implications of such cooperation for competition (see, for example, [76]). This concern becomes particularly relevant when former competitors collaborate on a platform or jointly develop and operate a shared platform [14,21,51]. However, such cooperation may raise antitrust considerations, necessitating careful evaluation and regulatory attention to ensure fair competition within these platform ecosystems.

Table 3 gives an overview of the implications and who is affected by them. Due to the focus of the identified literature, they are relevant mainly for the platform owner. However, the change in dynamics in the competitive landscape can be very relevant for policymakers. Besides the potential concerns for antitrust authorities, it is also worth mentioning that B2B platforms have the potential to leverage significant efficiency gains. To ensure that those efficiency gains can be used, it requires the right political environment—one that takes the needs and peculiarities of B2B platforms explicitly into account.

5. Conclusion

This paper builds on a systematic analysis of the information system literature focusing on market-related factors of B2B platforms. By comparing these factors with the traditional B2C platform literature, we aimed to identify both commonalities and distinctions between the two types of platforms. Our investigation did not reveal any factors that are unique to B2B platforms compared to B2C platforms. Instead, both types of platforms rely on (indirect) network effects, confront the challenge of the chicken-and-egg problem, need to manage interactions, and depend on data for orchestration and scalability. However, our analysis suggests that there are more subtle differences between B2B and B2C platforms, which led us to formulate new research questions. Answering these questions can contribute to a better understanding of the nuanced disparities between the two types of platforms. Therefore, we cannot fully answer the question of whether B2B and B2C platforms are fraternal twins or false friends. In the first case, there is no difference between the two platforms, and the knowledge and principles from studies of B2C platforms can be transferred to B2B platforms. In the second case, the knowledge and principles from B2C platforms being applied to B2B platforms leads to poor results and the notion that platforms cannot work in B2B markets. Our results show that it depends, among other things, on the type of platform, the market, and the owner of the platform. Therefore, our study adds to the literature comparing B2B and B2C platforms and crystalizes the peculiarities of B2B platforms. In this sense, our paper is closest to Anderson et al. [2], who formed hypotheses about differences and peculiarities in analyzing a dataset of 79 B2B platforms in Germany. The nuanced nature of the differences is also in line with previous work [59–61]. Fig. 4 illustrates this and points out the differences identified between B2B

Table 3
Implications.

#	Implication	Affected
1	False analogy fallacy: transferring insights and expectations from B2C platforms directly to B2B platforms might lead to problems, disappointment, or failure	Platform owner, participants on the platform
2	Common data approach of platform owners and participants: sharing data and accessing data to improve the platform are more difficult when businesses are involved	Platform owner, participants on the platform
3	Potential new rules for competition in B2B platform markets: understanding the nature of B2B platform ecosystems and the consequences for competition within and between these ecosystems	Policymakers

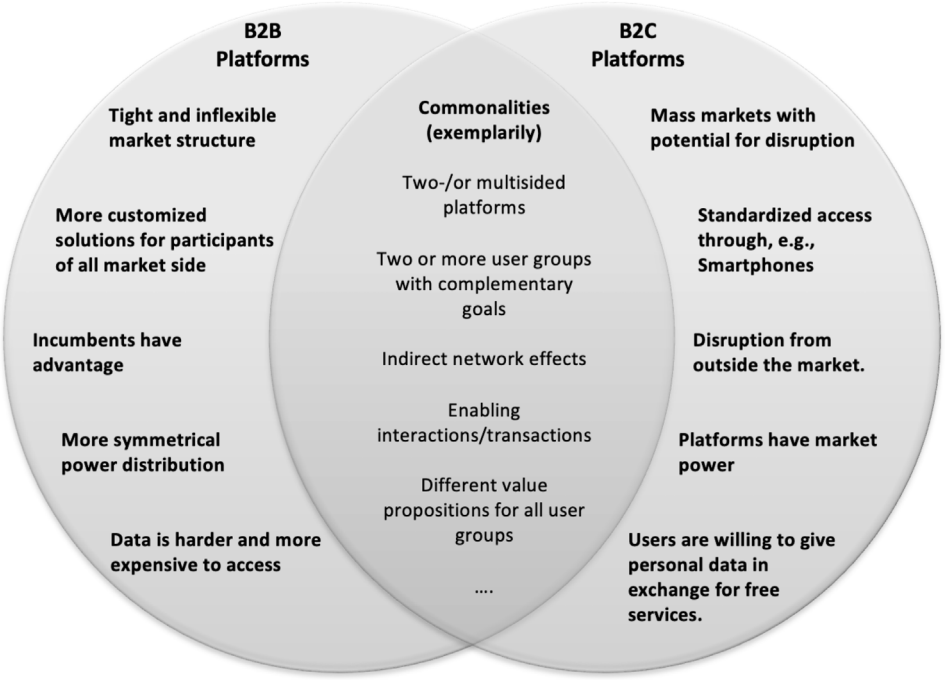

Fig. 4. Differences between B2B and B2C platforms are nuanced.

and B2C platforms. The figure also emphasizes how close B2B and B2C platforms are and that paying insufficient attention to the differences may lead to the false analogy fallacy and, therefore, to misguided strategic decisions.[6]

It is important to acknowledge the limitations of our study. With our approach, we cannot give a complete overview of all potential differences; rather, it shows certain aspects derived from the information systems literature. The selection of literature and the analysis were conducted following the method of Webster and Watson [23]. However, the researcher's decisions in the selection process might have influenced the inclusion of certain aspects and potentially excluded others. Additionally, the research question for the systematic literature review might have shaped the direction of our findings. Alternative research questions may yield different categories and dimensions. Furthermore, our focus on information systems literature represents just a starting point. Addressing this topic from broader perspectives and incorporating various disciplines could provide further insights. Nevertheless, due to the scope and complexity of the topic and the wide range of platform-related research across disciplines and time spans, a comprehensive and all-encompassing approach is challenging.

In conclusion, our study sheds light on the relationship between B2B and B2C platforms, revealing areas of similarity and divergence. While there are limitations to our analysis, this research offers a valuable basis for future investigations fostering a more comprehensive understanding of the distinctive features of B2B and B2C platforms in the evolving digital landscape.

[6] Fig. 4 only indicates exemplary commonalities. While these commonalities are important, they are not exhaustive, as this is beyond the scope of this paper.

Declaration of competing interest

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

Data availability

No data was used for the research described in the article.

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