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A typology of second-hand business models

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ABSTRACT

With the rise of new markets, in which products and resources are reused and redistributed, marketers must find new ways to orient and manage their business models. This study addressed one such development – the second-hand economy – which lengthens the lifespan of used goods through redistribution of their ownership. While previous research has analysed the second-hand economy mostly from a consumer perspective, a systematic understanding of *value creation* in this realm is lacking; hence, this study used a business perspective to construct a typology of second-hand business models. This resulting typology serves as an important analytical tool for understanding the variety of ways in which companies engage in the second-hand economy. The paper concludes with implications for managers who are either threatened by emerging second-hand business models, considering entering the second-hand market, or already engaged in second-hand commerce.

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Introduction

Marketing management focuses on how organisations can orient and position themselves in markets. In the last two decades, multiple markets and industries have faced major transformative pressures. The rise of e-commerce, the platform economy, technological advances, and globalisation have reshaped the boundaries and forms of commerce; consequently, the nature and types of exchanges, actors, and offerings are being reconfigured (Hagberg et al., 2016) and both consumers and managers are recognising new opportunities to support each other's value-creating processes (Saarijärvi et al., 2014). The result is that incumbent businesses are being challenged to develop new business models (Hänninen et al., 2018).

Multiple new means to orchestrate *value creation* and resource use have emerged, such as collaborative consumption; access-based consumption; and the sharing, circular, and second-hand economies (Kathan et al., 2016; Möhlmann, 2015; Richter et al., 2017). This study focused on the second-hand economy, which lengthens the lifespan of used goods through the redistribution of their ownership (Matzler et al., 2015; Ritter & Schanz, 2019). The phenomenon of consumers buying used goods from each other is not new per se, since early research studied various forms of consumption in physical flea markets

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(e.g., Belk et al., 1988; Sherry, 1990); however, recent developments, such as extending interactions and transactions from offline to online and mobile environments, have redefined the nature, logic, and potential of the second-hand economy. A recent United States study (Statista, 2018a) found that 65% of consumers used online marketplaces to buy used goods. In Europe, more than 20% of all Europeans bought or sold used goods online in 2016 (Statista, 2018b), while in China, the number of companies connecting the demand and supply of used products has risen rapidly (Statista, 2018c). Some companies have gained significant market positions; for example, eBay's gross merchandise value (roughly the value of goods offered) was as high as 85.5 USD billion in 2019 (Statista, 2020).

Multiple trends and developments today favour second-hand business models. Such developments include technological developments, urbanisation, changes in work practices, shifts in consumption preferences and openness to new solutions, and environmental concerns (Kathan et al., 2016; Möhlmann, 2015; Richter et al., 2017). While many second-hand business models rely heavily on digital information and communication technologies (Kathan et al., 2016), the Internet, in particular, has considerably decreased both the cost of market entry and the costs associated with searching, evaluating, and carrying out transactions (Frenken & Schor, 2017). As a result, consumers now enjoy convenient and efficient access to a vast array of affordably priced (used) products through various online platforms, such as eBay, Etsy, and Facebook. Furthermore, shifts in consumer values, mindsets, and behaviours have changed consumer preferences regarding second-hand goods (Kathan et al., 2016). Buying and selling used goods online has become a popular and widely accepted form of consumption, and consumers' environmental awareness may further drive sustainable consumption and the circular economy.

At the same time, business models are being developed that can be quickly scaled up, due to their 'asset-light' nature and reliance on network effects (Parente et al., 2018). For instance, business models that act as platforms for second-hand commerce can readily enter new markets, because they are not required to own the traded goods (Parente et al., 2018), although some companies still choose to own these goods. For platforms operating in local markets, the required number of users is smaller than for those operating globally, suggesting that there might well be room for multiple local niche players (Frenken & Schor, 2017). Because of this, and the fact that most of these firms do not possess rare or unique assets, having a first-mover advantage is likely to be very important for second-hand business models (Parente et al., 2018).

While recent research has sought to understand the second-hand economy from the points of view of perceived benefits (e.g., Abdul-Ghani et al., 2011), motivation (Chu, 2013), consumer resale behaviour (Chu & Liao, 2007), and auction mechanisms (Wang et al., 2002), only scant attention has been paid to taking a business perspective on this increasingly important phenomenon. Business models eventually determine the extent to which the second-hand economy can serve both buyers and sellers of used goods; the companies that facilitate these transactions; and most fundamentally, the society at large that can benefit from the lengthened use of available resources. Adapting the business model lens to the study of the second-hand economy is a worthy endeavour, because it allows for comparisons between the different approaches that businesses use; for instance, according to Yrjölä et al. (2017), there are considerable differences between the types of platforms and formats used (e.g., social media, announcement forums, and auction sites). So far, previous research has considered specific types of second-hand business models, such as auction-based (Shin & Park, 2009) or second-hand fashion retailing models (Beh et al., 2016; Hvass, 2015), meaning that a holistic understanding of the market is lacking. For researchers, such a holistic understanding would help in developing concepts, models, and a relevant lexicon for describing businesses participating in, and driving, large shifts in how goods are marketed, bought, used, remarketed, and reused. This is important, because the business model literature has been developed in contexts where new products have been the focus of exchange; therefore, research should place greater emphasis on understanding how second-hand businesses create value and the extent to which the creation of value differs from traditional business models. For practitioners, understanding a variety of possible approaches to the second-hand economy can help in evaluating, designing, and developing second-hand business models.

The business model lens is also useful because different contexts feature multiple varieties of interaction between different parties, such as three-party exchanges in which two of the parties are consumers. Businesses could, for instance, allow most value-creating activities to be controlled and conducted by consumers. These insights are likely to serve managers already operating in, or considering entry into, second-hand markets, as well as those defending their positions against other second-hand businesses. For these reasons, exploring second-hand business models is relevant for both academics and marketing managers.

Building on the above discussion, the purpose of this study was to construct a typology of second-hand business models. A typology is an analytical tool that helps to capture the distinct characteristics of a research phenomenon; hence, in this phase of second-hand business model evolution, building a typology would support a variety of ways for both companies and consumers to create value. Furthermore, a typology would provide scholars with an analytical tool to conceptualise the second-hand economy and help practitioners to review their current business models or establish entirely new ones, in order to better access the evolving second-hand business landscape.

This paper addresses the research purpose as follows. Firstly, we discuss the theoretical background of second-hand commerce, drawing from the related literature and considering studies on the sharing economy from a business perspective. While the study was exploratory in nature, these literature streams established a strong theoretical basis for the empirical investigation. Secondly, we present our methodology based on a multiple case study approach. Thirdly, we present our findings according to the characteristics of second-hand business models identified by our analysis and construct our business model typology. We also discuss the three main types of business models incorporated into our typology. Finally, we discuss the limitations and implications of the research and draw conclusions.

Theoretical framework

As described above, multiple new forms of value creation have emerged, such as the sharing economy, collaborative consumption, and the second-hand economy (Kathan et al., 2016; Möhlmann, 2015; Richter et al., 2017). In practice, many of these terms are used interchangeably, although scholars have argued that important differences exist between them, despite their common characteristics. Habibi et al. (2017) argue that, among academics, practitioners, and the media, there is a tendency to label many different types of novel business models as 'sharing', even though they only display limited sharing economy characteristics and might actually be closer to the more traditional exchange models. They further caution that the sharing economy label might be misleading and that many contemporary practices and business models exhibit a combination of both sharing and exchange models, underlining the importance of conceptual developments and clarifications regarding these partly overlapping concepts.

The focus of this paper is on the second-hand economy – the exchange of used goods (Frenken et al., 2015; Frenken & Schor, 2017) – and especially on the business models that facilitate it. Consequently, our theoretical framework describes and discusses the second-hand economy and how it differs from the related concept of a sharing economy. We then introduce the business perspective on the second-hand economy and describe the features of second-hand business models.

The second-hand economy

The second-hand economy has been characterised as 'sequential sharing', by which used products are reused and product lifespans are lengthened (Matzler et al., 2015; Ritter & Schanz, 2019). It can be further described as a series of 'redistribution markets' that allow for the 're-ownership of a product' (Matzler et al., 2015), sometimes called 'recommerce' (Kumar et al., 2018). Examples of second-hand business models include eBay and Taobao (Frenken & Schor, 2017), as well as NeighborGoods.com and ThredUP.com (Matzler et al., 2015).

The second-hand economy should be distinguished from the related concept of the sharing economy.[1] While some authors (such as Kathan et al., 2016; Matzler et al., 2015) made no distinction between the two terms, for the purpose of this paper, we identified and analysed six key differences between them (Table 1). The first difference concerned the nature of exchange. While both sharing and second-hand economies involve reusing products (Matzler et al., 2015; Munoz & Cohen, 2017), the second-hand economy involves a permanent transfer of the ownership of the used goods, while the transfer of ownership is only temporary in the case of sharing economy firms (Eckhardt et al., 2019; Frenken & Schor, 2017; Kumar et al., 2018). Authors such as Kumar et al. (2018) distinguished sharing economy business models from 'pure marketplaces' (e.g., eBay) or 'recommerce systems' (e.g., ThredUp), because the latter involve exchanges rather than rentals. Exceptionally, Matzler et al. (2015) and Munoz and Cohen (2017) also included the selling of used goods under the term 'sharing economy'. For these authors, a sharing economy was anything that increased the efficiency and optimisation of under-utilised resources, whether through rentals, free access, or exchanges.

Differences also occur regarding the ownership of goods. Many authors (e.g., Kumar et al., 2018) stressed that, in the sharing economy, goods are owned by consumers acting as service providers. Some authors (e.g., Frenken & Schor, 2017; Kumar et al., 2018) also asserted that sharing economy businesses should not own the resources (since this would undermine the peer-to-peer or consumer-to-consumer economies) and therefore did not consider firms such as Zipcar as belonging to the sharing economy (Kumar et al., 2018).

Table 1. The distinguishing characteristics of second-hand business models.

Characteristic	Second-Hand Business Models: Business models that enable the exchange of used goods. *	Sharing Economy Business Models: Two-sided platform-based business models that allow consumers to grant each other temporary access to under-utilised physical assets. *	Authors
Nature of exchange	• Permanent transfer of ownership from seller to buyer or • Permanent transfer of ownership from seller to company/platform and then to buyer	• Only temporary transfer of access to goods (rental)	Frenken & Schor, 2017; Frenken et al., 2015; Kumar et al., 2018
Ownership of goods	• Before a transaction, used goods are either owned by consumer-sellers or the company/platform	• Goods are owned by consumers acting as service providers	Kumar et al., 2018
Nature of interaction	• Can include C2C, B2C and B2B interactions	• Requires direct consumer-to-consumer (peer-to-peer) interaction	Chase, 2015; Frenken & Schor, 2017; Kumar et al., 2018
Type of offering	• Must include used goods • Can include complementary products and services	• Must include access to products or services • Can include complementary products and services	Frenken & Schor, 2017: Kumar et al., 2018; Ritter & Schanz, 2019
Marketing of offering	• Performed by the seller and/or the company/platform	• Performed solely by the platform	Kumar et al., 2018
Channels	• Great variety of different channels, including digital platforms, retail stores, drop-off kiosks, e-commerce websites	• Digital platforms	Kathan et al., 2016; Munoz & Cohen, 2017; Parente et al., 2018

*The definitions are based on the discussions of Frenken and Schor (2017) and Frenken et al. (2015).

Empirical studies, such as the one by Bardhi and Eckhardt (2012), supported this assertion, since the customers of such companies do not feel or seek a sense of community. Kumar et al. (2018) especially noted that sharing economy business models differed from two-sided market business models in terms of the associated risks for users. They explained that consumers who share their valuable assets, such as apartments or vehicles, expose themselves to greater risks than consumers who merely sell their used goods and primarily interact through digital channels (Kumar et al., 2018). Again, there are a few exceptions: Matzler et al. (2015) and Munoz and Cohen (2017) also included, in their definition of the sharing economy, companies that owned goods and made them temporarily available to consumers).

Regarding the above point, in a second-hand economy context, the term 'customer' is somewhat ambiguous. For the sake of simplicity, we referred to the consumers buying used goods as customers, although the focal business might not directly generate revenue from them; for instance, Craigslist – an American classified advertisements website – does not directly earn money from most of the transactions facilitated by its platform, but instead sells advertising space to third parties (these parties, in essence, could be seen as customers of the focal business). In other cases, the seller of the item pays a commission or a listing fee to the focal business (and could arguably be considered a customer also). Furthermore, on the aforementioned, similar platforms, consumers can act as buyers in some transactions and sellers in others, leading to a blurring of consumer roles (Kumar et al., 2018). The concept of a 'prosumer' (a combination of 'producer' and 'consumer') reflects this development. While originally referring to people who produced many of their products or services themselves (Toffler & Alvin, 1980), the concept has recently taken on a broader meaning. Prosumers are people who actively prolong the lifecycle of products by applying methods such as repairing, reselling, and reusing the items (El Mahmoudi et al., 2019); therefore, consumers engaging in the second-hand economy could be seen as prosumers (Rathnayaka et al., 2014; Richter et al., 2017). In summary, in the context of this study, we referred to the consumers buying used goods as customers, because these consumers were paying for, and gaining ownership of, the second-hand goods – whether purchased from a platform or another second-hand business.

Another difference between second-hand and sharing economy business models concerns the nature of interaction. A second-hand business model can involve all forms of consumer-to-consumer (C2C), business-to-consumer (B2C), and business-to-business (B2B) interactions, but for many authors, a sharing economy business model requires direct C2C interactions (Chase, 2015; Frenken & Schor, 2017; Kumar et al., 2018). Authors have characterised sharing economy business models according to consumer co-creation, community building, and socialisation (Habibi et al., 2017). A related phenomenon is C2C commerce, in which consumers sell to, and buy from, each other. Early studies in this stream were conducted in brick-and-mortar environments (e.g., Belk et al., 1988; Sherry, 1990), while the recent literature has largely focused on e-commerce (e.g., Chen et al., 2016; Chu, 2013; Leonard, 2011). The studies on C2C commerce have approached the exchange of used goods from the consumers' perspective, analysing consumer decision-making processes (Ariely & Simonson, 2003), impulse buying (Chen et al., 2016), and consumer interpretations (Abdul-Ghani et al., 2011). While the direct exchange between consumers makes C2C commerce similar to the sharing economy (Frenken & Schor, 2017), it should nevertheless be regarded as a component of the second-hand economy, because the exchange of ownership of used goods is permanent in C2C commerce. It should be noted that not all definitions of the sharing economy necessitate direct peer-to-peer interaction; for example, Chase (2015), Martin et al. (2015), McLaren and Agyeman (2015), Munoz and Cohen (2017), and Parente et al. (2018) allowed for B2C, B2B, and other types of interactions, while Eckhardt et al. (2019) described peer-to-peer interaction as a typical, but unnecessary, feature of the sharing economy.

The type of offering(s) being marketed through a second-hand business model must include second-hand goods, while a sharing economy business model primarily sells access to products or services (Frenken & Schor, 2017; Kumar et al., 2018). Both business models might also include additional, complementary products or services (e.g., Ritter & Schanz, 2019), such as insurance, logistics, or information.

Some authors (e.g., Kumar et al., 2018) also proposed that, in sharing economy business models, the consumers who provide the services are not responsible for any marketing initiatives, which are solely conducted by the platform. Conversely, on second-hand platforms, sellers take responsibility, either solely or in cooperation with the focal business, for the marketing of the second-hand goods (e.g., sellers on eBay: Kumar et al., 2018; Matzler et al., 2015).

Finally, in terms of channels, sharing economy business models diverge from traditional B2C models because they involve multisided platforms (Eckhardt et al., 2019; Eisenmann et al., 2011; Parente et al., 2018). On these C2C platforms (Parente et al., 2018), the roles of suppliers and customers become blurred, with consumers assuming both roles (Richter et al., 2017). As platforms, sharing economy businesses are essentially interfaces that connect different users according to certain rules and guidelines (Gawer & Cusumano, 2014; Parente et al., 2018). Conversely, second-hand business models can operate through a wide variety of different channels, including platforms, retail stores, drop-off kiosks, and e-commerce websites.

A business perspective on the second-hand economy

The growth of the second-hand economy has led to a proliferation of approaches, practices, and business models used by companies entering the second-hand market. The business perspective, however, has remained underdeveloped in second-hand economy research. One notable exception is Shin and Park's (2009) study on auction-based C2C businesses, which concluded that the auction process, including its phases and options, should be simple and easy to understand. Two other studies by Hvass (2015) and Beh et al. (2016) focused on second-hand fashion retailing and highlighted the role of pricing and reverse logistics. Nonetheless, many second-hand businesses operate very differently from retailers, for example, by using various online platforms and social media (Yrjölä et al., 2017). Consumers shopping through social media platforms are likely to be driven by different intentions than those visiting auction sites or more traditional online shops (Bianchi et al., 2017; Saarijärvi et al., 2018).

Businesses aiming to create value for their customers and other stakeholders seek to capture some of this value in terms of revenue, cost-savings, and information. A business model is used to analyse a firm's value creation and *value capture* (Osterwalder & Pigneur, 2010; Richardson, 2008). It can be defined as 'a representation of a firm's underlying core logic and strategic choices for creating and capturing value' (Shafer et al., 2005, p. 202). This is a broad definition of value; for example, customer value may include any utilitarian and hedonic benefits and sacrifices perceived by customers that relate to the firm's offerings, such as monetary savings, social interactions, symbolism, and experiential aspects (Holbrook, 1999). A business model, as a representation of business logic, is useful, because it offers a reference language that facilitates common understanding and collective sensemaking for a business (Amit & Zott, 2012; Ritter & Schanz, 2019). In this respect, business models are strategic tools for innovation and differentiation, allowing managers to explore market opportunities (Doganova & Eyquem-Renault, 2009; Magretta, 2002) and involving the matching of external opportunities with internal strengths (Teece, 2010). They are built around factors that enhance the total value created by the business, such as novelty, customer lock-in, complementarity, and efficiency (Amit & Zott, 2001; Kulins et al., 2016). For a business model to be effective and successful, its logic must be coherent (Magretta, 2002) and naturally reflect managerial decision-making, including managers' assumptions, expectations, and choices (Casadesus-Masanell & Ricart, 2010), since managers' expectations regarding revenue, costs, and the behaviour of customers and competitors affect business model design (Teece, 2009). In the context of this study, the idea of a business model provided an appropriate conceptual tool for analysing the business perspective on the second-hand economy.

While multiple categorisations of business model components exist, most definitions have agreed that a business model describes both the customer's and firm's value creation (Arend, 2013; Geissdoerfer et al., 2018; Munoz & Cohen, 2017), describing value propositions (e.g., intended customer segment or market, the offering, and types of customer relationships), value creation and delivery (i.e. the activities, channels and resources needed to market the offering to customers), and value capture (e.g., opportunities, costs, and revenue models; Battistella et al., 2017; Munoz & Cohen, 2017; Osterwalder & Pigneur, 2010; Teece, 2010). Business models describe the selection and coordination of value-creating and value-capturing activities (Zott & Amit, 2010), such as value chains and networks (Chesbrough, 2010; Shafer et al., 2005) and partners and channels (Doganova & Eyquem-Renault, 2009). The configuration and content of value propositions, value creation and delivery, and value capture are likely to be complex in second-hand business models.

Value propositions for buyers of second-hand goods are likely to be vague, since the offerings are not standardised. Moreover, if the second-hand business model acts as an intermediary or provides a platform, it should offer value to both buyers and sellers of second-hand items. The company might also add some service elements to its value propositions – such as maintenance, financing, advice, or a takeback agreement (Ritter & Schanz, 2019) – which is called a 'product-oriented business model', distinguishable from a 'use-oriented business model' in which the customer pays for the functionality or utility of the product, rather than the product itself.

For many businesses in the second-hand economy, value creation and delivery is likely to depend on the different kinds of supply and demand actors, who are involved in creating the value proposition (Ritter & Schanz, 2019). A distinction has been made between peers/consumers, businesses, and sometimes government actors, with most scholars considering peer-to-peer, community-driven markets (Ertz et al., 2017; Frenken & Schor, 2017; Plewnia & Guenther, 2018; Ritter & Schanz, 2019). In second-hand business models based on two-sided platforms, peers can be responsible for many value creation activities. They sometimes act as casual providers of used goods, or even micro-entrepreneurs (Frenken & Schor, 2017), meaning that actor roles can become blurred (Kumar et al., 2018).

Value capture refers to revenue sources, pricing schemes, and the business model's cost structure (Osterwalder & Pigneur, 2010; Richardson, 2008). Surprisingly little attention has been given to revenue streams in this context (Plewnia & Guenther, 2018; Ritter & Schanz, 2019; Schnur & Günter, 2014). The business model literature has presented multiple different lists and categorisations, relating to different revenue models (Mahadevan, 2000; Richardson, 2008; Ritter & Schanz, 2019; Timmers, 1998) and categorised according to whether the revenue streams came from direct or indirect sources and whether they were bound to utility or not (Ritter & Schanz, 2019; Wirtz et al., 2010). Direct revenue streams refer to payments made by consumers to the focal business, while indirect ones refer to revenue drawn from third parties, such as advertisers; indirect revenue models therefore imply multi-sided platforms. Examples of indirect revenue streams include commissions or premium payments given to platform owners (Ritter & Schanz, 2019). 'Utility-bound' revenue streams involve payments connected to either a time period or a usage amount (e.g., fee per hour), while unbound revenue only indirectly relates to customer benefits (e.g., a subscription fee). Nevertheless, it should be noted that most business models rely on multiple revenue streams (Ritter & Schanz, 2019), in this study meaning that businesses can charge both commission and advertising fees. In the case of multisided markets, some business models use different pricing strategies for sellers than for buyers (Ritter & Schanz, 2019); nonetheless, in most cases, the intermediary only charges fees to the less price-sensitive side of the market – usually the sellers (Ritter & Schanz, 2019). With multiple revenue sources, managers need to find the optimal combinations of, and emphases on, sources (Ritter & Schanz, 2019; Wirtz et al., 2010).

The characteristics of second-hand business models

Second-hand business models are likely to share characteristics with three types of business models: (1) internet-based and/or platform business models, (2) sharing economy business models, and (3) retail business models. Firstly, as observed over two decades ago, the Internet and other communication technologies facilitate a wide range of possible business models. Many of these models are based on utilising consumer resources and efforts (e.g., communities and collaboration), as well as innovating value creation by supporting parts of the value chain, such as payment handling, or integrating multiple parts of the value chain (Amit & Zott, 2001; Timmers, 1998). Since many internet-based business models create value by building and coordinating a network of users (whether these users are consumers or other businesses), key elements for the success of these business models are creating incentives for different types of users, establishing an optimal diversity of users, and reaching a critical mass of users (Alcacer et al., 2016; Amit & Zott, 2001; Brouthers et al., 2016; Gawer & Cusumano, 2014). Similarly, many second-hand companies use two-sided market business models (Gassmann et al., 2014), commonly referred to as platform business models (Hagiu & Wright, 2013; Van Alstyne et al., 2016). Platforms bring together different participants in ways that generate value for all participants; for example, they can aggregate supply and demand, offer bundles of complementary products and services, and provide protection in the event of one party having asymmetric information or negotiation power (Hagiu & Wright, 2013). Some second-hand platforms are almost entirely 'self-service', such as Craigslist (Ritter & Schanz, 2019), while others exert more control over the interactions between users (Kornberger et al., 2017).

Scale also matters for platform businesses, with the value for all participants tending to increase as the number of users increases (often referred to as the network effect); however, a sharp increase in the user base can also result in user misbehaviour or low-quality platform content. Governance of platform access, designing rules for interaction, and dividing incentives and rewards are key issues for managers (Van Alstyne et al., 2016). Trust and security have also been highlighted as critical success factors for online business models (e.g., Kathan et al., 2016; Richter et al., 2017), especially ones involving C2C interaction and exchange, often between complete strangers (e.g., Kathan et al., 2016; Parente et al., 2018). Along these lines, some scholars have noted different trust-generating mechanisms, such as past ratings of user conduct, personal identification, online communication and reputational capital (Frenken & Schor, 2017), insurance, third-party credit ratings and screening of users (Kathan et al., 2016), transaction guarantees, independent ratings, and the company's handling of financial transactions (Kathan et al., 2016; Mahadevan, 2000; Parente et al., 2018; Richter et al., 2017); for instance, eBay handles financial transactions on its platform (Kathan et al., 2016). While user self-regulation in the form of peer ratings and reviews is often inaccurate, skewed, and limited in diagnostic terms (Frenken & Schor, 2017; Kumar et al., 2018), rating systems are nevertheless perceived as sufficiently trustworthy to convince large numbers of users to use online platforms (Frenken & Schor, 2017). In addition to self-regulation, a company might also need to evaluate and control users (Kumar et al., 2018; Richter et al., 2017).

Secondly, in a sharing economy context, Ritter and Schanz (2019) identified four types of sharing economy business models based on the level of service offered (Tukker, 2004), the level of control exerted over value creation and delivery by the focal company (Ertz et al., 2016; Hagiu & Wright, 2013), and the mixture of revenue streams. Some of these models fitted the definition of second-hand business models, since they involved selling previously owned items. The authors noted that businesses such as second-hand shops are not usually counted as part of the sharing economy, because they act like 'normal' retailers and are characterised by dyadic relationships, one-time transactions, and the need for marketing activities (Ertz et al., 2016; Ritter & Schanz, 2019). The other identified business model types were distinguished by their revenue and pricing models: subscription-based platforms, commission-based platforms, and revenue models built on indirect sources, such as selling advertising space or user data. In a subscription-based model, the company exerts a high level of control over value creation and the subscription is a mechanism for gaining customer commitment. By contrast, in a commission-based model, the users can act as both buyers and sellers, and they negotiate the terms, content, distribution, and consumption of value (Ertz et al., 2016; Ritter & Schanz, 2019). The intermediary's main role is to build a sense of community and reduce feelings of insecurity. The businesses' main revenue streams are based on their ability to facilitate successful matches and transactions (Ritter & Schanz, 2019). For such platforms, the potential value for buyers depends on the distribution and number of sellers, and vice versa. To reach a critical mass of users, the price-sensitive side (usually the buyers) can access the platform without paying fees (Ritter & Schanz, 2019); users are bound to platforms by switching costs in the form of rating histories, because these histories are difficult to transfer to other platforms.

Retail business models, consisting of their formats, activities, and governance (Sorescu et al., 2011), are also relevant for second-hand businesses. The format describes the structure of value creation and capture (Sorescu et al., 2011): how different parties are linked and through which activities they interact – a key notion regarding the scalability of the business model (Amit & Zott, 2001). Formats involve choices regarding products, price levels, services, and the customer interface (Sorescu et al., 2011). Activities, in turn, refer to anything needed to generate, manage, and motivate customer experience (Sorescu et al., 2011), such as purchasing, logistics, customer service, data mining, and branding (Yrjölä, 2014). In the second-hand economy, many of these activities can be performed by consumers, while other second-hand business models might operate similarly to traditional retailers (Ertz et al., 2016; Hvass, 2015; Ritter & Schanz, 2019). Governance describes the roles, rules, and incentives of key actors, including the mechanisms that control the flows of information, resources, and goods between relevant parties (Amit & Zott, 2001). Roles can define how much self-service is expected from customers (Sorescu et al., 2011) – a key consideration in many second-hand business models.

Conclusively, we built upon the above discussion as a starting point for understanding and analysing second-hand business models. Importantly, the previously discussed business model characteristics did not act as a conceptual straitjacket (Gummesson, 2002), but offered guidance and facilitated reflection prior to empirical exploration of the research phenomenon. Next, we present the methodological analysis of second-hand business models, discussing the methodological choices of the study in terms of data collection and analysis.

Methodology

Data collection

Using a business model lens, the purpose of this study was to construct a typology of second-hand business models, classifying such models according to their characteristics (i.e. the respective companies' business model selection and development). Since the second-hand economy is currently in an embryonic phase – characterised by diversity, rapid development, and global involvement – an exploratory multiple-case study approach was appropriate (e.g., Battistella et al., 2017; Reinartz et al., 2011; Said et al., 2015). Such an approach was chosen over a single case study, because the aim was to generate an overall understanding of the phenomenon, rather than a deep understanding of one company's business model (Eisenhardt, 1989). The use of multiple cases, rather than a single case, allowed the variation between business models to be observed, and it highlighted the fundamental characteristics of different types of business models.

The aim of using multiple cases was to capture the full variety of different business models at the current stage of the phenomenon; therefore, the data collection process was not limited to a specific offering, geographical area, or business strategy, but was open-ended and exploratory. The two guiding principles were that the cases had to be strongly linked to the second-hand economy and that the search should be redirected and refocused according to what was learned during the previous phases of the data collection process.

The data collection process included three phases. Firstly, a broad online search was conducted to gain preliminary understanding of the research phenomenon. During this phase, the search terms developed iteratively as more was learned of the study phenomenon. This meant that the initial search terms (e.g., 'second-hand goods', 'second-hand commerce/ecommerce', 'used goods commerce', 'online flea market', 'consumer-to-consumer marketplaces', and 'C2C online auction') were refined according to what was learned (e.g., 'peer-to-peer commerce', 'C2C platforms', 'peer-to-peer shopping', and 'social shopping'). Overall, this first phase helped to determine the most suitable information sources, search terms, and keywords, resulting in the identification of 50 case companies.

Secondly, a complementary search involved reviewing scientific articles, consultants' reports, blogs, and forums using the initial and refined keywords. From these sources, new search terms were identified (e.g., 'C2C transaction platform'), which resulted in fourteen additional cases (64 in total). Rather than identifying as many cases as possible, the objective was to generate a set of case examples that best illustrated the variation and heterogeneity of business models while also revealing a comprehensive overview of the phenomenon.

Thirdly, to gain a deeper understanding of the business model characteristics, each case was reviewed systematically by visiting the companies' own websites and applications. In this detailed search phase, we attempted to answer the question: how does the business create and capture value? This involved gathering information relating to the characteristics of second-hand business models discussed in the theoretical framework (including their similarities to internet-based, platform, sharing economy, and retail business models). Comparing the identified cases with the distinguishing features of second-hand commerce (Table 1) resulted in the exclusion of cases that, in fact, were not truly second-hand businesses; for instance, considering the nature of exchange led to the elimination of eight cases in which the exchange process did not involve a permanent transfer of ownership (e.g., Airbnb). Similarly, considering the type of offerings led to the elimination of cases in which the business focused solely on the provision of services, rather than used goods (e.g., Delivery Hero). Finally, the authors assessed, compared, and discussed each of the cases with the aim of selecting, for more detailed analysis, cases that reflected a wide variety of business models. Cases that had similar business models were excluded at this point; for instance, Trade Me, a New Zealand auction site, was removed because its method of creating and capturing value was nearly identical to that of eBay. In conclusion, 21 cases were selected for more detailed analysis (see Appendix): Aeki.fi, Bonanza, Buffalo Exchange, Craigslist, eBay, eBid, eCrater, Emmy, Etsy, Gamestop, Gazelle, Letgo, mResell, OfferUp, Poshmark, Rekki.fi, Sell.com, Swappie, ThredUp, Zadaa, and 5 miles. Together, these cases captured the diversity of business model characteristics and provided a strong basis for the construction of a typology.

Data analysis

In order to construct a typology of second-hand business models, the cases were analysed to elicit contextualised patterns, mechanisms, and characteristics. A typology aims to illuminate the differences between disparate elements in a set that, together, comprise a construct; in other words, a successful typology clusters instances of co-occurring characteristics and properties (Miller, 1996). Similarly, as depicted in Figure 1, the study analysis firstly identified the characteristics of different business models and, secondly, used these characteristics to illustrate groups of second-hand companies that employed similar business models. This understanding facilitated the construction of a typology of second-hand business models.

Since the purpose of a typology is to simplify real-world complexity, the analytical process of typology development involves reducing different features to a limited set of characteristics that are relevant for the specific study purpose (Munoz & Cohen, 2017); for

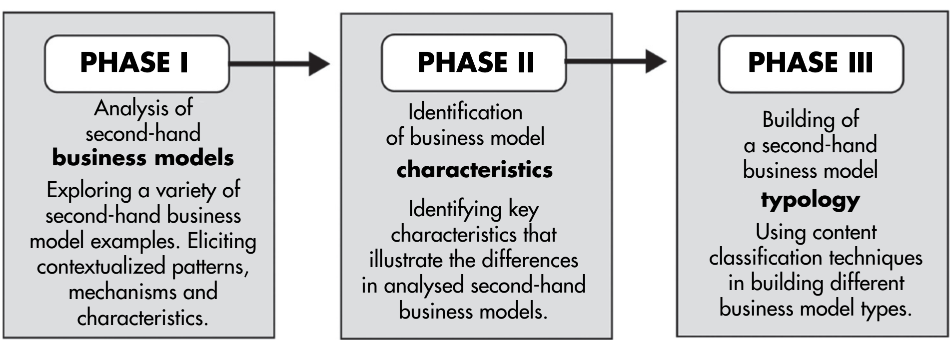

Figure 1. Research approach.

example, following an approach similar to our own, Munoz and Cohen (2017) identified seven characteristics of sharing economy business models, such as the degree to which different models relied on technology, which they then used to develop a typology. Following this logic, in this study, each of the selected 21 cases were analysed and discussed by the authors to understand the key features of their business models. Before this discussion took place, the authors independently familiarised themselves with the collected data and made notes about the cases. The notes and initial interpretations (first phase of analysis) were then discussed to create an outline of the characteristics (second phase of analysis) that could help in distinguishing and categorising the cases according to different types of business models (third phase of analysis). During this stage of analysis, we observed that the companies played different roles in relation to consumers, meaning that some businesses played a minimal role in customer value creation, while others had a very significant influence over how value was created (cf. Ritter & Schanz, 2019). Furthermore, there was considerable variation in the used goods offerings (e.g., some were focused on a single brand, while others had virtually unlimited offerings), and the businesses exerted different levels of control over transactions and interactions (cf. Ertz et al., 2016; Hagiu & Wright, 2013; Kornberger et al., 2017). The businesses were also observed to employ various support mechanisms and services (cf. Tukker, 2004), targeted at both consumer-buyers and consumers wishing to sell their used goods. In some cases, the sellers were responsible for organising the transactions (uploading product images, setting prices, negotiating, handling shipping, etc.), while in others, the company could help with these arrangements (e.g., securing payments) or even take ownership of the product and resell it. Regarding value capture, there were also notable variations, at least regarding the businesses' revenue sources (cf. Ritter & Schanz, 2019); for example, revenues could be drawn from listing fees, third-party advertisements on websites, additional services offered to sellers, or commissions on second-hand sales.

In the second phase, the analysis moved from initial observations to the fundamental characteristics that better fitted the study phenomenon: second-hand business models (Phase II in Figure 1). Here the aim was to choose the characteristics that best highlighted differences between business model groups in order to build a typology. The cases were analysed following a content analysis approach (see Abbott & McKinney, 2013). This phase was also characterised by going 'back and forth' between empirical observations and theory, expanding our understanding of both theory and empirical phenomena (Dubois & Gadde, 2002). This meant that the findings of the previous studies helped to draw attention to certain aspects of the business models, but in our analysis, we chose to emphasise inductive reasoning in order to minimise the risk of taking a too-predefined perspective (Yuana et al., 2019), since most existing studies only analysed related fields, such as sharing economy business models or retail business models (e.g., Sorescu et al., 2011). Accordingly, the analysis was guided by, but not confined to, previous theory (cf. Richter et al., 2017); therefore, some characteristics emerged from previous theory (Perry, 1998), while others emerged inductively. The level of control exerted over value creation and delivery was a characteristic highlighted by previous research (Ertz et al., 2016; Hagiu & Wright, 2013; Kornberger et al., 2017) and this characteristic was named 'the company's level of control'. The business model characteristics that did not reflect previous literature were given labels that represented these new characteristics (Saunders & Lewis, 2012); for example, the label 'breadth and depth of the offering' was given to the characteristic that described whether companies limited themselves to certain product categories, brands, or geographical areas. This phase resulted in identifying the five characteristics of second-hand business models that will be presented and discussed in the findings section.

Finally, a formal analysis (involving content classification techniques) was conducted, and the identified characteristics were used to group the business models. These groups of business models represented different types, meaning that each group was fundamentally different from other groups in the final typology. The differences between the groups began emerging in the first phase, during which the authors grouped together similar business models according to their shared characteristics. The characteristics identified in the previous phases were used to form groups or types of second-hand business models in order to build and finalise the typology. As a result of carefully identifying, analysing, and iteratively clustering the elements, a typology was constructed to illustrate the types of second-hand business models found in the data.

Findings

Characteristics of second-hand business models

The first phase of analysis focused on identifying and analysing the characteristics that best highlighted the differences between groups (or business model types) in order to build a typology. Five characteristics were finally chosen and developed: (1) the company's role in mediating between consumers, (2) the breadth and depth of the offerings, (3) the company's level of control, (4) seller selection and support mechanisms, and (5) revenue streams (Table 2).

The company's role in mediating between consumers

Three broad options were identified concerning the role of the company in relation to buyers and sellers. Firstly, some second-hand companies relinquished nearly all control to the consumers on their platform: consumers were in charge of locating the right items, contacting sellers/buyers, and negotiating transaction terms. These companies created low-cost, scalable ecosystems that aimed to leverage network effects (profits depended on user volume; Van Alstyne et al., 2016). Secondly, companies could ensure that transactions between consumers actually took place, rather than simply match-making or gaining revenue from successful transactions (e.g., through commissions). These companies used tools and mechanisms that fostered trust between parties or mitigated risks for participants (e.g., secure payments). Thirdly, companies could position themselves directly between buyers and sellers and act almost as retailers of used goods. These companies usually had retail and logistics processes for efficient handling, pricing, and marketing of goods.

The breadth and depth of the product offering

There were three types of product offerings: unlimited, wide, and specific. Firstly, companies with unlimited offerings used announcement-based platforms organised around product categories or geography. In many cases, the categories were not related to each other and the aim seemed to be to maximise the offerings (e.g., Craigslist). Secondly, wide product offerings were built around interrelated product categories or brands that

Table 2. Second-hand business model characteristics.

Characteristic	Explanation	Example
The company's role in mediating between consumers	The extent to which the company performed activities on behalf of the buyer and seller and the amount of additional services provided to these parties – ranging from minimal company role to influential role.	A company might provide the infrastructure and services for secure transactions and payments (e.g., eBay).
The breadth and depth of the offerings	Whether the items exchanged over the company platform were limited. Some companies did not impose any limitations, while others were highly specialised in certain product categories, brands, or geographical areas.	A company might limit itself to used goods of one brand, such as Aeki, which specialises in used Ikea furniture.
The company's level of control	The extent to which the pricing, offering selection, promotion, transactions, and logistics were controlled by the company – ranging from low (nearly everything was performed by the buyer and seller) to high control (nearly everything was performed by the company).	A company with a high level of control might purchase the used goods and warehouse, then price and market the goods (e.g., Gamestop).
Seller selection and support mechanisms	The extent to which the company limited and controlled potential sellers and the mechanisms that supported sellers in their activities – ranging from all-inclusive to very selective models.	A company might provide services, resources, and information for sellers interested in becoming entrepreneurs on their platforms (e.g., Etsy).
Revenue streams	The number of different revenue streams supporting the business model (e.g., revenue from selling advertisement space, from commissions, and from add-on services).	Some companies' revenue streams were based directly on the volume and distribution of the users they attracted (e.g., eCrater).

targeted specific consumer segments, such as category enthusiasts and collectors (e.g., Aeki focuses exclusively on used Ikea products). Thirdly, companies with a specific offering limited themselves to certain product niches (e.g., Buffalo Exchange focuses exclusively on used clothes and accessories). The logic behind this was that their retail and logistical processes tended to become inefficient if product types, sizes, and monetary values differed significantly. Alternatively, they might wish to keep the value proposition distinct and targeted to a specific consumer segment.

Control level

The control over interactions and transactions varied from very low to very high levels of company control. At one end of the spectrum were companies that used minimal control to run an expansive ecosystem of active 'self-service' users, and companies that used high levels of control to add value for buyers, sellers, and themselves, including mechanisms for securing payments and other services that helped transactions to be completed successfully. At the other end, some companies performed most of the work of the seller, checking the items' condition; handling warehousing, display, and logistics; and even taking ownership and marketing the products themselves.

Seller selection and support mechanisms

The approaches to seller selection varied across second-hand business models. Firstly, companies might not limit potential sellers, but might try to maximise the number of items on sale, thus maximising the breadth of the offerings. In these models, potential sellers were lured by generic and utilitarian value propositions, such as low fees and earning a little extra income. Secondly, some models offered services to sellers that facilitated transactions or even supported sellers in becoming entrepreneurs. There were also those that selected sellers in order to ensure product quality.

Revenue streams

Revenue streams included margin- or commission-based payments, listing fees, additional services, membership fees, and the selling of advertising space. Revenue streams naturally related to channel choice, since more channels usually implied more potential revenue streams. Typically, internet-based models generated revenue in relation to the use of services, while store-based models were linked to gross margins. Multichannel operators had more options and were able to offset low-performing channels with more profitable ones.

Three types of second-hand business models: connector, supporter, and controller models

Using the business model characteristics found in the first phase of the analysis, we formed groups of business models. These groups were (a) exhaustive (i.e. all business models could be assigned to one of the groups) and (b) mutually exclusive (i.e. no business model could be placed in more than one group). This resulted in three groups, or types, of second-hand business models. Based on the analysis, the following typology was proposed (Table 3), which included three types of business models (connector, supporter, and controller models), distinguished according to the five identified characteristics.

Connector models

Connector models connected consumer-driven supply and demand using online announcement forums or similar solutions, thus relinquishing most control and decisions to users and relying on self-service concepts. This led to a diminished number of customer touch-points, a decreased ability to make changes, and less information being obtained from the transaction process. Connector models avoided multiple business risks (e.g., inventory, depreciation of goods' value, etc.) by shifting them to consumers. The responsibilities in these models were shared, leaving buyers and sellers with the critical role of making the marketplace viral, trustworthy, and beneficial for all. Connector business models were, therefore, based on mutual trust and goodwill. Typically, decisions and activities concerning transaction processes were made by the seller (e.g., assortment selection, pricing, and content creation), while supportive services, such as payment, delivery, and customer service were usually delivered in cooperation with sellers and buyers.

Connector models offered multiple product categories (e.g., Craigslist has 54 categories), leading to loose user segmentation and mostly utilitarian value propositions for users (e.g., access, convenience, and low prices). Connector models marketed to a single broad segment of users and sought to rapidly increase their user base. As a result of rapid scaling, connector models could face problems and reputation issues due to unsuccessful user experiences, misbehaviour, and abuses of the service. To reduce these problems,

Table 3. Second-hand business models: a typology.

Second-hand Business Model Types	Characteristic: The company's role in mediating between consumers	The breadth and depth of the product offerings	The company's level of control	Seller selection and support mechanisms	Revenue streams
Type 1 Connector models	Minimal role	Unlimited	Low	All inclusive	Mostly based on volume and scale
	Description: connector models typically seek rapid expansion of the user base; thus, they do not limit product offerings in any way and they target internet users as a broad segment. They also relinquish most control and decisions to users and rely on self-service concepts. Connector models employ online or mobile channels or marketplaces through which consumers interact. Revenue is generated from listing fees and, sometimes, advertising space. The cost structure is light, involving minimal business risks (e.g., no inventory). Examples: Craigslist, Letgo, OfferUp, Sell.com, 5 miles, and Aeki				
Type 2 Supporter models	Value-adding role	Varied approaches	Medium	Some selectivity	Mostly based on commission
	Description: supporter models pursue controlled growth by focusing on product categories, groups of categories, or specific customer segments, such as category enthusiasts. Supporter models offer supporting services to ensure better interaction and successful transactions; thus, they add value for buyers and sellers through control mechanisms that increase perceptions of safety, trust, and utility. They sometimes offer membership and loyalty programmes. Supporter models limit business risks, but still invest in developing technological and processual solutions. Revenue is generated from commission and listing fees. Examples: eBay, eBid, eCrater, Bonanza, Etsy, Poshmark, and Zadaa				
Type 3 Controller models	Influential role	Specific	High	Very selective	Multiple sources
	Description: controller models focus on a specific category of goods and operate in a limited number of markets. The target customer segments are usually (local) category enthusiasts. Controller models offer a full service for consumers and, thus, use strong control mechanisms to control, for example, purchase price (if the company purchased the items), product selection, quality, content, and customer price. As a result, they involve more business risk than other types. Controller models might use multiple channels (online, offline, and mobile). Revenues accrue from multiple sources (e.g., sales margins, commissions, or listing fees). Examples: Emmy, Gazelle, mResell, Rekki, ThredUP, Swappie, GameStop, and Buffalo Exchange				

connector models could introduce mechanisms such as rating systems (OfferUp) and private messaging (Sell.com), but the issue could remain significant, with a lack of mutual trust impeding usage.

Connector models operated online and did not have significant fixed assets, such as real estate, stores, or personnel. Because of the minimal role of the companies in transactions, they involved a light cost structure, since the business growth and expansion did not require heavy investment or significant capital resources. Although there were fewer revenue streams than in other business models, this approach remained viable by trading control for lowered business restrictions.

Supporter models

Supporter models involved companies playing a major role in mediating between consumers. In addition to connecting consumers, they focused on increasing customer satisfaction by improving perceptions of trust, safety, and convenience. Nevertheless, buyers and sellers played a critical role in making the service lively and interesting and ensuring that it met current demand. Since companies participated in selected phases of transactions, supporter models employed some control mechanisms. Typically, supportive functions (e.g., payment and delivery support) facilitated additional revenue streams, increased transparency of the user experience, and extended the number of consumer touchpoints. To avoid common (e.g., inventory-related) business risks, major parts of transaction processes were given to the seller (e.g., pricing, content creation, and certain customer service aspects).

Supporter models were not distinguished by a specific offering. They pursued controlled growth by focusing on groups of product categories or customer segments, such as category enthusiasts, to differentiate themselves from competitors. Supporter models' value propositions were diverse and focused primarily on utilitarian (Bonanza, eCrater) and hedonic (Poshmark, Zadaa) benefits or a mixture of these (eBay). Similarly, their value-adding mechanisms varied (e.g., Etsy supports sellers by helping them create their own webstores), and some even offered business management systems (Bonanza, eCrater). Alternatively, membership and loyalty programmes, return rights, and selling price optimisation could be offered (eBay). To ensure successful interactions, various features were added by supporter models (e.g., Zadaa offers an electronic clothes fitting system that relies on user information). These mechanisms lowered barriers to use, increased matchmaking success, and generated customer lock-in.

The costs of platform development could occasionally cause financial problems, however, supporter models did not involve significant fixed assets that prevented companies from raising capital. Additionally, by playing a role in specific parts of the transaction process, supporter-model companies maintained a light cost structure while maximising revenue streams (e.g., insertion fees, commission, selling advertising space, loyalty programmes, and supporting services).

Controller models

Controller models encompassed the companies' influential role in mediating between consumers. They added value for consumers through the companies conducting parts of the exchange on customers' behalf and by increasing trust and safety (e.g., product quality, authenticity, and availability). Due to their significant role, controller model companies operated in a limited number of markets, usually only one (e.g., Buffalo Exchange, Emmy, Swappie), with few exceptions (e.g., ThredUP).

The product offerings played a more critical role for controller models than for other second-hand business models; for example, second-hand clothes (Buffalo Exchange, Emmy, Rekki); accessories and jewellery (ThredUP); and consumer electronics, such as mobile phones, tablets, and laptops (Gazelle, mResell, Swappie). In order to verify each product, items had to be physically received. Innovative concepts and networks for collecting products focused on minimising sellers' sacrifices (of time, effort, skill, or money); for instance, sellers could order a prepaid post box to ship items to the company. Alternatively, products could be dropped off at conveniently located kiosks or collection points in malls and grocery stores (e.g., Gazelle working with Walmart). Sellers could even receive product discounts from controller model partners, thus increasing foot traffic (e.g., Emmy's partnership with the department store Stockmann), although connector model companies could use their own stores (ThredUP, Swappie) for product drop-offs. These stores also served as display 'windows and social spaces offering 'touch and feel' experiences, while also supporting back-end processes (e.g., inventory sharing and order picking).

Controller models accepted selected business risks and involved more fixed assets than other business model types, facilitating control of business processes. These control mechanisms increased the control model companies' ability to influence customer experiences, profit formulae, and process efficiency. Strong control also translated into more options regarding revenue streams (e.g., margins on sold items, commissions, and insertion fees). The second-hand commerce could also support existing businesses as an additional feature (e.g., Gamestop).

Discussion

The second-hand economy has become an interesting part of the contemporary business landscape. Both scholars and practitioners have shifted their attention to understanding the dynamics of value creation in the emerging second-hand economy and related phenomena, such as the sharing economy. As a result, a diverse set of business models have been established with differing emphases on value creation and value capture. From the marketing management point of view, there is considerable pressure to gain insight into how organisations should orient and position themselves in relation to this evolutionary shift. Consequently, the purpose of this study was to construct a typology of second-hand business models. After discussing the theoretical background of the second-hand economy and business models, we employed a multiple case study analysis. As a result of focusing on 21 cases of contemporary second-hand businesses, we constructed a typology consisting of three business model types (connector, supporter, and controller) that were distinguished according to five characteristics (company role, product offering, control level, seller selection and support, and revenue streams). We now proceed to discuss their theoretical and managerial implications.

Theoretical contribution

The main contribution of this study was to employ a business perspective in order to understand the second-hand economy. The study was among the first to analyse second-hand business models and the first to develop a typology of these business models. Scant scholarly attention has been paid to exploring and conceptualising the second-hand economy from the business point of view (see Hvass, 2015; Shin & Park, 2009), despite its increasingly important role in the current evolution of markets and consumer behaviour (Yrjölä et al., 2017). Early contributions to second-hand business models included the case studies by Beh et al. (2016) and Hvass (2015). Both of these studies, however, focused on fashion retailing, whereas the current study considered multiple companies representing various product categories, some of which operated very differently from retailers. The identified three types of second-hand business models demonstrated that competition between second-hand businesses involves several business model characteristics. The studies by Beh et al. (2016) and Hvass (2015) utilised the business model approach (Osterwalder, 2004; Osterwalder & Pigneur, 2010) as their analytical framework, whereas this study makes a contribution by arguing that second-hand business models should be analysed according to the five characteristics named above.

Two of the identified five characteristics are new to the literature, while three characteristics were suggested by previous research in other contexts. The first characteristic (the company's role in mediating between consumers) was not explicitly identified in previous studies, although it was recognised that second-hand businesses might employ various operating models, such as two-sided markets (Gassmann et al., 2014) or retailer models (Ertz et al., 2016; Hvass, 2015; Ritter & Schanz, 2019). The second characteristic (the breadth and depth of the offerings) also represents a novel finding, although the company's level of control over value creation and delivery was identified in previous research and in other contexts (e.g., Ertz et al., 2016; Hagiu & Wright, 2013; Ritter & Schanz, 2019). These previous studies also noted that business models might differ in the levels of service offered (Ritter & Schanz, 2019; Tukker, 2004), which was reflected in the fourth characteristic – seller selection and support mechanisms. These mechanisms are likely used by second-hand businesses to generate trust among potential buyers and/or sellers, since trust is a key element in any online business (Kathan et al., 2016). Similarly, Ritter and Schanz (2019) highlighted that business models are likely to vary according to the mixture of revenue streams they employ. It might be that the level of control, level of service, and mixture of revenue streams are universal business model characteristics, while the company's role and the breadth and depth of the offerings represent characteristics that are more particular to the second-hand economy.

On a more general level, since business models represent companies' logic regarding *value creation* and *value capture*, the potential and emphases of value creation vary between business models. Reflecting on the findings, connector models place relatively slight emphasis on value creation (e.g., only providing limited additional services or vague/undefined value propositions), but stronger emphasis on value capture (e.g., a light cost structure and easy scalability). Supporter models emphasise value creation for buyers and, especially, for sellers. Controller models, by contrast, focus on creating value for buyers through merchandise selection, quality control, and multiple purchase channels. Overall, as competition increases, it is likely that models offering more or differentiated benefits for buyers and sellers (an emphasis on value creation, rather than value capture) may begin to dominate the second-hand landscape.

Managerial implications

While business models are theoretically relevant for understanding value creation and capture, they are also vehicles for practitioners to systematically develop and compare alternatives for tapping into evolving markets. For marketing managers, who have the main responsibility for aligning their organisations with markets, an in-depth understanding of alternative business models is critically important; hence, our typology – based on an analysis of contemporary second-hand businesses – offers guidance for marketing managers in designing and developing second-hand business models. The implications are categorised according to whether the company is (a) a traditional actor (e.g., a retailer or a brand-owner) defending its position against second-hand businesses, (b) a start-up or other company planning an offensive penetration of the second-hand market, or (c) a company already engaged in second-hand commerce.

For those taking a defensive position, the typology shows how emerging second-hand business models are threatening their current sources of competitive advantage. Understanding each second-hand business model type (connector, supporter, and controller) helps managers to better address the important question: what kind of differentiating value does our company aim to create for our customers? Here, the characteristics reveal how second-hand commerce is exerting pressure on incumbent retailers; for example, the breadth and depth of offerings is one characteristic through which second-hand companies compete, and some companies might focus on used goods of a single brand, such as Aeki, which specialises in used Ikea furniture. Similarly, second-hand companies, such as Etsy, provide services, resources and information for sellers interested in becoming entrepreneurs on their platform. These characteristics inform marketing managers of the ways in which second-hand companies are building their competitive positions.

Marketers working for traditional retailers or brand-owners should adjust their value proposition in relation to this increasing competition and consider new means of differentiating customer-perceived value, including new initiatives that take into account the potential of used goods. Parente et al. (2018) noted that firms have responded to the sharing economy trend by adjusting their pricing, customisation, and differentiation: they discussed examples of hotel chains and car manufacturers developing new concepts to match sharing economy concepts. Consequently, incumbent companies are advised to either (a) streamline their current business models to reduce costs and thereby compete with second-hand businesses, (b) redesign their business models or acquire second-hand businesses to enable them to offer customised solutions, or (c) collaborate with second-hand businesses and look for synergies. Regarding the last option, Matzler et al. (2015, p. 78) noted: ‘Assisting people in their attempt to share does not necessarily mean they will not buy your products.’ Our typology echoes this evolution by identifying different characteristics of second-hand business models and, thus, showing what elements incumbent companies could incorporate into their existing business models. Matzler et al. (2015) discussed two examples of companies that successfully incorporated elements of a second-hand business model into their operations: Ikea and Patagonia. Ikea has an online platform for its loyalty programme members, which allows them to post and sell their used items free of charge. While, at first, it seemed that this would cannibalise new product sales, the initiative has been successful in signalling the company’s environmental values and clearing customers’ homes for the introduction of new Ikea items (Matzler et al., 2015). Patagonia’s partnership with eBay helped its customers to sell used Patagonia products. The results of this initiative were similar to Ikea’s: better visibility, an enhanced environmental image and branding, and more sales of new products (Matzler et al., 2015). By helping customers to exchange used goods, these companies have been able to sell new, complementary products; gain a better reputation among sustainability- and durability-conscious consumers; and establish new communities and marketplaces simultaneously. Similarly, Urban Outfitters has successfully offered used clothes in its retail shops (Möhlmann, 2015). Altogether, from the business model point of view, the line between new and used goods seems to be blurring (see Yrjölä et al., 2017).

For start-up companies aiming to enter the second-hand market, the typology reflects the contemporary rules and boundaries of the game. Here, the identified business model characteristics (the role of the company in mediating between consumers, the breadth and depth of the offerings, the company’s level of control, seller selection and support mechanisms, and revenue streams) help marketing managers to uncover the diversity of ways in which value is created and captured in second-hand commerce; for example, understanding what role the company can play, and how that influences other business model criteria, can help new companies to build their differentiation strategies. In that sense, the typology can help new companies to identify their potential competitive positions and, thus, build strategies for penetrating the second-hand market.

For companies that already engage in second-hand commerce, the typology in general, and the five characteristics in particular, can assist in understanding the nature of contemporary competition, in turn aiding marketers in analysing how competitors build competitive advantage. Towards that end, it is critically important to follow changing consumer preferences; for example, while consumers are becoming accustomed to using second-hand markets, some companies may be forced to adjust their business models towards more streamlined, 'no frills' business models (e.g., a connector model). We believe that the list of identified case examples (Appendix) offers a practical starting point for benchmarking. The list provides a convenient reference for how different kinds of business models are designed and communicated, thus presenting a means of systematically comparing alternative value creation and capture options. Although the second-hand economy is in a dynamic phase of market evolution, the list of second-hand business models can help managers to identify which initiatives competitors are introducing.

Finally, as a synthesis of our typology and the previous literature on business models and the second-hand economy, we present a list of key questions (Table 4) for marketing managers. These questions are mainly based on the findings – the five identified business model characteristics – but also incorporate aspects that arose from discussions and other observations made by the authors. Growth objectives, target customer segments, and risks are arguably key business model considerations for marketing managers, but they remain relatively opaque to outside observers and were thus not included in our analysis. By contrast, our findings show how businesses differ in terms of the roles they play (question 1), their offerings (question 3), the levels of control they exert over transactions and interactions (question 5), the mechanisms they use to support sellers (question 6), and their mixtures of different revenue streams (question 9). We encourage marketing managers to ponder these questions when evaluating their current business models or when considering entry into second-hand markets. On the whole, the answers to these nine questions will be different for each organisation, but we believe the questions can help marketing managers to guide the design and development of their business models in relation to second-hand commerce.

Limitations and future research

This study is not without limitations. Firstly, the data and findings represent a snapshot of current second-hand business models and do not analyse the profitability of any specific model. The study therefore provides no data on the emergence, survival, and development of business models over time (cf. Battistella et al., 2017), suggesting an interesting perspective for future research. The three models incorporated in this typology are those that currently appear in second-hand markets. Secondly, it should be noted that there are some variations within these types; hence, future research could use an extensive case methodology to focus on one type or organisation and understand these models at a more granular level. Thirdly, the five characteristics identified in this study are naturally

Table 4. Questions and considerations for designing and developing second-hand business models.

Key business model question	Options and considerations
1. How extensive a role do we take in relation to consumers?	A more extensive role leads to increased costs; hence, the added value of more activities for buyers and sellers must be clear.
2. What is our growth objective?	Online-only, 'no frills' platforms scale easily, but offer no competitive differentiation. Second-hand elements can support or complement the existing core business.
3. How wide/deep are our product offerings?	While unlimited offerings potentially attract large numbers of consumers, they can repel category/brand enthusiasts. Enthusiasts are likely to become heavy users of a service that specifically caters to their needs, but the niche market has to be sufficiently large to be profitable.
4. Who are our customers, and how specific is our customer segment?	The target segment is commonly specified according to geography or product category. If the organisation cannot offer differentiated value to any one segment, then segmentation might not be necessary.
5. How much control do we need over the exchanges and transactions taking place on our platforms?	A company's level of control is directly related to its ability to create and capture value (e.g., control might be needed to ensure product quality, reduce fraud, or influence pricing).
6. What types of services do we offer sellers and buyers?	The options range from self-service models to those in which the consumer's role is simply to participate in the transaction. Supportive services increase value for consumers, but raise costs for companies. These services can be important in creating consumer lock-in for the business.
7. What types of business risks are we willing and able to carry?	Operations can involve technological, transactional, inventory-related, capital-related, and human resource risks.
8. Which channels add value for users?	While online and mobile channels reach most consumers, companies should also consider other channels, such as pop-up shops or stores. Physical channels allow buyers to touch and feel the items and provide them with a convenient shopping outlet; for sellers, they might be a convenient way to drop off items for sale.
9. What kinds of revenue streams will the business model be built on?	The business can simply rely on margin-, listing fee-, or commission-based revenue models or a combination of these models. Add-on services or memberships can be an extra source of revenue. Since many online platforms are inexpensive or free for consumers, the value proposition needs to be clear to justify the pricing.

highly interrelated and even overlap to some extent. This is common for business model elements (e.g., Johnson et al., 2008), but researchers could devise a method for understanding the dynamics between these characteristics.

As the typology demonstrates, second-hand business models differ significantly from each other; therefore, it is dangerous for managers and researchers to think about the second-hand economy in terms of 'online flea markets'. Our ways of thinking (e.g., mental models and other cognitive frameworks) should be updated to reflect the diversity of practices uncovered in this study. Future research could also analyse the mental models of managers involved in the second-hand economy, since business models reflect managers' thinking (Teece, 2009); for example, what is the fundamental vision or purpose of the business, and does it behave more like a technical company or a retailer?

In respect of the above question, controller model companies operate very similarly to traditional retailers. For them, the question becomes: what differentiates these 'second-hand retailers' from other retailers? Indeed, the controller type model might be the best choice for retailers planning to take advantage of (rather than compete against) the used goods market, as exemplified by retailers such as GameStop. Nonetheless, second-hand consumption has been shown to offer consumers various types of customer value, such as economic (e.g., monetary savings), functional (e.g., clearing space), emotional (e.g., nostalgia), and symbolic (e.g., conscious consumer) value. Some of these benefits might be unique to the second-hand market and, therefore, out of reach of retailers that focus exclusively on selling new goods.

In conclusion, this study has developed a typology of second-hand business models. Three distinct types of business models – connector, supporter, and controller – were proposed, which varied in terms of the five attributes identified. The future will determine whether any of these types will come to dominate the landscape or whether the plurality of business models will increase. Researchers are invited to utilise, build upon, and modify our typology and to increase our understanding of this increasingly important phenomenon.

Note

1. There is some overlap between the terms 'second-hand economy' and 'circular economy'. The circular economy is an industrial and economic system in which the focus is to keep materials in use for as long as possible (Antikainen & Valkokari, 2016), while the second-hand economy, with its focus on extending product lifetimes, can be viewed as a part of the circular economy. Circular economy business models typically involve the collection and modification of (waste) materials and energy (Kirchherr et al., 2017; Korhonen et al., 2018; Lewandowski, 2016), but second-hand business models are concerned with the redistribution of used items (Matzler et al., 2015; Ritter & Schanz, 2019). Studies on the circular economy have typically followed a systemic approach to material and energy flows (Antikainen & Valkokari, 2016; Kirchherr et al., 2017; Lüdeke-Freund et al., 2019). A second-hand business model, in which a product is used again for its original purpose, could be called a 'reuse and redistribution' model in circular economic terms (Lüdeke-Freund et al., 2019). The current study attempted to understand the phenomenon from the perspective of a focal business, meaning that the unit of analysis was the focal firm's business model. For these reasons the term 'second-hand economy' was used in this study.

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Appendix. The selected case descriptions in alphabetical order

Company (year of founding; no. of countries served)	Short case description
Aeki.fi (2010; 1 country)	An online announcement service focused exclusively on used Ikea furniture, Aeki connects supply and demand for a niche product category. Aeki gains revenue by selling ad space on its website. The company is not controlling the transactions. (Source: https://aeki.fi)
Bonanza (2007; 9 countries)	An online marketplace with a broad product range (28 categories). Bonanza supports sellers by helping them build an online business, customise marketing, and build brand and customer relationships. Bonanza gains revenue from commission and the use of marketing tools, while sellers can launch a webstore free of charge. Although the transaction process is controlled by the company, sellers and buyers are the key actors in this model. (Source: https://www.bonanza.com)
Buffalo Exchange (1974; 1 country)	The store chain Buffalo Exchange offers a physical place for the exchange of used clothing products. The company purchases the products using a valuation of the expected sales price and gains revenue from sales. To control exchange, the company uses resources such as real estate, personnel know-how, and product ownership. (Source: https://www.buffaloexchange.com)

(*Continued*)

Company (year of founding; no. of countries served)	Short case description
Craigslist (1995; 76 countries)	An online announcement service with an unlimited product and service range, Craigslist connects local supply and demand. It aims to keep its service free of charge and funds its operations and development by charging announcement fees in specific product categories and areas (e.g., flat rental announcements in certain cities). The company does not control transactions. (Source: https://www.craigslist.org/)
eBay (1995; 190 countries)	Online marketplaces are one of eBay's main business areas. eBay connects and supports sellers and buyers globally and locally. It gains profits from commission and insertion fees. eBay has advanced C2C support, such as loyalty programmes and money-back guarantees. Transactions are controlled by eBay. (Source: https://www.ebay.com/)
eBid (1998; 23 countries)	An auction website with a broad product range, eBid gains profit from commissions and membership fees, but services are free for buyers. The key actors are the sellers, buyers, and the company. eBid controls the transactions. (Source: https://www.ebid.net/eu/)
eCrater (2004; 1 country)	An online marketplace with a broad product range (16 categories). eCrater focuses on user experience. It also supports sellers in building their own online business inside its ecosystem. eCrater gains revenue from commission. eCrater controls the transaction process. (Source: https://www.ecrater.com/)
Emmy (2015; 1 country)	A webstore focused on second-hand clothes, Emmy generates value by ensuring products' brand authenticity, quality, and origin. It gains revenue from commission. It does not take ownership of the products but controls the transactions. (Source: https://emmystore.com)
Etsy (2005; 36 countries)	An online marketplace focused on handmade or vintage items. Etsy generates value for individuals and small business entrepreneurs by providing access to global markets via a platform that offers unique artistic products. It gains profits from listing fees, commission, and special features for sellers (e.g., marketing tools). Etsy controls the transactions process. (Source: https://www.etsy.com)
GameStop (1984; 14 countries)	A video game retail chain of 7,500 stores, GameStop uses second-hand products to support the sales of new products. GameStop generates second-hand value by offering a channel to buy and sell used video games and accessories, in addition to new ones. Its stores offer a place where like-minded consumers can share experiences. The company purchases the used products and resells them. (Source: https://www.gamestop.eu/)
Gazelle (2006; 1 country)	A webstore focused on used mobile phones and accessories, Gazelle generates value by refurbishing used phones, tablets, and accessories for reuse. It purchases the used products and resells them. The company operates under two brands: Gazelle (website and operations) and ecoATM (drop-off kiosks for sellers). (Source: https://buy.gazelle.com/)
Letgo (2015; 35 countries)	An online announcement service with an unlimited product range, Letgo connects local supply and demand and focuses especially on user experience. Revenue consists of insertion fees. Letgo does not control transactions. (Source: https://en.wikipedia.org/wiki/Letgo)
Mresell (2012; 8 countries)	A webstore focused on used Apple products, Mresell purchases, refurbishes, and resells used Apple iPhones, tablets, and Mac computers. Key actors are buyers, sellers, and the company, which controls transactions. (Source: https://mresell.co.uk/about-us/)
OfferUp (2011; 1 country)	An online announcement service with a broad product range, OfferUp generates value by connecting local supply and demand and by concentrating on a simple, safe, and trustworthy user experience. Its mobile service is free to use and is funded by selling advertising space. The exchanges are organised by the seller and buyer. (Source: https://en.wikipedia.org/wiki/OfferUp)

(*Continued*)

Company (year of founding; no. of countries served)	Short case description
Poshmark (2011; 1 country)	An online marketplace for second-hand clothes, Poshmark brings together a vibrant community to express themselves and share their love of fashion. It gains revenue from flat-rate and percentage-based commission. The company also uses third-party service providers, especially for shipping, and controls the transaction process. (Source: https://poshmark.com)
Rekki (2015; 1 country)	A webstore for second-hand clothes, Rekki generates value by ensuring an easy and effortless selling experience and a quality brand assortment for buyers. Revenue comes from sales margins and commission (the company offers two sales models for sellers). Rekki controls transactions. (Source: www.rekki.fi)
Sell.com (1999; 1 country)	An online announcement service with a broad product range, Sell.com serves both consumers and businesses. It offers simple and effortless experiences. Its revenue streams take the forms of insertion fees and additional marketing features for sellers. Sell.com does not control transactions. (Source, discontinued in 2021: http://www.sell.com/)
Swappie (2017; 1 country)	A multichannel company focused on used Apple iPhones, Swappie generates value by refurbishing used iPhones for reuse. Swappie purchases products from sellers and resells them. The company uses a physical store and a webstore. (Source: https://swappie.com)
ThredUP (2009; 26 countries)	A multichannel company focusing on second-hand clothes, ThredUP generates value by offering only high-quality, origin-checked products through a webstore and physical stores. Revenue is commission-based. ThredUP controls the transaction process while the products are still owned by the seller. (Source: https://www.thredup.com/)
Zadaa (2015; 2 countries)	An online marketplace for second-hand clothes, Zadaa connects people with similar size and style. It gains revenue from commission. The company uses resources such as, third-party logistic operators and advanced technology for ensuring product fitting. Zadaa controls the transaction process. (Source: https://zadaa.co/)
5 miles (2014; 1 country)	An online announcement service offering a broad product range, 5 miles concentrates on simple, safe, and fun experiences for local markets. 5 miles has focused specifically on its mobile application and leveraging GPS technology. It gains revenue from listing and membership fees. Transactions are not controlled by 5 miles. (Source: https://help.5miles.com/hc/en-us/categories/203610527-New-To-5miles-)