

Products and Services in New Economic Forms

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Abstract--Prior research in marketing and strategy has noted that products and services have begun to increasingly resemble each other. While it is undeniable that they have always possessed a certain degree of both tangible and intangible characteristics, we see today acceleration in the rate at which products and services are converging. This is especially noticeable in new economic forms such as the access economy and on-demand services. In this paper, we argue that these changes are due to the fact that the exchange of both products and services now occurs primarily on digital platforms. Since the design of these systems stem from the same social, cultural, and technological milieu, the practice enacted by the actors perpetuates similar inherited structure. Using a practice-based lens, we show how products have dematerialized due to an abstraction of ownership and increased value of intangible benefits. We also portray how, on the other hand, the materiality of on-demand services has become more prominent due to the homogenization of experience and tangibility of value. We argue that our conclusions only represent the surface of the complex web of mechanisms underlying contemporary economic activity. We conclude by providing directions for future work, especially in empirical investigations.

I. INTRODUCTION

The emergence of new modes of consumption such as the access economy and on-demand services point to new configurations to exchange economic goods. Since they do not conform to traditional notions of products and services, these new platforms provide an interesting opportunity to reanalyze established conceptualization in the fields of technology, innovation, and economics. Prior literature has attempted to differentiate between products and services, and certain key distinctions between them have been posited [52, 55]. The primary distinction is that services are produced through the interaction between the producer and the consumer, while goods can be manufactured beforehand [53]. Since services only exist at the instance of this interaction, they are perishable, unlike material goods [17]. This also implies that services are inconsistent due to individual differences leading to variation in the experiences, i.e. they display a high degree of variability [41].

A related distinction is that services have to be delivered to the consumer by the actual service provider. This is the implicit nature of the agreement that defines the relationship between consumer and provider [55]. This is unlike goods, where there is no expectation explicit social contract regarding the end-deliverer as long as the product remains unchanged. Finally, the central characteristic of services that quite sharply differentiates it from goods is its intangibility and insubstantiality [33]. Regardless of whether it is perishable or durable, a commodity good is undeniably

material in nature [9]. This materiality is important to the distinction since it allows the commodity to be owned: a property that services do not enjoy. The transfer of a good's ownership from one entity to another is a significant aspect of a product-based economy [48].

These characteristics of products and services have been widely accepted by economics and marketing scholars [55], as well as by practitioners who use it make strategic decisions. However, over the last decade, marketing scholars have questioned this distinction, describing them as being overly simplistic and non-representative of the nuances of practical economic exchanges [50]. We believe that these distinctions no longer hold true due to products and services becoming similar to each other, especially in the access economy and in on-demand services. As of yet, there is no agreement on the cause of these changes, making it difficult to uncover the underlying mechanisms and their theoretical implications. Thus, we would like to contribute to the literature on technology and innovation by developing an understanding of how new economic forms afforded by information and communication technology (ICT) affect the conceptualization of products and services.

We will begin by providing an overview of what these new economic forms are, how they emerged, the main actors in the network, the relationships between them, and the social, cultural, and technological factors influencing these relationships. We argue that the access economy and on-demand services have introduced new behaviors in producers and consumers. We will describe practice-based lens derived from structuration theory [23], as applied in studies of technology use [16, 44], to help us uncover the effect changing practices on the nature of products and services. Finally, we will present theoretical implications, directions for future research, as well as methodological considerations for empirically investigating the phenomenon.

II. LITERATURE REVIEW

Though the terms "access economy" and "on-demand services" have been used interchangeably, we argue that it is critical to note that they are in fact quite distinct. While they both use ICT to allow an individual to leverage their surplus capacity and underused resources, they focus on different kinds of resources (goods and services respectively). In the following sections, we provide an overview of these two emerging forms of business.

A. The access economy

The access economy can be viewed as the collection of decentralized rental services, where customers purchase temporary access to goods from peers in order to use and experience them [2]. This is in direct contrast to the traditional purchasing and ownership mode of consumption [6, 24]. It is also distinct from established rental agencies since the access occurs in peer communities and is enabled by ICT [11, 22]. Some popular examples of the access economy include Airbnb, a temporary accommodation-listing platform, car rental platforms such as RelayRides and Getaround, bike rental listings like Spinlister, and websites such as Rentitb that facilitates access to electronic goods.

The access economy provides an interesting case where users are paying increasingly more attention to the intangible benefits of durable goods, without having the need to own them. Since the core belief about products in this field is access over ownership, users on both sides of the exchange prioritize the experience of using the good over its physical characteristics. Research into the access economy has discovered that the intangible aspect of a good has become a powerful motivator in the customer's decision-making process [2]. This shift can be observed in those selling access, as evidenced by the prevalence of positive experience and friendly service indicators in the descriptions of their offerings [15]. We find this conceptual shift very interesting as it signifies the dematerialization of goods in the access economy.

B. On-demand services

The on-demand service economy is very closely related to the access economy, as evidenced by the confusion in labeling of various new businesses [26]. The key difference between the two is that while in the access economy customers seek to gain access to a durable good, they use on-demand services as a cost-effective and value-added alternative to traditional services [37]. A few examples of the services that make up the on-demand economy are Uber, a ride-sharing app, TaskRabbit, an online labor marketplace, LuxeValet, an app-based parking service, and Instacart, a same-day grocery delivery company. These businesses have previously been included under the umbrella concepts of the sharing economy, the access economy, collaborative consumption, etc. However, we believe that these definitions are not applicable in this particular case because they do not share the same underlying assumptions [25]. For instance, it should be noted that while Uber is usually classified under the access economy, there is no access to durable goods being provided. Thus, it is the service of transportation, and not the car itself, that is at the center of the economic exchange [25].

Interestingly, we find that on-demand services are becoming increasingly materialized. For instance, consider the case of Uber, a ride-sharing app. Though it is a service, it is designed to minimize the interactions between the provider and the consumer. One does not need to use their body language to hail a taxi from the street, nor do they have to

speak to their driver to give them the destination [38]. In fact, since payments are transferred through an online portal, the consumer and the provider do not have to interact at all. Thus, the quality of the service is judged by the physical characteristics of the car and the efficiency of the outcome, leaving very little room for interactions [1].

Likewise, a customer can hire a person from TaskRabbit to perform domestic chores, and then time the service so that it is performed in absentia (of the customer). Once the customer returns, they might assess the service based on the material evidence: the lack of dirt under the carpets, or how well the laundry was folded. The seamless design of the online platforms thus turns on-demand services into products [3]. We believe that the changing norms of products and services can be best understood by studying changing relationships and forms of exchange. In particular, we need to understand it from the perspective of technology use, since the bulk of the interactions occur on online platforms. Thus, we require a theoretical approach that can help us understand this complex phenomenon.

C. Theoretical framework

As we stated earlier, there have been some criticisms of the traditional distinctions that characterize products and services. These criticisms have adopted two approaches to the same problem. The first posits that the relationship between a buyer and seller is static one [30]. The implication here is that the type of commodity has no bearing on the nature of the constructed relationship. However, this conceptual criticism only serves to negate the problem and offers no real solutions. It cannot explain cases where these assumptions are established. It also bypasses the work done in economic theory, where these conceptualizations have impacted the practice of service design and delivery [28].

The second approach arises from the service-dominant logic literature, where once again the efficacy of characteristic distinctions between goods and services are challenged [36]. However, rather than to attack the rhetoric of the characteristic, it is the dichotomy between services and goods that is rejected. According to this literature, economics has been heavily influenced by the nature of manufactured goods, and that those assumptions are not applicable in a world where service is the fundamental basis of exchange [50]. This stream of literature calls for a paradigmatic shift where the value of all goods are derived from the experience of their use [35], and all actors involved are involved in the value creation process [51]. Thus, the implication is that products are essentially the same as services and therefore a new perspective needs to be developed and adopted [34].

The views described above are centered on the perspective of the consumer, and we believe that the conceptual shifts are best represented by the in situ practices of all the stakeholders involved. To produce an understanding of this complex process, we also need to take into account the overarching social, cultural, and technological factors that enable and shape these practices. The need for an integrative approach

that can suitably consider the multiplicity of perspective has been expressed in marketing and innovation literature [13, 31]. We thus require a theoretical lens that provides multiple levels of analysis, while also accounting for the plurality.

The theory of structuration can help us understand the creation and reproduction of social systems, since it is grounded in the analysis of both structure and agents. Structures are rules and resources used by agents to perform social actions such as controlling resources, legitimating action, and signifying meaning. By enacting these structures, they further perpetuate it [16]. This theory rejects the hierarchies of structure and agencies, and instead offers a dualistic approach [23]. Scholars interested in the relationship between social structures and technology have used this theory to include meaning, norms, power, and interpretive flexibility in ICT research [44].

We believe that this approach is applicable to study economic exchanges since it views the reproduction of social systems not as an outcome, but as a process accomplished by, and consisting in action [49]. It also allows us to simultaneously consider both the social and the material aspects of online platforms by viewing human actors and technological objects as emerging in socio-material assemblages [43]. In addition, it requires both a micro and macro-focus, which is aligned with our beliefs regarding the multiplicity of perspective and levels of analysis [42]. In the following sections, we will use this lens to argue that the logic of exchange platforms acts as structures that affect how users conceive of products and services. We will show that by interacting through these online platforms, users tend to think about products in a service-logic, and how they conceive of services using a product-logic.

III. CONCEPTUAL ANALYSIS

A. The role of exchange networks

To understand how the use of technology influences the structure of meaning, we analyze two examples of shifting logics: the dematerialization of products in the access economy, and the increasing materialization of on-demand services. We believe that this dematerialization is due to the structures of the access economy system that were inherited from its parent systems. Namely, it inherited the abstraction of ownership from the sharing economy, and the importance of intangible benefits from online marketplaces. When these two forms of economic exchange were reconstituted as the access economy, their structures were enacted together as the structure of dematerialization. Likewise, in the case of on-demand services, the parent concepts are freelance networks and volunteering communities. The inherited structures were the homogenization of experience in crowdsourcing platforms, and the tangibility of value in freelance networks.

In order to historically trace the origins of these structures, we need to deconstruct the various aspects of the access economy and the sharing economy. We begin by looking at the practice of those supplying the goods and services. This is

where the deeper similarities between the access economy and on-demand services come to light. In both cases, the basis of exchange is not just a product or service, but surplus capacity [22]. Surplus capacity can be viewed as a set of underutilized resources in the possession of an individual. These resources commonly take the form of durable goods such as automobiles and housing, but also in the individual's time, effort, and skills. More importantly, they are willing to leverage these resources to create value [7].

The primary assumption of the unused capacity is that it offers no inherent value to the possessor, thus the surplus [39]. Rather, the individual uses this surplus capacity to satisfy the needs of another. Value in this case is created in the interaction between these two actors, and in their continued relationship [39]. The type of exchange depends on the intrinsic and extrinsic motivations of the participants, and this has implication on the type of network the individual joins or creates. Increasingly, these exchanges occur on online platforms that connect participants to each other and act as a medium for the exchange [47]. The platform thus plays an important role in enabling, motivating, and shaping interactions, and relationships.

B. Renting as Sharing and Buying

It is crucial to note that the type of exchange performed in the access economy and on-demand services is a very specific one, namely renting. This is important because the practice of renting can be represented as a hybrid of the two other exchange practices: sharing and buying. To understand the link between these concepts, let us take the case of goods. One of the exchange options is to sell, where an individual can transfer the ownership of their surplus capacity goods to a third party through a mediator. This mediator takes the form of an online marketplace that also provides value-added services to the participants [18]. In Fig.1, we will present a representation of the relationships between the various actors, and the roles they play in this network.

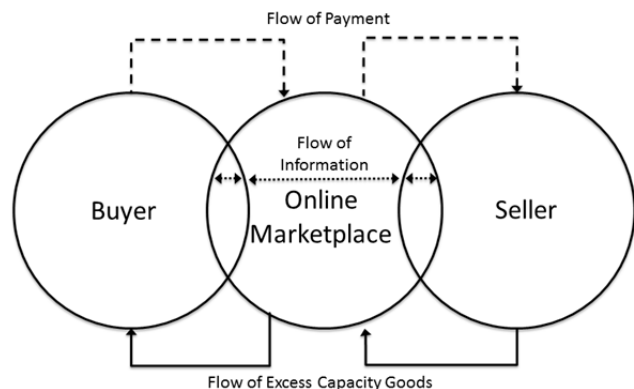


Figure 1. Online marketplaces

The primary role of the online marketplace is that of a connector and mediator. All interactions occur through this medium, including ordering, payment and feedback. The

marketplace thus uses the technology to act as buffer between the buyer and the seller, and thereby acts as a service provider offering sourcing, pricing, logistics, and customer service [27]. Thus, from the perspective of the customer, the intangible benefits gained from the interactions with the online marketplace long after the consumption of the good plays a very important role in their conceptualization of the products [40].

The other type of exchange is sharing, where individuals are intrinsically motivated to participate in an online community to lend, borrow, request, donate, and swap goods [8]. The sharing economy can be seen as a set of practices (sharing, collaborative consumption, community resources, etc.) that existed before ICT, but only became prevalent and tangible due to the characteristics of online platforms that allowed peer to peer sharing of goods [46]. Participants on these platforms were willing to share ownership of durable goods with other members of the community with a social contract of trust and reciprocity [46]. As we see in Fig.2, the exchange of goods can be unidirectional or bidirectional between individuals as they have the choice of lending, swapping or donating their goods.

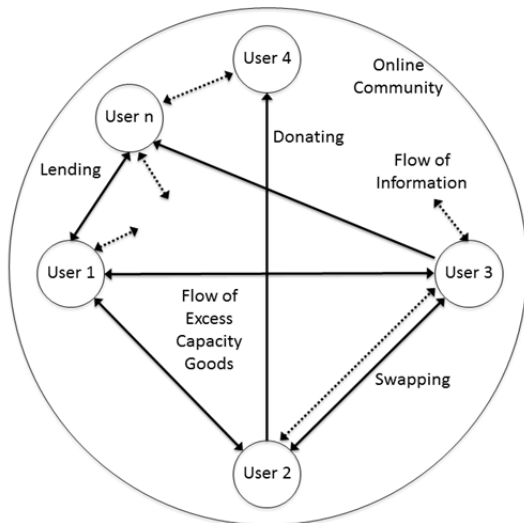


Fig 2. Sharing economy

The motivations to share can be ideological, since participants believe that through shared usage it is possible to reduce the production of goods and thus have a positive environmental impact [8]. Another key motivation is the social factor since participants articulate their desire to be a part of a larger community that shares their interests. The desire to interact, to belong, to socialize and gain reputation has been supported by multiple studies on the sharing platforms [10]. Through these sharing practices and perception of goods and shared resources, there is an increasing blurring of the ownership of the exchanged products [8]. There are no monetary exchanges and the platform does not mediate, thus only acting as a medium of

transfer and a mode of decentralizing the ownership of goods [26].

We see traces of these same practices in the access economy as represented in Fig. 2. It is important to note that the access economy is also different from distributed business to consumer rental agencies such as Onefinestay (accommodation), Zipcar and Car2Go (automobiles), Citibike (bicycles), and R2O (electronic goods). While they may seem similar from the perspective of the customer, these businesses do not have a peer-to-peer component that is central to the conceptualization of the access economy [4]. It is also important to keep in mind that while the public access to goods and services, such as libraries, public services and mass transport still remain the primary mode of shared consumption, the access economy remains distinct due to its market-mediated model [11], are driven by the ubiquity of ICT [22], and are capitalistic marketplaces [45].

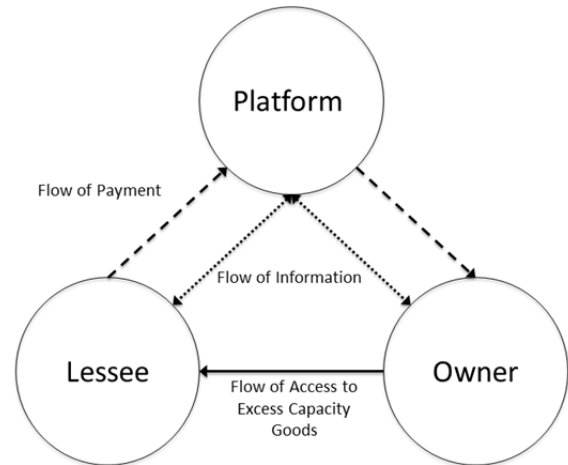


Fig. 3. The access economy

Thus, we can understand how the renting practices are derived from the sharing and buying practices. Just as in sharing, there is a decentralization of the network that leads to an abstract sense of ownership from the perspective of the owner. Likewise, by mediating the access to goods, the platform adds intangible value to the product. This process of recentralizing the network allows the different actors to enact the structure of dematerialization. The platform owns no goods, the owner breaks down the boundaries of ownership, and the customer focuses on the intangible benefits while making purchasing decisions.

C. Tangibility and homogeneity of on-demand services

The same analysis can be applied to the case of services, where surplus time and effort can be leveraged to provide services in an exchange of mutual benefit. Let us the first consider the case of selling, where an individual can offer their skills as a freelancer. As seen in Fig. 4, the platform acts as an online labor marketplace where individuals post information about their skills offerings to be commissioned by interested clients [54]. An algorithm preemptively

specifies the deliverables, costs and timeframe. The interactions take place on the same platform, though the marketplace acts as the mediator for payment, feedback, and customer service [21].

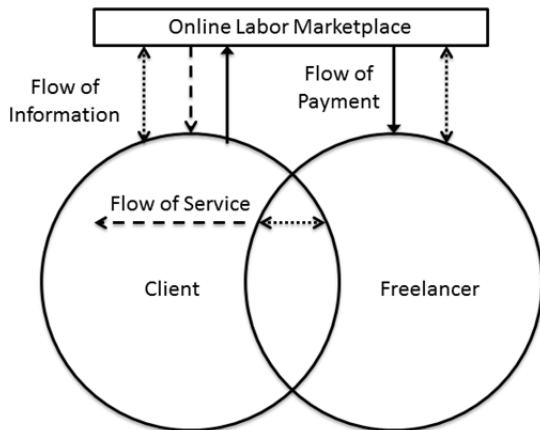


Fig. 4. The freelance network

The mediator also plays an important role in screening the providers to ensure the level of quality. This is further reinforced through the use of a reputation system, where customers can leave feedback on the service provided [21]. The feedback is then used to generate the reputation score, which acts as a signifier of the quality of service provided. This leads to the increased focus on end-derivable of the service, rather than the experience [54]. The effect is further exacerbated by the fact that interactions are constrained by the affordance of the platforms since by design freelancers are required to conduct all the business on the online interface [19]. Thus do not have the opportunity to interact with their clients. This is also done so that the platform can track and measure the activities of the freelancer. These factors thus point to the enactment of the tangibility structure, where value is specified in explicit terms instead of being experienced in interactions [20].

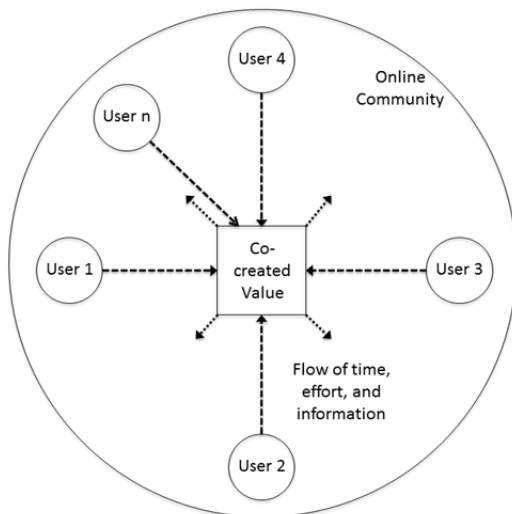


Fig. 5. Crowdsourcing platforms

In the case of sharing, individuals contribute their time, skills and effort to co-create value. This is best represented in crowdsourcing platforms, where individuals congregate to perform small and simple tasks in exchange for intangible benefits [12]. Studies have shown that the primary motivation to participate in these websites is the same as sharing platforms. Participants are driven by social and ideological factors: to make meaningful contribution, and to create positive impact [29]. Fig. 5 represents the relationship between participants in a crowdsourcing platform.

Some of these platforms are gamified as the level of participation is measured, analyzed, and used to determine reputation scores [14]. The label of community is a misnomer since most crowdsourcing platforms do not have a community. By design, they the participants are isolated and they perform repetitive tasks that require very little skill [32]. Thus, they only interact with the material aspect of the platform. From the perspective of the crowdsourcing project's sponsor, the individuals are nameless and faceless participants [5]. Thus, the service produced is homogenous, with only intensity being a variable.

We can see that similar patterns of practice are enacted in the on-demand service system. As we see in Fig. 6, on-demand platforms provide consumers a specific service that disrupts pre-existing providers. They do so by relying on a curated, distributed and decentralized labor force of unskilled workers instead of hiring employees. This labor force is not to be confused with other freelance networks and platforms that provide skilled and specialized labor.

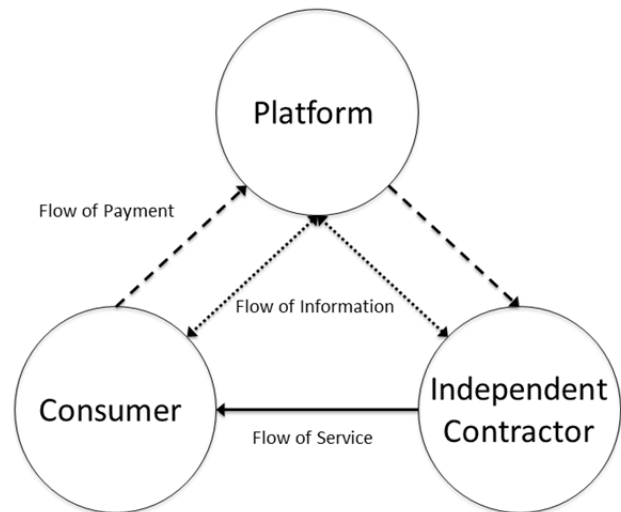


Fig. 6. On-demand services

Here we can see how the structure of homogenization and tangibility are enacted in the practice of the different actors. Once again, we see that combining a decentralized form and a mediated one leads to the recentralization of the network. The homogenization of experience motivates customers to seek out material differences in their services in order to assess them. Likewise, only very little of the value is co-created since the instances of interactions are minimal.

Rather, the value is explicitly measured and specified in terms of the outcome.

IV. DISCUSSION AND CONCLUSION

A. Theoretical Implications

In this paper we illustrate how new economic forms influence our conceptualizations of products and services. Using a practice-based lens we analyze how, by being hybrid configurations of sharing and buying, access economy systems and on-demand services inherited their structure of meaning from previous designs. We then portray how products in the access economy have become dematerialized due to the abstraction of ownership and the increased importance of intangible benefits. Likewise, we show how the material nature of services has become more conspicuous due to the homogenization of experience and the increased tangibility of value. By doing so, we can draw some general conclusions about technology and its use in exchanging products and services.

We argue that surplus capacity products and services are no longer distinct, but increasingly starting to resemble each other. We attribute this to the fact that in contemporary consumer behavior, products and services are primarily exchanged on online platforms. The affordances of product and service platforms are similar since the design logic stems from the same social, cultural, and technological milieu. The design logic is then enacted and perpetuated in the exchange practices of the various actors as they interact on these platforms. This in turn affects how users perceive products and services. While this perspective does not challenge the efficacy of the characteristic distinctions between them, it does represent products and services as changing concepts.

B. Managerial Implications

We believe that this conceptual shift has vast implications for practitioners in terms of design, and strategy. For designers, it represents a shift in how design practices, especially of digital platforms, can affect the experience and perception of its end users. It points out to inherited effects design can acquire through its predecessors. It also showcases how notions of materiality can change over time due to a confluence of factors. We believe that paying close attention to these changes is crucial, especially considering the trend of touch point digitization in service design. The conceptual shift will also have an effect on the marketing strategy of products and services since the material and intangible aspects of the commodity now takes equal weight. Rather than to solely attribute this to the changing nature of consumer perception, the changing nature of commodities can also be considered.

A very important perspective to consider is a political one, since these businesses have stirred public debate on issues of their safety, legality, and ethics. We believe that it is possible to analyze this from different angles. From one perspective, it can be seen as the struggle of companies who, despite

regulatory obstructions, provide timely economic opportunities to those affected by the recession. However, it is also possible to view the same sequence of events as the exploitation of disenfranchised low-skilled labor opportunists who by-passing labor law, regulations. It is interesting because they are both valid perspectives, albeit rooted in different epistemologies. Acknowledging the necessity for plurality would allow for furthering the dialogue, especially now when regulatory issues need to be rapidly addressed.

C. Limitations and Future Direction

Technology is not the only influencing factor here; there are also social and cultural themes to be explored. The limitation of this paper is that it has only considered materiality and not other characteristics. Even then, it does not account for an exhaustive explanation. For instance, the dematerialization of products is not a new concept, and it has been noted for decades in the field of economics. Likewise, research in consumer behavior has noted the decreasing importance of material goods in contemporary culture when it comes to forming notions of their identities. Thus, there are broad shifts in the patterns of our everyday action that become apparent only when they collide with our current understanding of the world.

Another limitation of our work is that it does not take into consideration the surplus nature of the exchanged goods. Using work done in economic theory, one could draw conclusions about the apparent characteristics of exchanged goods. For instance, it could be argued that in an economy of surplus with an abundance of material goods (as evidenced by the low cost of access we see today), the intangible benefits become necessary to balance out the falling material value. Similarly, as the delivery of services becomes seamless and the experience fades to the background, our attention turns to engage with their material characteristics.

In order to further work in this field, we encourage researchers to dig into the various aspects of this socio-technical system. We believe that an approach that relies on a plurality of methods is vital to untangle this complex web of mechanisms. We believe that it is important to pay attention to the socio-material nature of technology, since it is most prominent when it is contrasted against the backdrop of traditionally opposing concepts. For instance, in our analysis of the access economy, we portray how the social aspect of technology is apparent when we contrast ownership to access. By becoming a social object through new forms of use, the product is lent a certain amount of intangibility. Similarly, by being primarily performed through technology, services acquire an undeniable materiality. We believe that the nuances of such interplay can only be captured by directly and closely observing the actual practice of the actors in the system, and hence, we urge empirical investigations into the phenomenon.

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