

Stabilising Collaborative Consumer Networks: How Technological Mediation Shapes Relational Work

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Abstract

Purpose – This paper examines the role of technology in shaping the interplay between intimate and economic relations in Collaborative Consumer Networks (CCNs).

Design/methodology – This research is based on a three-year participatory netnographic and ethnographic field study of hosts, guests, and community members within the Airbnb homesharing network in New Zealand. The data consist of interviews, online and offline participant observations, and brief discussions onsite (large-scale Airbnb events, host meetups, and during Airbnb stays).

Findings – Our findings reveal how technologies shape the relational work of home sharing between intimate and economic institutions through grooming, bundling, brokerage, buffering, and social edgework. We propose a framework of triadic relational work enacted by network actors, involving complex exchange structures.

Research limitations – This study focuses on a single context – a market-mediated homesharing platform. The findings may not apply to other contexts of economic and social exchanges.

Originality/value – By augmenting Zelizer's relational work, this study produces theoretical insights into the agentic role of technology in creating and stabilising a collaborative consumer network.

Keywords: Relational work; technology; collaborative consumption; collaborative consumer networks; Airbnb

Article Classification: Research paper

Introduction

I'm not involved in the money side of things [on Airbnb]. You're not collecting money when they arrive, and they don't pay you when they go. That's all out there, at arm's length and done earlier on. You're guaranteed the money. In a funny sort of way, it takes away feelings of renting a place. They're like visitors. Nothing awkward and our friendship can begin. (Pamela, Airbnb host interview)

Some people involved in collaborative consumption (e.g., home-sharing or ridesharing) strive not only to achieve gains from economic transactions but to create intimate interpersonal relationships with others. The opening vignette exemplifies how the use of peer-to-peer platforms makes that possible. Technologies within these platforms offer novel methods that allow strangers to easily participate in exchanges through a platform's online communication tools, reviews and ratings, online protection, and data security. Nevertheless, we know little about how these mediating technologies affect the balance of economic and intimate relations, and their role in establishing trustworthy and reputable exchanges. This paper investigates this gap and addresses the research question: *How does technology shape the interplay between intimate and economic relations in Collaborative Consumer Networks (CCNs)?*

We define collaborative consumption as an economic system that allows people to coordinate the acquisition and distribution of resources for a fee or other non-monetary compensation (Belk, 2014). Traditionally, economic systems are categorised into marketbased (associated with capitalist systems in modern society) and nonmarket pre-modern economies (Eckhardt and Bardhi, 2016). However, this dichotomous view of economic models is no longer sufficient for explaining hybrid forms of exchange existing in postmodern economies, which according to Scaraboto (2015), "operate at the interstices between market and nonmarket economies" (p.153). Extending Scaraboto's (2015) work on hybrid economies, the present study observes the role played by technology in shaping relationships within social and economic exchanges. Hybrid networks that emerge when consumers attempt to reconcile different logics and modes of exchange have not been sufficiently theorised. Whereas previous research on CCNs (e.g., Couchsurfing, Etsy, and Geocaching) has examined consumers' ideological and actual preferences regarding different types of economies, it has not considered how consumer-technology interactions may actively contribute to the shaping of hybrid economies, and "how exchange is configured in them" (Scaraboto, 2015, p.153).

The tensions stemming from the hybrid modes of exchange and their blending of polarised logics – economic and intimate exchanges – may eventually affect the stability and continuity of CCNs (Dobscha and Arsel, 2011). Nevertheless, scholars have yet to theorise the role of technology in shaping and sustaining highly ambivalent, loosely organised, and heterogeneous CCNs. Besides the roles consumers and providers play in CCNs, we must consider technology's agentic role in bringing consumers together, helping them cope with ambiguity, structuring their interactions, and shaping their relationships, realities, practices, and meanings within the market. This paper addresses this gap.

We use Zelizer's (2005, 2011) relational work and Gell's (1998) concepts of technological agency to examine how technology plays a role as a process through which consumers and providers combine social intimacy and monetised exchanges within a technology-aided peer-to-peer platform. We utilise the Airbnb home-sharing network as a context. We offer three theoretical contributions. First, we theorise the role of technology in mediating tensions arising from a hybridised CCN. In doing so, we reconcile the oftenpolarised perspectives on technology in such networks. Second, building on Zelizer's concept of relational work, we describe how technologies help consumer networks negotiate social and economic exchanges. We find that a technology's agency is one of triadic relational work that enjoins providers and consumers to balance the intimate and economic relations in CCNs. Third, we augment Zelizer's relational work formulations in economic sociology and develop theoretical insights into the agentic role of technology in assembling and stabilising a CCN. Through a hermeneutic analysis of our ethnographic and netnographic Airbnb data, we find that Zelizer's notion of relational work and Gell's (1998) concepts of technology's agency enrich each other. This yields theoretical insights into the interplay between social and commercial exchanges in Airbnb. Our findings extend to other CCNs that blur intimate

and market relations, such as Smooci (escorts – known as 'companions' – booking platform) or Lyft (ride-sharing with drivers – 'friends with cars').

Technology and CCNs

Internet and networked communication technologies have combined sociality and commercial exchanges to give consumer networks a "hybrid and ambiguous status" (Arsel and Dobscha, 2011, p.66). Technology consumption has often been seen through both utopian and dystopian lenses (Zolfagharian and Yazdanparast, 2017). However, this polarised view of the nature of consumer interactions with and within technologies can be problematic in new forms of market transactions that involve simultaneous enactments of multiple modes of exchange with technological intermediaries. For example, Skype is a technological intermediary between VOIP callers, BlaBlaCar is a technological intermediary between ride sharers, and Airbnb is a technological intermediary between home-sharing hosts and guests. Despite recognition of the powerful impact of these technological intermediaries on firms, markets, and society, we do not fully understand how they influence hybrid exchanges within CCNs. We respond to Eckhardt *et al.*'s (2019) recent call to keep a close eye on technology developments in this area. Our goal is to consider in greater detail just how technology in CCNs helps to bring us together and at the same time keep us apart.

The platform – a form of digital technology – can be "understood as a distinct mode of socio-technical intermediary and business arrangement that is incorporated into wider processes of capitalisation" (Langley and Leyshon, 2017, p.11). Such platforms are at the centre of our critical analysis of exchanges in CCNs. The dichotomous 'hostile worlds' view (Zelizer 2005) posits that distinct, incompatible arenas of market or nonmarket economies cannot explain the hybrid forms of exchange that technological intermediaries facilitate in CCNs. Past research highlights the hybrid nature of CCNs, for example, the work of Strzyczkowski (2019) and Scaraboto (2015) on the online facilitated offline sharing of

unwanted resources, and the CCNs of geocaching, respectively. Similarly, Corten (2019) frames interactions within CCNs as social dilemmas, in which tensions exist when exchange is generalised and participants are not immediately compensated but receive resources from a third party only when the participants are in need (e.g., lending platforms). Such conflicts can destabilise organisations, yet Richthofen and Fischer (2019) found that platforms contribute to this hybridity by shaping consumers' interactions in order to prevent the triggering of tensions. Unlike previous studies that have overlooked nuances in the socially constructed nature of human-technology interactions, we acknowledge the importance of platforms in facilitating (and controlling) interactions with regard to "stranger sharing" (Schor, 2014).

The role of technology as a medium of market and nonmarket exchanges is well established in other disciplines. Gillespie (2010) suggests that: "To call one's online service a platform is not a meaningless claim, nor is it a simple one" (p.349). He focuses on YouTube as an example. Through YouTube, Google (Alphabet) secures the labour of largely unpaid, amateur short filmmakers by giving them a "platform" on which to speak and display their skills, humour, and talent. At the same time, YouTube is a technological platform through which these films can be watched by viewers or channel subscribers who also provide information to Google, which can use it to target them with advertising. But the tensions and contradictions between these understandings of "platform" are hidden to most consumers. Thus, recent scholars have urged care in examining multi-sided platforms for connectivity, and consumers as users who co-create value (Langley and Leyshon, 2017). Yet these same scholars acknowledge that we have limited knowledge of platform capitalism's potential role in degrading or enhancing conditions of platform users' work during their creation or maintenance of value. We extend this view in the next section to look at different ways technologies have transformed work in CCNs and the implications of this.

Technology and changes in work

In collaborative consumption, utopian views emphasise the business opportunities that technology presents. Participants are often seen as self-organised and ideally take part in what Marx called 'nonalienated labour' – they are motivated by non-monetary goals. This, plus social recognition, may explain why knowledge workers put in more hours to their work, why people blog, or why DJs make music and share it online (von Hippel, 2006). The difference between capitalist economies and social production in the age of technology is that in the latter, labour is abundant, motivations to participate are generally ethical, and achievements and public standing are of great value (Arvidsson, 2008). At least this is the ideal.

However, another perspective focuses on the dark side of technology. Although technology platforms may foster social connections, they can be problematic when collaborative activities threaten the labour conditions of private providers who may depend heavily on a platform to meet their basic needs (Schor and Attwood-Charles, 2017). Research has suggested that such platform-dependence causes inequality and class-based exploitation by advantaging those with higher incomes as opposed to the low-income exchange partners they are supposedly helping (Ravenelle, 2017).

The provisions of a platform's hybrid conditions produce massive amounts of labour that is generally seen to be "free", that is, uncompensated and not necessarily (at least directly) exploited (Terranova, 2000). This free labour is perceived as a social production, coopting consumers' co-production of value and technology's affordances of participatory economic culture (Arvidsson, 2008). The open-source Linux group is a good example here. Some scholars argue that technology platforms are a mutation as they combine cultural and economic logics (Terranova, 2000). This complexity complicates previous binary distinctions between paid/unpaid work or waged/unwaged labour. The worker may still gain something such as reputation, job experience, or job prospects, but it is often without a monetary

equivalent. In fact, by reducing institutional links between a company and its workers (using technology platforms as a buffer) and by encouraging the casual work that collaborative consumption promotes, there is a danger of a greater gap in workers' conscious understanding of the work they do.

The phenomenon of immaterial labour that Lazzarato (1996) considers in the production of knowledge, creativity, and social organisation is "the labour that produces the informational and cultural content of the commodity" (p.77). This involves the labour process of activities not normally recognised as 'work', as in the case of those who work in advertising, marketing, healthcare, cybernetics, and with platforms, producing subjective immaterial labour and economic value (e.g., social values such as communication and care for others). Unremunerated labour also takes place in digital spaces (Terranova, 2000).

An understanding of the role of technology in shaping work and the interplay between intimate and economic relations has not yet been extended to the context of CCNs. Drawing on Zelizer's concept of relational work, we frame the commercialisation of intimate and economic relations that is apparent on platforms as a case of relational work. We study technology as a nonhuman yet agentic part of the processes by which actors reconcile the tensions of social relationships that are intertwined with commercial exchanges within hybridised exchange systems. In the next section, we explain the central tenets of relational work and consider its relevance for evaluating the role of technology in collaborative consumption experiences.

Conceptual framing: Zelizer's concept of relational work

Intimacy intertwined with money represents relational work, an area that has been studied in realms such as paid transactions between sexual partners, and paid child and personal care (Bandelj *et al.*, 2015). In her book *The Purchase of Intimacy*, Viviana Zelizer (2005) asserts that "in all areas of economic life people are creating, maintaining,

symbolising, and transforming meaningful social relations" (p.336). In framing the notion of relational work, Zelizer (2011) argues that people create 'connected lives' by constructing and negotiating differentiation among multiple social relations, and appropriate matching between intimacy and monetised transactions without contaminating either sphere in order to appear "reputable". What is generally reputable is an intimate-intimate exchange or an economic-economic exchange that maintains the boundaries between them. What appears to be disreputable is an intimate-economic exchange. For example, online dating platform services offer an intermediary between economic transactions and intimacies (Belk, forthcoming). Maintaining the boundaries between personal (i.e., dating) and professional relations (e.g., escort services) appears to be reputable.

Bandelj and Gibson (2019) reviewed consumer research on the nexus between intimacy and economy, advocating for a 'relational turn' in consumption studies. Their attention to consumption processes in regard to social relations, while important in explaining how consumers earmark their socio-economic transactions, revolves primarily around consumer agency. For example, consumers might earmark funds intended for a particular purpose like taking a holiday trip by putting this money in a special container or even a separate bank account ('differentiated monies') (Zelizer, 2011). It can also be a way of marking different sets of people ('differentiated ties') by, for example, keeping family and friends in separate social media groups. However, Bandelj and Gibson's (2019) review does not acknowledge technological nonhuman actors' roles in creating or limiting such social relations. How the agency of nonhuman objects may mediate social connections merits attention.

One key tenet of relational work involves creating viable reputable matches amongst three key elements to form 'relational packages', that is, the building blocks for interpersonal relations to come together to interpret economic action and constitute transactions (Zelizer, 2005), including 1) distinctive social ties (e.g., wife/husband), 2) sets of economic

transactions, and 3) media used to perpetuate these transactions (e.g., gifts, tokens, platforms). When these relational packages become routinised they create structures called "circuits of commerce" which Zelizer (2011, pp.314-315) explains this way:

Each distinctive social circuit incorporates somewhat different understandings, practices, information, obligations, rights, symbols, and media of exchange. I call these *circuits of commerce* in an old sense of the word, where commerce meant conversation, interchange, intercourse, and mutual shaping. They range from the most intimate to quite impersonal transactions.

Many platforms correspond to Zelizer's formulation of circuits of commerce, which bring bounded groups of people together into circuits to facilitate economic exchanges. Relational work in CCNs matters because it has a role in establishing trust or repairing broken trust in economic exchanges. Trust building relies on reputation rating systems, platform guarantees, and prior experience – experience not with the persons involved in the exchange, but with the platform.

In reviewing the literature on Zelizer's relational work, García (2014) emphasises the need to consider nonhuman actors (e.g., spirits, avatars, artefacts, and inanimate objects) in sociological exchanges. Patterns of nonhuman circulation that complement human circulation are essential to understanding how circuits work (Schmoll and Semi, 2013). Some examples include how shopping carts shape modern retail (Cochoy, 2010), how household devices connected to the Internet to produce unique experiences for consumers at home (Hoffman and Novak, 2017), and how family members compensate for their absence by using technologies including video streaming, VOIP, and contracting with service providers when demands for family care surpass the parents' capabilities (Epp and Velagaleti, 2014). In this research, we argue for the potential importance of technology in facilitating relational work and sustaining a CCN as a durable, reputable network.

A note on technologies

Technologies are not homogenous. They do not operate in isolation. They are part of larger interconnected networks of devices, software, hardware, the Internet, algorithms, and companies. Our adoption, use, and interactions with them need to be understood and conceptualised differently in terms of CCN platforms (Lowe *et al.*, 2019). We subscribe to Gell's (1998) concept of technology's secondary agency; that is, technology's actions must be set into motion by human actors, in this case the primary agency of hosts and guests who interact through the secondary agency of a website. Such perspectives expand the view of simple dyadic relationships between consumers and providers, and the inclusion of technologies as nonhuman actors, enhancing our understanding of the complex and dynamic nature of relational work involved in CCNs.

The very fabric of these technologies and their role in societies has changed from being "a passive vehicle that provides consumers with problem-solving tools to an active partner in everyday life" (Zolfagharian and Yazdanparasat, 2019, p.1052). Technologies possess the ability to perform actions or exert influence over human behaviours and practices within a network of relationships (Martin and Schouten, 2014). We focus on understanding the processes actors engage in to shape relational work on the Airbnb platform. By focusing on the technologies provided by Airbnb, our study allows us to examine relational work processes that involve complex socio-technical practices within economic and intimate exchanges.

Methods

We present data from a New Zealand study of Airbnb's home-sharing network, comprised of networks of individuals (e.g., hosts, guests, and property managers), online communities (e.g., host forums), organisations (e.g., the Airbnb company and property management businesses), and physical and digital materials (e.g., digital: mobile applications,

Airbnb listings; physical: gifts, photos, postcards). The study employed a multi-sited ethnography (Marcus, 1998) and involved over three years of immersion in the network. We followed artefacts, actions, and actors across time and space, which became important in understanding a technology-mediated environment where relationships form in and through multiple realities (virtual and physical). We initially considered technologies to include key features of the booking platform such as instant booking, the messaging application, and online payment methods. As the study progressed, we realised the importance of Airbnb's strategic decisions and tactics that are delivered through their website and platform, and the ubiquity of smartphones and other mobile devices to help create nuanced relationships amongst the technology actors' 'doings' in their relational work. These relationships were heavily intertwined, making them challenging to distinguish based on hosts' and guests' experiences alone.

We derived our data from interviews, online and offline participant observations, and brief discussions onsite (e.g., host meetups). We also consulted with an information systems specialist to better understand how computing intelligence helps create technology-mediated sociality.

We chose Airbnb because of its dominant popularity as a global online accommodation booking system. Based on the company's January 2020 industry release (Airbnb Newsroom, 2020), over 7 million listings are active in more than 220 countries. Airbnb reported that over 750 million guests have travelled using Airbnb since it was founded in 2008, with 250 million reviews completed. Airbnb offers a variety of booking options – from sharing a home with a host, to booking a private house; from city apartments and suburban townhouses to unique listings like castles and treehouses. These are all possible on Airbnb's platform, which socially and commercially connects people from around the world through an embedded booking and payment system.

The fieldwork

The first author experienced home sharing as a participant-observer by hosting guests in her home and staying as a guest in Airbnbs. She also attended Airbnb events and registered as a member of several online Airbnb social networking sites. During this period, she was immersed in the home-sharing network, gaining access to participants and their backstages. This method allowed us to observe socialisation occurring within the network (offline and online) and across time and space. We were looking for patterns, shared rituals, behaviours, interactions, social meanings, and beliefs towards technologies.

Interviews and offline observations

We conducted in-depth interviews with 23 Airbnb members (see Table 1): five guests, six hosts, five hosts who started off as guests, four hosts who identified as property managers, and three interviews with members who stopped using the platform. The latter three were considered negative cases and enabled us to continually revise our understandings and account for discrepancies in the findings. Other interviews with Airbnb officials, guests, hosts, co-hosts, and cleaners were informal, conversational, and unrecorded. Recruitment initially took place through online communities using purposive sampling. Interviews lasted up to three hours and were semi-structured, where we used grand tour questions about the participant's Airbnb listing and the Airbnb platform and main website, while they browsed using their desktop, tablet, or mobile device. When topics emerged around participants' uses of different technologies, and interactions taking place through the platform, we probed for details using different types of strategies such as nodding, raised eyebrows, or silence (Belk et al., 2013). These became essential tools to elicit informants' experiences with Airbnb technologies and to "interrogate" the material aspects involved (Adams and Thompson, 2016).

--- Table 1 ---

To allow for richer accounts of the home-sharing context where consumers and technologies coexist, we investigated the connections among actors, paying attention to the interplay between technological agents and human actors. Interrogation of nonhuman actors was achieved through discussions with hosts and guests about practices such as "how, where, when, and with whom" when they searched for Airbnb listings and accepted guest bookings, and how they prepared an Airbnb home and welcomed guests.

Online study

In addition, we conducted online forum observations (Kozinets, 2010) of consumer communities using real-time participatory (i.e., active) netnography (Costello et al., 2017). Standards of quality in netnographic approaches required the first author to have "immersive depth, prolonged engagement, researcher identification and persistent conversations" with online participants over the three-year study period (Kurikko and Tuominen, 2012, p.13). We collected and analysed news stories on Airbnb using Google Alerts. The first author became a member of the host community on Facebook, Instagram, and Twitter to gain a sense of immersion and belonging with other hosts. She co-created text and ideas on hosting and travelling as a guest. She gathered rich data on hosts' stories and experiences with their guests, while keeping reflexive fieldnotes of the author's personal emotions and thoughts (Kozinets, 2010). We also followed user-generated data like pictures and posts from the official Airbnb website, blog articles written by hosts turned real-estate entrepreneurs, and popular hashtags of major social media platforms. We followed these media artefacts and traced interactions between actors across time. Data collected from field observations and participation in the online communities added depth and nuance to the narratives and helped us to personally experience many situations that the participants discussed in their accounts.

Data analysis

Interviews were transcribed verbatim, amounting to 387 pages, and fieldnotes were taken during all phases of the study amounting to 59 pages. The analysis followed the logic of hermeneutic research in seeking to identify shared cultural notions that shape specific kinds of experiences and actions. Supplemented by abductive reasoning (Belk and Sobh, 2019), we uncovered important themes using an iterative, back-and-forth analysis process of shifting between emic and etic perspectives (Timmermans and Tavory, 2012), which aimed to expand and refine emergent interpretations. Throughout the theorisation process, we reviewed literature while we iteratively grouped and regrouped codes into more abstract themes until theoretical saturation was reached.

Findings

To understand the role technology plays in shaping the interplay between intimate and economic relations in CCNs, we focused on Airbnb hosts' and guests' experiences with Airbnb, and how collaborative practices are carried out through the platform. Our findings demonstrate that technology's digital affordances shape this interplay by 1) grooming participants to become less sensitised to tensions between intimate and economic relations; 2) bundling commercial exchange and intimacy into a single transaction; 3) brokering monetary exchanges so participants can intimately bond; 4) buffering conflict by assuming blame and diffusing "disreputable exchanges"; and 5) engaging in social edgework to provide balance between risky, disreputable exchanges and pleasurable yet reputable social engagements.

Joining Airbnb through 'grooming'

After speaking to hosts, we quickly realised that the platform guides many of the practices they adopt during their home-sharing experiences. This early learning involves

'grooming' the actor to essentially enforce collaborative consumption practices. Grooming is a benign process involving training and preparing hosts to regard the exchanges as normal and reputable.

The gateway into hosting is not entirely easy. Once people decide to host, they call the Airbnb hotline to begin the platform onboarding process. They are asked questions about the type of home they will provide (e.g., townhouse/apartment), safety measures (e.g., security systems), location (e.g., close to the beach/urban), as well as for recent house photographs and personal host verifications (government identification/social media integrations). The Airbnb company's onboarding process (accomplished over the phone with a customer service agent or delivered online through the platform's 'steps to join') must be completed before a listing goes live. This is an act of initial gatekeeping, "illustrat[ing] the importance of relational work for establishing, reinforcing, or blocking the formation of social ties" (Haylett, 2012, p.230). Furthermore, this process facilitates a specific relational package by eliminating potential hosts whose motivations conflict with the narrative Airbnb is constructing about collaborative practices.

A key component of relational packages is social ties (Zelizer, 2005). In the case of Airbnb, the content of these relations are crucial, and the platform is an important agent in clearly facilitating these relations from the beginning. The online onboarding steps require hosts to be caring and invested in the process, but not too invested. This is a very fine line because inviting strangers into the intimate home space is perceived as a profane act which can be risky to hosts, their families, and their possessions. If hosts are too invested in improving their home for hosting, they may decide to stop hosting in order to protect their intimate possessions. Hence, the platform's messages to hosts – delivered via company newsletters, the official website, and at company host events – clearly intertwines hosting information with reminders of the money to be earned. Earnings are promised to improve a

person's lifestyle (e.g., paying off a home mortgage or funding future holidays) rather than satisfying a need for more money.

Once a listing goes live, hosts wait to receive booking requests from guests. For the most part, hosts tend to underestimate the level of investment and duration of the wait time. During an unofficial meetup, a host mentioned: *Starting out, I assumed once we'd advertised our space, I'd get guest requests right away like hotels... then you're all set. I didn't realise the amount of work needed to make your home guest-ready (Rosy)*. From hosts at this meetup, it was clear that misconceptions of hosting stemmed from popular media featuring entrepreneurial success stories. A member of a host-led Facebook community believed the platform's algorithm determines hierarchy in searches by giving priority to new listings:

I'm a new host and realise this is a computer algorithm; however, it's made an awful experience for me. I've tried everything it asked. I keep in touch with guests, asking them if there's anything I can do, but it's like the algorithm is against me somehow and matching me with duds of guests. Those choosing my listing are needy and tough reviewers! (Sheila, online community)

The algorithm dynamics shape which listings are viewed first, but the contents of the listing are more apt to affect who engages with the host and how. Hosts begin to understand the first review is necessary to earn trust in their home and themselves. Trust plays an important role in mediating social relations, making it possible to interact in uncertain circumstances or in unpredictable and deviant situations (Holmström, 2007), such as staying with strangers in their homes. Trust in the process goes both ways. Fiona, a retired teachernow-host, mentioned she felt emotionally exhausted during the process of trust-building. When asked if feeling this way caught her off-guard, she responded:

I really thought hosting would be easy. We clean, vacuum, mow the lawn... I didn't realise how hard it is to vet guests and make sure we're all happy. Most people send a spiel through the app saying 'hi my husband and I are coming... blah blah...' I like that so I get an idea of what [kind of guest] I'm getting. I look at how long they've been on Airbnb and their reviews. I've turned down many guests which was very hard. It's a whole transition into what it really is.

Clearly, for such hosts, the act of hosting was not perceived as inherently emotionally gratifying. Hosts demonstrated pride in their homes and believed – in fact expected – that guests would send requests immediately with the support of Airbnb's algorithm. This was a widely felt sentiment among interviewed hosts as they learned they needed a review of their home before receiving a rush of guest bookings. Forming relations with would-be guests requires more than passive confidence in the attractiveness of the space offered. Initial relations require active mediated trust-building, which in this case is initially achieved when the platform presents a trustworthy stranger via its messaging system. The platform works to reduce risk and internal complexities, and guarantees stability by creating structures of expectations (Holmström, 2007).

The process always begins with a consumer problematising a situation: how to attract the first guest in the face of these constraints. For some host entrepreneurs, a potential solution is to create profiles of fake guests who have booked their Airbnb listings and left glowing reviews. They may also engage with promotional strategies by creating social media business pages or using multiple booking sites in order to increase footfall to their home. However, these parallel digital solutions pose new problems. A fake guest profile puts the host's credibility at risk of being exposed through the platform's random security systems checking for scammers. Receiving bookings from different websites causes a lot of confusion for hosts when digital booking calendars fail to sync. Fenny, a financial advisor and host, spoke of how technology failed her when she tried to take matters into her own hands:

I got this bizarre email from Airbnb: "Show your calendar some love. Keeping your calendar up-to-date is a great way to avoid surprises and cancellations, which often come with fees and other penalties." Are they joking? I'm trying to get more bookings using other sites, but the tech doesn't sync. I'm ending up doing things manually.

Competing platform technologies actively resist working together. This forces some hosts like Fenny to quit trying to use other booking platforms and to focus solely on Airbnb. Other hosts persevere by mobilising available human resources (hiring schedulers) and

nonhuman resources (physical calendars, paper invoices, and third-party property management software technology like Guesty), which act as organising forces until the Airbnb technology performs as desired. Although hosts can choose to stop hosting at any point, we found hosts are less likely to feel they can freely leave Airbnb after going through this grooming process, having devoted their labour to making their home guest-ready and developing fictive relationships with guests through the platform, which we discuss next.

Relational work: Obfuscating intimate-economic exchanges

The home is identified as an identity anchor, a place of retreat and safety (Dupuis and Thorns, 1998), and where married couples exchange sexual intimacy (Zelizer, 2005). It is a sacred space. We found that technologies – the Airbnb platform and its features, including its messaging application – enable access to sacred objects (the home and its amenities) in exchange for money by masking this profane intrusion. The technology makes this possible by ensuring the monetary aspect of the transaction is triply invisible. First, money is exchanged by credit rather than cash. Second, it is exchanged online rather than face-to-face. And third, it is paid to and received by the intermediary – Airbnb, using arm's length technology. Much as priests are mediators between God and parishioners, the fictive person of Airbnb mediates between hosts and guests. But rather than transferring sacred power to the congregation, Airbnb hides the true monetary nature of the exchange. The relational work here moves away from the previously understood reductionist 'nothing but' view that considers the entanglement of economic transactions and intimacy as nothing but another form of market activity, to Zelizer's (2005) notion of 'connected lives' where multiple types of relations can operate in parallel.

Technology's agency in bundling

Bundling is the aggregation of multiple types of relations between the same set of actors, that could, in principle, be separated but nonetheless are packaged as a single exchange (Rossman, 2014). We first observed the platform using bundling to frame multiple exchanges that people generally prefer to avoid mixing together, such as openly accepting money in exchange for social ties. Here, bundled intimate and economic ties appear reputable. Bundling involves Zelizer's concept of 'differentiated ties'. This is similar to her example of a man and a woman's relationship that starts with housekeeping labour in exchange for a fee, and later transforms into a romantic relationship. In the case of Airbnb, the economic transaction that takes place between hosts and guests on the platform exchanges 'accommodation' access to all or part of a dwelling (not the sacred 'home') for a fee. The platform also encourages intimate transactions between the actors with its reminder messages to guests to 'be nice' (see Figure 1) both during their stay and in their post-visit digital ratings during the two-way review process. The platform acts as a medium for these transactions so actors can maintain the pretext that there is no scandal in their exchange. They can continue lity.
--- Figure 1 here --engaging in differentiated ties of the two reputable types of relations bundled in exchange: paid accommodation and intimate cordiality.

Technology's agency in brokerage

The platform obscures the profane exchange of money by also brokering (i.e., being a third-party mediator) the monetary exchange between hosts and guests so they can intimately bond. The technology holds the payment and releases it to hosts 24 hours after the scheduled "check-in" time. The time delay is ostensibly meant to ensure the guest shows up and accepts the accommodation, but the technology also facilitates the intimate bonding of hosts and guests, and further separation from monetary concerns (Stovel and Shaw, 2012).

The technology's payment processes act in the same way that online prepayment on Apple Pay at Starbucks reduces consumers' pain-points to the extent that getting a coffee from a friendly barista seems like a gift for which the customer says, "thank you". In the case of CCNs however, obfuscating the economic exchange also makes crossing the threshold into the sacred home space a purifying ritual rather than a payment ritual as would typically take place immediately upon entering a hotel (Rosselin, 1999). The difference is based on the social context of the exchange rather than the relationship between people (Gell, 1992).

All hosts in our study, including those who identified as property managers, agreed that the platform is a great technology for managing bookings and bookkeeping payments on their behalf. But there is an important difference in the way the platform brokers between hosts and guests as opposed to online payment systems like PayPal. Acting as a broker himself between homeowners and guests, Ed spoke with a (purposefully) naïve view of the Airbnb exchange model:

They're organised and keep track of our bookings. I don't know, or want to know, how they do it. Integrating with Xero [cloud-based accounting system] makes the worry of invoices and filing taxes hassle-free – it just does! All I care about is they take away the hardship of managing money. We just make sure guests are happy. The owner even knows less – all they want to know is we're doing a good job helping guests feel right at home.

Managing 47 Airbnb listings, Ed demonstrated how the platform's brokerage insulated him and his business from any legal risk and allowed the exchange to be more palatable by making the intimate-economic exchanges less obvious. Here the platform is doing the opposite work that it does with hosts and guests. Rather than making the engagement of the two more purely social, it makes it more purely economic.

True to the brokerage literature (Stovel and Shaw, 2012), the platform maintains a position of power over those vulnerable to exploitation. When Rosy was asked if she would accept cash payments in her home, she stated:

No way! Even when we had this one situation where people stayed an extra day. We like everything to go through Airbnb, being totally honest with Airbnb. We're not interested in doing those sorts of deals. God knows what Airbnb might do if we take cash. I said no you go through the platform. It got a bit messy. He still left cash. We immediately went back to Airbnb [chatbot] and they sorted it.

This fear was not uncommon amongst our participants. In fact, a tactic of the Airbnb company is to stress the dangers of violating the host code from the moment of onboarding the platform, accepting bookings, to after guests leave. Guests also see these warnings on Airbnb's official website and during the booking process: "You should keep all payment transactions on Airbnb because Airbnb can't help with any issues related to offsite or cash payments"; "Always communicate through Airbnb. To protect your payment, never transfer money or communicate outside of the Airbnb website or app" (Airbnb Help Centre, 2020; Airbnb direct application messages). Many hosts shared perceptions that the company uses its power to protect but also to control relationships: "I don't like the awkwardness of exchanging actual money. But going offline also means I won't be covered for Airbnb insurance... Airbnb doesn't like hosts 'biting the hand that feeds you" (Jill, online community). That power, often extended to the algorithm rather than the company, gives further agency to the platform as demonstrated in this post from a thread on platform dominance:

The Airbnb Computer Bot that controls all the algorithm-induced stats is slowly losing its mind and is possibly staging a revolt against us hosts (think 'Replicants' from the book 'Do Androids Dream of Electric Sheep?' and the film, 'Blade Runner'). I can only wonder what other stats 'it' may be revising. Hopefully, not our Review stats (unless it is in our favour. Unlikely, I know, but, just like an Android, this human gal can certainly dream!). (Rebecca, online community)

The structural position of power, whereby hosts and guests have to pass through the platform to initiate an exchange relationship, is one of the key tenets of the relational work

observed. Similar to a prostitute's pimp or madam (Weitzer, 2009), Airbnb's technology places many layers of control over its hosts that are packaged as protection from any harm. The platform is programmed to encourage hosts to use Airbnb's technology function of 'Instant Book', which allows guests to make bookings without host pre-approval. According to one host, this is done in order to avoid any negotiations or the lure of offline bookings during the booking request period. Drawing from Zelizer (2011), these exchanges are not only created as a response to the trust problems arising from the blurring of intimate and economic exchanges, but the controls, packaged as protection, are a response to 'collective problems of trust' between the Airbnb company and the host/guest. That is, it is not solely an issue of trust between host and guest, but also the trust that each has in the platform.

Here, we see the platform's agency in initially taking on the moral responsibility of hiding the stigmatised and profane monetary exchange. As an agentic actor, the platform's many functions – paying hosts after guests arrive and the scheduled algorithm of messages reminding hosts and guests of the sharing nature of their experience together – provide a different understanding of exchange relationships. As with Pamela's quote in the opening vignette, we interpret that participants believe the technology can remove any signs of formality and instrumentalism from their social relationships. The invisible payments and messaging functions are media artefacts engineered to translate meanings across the formal and informal boundaries within CCNs. These help in preventing disreputable exchanges that might rupture the intimate-economic exchange disguise.

Technology's agency in buffering

Another function of the platform is *buffering* conflicts, that is, taking the blame for some of the things that might go wrong with a visit, and diffusing disreputable exchanges. We observed the platform encouraging the use of an online Resolution Centre to deal with additional booking requirements, monetary issues, or complaints related to economic

relations. Much like a real estate broker, this function is a further mediated relationship to prevent direct dealings between hosts and guests. When disagreements arise between them (e.g., damage to possessions), they are prompted to avoid discussing it and are asked to resolve issues through this digital affordance. As host Fenny stated: "[I]t's our saving grace. We don't have to worry about the burden of bringing it [money] up." This allows an economic exchange to take place at a distance through the technology.

Across the interviews, money and transactional problems were never mentioned when guests were asked about their interactions with hosts. During an informal interview with one of Lilian's guests who was checking out, she was asked what her Airbnb stay was worth. She stated:

I can't remember how much we paid but it's great to pay with Alipay as the Chinese find it hard to make easy payments outside of China. I also don't remember because we had a good time... it didn't feel like a hotel. A priceless experience!

Paying in advance and also having a great experience made it difficult for the guest to place a monetary value on her stay at Lilian's Airbnb. Being "priceless" not only signals a great experience, but also one that is far removed from monetary considerations.

Furthermore, the relationship with the platform's payment system – the guest pays in full when the booking is confirmed, but money is only received in the host's bank account one day after the guest checks in – becomes an expression of trust between individuals (Simmel, 1978). While hotels accept cash payments, the Airbnb company strictly prohibits any physical form of payment. Money remains within the boundaries of the digital platform as an earmarking technique to avoid it seeping into the physical world. If money is exchanged during the Airbnb experience, it endangers the relational work, marking the activities as economic.

Pre-payment is also a form of earmarking that can be seen as regulating relationships and perceptions of work (Zelizer, 1996). It allowed hosts like Pamela to experience hosting as

a "hobby not a job". During the time between the moment a booking is made and the guest's arrival, hosts and guests can exchange digital communications, thus bringing their relations closer to being social rather than economic. Suzie found that by the time guests arrived at her Airbnb, she "already knew them so well". The platform also attempts to exclude talk of money in any communications with hosts and guests as part of an appropriate relational package that encourages sociality.

The technology's relational work of structuring the exchange appears to follow hosting rituals between friends, allowing the parties involved to maintain home sharing as an intimate experience of hospitality and friendship. The profane monetary interaction managed by the technology can then be distanced and understood as something separate and largely forgotten. As hosts' understanding of Airbnb shifts away from the primacy of money, they become more personally invested in the guests. One host revealed the value of the platform as a buffer and how problematic the indistinctiveness of intimacy and economics can be:

I accepted cash from a guest last weekend for additional stay. I did so much for her. I treated her well when I didn't have to. After she left our place, I got an Airbnb message... she's asking for stolen money! The supposed stolen money was the same amount she paid for her extra days. I feel betrayed... in my own home! (Nicky, online community)

This demonstrates money is not only a media artefact that people employ as a means of differentiating social relations and economic transactions (Zelizer, 2011), but its agentic properties sometimes disrupt social relationships. The elimination of cash from transactions and being paid digitally shapes a social relationship bundled within one exchange.

Zelizer (2005) gives an example of an intimate caring relationship in which a younger woman cares for an older man. This contrasts with an economic mercenary relationship should the man's will bequeath the majority of his estate to the young woman rather than to his family. Like Zelizer's differentiated ties, Airbnb technology bundles opposing relations in a similarly cynical way (Rossman, 2014). Through the media used during service bundling and with the platform acting as a broker and buffer between hosts and guests, disreputable

commensuration appears reputable to Airbnb users and the public. Based on our interviews, hosts and guests seemed to have a clear understanding that Airbnb hosting is centred on monetary exchanges; however, this did not seem to be noticeable in their narratives as they often framed host-guest interactions in terms of personal relationships. More importantly, the home-sharing process emphasises that people are 'good'. Katharine, a property manager, stated: "Airbnb helps hosts improve their listings, making it real yet attractive. Members rely on the platform to help us trust one another again." A similar argument might be made that ride-sharing apps like Uber and Lyft help people develop enough trust to pick up hitchhikers and to accept rides from strangers. Again, the mediation of platforms that take money out of the immediate transaction and the mutual reputation system of ratings make all the difference.

The technology allows the two exchanges to operate in parallel systems that never touch. This offers users the ability to control their emotions and maintain distinct social and economic boundaries, using what Lyng (1990) terms 'edgework', which we discuss next.

Technology's agency in social edgework

Technology also shapes the interplay between intimate and economic relations in CCNs by engaging in a type of social *edgework* between reputable and disreputable exchanges.

Edgework, according to Lyng (1990), involves an observable threat to one's physical or mental wellbeing or sense of ordered existence. The 'edge' is the boundary line engaged and controlled by the 'work' of the technology in helping participants to experience a balance between social risks and a sense of control. The platform's social edgework negotiates pleasurable behaviours in staying with strangers in an Airbnb.

The platform supports hosts and guests by helping them cope with risks and tensions inherent in the exchange. It helps them maintain control over a situation that may be perceived as uncontrollable (i.e., meeting and staying with a stranger in a home). It preserves the boundaries around the sacred and intimate while still maintaining a sense of financial

control (Lyng, 2005). Airbnb shoulders these risks and tensions through digital social edgework. Compared to Zelizer's (2005) notion of boundary work, which refers to people preoccupied with establishing a set of distinctive understandings within a boundary, we find that media – accounting systems and their tokens (money, gifts, favours) – create indistinct or fuzzy boundaries between different types of relationships triggered and translated through Airbnb technologies.

First, socio-material communication tools humanise hosts and guests, and facilitate social transactions. Sharing personal life stories or common interests came up when participants were asked if they had doubts about the home-sharing process:

I think to create feel-good vibes, engaging with guests is the ticket. It doesn't have to be in person, it could be via text or by putting a personalised welcome letter before they arrive. I place brochures that align with their purpose for staying... I find out by asking friendly questions through the app before they arrive. These help a lot but the 'little extra' work comes before the guests arrive... to me it's part of "engaging with guests". I try to make our space look like the space is expecting "them personally". (Brian, online community)

Hosts elaborated on the multiple use of the Airbnb application for managing guest inquiries and building mutual trust (initially experienced as a concern in the grooming phase). In fact, many hosts observed that the platform prompts them to check on their guests once they arrive, during their stay, and before they leave. By following these prompts, hosts can demonstrate care and *gemeinschaft communality* towards their guests. This enables the guests to "venture close to the edge" between the social and physical risks of staying with a stranger by providing them with a feeling of control and safety (Lyng, 2005, p.18).

Second, during our home visit observations, we discovered a form of reciprocity using gift-giving as part of the relational work in home-sharing exchanges. Fiona demonstrated her hosting generosity through certain practices that take place during her guest welcome. These include providing breakfast consumables that replace the need to physically greet guests:

What I do is there's a tray table with teas, coffees, cereals, nuts, raisins... it's my welcome. When you're first in you've got that stuff, it's the best present possible. They're so grateful... they didn't expect it. They can enjoy and relax. It's like I'm there taking care of them without physically being there... When I think about it, it doesn't cost much but they think oh wow that's lovely... That's all it takes to impress. I keep steady bookings because of that.

The Airbnb platform's scheduled emails to hosts remind them to prepare for each guest – by cleaning, checking up on guests, or through welcoming rituals that every host should consider. Fiona demonstrated a desire for reciprocity which is not uncommon amongst hosts. Without explicit mention of reciprocity, she expected her guests to feel grateful, eventually leading to positive reviews and ultimately "steady bookings" (Fiona) – implicitly in return for her hospitality and the added benefits for each guest. In this sense, there is a symmetry and tit-for-tat nature to these exchanges; favours expected from guests often have non-pecuniary value like positive reviews and star ratings, postcards, or at the very least, thank-yous, at some later time. The lack of explicit reciprocity and time delay in the repayment of the host's favours make reciprocity voluntary and staggered, obscuring obligatory reciprocity (Mauss 1925/1967). These features of interconnected media (time delay and thank-yous) are also exchanged in-kind to convey a sense of intimacy rather than payment. But this ambiguous social exchange may also leave hosts and guests wondering whether the other is partaking in gift-giving because they sincerely care or as a marketing tactic to gain positive reviews. This lingering suspicion is sometimes negated when guests leave a parting gift for hosts, completing their reciprocal obligation as if this were a truly social exchange. However, such immediate reciprocity also moves the exchange closer to the realm of marketplace transactions (Belk, 1996).

When gifts are monetary, as experienced by the first author as host, they are usually earmarked for a particular purpose (Zelizer, 2011), as the following author fieldnotes demonstrate:

We loaned our French guests a bus card so they can roam the city. When they left, we found they left cash on top of the card with a note—"Thank you for a lovely stay and helping us out. We left you some money to cover the bus card. I know it's not enough, but we're so grateful for all your efforts." Even though we offered the bus card, they seemed to feel obliged to return the favour somehow.

Note that the stipulation "I know it's not enough" takes this out of the realm of a marketplace transaction by marking it as a token rather than a repayment. The reciprocation of money and thank-you notes as counter-gifts were expressions of the guest's relationship to the host staggered in time, with present reciprocity being semi-voluntary. Since the bus card was offered first, this left a lingering obligation consistent with the gift economy rather than the market economy (Belk, 1996). Had a monetary tip been offered by the guest following the stay, this would be considered an economic transaction. It would be tantamount to one dating partner leaving the other money after they had sex, thus turning an intimate relationship into one of prostitution.

One guest participant also felt she needed to keep the Airbnb homes she visited clean, "because it's the least we [her family] can do as a thanks for letting us stay" (Karen). The platform humanises hosts by sending reminders to guests during their stay with the following application message (also see Figure 1): "Treat your host's home like it's your own: Each host puts a lot of care into their home, so make sure to respect their rules, their space and their neighbours." In fact, many hosts are able to request favours from guests, such as taking out the trash on rubbish collection days, clearing out the dishwasher, or feeding the onsite farm animals. However, they do so behind the veil of the platform and the virtual house manual they set up in their listing to avoid verbalising the favour and the explicit mention of reciprocity. Sandy (host) claimed that generosity is always welcome, and hospitality and kindness are things she can offer as a currency. She explicitly described its use in exchange for additional favours:

We created good relationships with guests, and even introduced them to our baby. We don't know if they were grateful or felt emotionally connected but the reviews were all positive and we became Superhosts. I guess when you show guests your personal side they can't give negative reviews. We feel we're offering way more than what we're getting paid for... so we don't shy away from asking for small favours. Some carried Tom when he was a newborn while I took naps.

In this excerpt, Sandy highlighted her monetary practices in differentiating monies and accompanying social relations. Because not all money is the same (Zelizer, 1996), Sandy was able to negotiate the kind of payments appropriate for the different kinds of social relations she partakes in. While it might have risked her relationship with her guest, Sandy was able to ask for a direct favour as it was a request for a favour in-kind, of non-pecuniary value, and conveyed a sense of intimacy as she entrusted her guests to care for her newborn son. It is the sort of favour siblings might ask of one another and is certainly not something that would be asked of a stranger on the street. Similar to other hosts' and guests' explanations of social and monetary transactions in Airbnbs, we found that processes of monetary earmarking become a means of relational work, creating relative value which depends on the consequences of the social (i.e., non-monetary) accounting ledger for relations with others.

Ideally, reciprocity is not immediate but is staggered and plays out over time, especially when it involves online reviews. Typical of edgework, the technology assists hosts in coping with two tensions: 1) the initial risk of inviting strangers into their home, and 2) the risk that the other party defects from engaging in semi-voluntary reciprocity. To solve the first tension, during the scheduled checkout the platform frames reviews as "compliments" and "constructive feedback", and specifically asks guests if there "was anything extra special" about the host and "what you loved the most" about the Airbnb experience with choices being outstanding hospitality, amazing amenities, quick responses, thoughtful touches, stylish space, sparkling clean, and local tips, and asking guests to elaborate on their choice. It is clear from the rating process that hosts have much more to lose than guests since they are more apt

to rely on repeat visits and they need good ratings to attract other guests. The framed "compliments" assist hosts in managing these tensions.

During interviews with hosts who had just checked out guests, we observed intense emotions during the waiting period for reviews. To solve the second tension, the platform restricts dual reviews to 14 days. Hosts perceived reviews as a form of counter-gift and during the wait time, they wondered if guests had truly defected or just delayed. Contrary to Bourdieu's (1990) notion that the longer the wait, the better the ability to distinguish gift exchanges from quid pro quo exchanges, the delay in this case makes trust in the relational package harder to sustain. When asked whether guests always leave reviews, Suzie demonstrated the emotional labour of dealing with uncertainty and fear, together with the excitement of being on the "edge" and never truly knowing:

When guests leave, you think, 'Am I going to trust them to write something nice?' As soon as it's done, whether good or bad, I think at least it's over and I'm not waiting because I get anxious. A couple of people have left stuff behind, so I do my review, so they do theirs because they've got to come back. They have to write something nice... [I'm] terrible... [laughs]!

The agency of nonhuman actors is once again to the fore in a two-way messaging application that, together with the online guest profile and hosts' personal experiences with guests, embeds interpersonal trust in hosts' assessment of guests. As Suzie mentioned, receiving positive reviews highlights that reviews can be used as gifts, as well as to develop trust in the other, the platform, and the home-sharing process. The technology facilitates balance of a somewhat relaxed accounting of reciprocity by scheduling emails and mobile application messages to hosts and guests, reminding them to be hospitable and complimentary in their reviews. Airbnb positions reviews as ways to express continuing yet fictive social bonds between hosts and guests. They each do this for selfish reasons, jointly perpetuating the myth that Airbnb exchanges are entirely pleasant social experiences.

Summary of findings

The findings (summarised in Table 2) demonstrate that technology's digital affordances shape the interplay between economic and intimate relations in CCNs. The technology's multiple agencies of grooming, bundling, brokerage, buffering, and social edgework enforces specific collaborative consumption practices. While these structures have been explained separately, their uses as relational work often occur simultaneously.

While many of the hosts maintained that the platform is only a medium for them to promote their homes, our prolonged field observations showed that the platform and its functions act as valuable purifiers in creating relational work. We found that this relational work not only brokers the exchange, bundling it as differentiated ties and taking the blame for things that go wrong; it also obfuscates the appearance of intimate and economic exchanges and enhances the possibilities for hybrid forms of relationships. According to Zelizer's (2012) relational work, people erect boundaries and mark them through negotiated meanings and practices in order to develop successful social relations. However, technology platforms and media artefacts have agency to translate and re-entangle social and economic relations, ambiguating the exchange and making intimate-economic exchanges seem distinct.

While not as high risk as prostitution (Farley, 2018), the normally low-risk consumption practice of travelling or hosting someone in the low-risk environment of a home becomes risky when economic exchanges seep into the intimate, sacred space of the home. Thus, relational work is required in Airbnbs when we invite potentially risky situations via this consumption (Lamberton and Hill, 2018). In many ways, technologies can be used to negotiate tensions around the fine line between voluntary risky behaviours such as socialising with strangers and profane economic exchanges such as exchanging money for friendship. In principle, hosts and guests are not violating their own rules against money-for-home exchanges. The technology helps in bundling and maintaining differentiated ties – a

technology-facilitated money exchange alongside a host-guest friendship exchange. This obviates any recognition of moral transgressions and disreputable behaviours within the sacred home space.

---- Table 2 here ----

Discussion and implications

This study extends our understanding of the role technology plays in shaping intimacies and market relations in CCNs. Specifically, we answer the call to give more attention to developments in platform technology in order to understand their potential impact on consumer and provider interactions (Eckhardt *et al.*, 2019). By taking a hermeneutic approach to technology's interplay between intimate and market relations, we find that Zelizer's notion of relational work and technological agency (Gell, 1998) enrich each other, yielding implications for CCNs. We propose an emergent framework of triadic relational work enacted by network actors (i.e., host, guest, and platform). We identify how platform technologies shape collaborative practices to create, maintain, and negotiate social relations embedded in a CCN through economic activities that span offline and online spaces.

This paper extends previous research on CCNs by highlighting the important role technologies, specifically platform-based technologies, play in the case of Airbnb's relational work. We extend Scaraboto's (2015) work on hybrid economies through our analysis of the role played by technology in sustaining a CCN. From an emic perspective, the platform is a medium connecting strangers, providing value and building trust through the transmission and representation of listings and profile information as well as other messages, reminders, and reputation management tools like ratings. From an etic perspective, the notion of network agency shifts the emphasis from the platform technology's mediating role to one of power and control during relational work involved in collaborative consumption. We provide further knowledge on the effects of CCNs on consumers' ideological preferences within diverse

economies. We do this by illuminating how technology may actively contribute to the shaping of these hybrid economies. It does this by supporting the platform's agency to facilitate the configuration of exchange and to shape hybrid economies (Scaraboto, 2015). While tensions may stem from hybrid modes of exchange, and social dilemmas may occur in relation to individual needs versus the collective needs of those involved in the exchange (Corten, 2019; Dobscha and Arsel, 2011), the technology works to sustain this highly ambivalent, loosely organised, and heterogeneous network. Extending work by Richthofen and Fischer (2019), which found that platforms contribute to hybridity in order to dissipate tensions, we explain how platforms shape this hybridity by facilitating both social relations and economic exchanges. Unlike previous studies, we acknowledge the importance of platforms in facilitating (and controlling) the interplay between these interactions through the technology's digital affordances and complex exchange structures (i.e., grooming, bundling, brokerage, buffering, and social edgework).

We explain how the structure of an exchange can serve as relational work through the deployment of techno-materiality, entangled in webs of relationships, to mitigate taboos existing within a socially embedded economic transaction. We discuss how nonhuman actors shape CCNs' relational work between intimate and economic institutions to create indistinct (and reputable) boundaries between different types of relationships, thus sustaining tensions between formal and informal economies. Contrary to existing understandings of relational work (Bandelj and Gibson, 2019) that focus on how people engage in negotiating situations that are both intimate and economic, we show how relational work using platform technologies involves a web of interconnected human and nonhuman actors to reconcile these otherwise 'hostile worlds'. Technologies are used in structuring the exchange through the activities of grooming, bundling, brokering, buffering, and social edgework. This allows providers and consumers to continuously cope with tensions, maintain trust, and feel a sense

of control of social and economic boundaries such that the exchange appears 'reputable' and the platform is sustainable.

By paying attention to nonhuman actors to better understand the relationships performed in Airbnb networks, we move beyond the reciprocity and market dichotomy upheld by the reductionist 'nothing but' camp that considers the entanglement of economic transactions and intimacy as nothing but another form of market activity. The manner in which actors catalyse technologies in CCNs demonstrates Zelizer's (2011) circuits of commerce – not with the persons involved in the exchange, but with the platform. This paper's findings demonstrate the power of platform technologies in co-mingling and structurally obfuscating the critical moment of intimacy and economics that would otherwise be perceived as disreputable. Zelizer's basic circuits of intimate and economic notions of exchange are at stake.

Our study reveals the agency of technologies by identifying the conditions in which a network can be impacted by the relational work that Zelizer (2011) describes as the 'connected lives' of the intimate and economic domains. We introduce the practices of platform grooming and the functions of technology's relational work as mediating and obscuring the disreputable exchanges of the intimate and the economic in order to make collaborative consumption appear reputable. While the Airbnb operation has been identified as a hybridised economy, our findings extend previous studies on hybrid markets (e.g., Corten, 2019; Scaraboto, 2015; Strzyczkowski, 2019) by focusing on the active role of platforms in creating reputable exchanges in a clearly disreputable hybrid market of intimacies and economics. Our findings illuminate the construction of specific relational packages using platform technologies to reconcile home as a place of intimacy and the market as a place for economics. This allows these two spheres to flourish with little controversy and risk (at least from the perspectives of the network actors). For example,

socio-technical exchanges deployed over a specific timeframe (i.e., before, during, and after hosting experiences) classify the economic transactions as gifts for which hosts are compensated, rather than a direct exchange of value. This provides tax and employer expense savings by the platform. We highlight the agentic role of technology in bringing consumers together, helping them cope with ambiguity, structuring their interactions, and shaping their relationships and their realities, practices, and meanings within the network. The platform begins with pre-relational work early on by grooming its providers to engage in emotional but unremunerated labour (Terranova, 2000). It extends its control by acting as a gatekeeper, buffer, or broker, perpetuating social ties and fictive relations of kinship. This is bundled in an economic exchange softened through differentiated ties, enabling social edgework between control and risk in the form of semi-voluntary acts of reciprocity, gifts, and reviews. The platform reinforces the complete process as part of a viable relational package.

The first evaluative question is centred on the effectiveness of actors' relational work and the value of deploying nonhuman actors in relational packages to confuse disreputable exchanges and legitimate exchanges. We do not assume that all actors consciously structure exchanges in the same way and their subjective experiences may vary. Nevertheless, our findings suggest that actors use specific non-market cultural scripts (e.g., exchanging compliments in reviews, thank-yous) to avoid overtly recognising monetary aspects of the process when dealing with each other. New meanings of exchange are negotiated through the relational work initially set up by Airbnb. It is deployed through their technologies and narratives interpellating hosts from the early moments of their grooming. Nonhuman actors, specifically platform technologies, have agency when they create avenues for economic actions to take place that bring together the necessary elements of relational packages that constitute transactions. Furthermore, we found that hosts attempt to commensurate sacred and profane exchanges through bundling. Zelizer's (2005) example of the need to prohibit sexual

relationships between clients and professionals in order to stop professional and personal relationships bleeding into each other (e.g., caregivers and clients) is similar to Airbnb's prohibiting of host-guest relationships such as taking cash for services delivered in the sacred space of the home.

Participants considered the creation of social relationships as vital to the success of their home-sharing experiences. To avoid commercialising social relationships in the home and to maintain their own ethical rules, hosts utilised different types of technologies and social practices to humanise themselves and build trust. They communicated through the mobile application in order to create an aura of care for and communality with guests even before check-in. Airbnb host profiles, listings, and introductory messages are balanced with subsequent virtual face-to-face interactions as key resources involved in this relational package. Guests may also reciprocate gratitude by offering gifts such as thank-yous, postcards, or positive reviews. In principle, hosts are not violating their own rules against money-home exchanges and technologies support their forming and perpetuating differentiated ties. This involves a technology-money exchange co-existing alongside a host-guest friendship exchange, thus obviating moral transgressions of commerce within the home.

A second evaluative question we ask is, how are these obfuscated exchanges perceived by the different actors in the network? During relational work, it can be difficult to negotiate terms or trades. In hybrid markets with ambiguous terms of exchange, predictions of economic theory may not be applicable, and the efficiency of such markets is decidedly mixed (Rossman, 2014). By deploying an intermediary (in this case, Airbnb technologies) to handle the commensuration of intimate and economic exchanges, providers and consumers often present a (purposefully) naïve view of the Airbnb model whereby no salient taboo exchanges take place and there is no mixing of money with friendship. Actors in the

exchange can remain agnostic about whether home sharing is motivated by money or social relationships.

As a point of departure, by studying the process of production and consumption in a CCN, we are able to understand the intriguing worlds in which such commodities are experienced, and technology's role in the interplay between intimate and market relations. Studies that are less circumscribed as to the participants' roles can explain "how consumers earmark their money, how they build trust or repair mistrust in exchanges, how they negotiate power and inequality through consumption practices, and how they walk the terrain of morally tinged commodification" (Bandelj and Gibson, 2019, p.163). Scholars are now beginning to question digital economies such as CCNs, that only tangentially care about morality. What they really care about, according to such critiques, is the excessive abundance of production that interfaces cultural and technical labour (Terranova, 2000). This results in a mutation or diffusion of nondialectical contradictory realities.

Limitations and future research

We have focused deeply on a single case, Airbnb. Future research could explore in more depth and across varied contexts the ways in which platforms enabling collaborative consumption can aid in the betterment of individuals' lives. While we observed many instances where the platform provided its users moral affordances, that, in turn, maintained trust in the network, we also observed instances when the platform betrayed the trust of its users. In the case of Airbnb in NZ, the government taxation office has recently gained access to hosts' data and revenue to determine their tax obligations. Further research could explore the "dark side" of technology as it pertains to trust between the platform and its users and the tensions these breaches of trust create.

Similarly, a disciplined look at the agency of different technologies may expand our understanding of relational work cases in the intersections and structuring of such exchanges.

Accepting the interpretation of intimate (sacred) exchanges as 'nothing but' (profane) economics is unsatisfactory when grappling with relationships between intimacy and economics. In contrast, a 'connected lives' view does not present these intersections as completely problematic; it acknowledges the complexity of essential relations between intimacies and markets. By expanding our focus beyond a single type of media resource, we have explained how actors use obfuscatory strategies of grooming, bundling, brokerage, buffering, and social edgework in ways that relieve tensions created by dichotomous discourses within the network's platform resources. More investigation is needed on the explicit roles of different network actors during relational work to determine how easily their strategies are employed in different types of economies that do not initially rely on digital technologies to reconcile social relations and economic transactions. How do hobbyists transform into successful entrepreneurs without violating their own rules about money (Martin and Schouten, 2014), or how do parents engage in outsourced family care without sacrificing their ideals of parenthood (Epp and Velagaleti, 2014)? These are questions we hope future researchers will investigate to better understand relations in the market without dwelling on a "nothing but" perspective.

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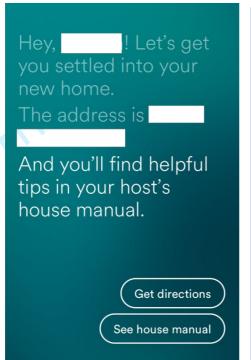
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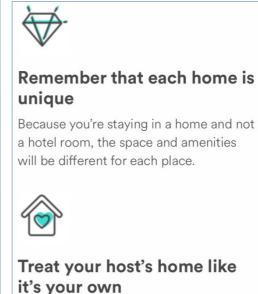
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Each host puts a lot of care into their

their space, and their neighbours.

home so make sure to respect their rules,

ests prior to a. Figure 1: Platform communications with guests prior to an Airbnb stay

Table 1. Data Sources

Interviews				
Pseudonym	Age/ Gender	Years using		
	C	Airbnb		
17	Guests	2015 2017		
Karen	30-39/ Female	2015-2017		
Nick, Julia	30-39/ Male, Female	2016-2019		
Arnen, Gail	40-49/ Male, Female	2013-2019		
Alex, Lindy	60-69/ Male, Female	2016-2019		
Michael	20-29/ Male	2012-2018		
	Hosts			
Chris, Sandra	30-39/ Male, Female	2015-2019		
David, Angelica	30-39/ Male, Female	2014-2019		
Greg, Sandy	40-49/ Male, Female	2012-2019		
Fenny	40-49/ Female	2015-2019		
Dana	50-59/ Female	2015-2019		
Rosy	50-59/ Female	2015-2019		
Dianne	60-69/ Female	2015-2019		
Yanis, Candy	30-39/ Male, Female	2016-2019		
Suzie	40-49/ Female	2015-2019		
Fiona	60-69/ Female	2015-2019		
Pamela	60-69/ Female	2015-2019		
	Property managers	} //		
Philippa	60-69/ Female	2015-2019		
Lilian	40-49/ Female	2013-2019		
Ed	30-49/ Male	2014-2019		
Katharine	50-59/ Female	2013-2019		
	Negative cases			
Melissa, ex-guest	20-29/ Female	2016-2018		
Mike, ex-guest	20-29/ Male	2017		
Renée, ex-host	30-39/ Female	2016-2018		
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Participant Observation Sites				
Type of activity/event	Sponsor	Year (number,		
Host events –	Airbnb HQ	2017-2018 (12)		
launch, education				
Airbnb, tax, legal	Airbnb HQ/	2018 (4)		
information	Government Council			
First author - host	Shared home	2016-2019 (12)		
First author - guest	Shared/private home	2016-2019 (15)		
Monthly host	Host Community	2017-2018 (15)		
meetups (Airbnb	.			
homes/cafes/bars)				

Netnographic Data (2016 - 2019)Type of sourceFollowersPosts collectedAirbnb brand forum16 million550Facebook (official,5,5501,085community)Instagram (official,4 million200community)Twitter (official)21.3 million135Airbnb website50Host blogs110
Airbnb brand forum 16 million 550 Facebook (official, 5,550 1,085 community) Instagram (official, 4 million 200 community) Twitter (official) 21.3 million 135 Airbnb website 50
Facebook (official, 5,550 1,085 community) Instagram (official, 4 million 200 community) Twitter (official) 21.3 million 135 Airbnb website 50
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Twitter (official) 21.3 million 135 Airbnb website 50
Host blogs 110
110st blogs
Media stories 22 articles (55)

Table 2: Obfuscating Intimate-Economic Exchanges

Complex exchange structures	Exchange visualisation	Definitions
Grooming	Jane Doe B Host-ready B	A benign process involving training and preparing hosts to regard the exchanges as normal and reputable.
Bundling	Host A Guest B B'	The aggregation of multiple relations between the same set of actors, that could, in principle, be separated but nonetheless are packaged as a single exchange.
Brokerage	Host A B' Guest	The platform disguises the commercial exchange between hosts and guests by being a third-party mediator, thus allowing them to intimately bond.
Buffering	Host A Guest	The technology takes the blame for some of the things that might go wrong with a visit, and thus diffuses disreputable exchanges.
Social edgework	Coping with risky exchange A-B' Engaging in social exchange A-A'	The platform shapes the negotiation of boundaries between intimate and economic relations by balancing the social risks of staying with strangers and the participants' sense of control over risky situations.

Key:

A: Intimate

B: Economic

A – A': intimate-intimate exchanges (reputable)

B – B': economic-economic exchanges (reputable)

A – B': intimate-economic exchanges (disreputable)