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Grassroots Resistance to Digital Platforms and Relational Business Model Design to Overcome It: A Conceptual Framework

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Abstract. Although extant research has studied incumbent resistance to digital platforms, it provides little understanding about when grassroots collective action by other ecosystem stakeholders against the digital platform is likely. In this paper, we identify the scope conditions detailing when local stakeholders can initiate grassroots collective action against the digital platform, a unique context characterized by fast growth, distributed innovation, role flexibility, and direct local connectivity, and propose viable solutions. Our conceptual framework suggests that grassroots collective action against the digital platform is most likely when the digital platform operates with localized scarce assets or localized precarious labor and when actors express their grievances through formalized channels. We combine business model design and stakeholder management perspectives to develop design-based solutions that involve a multisided business model structure, an inclusive stakeholder value proposition, and an ecosystem-centered governance. We call the combination of such design efforts *relational business model design*. To the incipient theory of digital platforms, we contribute a stakeholder-centered view of platform business models operating within local ecosystems, bridging research on collective action and stakeholder management with strategic management of platforms.

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Keywords: digital platforms • grassroots collective action • multisidedness • stakeholder value proposition • ecosystem-centered governance • relational business model design

1. Introduction

Competitive entry by firms with digital platform business models is becoming more frequent. Canonical examples include Uber's introduction of a digital platform business model for transportation and Airbnb's introduction of a digital platform business model for accommodations (Uzunca et al. 2018). Because such entry tends to introduce a great deal of supply rapidly, often all at once, it can have a significant negative impact on the performance of incumbent firms (Zervas et al. 2017). In this setting, it is not surprising that incumbent firms often work together to try to erect barriers to digital platforms, including government restrictions of various kinds. Extant research (Ansari et al. 2016, Seamans and Zhu 2017, Paik et al. 2019) suggests that the rise of barriers is particularly likely when coordination among incumbent firms is not costly (e.g., when incumbents are part of an oligopoly, when incumbents are part of an industry association that is already coordinating their activities, and when incumbents are already highly regulated and thus linked through the government). These barriers are generally seen as inconsistent with the interests of customers who would like to gain access to the services of the digital platform firm.

However, entry and operations by firms with digital platform business models may generate resistance from another source, independent of resistance by incumbent firms. In particular, sudden increases in supply may create a variety of negative externalities. For example, an influx of new transportation options may increase traffic congestion on the roads; an increase in temporary housing options may affect affordable housing by increasing rent prices, and lower travel costs may generate overtourism in popular cities, derogating the standard of living in some neighborhoods. All these social costs are borne by individuals living in the market where digital platforms operate. Some of these individuals may offset these costs by participating in the digital platform (e.g., by making an underused asset they own available on a digital platform). However, if the number of people in a local market who obtain

private benefits from the digital platform is much smaller than the number of people who bear the externality costs, these disadvantaged people may collectively resist the activities of digital platforms. In this way, people in a market subject to digital platform entry and operation may mobilize and collectively influence their local governments to erect barriers to digital platforms. This is inconsistent with the interests of those who directly benefit from digital platform businesses, but consistent with the interests of those who bear the externality costs of these businesses but gain few benefits. Surprisingly, previous literature has paid little attention to other sources of resistance to digital platforms beyond the one generated by incumbents. As a result, questions regarding when grassroots collective actions affect digital platform business models, a unique context characterized by fast growth, distributed innovation, role flexibility, and direct local connectivity compared with nonplatform firms, remain unanswered.

The purpose of this paper is to identify the scope conditions under which the grassroots-induced stakeholder resistance can emerge and propose design-driven solutions digital platform firms can adopt. Based on the insights from collective action and stakeholder management research (Rindova and Fombrun 1999, Freeman 2010, Gurses and Ozcan 2015, Bridoux and Stoelhorst 2016, Briscoe and Gupta 2016, Lee et al. 2018), we develop a conceptual model to argue that grassroots collective action from local nonparticipants (we call them local outsiders[1]) is more likely when digital platforms operate with *localized scarce assets* and that the local platform participants (to whom we refer as local insiders) are more likely to exert resistance under conditions of *localized precarious labor*. We further argue that the formalization of interactions between local outsiders or local insiders increases the likelihood and intensity of resistant collective action.

In terms of solutions to local stakeholder resistance, we take a design perspective anchored in stakeholder theory to develop propositions about *relational business model design*, which denotes the design of business model structure, content, and governance to ensure relational stakeholder management (Bridoux and Stoelhorst 2016, Jones et al. 2018). Following business model design literature (Zott and Amit 2007, Amit and Zott 2015, Martins et al. 2015), we propose three design levers: multisided structure, inclusive stakeholder value proposition, and ecosystem-centered governance. To calibrate the discontent, we posit the need to design a multisided structure for the digital platform that caters to the different stakeholders from the local context where the firm operates. Enabled by multisidedness, the digital platform can mitigate the collective resistance through the proactive design of an inclusive stakeholder value proposition[2] (SVP) and ecosystem-centered governance that create new roles for local outsiders and share value with local platform insiders to improve alignment with local actors and ensure long-term ecosystem well-being. This explicitly highlights the need to include such local ecosystem stakeholders as city residents or municipalities, in addition to digital platform users and providers, in the design of the business model's value proposition and ecosystem-centered governance to institutionalize stakeholder orientation of the platform.

Our work offers a conceptual framework that identifies when grassroots collective resistance is more likely and how it can be mitigated, which contributes to the existing literature in different ways. First, we identify new barriers to entry and efficient operation by digital platforms in terms of grassroots collective actions, which complements the literature that has focused on incumbent resistance alone (Garud et al. 2002, Ansari et al. 2016, Paik et al. 2019). By including additional stakeholders (local insiders and outsiders) that are not usually part of the existing research conversation, we suggest that digital platform firms can develop useful relations of cooperation and co ordination with local ecosystem stakeholders, in addition to the classically studied co-opetition with platform participants in the form of complementors (Brandenburger and Nalebuff 1995, Rochet and Tirole 2003, Gawer and Henderson 2007, Zhu and Liu 2018).

Second, we propose solutions that, taken together, constitute what we label *relational business model design*, which we propose as a new concept in the digital platform literature. Relational business model design enables digital platforms to function as ecosystem integrators of jointly created value with local stakeholders through multisided structure, inclusive SVP, and ecosystem-centered governance. Our stakeholder-centered view of digital platforms contrasts with traditional industrial economists' examination of two-sided market dynamics centered around profit maximization. Furthermore, although existing business model literature usually targets customers as the main stakeholders (Foss and Saebi 2017), we suggest that joint value creation can be achieved through multisided digital platforms orchestrated around an inclusive SVP and ecosystem-centered governance. Because of the uniqueness of the digital platform context, characterized by rapid scaling through network effects and winner-take-all strategies that often give rise to dramatic negative externalities for local ecosystems, relational business model design in digital platform firms can help sustain long-term ecosystem well-being while preventing conflict escalation.

Third, and more generally, we contribute by bridging collective action and stakeholder management research with strategic management of platforms, in the hope of

enabling richer dialogue across disciplinary boundaries. Although scholars have grounded the study of business models in strategic network theory, transaction cost economics, and the resource-based view (Amit and Zott 2001), and have used cognitive (Aversa et al. 2015, Martins et al. 2015) or organizational learning perspectives (Sosna et al. 2010, Berends et al. 2016), to date, business model researchers have built few, if any, bridges to research on collective action and stakeholder management. This oversight is problematic because market[3] creation and transformation by digital platform business models have generated social unrest and resistance in many locations during the last decade, but without generating adequate scholarly attention. Thus, we hope to contribute to building the nascent theory of digital platform business models with practical relevance for managers and regulators.

2. Theoretical Background: Digital Platform Business Models

2.1. Business Models of Platforms

A business model is defined as "the logic of the firm, the way it operates and how it creates value for its stakeholders" (Casadesus-Masanell and Ricart 2010, p. 196). Several strategic management scholars have begun to study business models as design objects that can be improved and innovated by design (Amit and Zott 2015, Martins et al. 2015). Three elements that constitute business model architecture can be designed: business model structure, content, and governance. Structure refers to how the firm activities are organized, content refers to what activities contribute to the value proposition of the firm, and governance refers to who is in charge of what activities (Amit and Zott 2001, 2015).

Some business models can be characterized as platforms that consist of two or more sides catering to different stakeholders (Baden-Fuller and Mangematin 2013, Massa et al. 2017, Zhao et al. 2019), who are often referred to as users and providers (Rochet and Tirole 2003, Schiff 2003, Eisenmann et al. 2006). Platforms have been identified by Stabell and Fjeldstad (1998) as one of three configurations through which firms create value (in addition to the vertically integrated value chains and customer-centric value shops). Two-sided platforms "earn money by bringing two groups together—typically one group with a need and another group with possible solutions" (Ritter and Lettl 2018, p. 3). This creates both challenges and opportunities compared with more traditional one-sided business models, because "the platform incurs costs in serving both groups and can collect revenue from each, although one side is often subsidized" (Eisenmann et al. 2006, p. 2; see also Hagiu and Spulber 2013). One example of such a platform is Uber, which brings together drivers and passengers in need of transportation (Baron 2018); another example is Airbnb, which connects apartment owners (hosts) with guests (Carrasco et al. 2019). Uber and Airbnb operate digital platform business models.

2.2. Digital Platforms Are Uniquely Different from Nonplatform Firms

Digital platforms are a category of platform business models enabled by digital technologies (Iansiti and Levien 2004, Cennamo 2020).[4] We specifically focus on digital platform business models as a unique phenomenon that deserves a specific theoretical conceptualization because digital platforms have the strongest disruptive potential for existing ecosystems,[5] creating new markets or transforming existing ones, and bringing together heterogeneous groups of stakeholders. Nondigital platform firms differ from digital platform firms in four aspects. First, digital platforms often exhibit fast growth because of low transaction costs enabled by the reach and speed of the Internet, network effects, and the pursuit of winner-take-all strategies (Eisenmann et al. 2006, Cennamo and Santalo 2013). Second, digital platforms enable increased openness and affordances for distributed innovation by complementors because of new ways of using knowledge through platform-based governance (Boudreau 2010, Yoo et al. 2012, Cennamo and Santalo 2019). Fast growth and distributed innovation give rise to both positive and negative externalities. Third, the roles of platform participants are flexible and can change (e.g., a host can also be a guest on Airbnb), differing significantly from the hierarchically structured roles of employees in nonplatform firms (Curchod et al. 2019, Nambisan et al. 2019). Fourth, digital platforms enable direct connectivity with local supply and demand, resulting in substantial, sometimes even dramatic, direct impact on local markets as they enable efficient use of previously often idle local resources owned by actors outside the platform.[6]

These features leave little time for existing ecosystems to adjust and adapt regulations for the market entry of digital platforms, increasing their disruptive potential. Concurrently, digital platforms also face distinct challenges compared with nonplatform firms to accommodate the flexibility of their participants' roles (Nambisan et al. 2019), to adjust to diverse local contexts (Uzunca et al. 2018), and to coordinate heterogeneous participants to ensure affordances for innovation in the platform's digital infrastructure (Helfat and Raubitschek 2018). Taken together, these distinctive characteristics of digital platforms in terms of (positive or negative) platform externalities and role of local insiders and outsiders call for specific theorizing.[7]

2.3. Types of Digital Platforms

We classify the digitally enabled platform business models into three types, based on their value proposition to users: (1) physical asset platforms, (2) digital asset platforms, and (3) labor platforms.[8] In digitally enabled physical asset platforms, physical assets are the key part of the value proposition to users. As opposed to digital assets, physical assets have "spatial attributes, such as shape, volume, mass, and location" (Faulkner and Runde 2019, p. 6). A variety of digital platforms have been developed around physical asset transactions involving, for instance, accommodations, cars, or bicycles. These physical asset platforms include specialists such as Airbnb or Tujia (accommodations), Zipcar (cars), Mobike (bikes), and Etsy (craft products), and generalists operating digital platforms for the exchange of goods, such as eBay, Amazon's Marketplace, Alibaba, and JD.com.[9]

In digitally enabled digital asset platforms, digital assets are the critical part of the value proposition to users. Digital assets are built with strings of bits, the 0s and 1s "readable by the kind of computer hardware for which they are intended" (Faulkner and Runde 2019, p. 7) and include digital music, movies, news, and software, among others. Several digital platforms enabling digital asset exchange have been launched in the last two decades, such as iTunes and Spotify for music, Netflix for movies, Huffington Post for news, and iOS App Store and Google Play for application software.[10]

Finally, in digitally enabled labor platforms, more-or-less skilled labor, often embedded in a variety of services, is the key part of the value proposition to users. Labor exchanges can vary from more specialized and skilled labor, such as education, design, and consulting, to less specialized and skilled labor, such as transportation and delivery. Examples of these labor platforms include 99designs, Upwork, TaskRabbit, Grubhub, Handy, Amazon's Mechanical Turk, and Glovo, to name a few.

What all digital platforms have in common is the reliance on technology such as the Internet, which speeds up network effects; that is, "the more users who adopt the platform, the more valuable the platform becomes to the owner and the users because of growing access to the network of users" (Gawer and Cusumano 2014, p. 417). Research suggests that the critical decisions for designing digital platforms should balance value proposition among different sides of the platform to increase network effects and activate winner-take-all dynamics (Eisenmann et al. 2006, Cennamo and Santalo 2013), encourage innovation through openness (Boudreau 2010, Yoo et al. 2012, Nambisan et al. 2018), and enable complementor development (Gawer and Phillips 2013). Although Gawer and Cusumano (2014) highlight the importance of connecting the platform business model to the broader ecosystem, scarce effort has been made to study the interaction of digital platforms with their environment, beyond examining the (often dyadic) interactions with users, complementors, or competitors (for recent reviews, see Thomas et al. 2014, McIntyre and Srinivasan 2017).

2.4. Market Creation and Transformation Through Digital Platforms

Moreover, although much research has focused on developing models of platform competition (Hagiu 2006, Seamans and Zhu 2017, Cennamo 2020), scholars have only recently begun to examine empirically how companies enter industries with digital platform business models (Zhu and Iansiti 2012, Seamans and Zhu 2014, Ansari et al. 2016). This entry often reshapes market structures and might even result in the creation of new markets by bringing in additional stakeholders with novel coordination mechanisms (Baron 2018, Zhu and Liu 2018). For example, when Airbnb entered the hospitality industry, it facilitated access to become a host for many people who were not participating in this market before (Carrasco et al. 2019). For these reasons, scholars have argued that digital platforms create new markets or facilitate the transformation of existing markets that previously suffered from high frictions obstructing their full potential (Parker et al. 2016).

This, often transformative, entry of digital platforms has been studied by researchers from the point of view of incumbents (Koopman et al. 2015, Edelman and Geradin 2016, Paik et al. 2019). For example, according to Paik et al. (2019), 36% of cities immediately banned Uber upon entry in the United States as a result of the opposition from incumbent businesses that lobbied regulators. Through this political muscle, incumbents in regulated markets, together with local government, can create barriers to digital platforms. Several scholars have empirically documented incumbent resistance and countermobilization in reaction to digital platforms, such as in the case of Sun's digital Java platform, strongly resisted by Microsoft (Garud et al. 2002) and Tivo's digital video recorder platform, sharply opposed by cable and broadcast networks (Ansari et al. 2016).

However, resistance to digital platforms can also emerge within local ecosystems from actors other than the incumbents and can continue after entry. As we argue below, local stakeholders can also become a source of strong resistance through grassroots collective action, spurring conflict with digital platform firms. However, prior literature has been silent on the subject of when it is more likely for these sources of

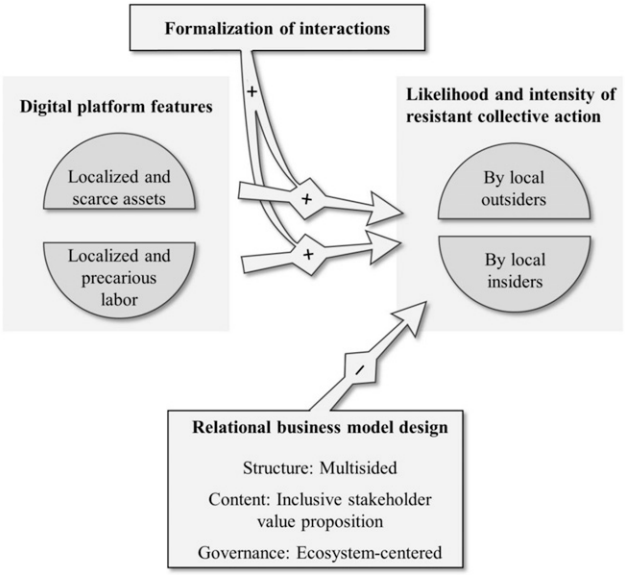
grassroots resistance to digital platform firms to appear. Our model addresses this gap.

3. Conceptual Framework: Grassroots Resistance and Relational Business Model Design

We suggest that, because of the negative externalities that digital platforms might create in local ecosystems related to their rapid scaling, additional sources of collective action that hinder the entry and continuous operation of digital platform business models can emerge. We rely on research about collective action (Briscoe and Gupta 2016, Lee et al. 2018) and digital platforms (Cusumano et al. 2019, Cennamo 2020) to develop propositions based on two key dimensions reflecting these literatures: *grassroots collective action* relates to different sources of stakeholder resistance to platform business models from the local ecosystem where such models operate; and *localized scarce assets* and *localized precarious labor* relate to the underlying features of the digital platform firm's value proposition (see Section 2.3). Taking into consideration research on stakeholder management (Bridoux and Stoelhorst 2016, Jones et al. 2018) and business model design (Zott and Amit 2007, Amit and Zott 2015, Martins et al. 2015), we then discuss proactive solutions to collective action.

Figure 1 summarizes our conceptual framework by indicating the main constructs and the links between them. In the next section, we develop the relation between the characteristics of digital platform assets and labor, the likelihood and intensity of resistant collective action by local stakeholders (propositions 1 and 2), and the moderating role of formalization (proposition 3). Then we examine the solutions to decrease the likelihood and intensity of resistant collective action through relational business model design (proposition 4).

Figure 1. Conceptual Framework of Grassroots Resistance to Digital Platforms and Relational Business Model Design to Overcome It



3.1. Collective Action and Social Activism

Collective action refers to actions taken together by a group of people or organizations with a common objective (Olson 1965, Ostrom 2000). It has been traditionally studied by social movement scholars (McCarthy and Zald 1977, Jenkins 1983, Davis et al. 2005). Collective action issues are relevant for digital platform business models, which often disrupt existing ecosystems by either creating new markets or transforming existing ones.

Recently, scholars have theorized collective action as an essential process for market creation (Gurses and Ozcan 2015, Lee et al. 2018). According to Lee et al. (2018), during market creation, actors need to collectively develop a shared infrastructure to achieve legitimacy and foster the creation of supportive regulation. This can be realized through material resource commitments and the development of shared cognitive interpretations (Rindova and Fombrun 1999, Ozcan and Santos 2015). For example, Ozcan and Santos (2015) detail how the lack of collective agreement about resource commitments among key firms hindered the creation of the mobile payment market, and Gurses and Ozcan (2015) document how collective framing strategies around public interest enabled the creation of the pay-TV market in the United States.

Although this literature focuses on firms as the actors in the collective action during market creation (David et al. 2013, Gurses and Ozcan 2015, Lee et al. 2018), literature on social activism and stakeholder management (Rowley and Moldoveanu 2003, Freeman 2010, Bridoux and Stoelhorst 2016, Briscoe and Gupta 2016, Dorobantu et al. 2017) has identified other stakeholders, such as social movements or other groups of organizational outsiders or insiders (King and Soule 2007, Briscoe and Safford 2008, Sine and Lee 2009, Weber et al. 2009, Kellogg 2011, DeCelles et al. 2020) that can also organize for collective action. We build on this insight to add to the recent advances about the role of collective action as desirable in the market creation context (Gurses and Ozcan 2015, Lee et al. 2018) by leveraging the notion that collective action can also be a source of resistance toward market-creating or transforming digital platforms through grassroots social activism.

Social activism can be defined as instances in which individuals or groups of individuals engage in collective action to remedy a perceived social problem or to promote or counter changes to the existing social

order (Tilly 1978, King and Soule 2007, King 2008). They do so by leveraging different tactics to disrupt or challenge organizational resources, routines, or reputations, increasing the likelihood that decision makers in target organizations will be forced to pay attention (Alinsky 1971, Baron and Diermeier 2007, King 2008). How social activists target and influence organizations has received substantial scholarly attention by social movement and stakeholder management scholars (Lounsbury et al. 2003, Baron and Diermeier 2007, Dorobantu et al. 2017). This body of research suggests that organizations can be affected positively by the support of stakeholders (Lounsbury et al. 2003, Sine and Lee 2009) or negatively by the withdrawal of support or opposition from stakeholders (Frooman 1999, Harrison et al. 2010, Hampel et al. 2019). A body of related empirical research has focused on the disruptive potential of activists influencing organizational outcomes, recently reviewed by Briscoe and Gupta (2016). However, not all activism is equal. Following Briscoe and Gupta (2016), we separate grassroots collective action by differentiating between local insiders and local outsiders. This separation is consistent with the stakeholder management literature, which defines stakeholders as "any group or individual who can affect or is affected by the achievement of the firm's objectives" (Freeman 1984, p. 25). It is also conceptually adjacent to the distinction between internal and external constituencies identified in stakeholder theory (Freeman 1984, Freeman et al. 2010).

3.2. Grassroots Collective Action by Local Outsiders: The Case of Assets

We use the term *local outsiders* to refer to those individuals or groups who do not participate in the operations of the focal digital platform (in contrast to insiders, who either use or provide assets or services on the focal platform) and do not compete with it (in contrast to incumbents) but might be affected by it.[11] For example, residents of cities where digital platforms such as Airbnb or Mobike operate are local outsiders, whereas the hosts or users of these platforms are local insiders. Local outsiders are characterized by a low dependence on the focal platform and can decide (or threaten) to withhold their resources from the firm (i.e., using the exit mechanism, Hirschman 1970), so the costs of conflict will be entirely born by the firm (Frooman 1999). Low dependence allows local outsiders to more or less effortlessly mobilize other local outsiders through common networks (McCarthy and Zald 1977, Rowley 1997) for collective action in case of grievances (i.e., negative externalities) caused by the operations of the platform and to engage in disruptive tactics that might hurt the focal firm and generate negative media attention (Baron and Diermeier 2007, King 2008, Eesley et al. 2016). Several digital platforms have faced collective action by local outsiders: for instance, Airbnb faced protests by citizens in cities such as Barcelona, Berlin, and Dublin, among others, which targeted the platform's impact on local housing prices (France 24 2017, The Irish Times 2018, Bloomberg 2019, El País 2019).

We argue that the likelihood of resistant collective action by local outsiders is higher if the assets traded by the platform are localized and scarce. This is particularly relevant for digitally enabled physical asset platforms rather than digital asset platforms because digital assets are not localized or scarce because of close to zero marginal costs of distributing digital assets and their nondegrading nature with use or age (Faulkner and Runde 2019).

Locally scarce assets are more prone to trigger collective action from groups of stakeholders competing for the same assets. They affect local groups of stakeholders, and these stakeholders have opportunities to synchronize their collective actions through reduced coordination costs because of geographical proximity (Ingram et al. 2010, Marquis et al. 2007). This proximity can give rise to a collective identity, such as Barcelona citizens, that contributes to feelings of solidarity and catalyzes individual commitment to collective action (Rowley and Moldoveanu 2003). In the same way that local incumbents can be part of an industry association to coordinate their actions or develop ties to local or regional governments (Paik et al. 2019), other ecosystem stakeholders, such as neighbors, can create their own structures or leverage existing ones (like social movements, neighborhood associations, or labor unions) to channel their discomfort and grievances (Baron and Diermeier 2007, King and Soule 2007). It is more probable for local ecosystem stakeholders to share common interests, experiences, and solidarities if the assets they care about are tied to the shared location (Marquis and Battilana 2009). However, it is not enough for assets to be located in the same area; they also have to be scarce to generate stakeholder resistance through grassroots collective action.

The concept of scarcity includes assets that, because of contextual specificities, are subject to higher demand than supply (Robbins 1935). By definition, scarce assets are prone to be in high demand by various ecosystem stakeholders. The problem occurs when scarcity is significantly augmented as the digital platform creates new markets that were previously unavailable. Digitally enabled physical asset platforms can often siphon unused assets quickly because of fast growth activated by network effects and winner-take-all strategies, exacerbating local asset scarcity. Further, physical assets can be shifted from other markets to the new market enabled by the digital

platform if it is more attractive and the platform helps overcome previously existing barriers to asset mobility. This results in a lower supply of assets, increasing the scarcity problem and/or increasing prices in other markets. For example, when Airbnb entered the hospitality industry, it enabled many more people than before to participate in the travel accommodation market. In several cities, such as Amsterdam, Barcelona, and Paris, this led to the migration of the housing supply from long-term apartment rental for local citizens to short-term apartment rental for tourists (Carrasco et al. 2019). The digital platform exacerbated apartment scarcity for local residents seeking long-term apartment rentals. Asset scarcity can, therefore, generate resistance to the digital platform from local outsiders.

The level of scarcity varies with different local contexts. For instance, the level of apartment scarcity is highly variable in local contexts, such as international urban areas, rural areas, and declining cities. Digital platforms offering tourist accommodation in contexts with low supply and high demand for housing (conditions fostering higher scarcity) will likely face higher tensions than digital platforms offering tourist accommodation in rural areas or second-tier cities, where the supply might be higher and the demand lower (conditions fostering lower scarcity). In a scenario of locally scarce assets, the digital platform can generate negative externalities to those outside the platform, either directly (e.g., in the case of Airbnb, to city residents seeking long-term apartment rentals) or indirectly (e.g., in the case of Airbnb, to residents of touristic neighborhoods who deal with the negative impact of overtourism). Therefore, we propose that local outsiders will be more likely to voice grievances and engage in disruptive tactics against the digital platform when the platform leverages highly localized and scarce assets in its value proposition (Figure 1). Digital platforms that generally offer less localized and less scarce assets; for example, physical asset platforms, such as eBay, Amazon Marketplace, and Alibaba, or digital asset platforms, such as Huffington Post, iOS App Store, and Google Play, will be less likely to face this kind of grassroots resistance. Thus, we propose the following:

Proposition 1. *When the digital platform firm leverages highly localized and scarce assets in its value proposition, the likelihood of grassroots collective action by local outsiders to resist the digital platform increases.*

3.3. Grassroots Collective Action by Local Insiders: The Case of Labor

We refer to local insiders as those individuals or groups who participate in the operations of the focal platform, affecting it directly. Examples include BlaBlaCar drivers or freelancers at Upwork, Handy, and TaskRabbit. Local insiders are characterized by high dependence on the focal platform for income or other resources (Frooman 1999, Briscoe and Gupta 2016) and might fear the negative consequences of their actions (DeCelles et al. 2020). Because of such dependence, local insiders usually do not wish to see the firm's success threatened and will tend to negotiate while expressing discontent (i.e., the voice mechanism, Hirschman 1970), rather than withhold their resources from the firm altogether (i.e., the exit mechanism, Hirschman 1970). For instance, local insiders can coordinate action to manipulate the platform app to trigger surge pricing and increase their wages.[12] This usually results in the costs of conflict being shared between the insiders and the firm (Frooman 1999). Insiders thus constitute a more proximate platform stakeholder community than outsiders and are often already active online, which can make it easier for them to engage in grassroots resistance if they disagree with the digital platform decisions (Massa 2016, Hampel, et al. 2019).

Often, digital platforms that create new markets can attract precarious labor that is abundant and was not previously tapped, because of the absence of market infrastructure (Lee et al. 2018). Digitally enabled labor platforms provide flexible employment opportunities, shifting from contract employment to freelance relationships with the company (Boudreau and Jeppesen 2015). While creating new opportunities for workers, digital labor platforms attract precarious labor that is not protected by regulation in this new context (Ashford et al. 2018, Baron 2018). Flexibility of platform participant roles, where platform insiders are not employees, increases the potential for exploitation of this often minimally protected precarious labor. Studies document that compensation on digital labor platforms such as Amazon's Mechanical Turk is often lower than minimum wages set by governments in countries such as the United States and Germany, and workers often lack health insurance (Berg et al. 2018). The abundance of localized labor, especially if low-to-medium skilled, can increase competition between workers, lower wages, and increase expressed grievances and discontent.

At the same time, digitalization lowers costs, not only for running the platform but also for digital platform insiders to organize for collective action (Massa 2016, Hampel et al. 2019). As the platform grows and attracts users and providers, platform size and visibility are likely to spur collective action by insiders. Examples include Uber drivers' mobilizations in several UK cities, such as Birmingham, London, and Nottingham, and in Los Angeles and New York in the United States (BBC 2019, Campbell 2019), Deliveroo drivers' mobilization in

London (Metro 2016, The Guardian 2016), and TaskRabbit contractors' opposition to the platform in several U.S. cities (VentureBeat 2014).

Collective action is easier when workers are colocated; for instance, in the same urban area, compared with cases of geographical dispersion, as local embeddedness facilitates face-to-face interactions, knowledge spillovers, and sharing of common grievances (Gieryn 2000). Colocation facilitates the organization of workers in groups that will try to upend the balance of power between management and labor concerning issues such as wages but also safety (e.g., for riders of bicycle delivery platforms), harassment, and discrimination.

We, therefore, argue that local insiders will be more likely to voice grievances and engage in grassroots collective action when the digital platform leverages highly localized and precarious labor in its value proposition (Figure 1). This is particularly problematic for digital platforms, as research suggests that protests relating to labor provoke strong negative reactions by investors because labor issues are generally viewed as having high social relevance and constitute legitimate claims (Mitchell et al. 1997, King and Soule 2007). Digital platforms that offer less localized and less precarious labor in their value proposition, such as the digital creative labor platform 99designs, will be less likely to face this kind of grassroots resistance. Formally, we propose the following:

Proposition 2. *When the digital platform firm leverages highly localized and precarious labor in its value proposition, the likelihood of grassroots collective action by local insiders to resist the digital platform increases.*

3.4. Formalization of Grassroots Collective Action

The likelihood and intensity of grassroots collective action to resist digital platforms, whether originating from outsiders or insiders, will increase when this collective action becomes formalized. By formalization, we mean the emergence of intentional coordination of collective action through structured governance, established procedures, and routines (Staggenborg 1988), which can take various forms, such as a nonprofit association, labor union, or online community. Formalization enables local outsiders or insiders to build collective power and offers options for actions that, otherwise, would not be available. One example of formalized collective action by local outsiders comes from Barcelona, where, in 2018, local residents—mobilized by more than 60 citizen organizations, including various neighborhood associations—marched through the main tourist areas of the city under the banner "Barcelona is not for sale" (La Vanguardia 2018).

Through the formalization of their interactions, local stakeholders can gain legitimacy and access to resources and funding (McCarthy and Zald 1977, Lounsbury et al. 2003, Kellogg 2011). Formalization is likely to increase community cohesion and enable the development of shared identity (Rowley and Moldoveanu 2003). Given the potential for resource acquisition, formalized movements can also maintain collective action when mobilization becomes difficult through the professionalization of leadership (Staggenborg 1988). Moreover, formalized grassroots collective action might cascade to other parts of society (Dorobantu et al. 2017), engaging other groups of stakeholders, who will act as an *echo chamber* for the formalized community grievances; for instance, by taking their concerns to the media.

In parallel, formalization of the interaction among stakeholders will amplify the degree of discontent and intensify their requests (c.f., Rowley and Moldoveanu 2003). Through formal structures, local stakeholders can increase the magnitude and duration of their grievances, two critical attributes of the *intensity* of stakeholders' demands (Snyder and Kelly 1977). The reason is that formal structures nurture stakeholders with the ability of close monitoring and provide the tools to exert higher pressures against platforms' actions that stakeholders considered detrimental. For example, Rideshare Drivers United, an independent association of U.S. rideshare drivers, founded in Los Angeles in 2017, repeatedly organized strikes against the Uber and Lyft platforms over pay and the lack of worker protection.[13] Thus, formalization increases the intensity of collective action (Figure 1). However, in cases of low formalization, it will be harder for local outsiders or insiders to sustain the impetus for collective action against the digital platform. We therefore propose the following:

Proposition 3. *Formalization of interactions between local outsiders or local insiders increases the likelihood and intensity of grassroots collective action to resist the digital platform characterized by localized and scarce assets or localized and precarious labor.*

3.5. Solutions: Relational Business Model Design

Next, we discuss how digital platforms can address grassroots collective action from local stakeholders through what we refer to as *relational business model design,* which denotes the design (or redesign) of business model structure, content, and governance to ensure a relational approach to stakeholder management (Dyer and Singh 1998, Bridoux and Stoelhorst 2016, Jones et al. 2018). Stakeholder management literature differentiates a relational approach to stakeholder management, based on different types of stakeholder relationships (e.g., balanced reciprocity, display of deference, or community sharing), from a transactional approach, uniquely based on the price mechanism

(Bridoux and Stoelhorst 2016, Jones et al. 2018). The relational approach views stakeholder relations as collaborative and open-ended partnerships (Crilly and Sloan 2012). Relational stakeholder management is key to enabling joint value creation (Bridoux and Stoelhorst 2016), particularly salient for platforms involving localized assets or labor subject to grassroots resistance concerns.

Because of the uniqueness of the digital platform context, where fast growth generated through network effects and winner-take-all strategies can foster dramatic negative externalities for local ecosystems, relational business model design is particularly useful to sustain long-term ecosystem well-being and enable joint value creation while preventing conflict escalation. Although network effects can work in the platform's favor, these effects can also become negative and generate negative cascades in terms of reduced participation and foregone innovation opportunities (Dorobantu et al. 2017, Helfat and Raubitschek 2018). This effect is augmented in the digital platform context by the flexibility of participant roles, which increases the potential for the spread of discontent between local insiders and outsiders, particularly when the platform ignores local sensibilities while pursuing winner-take-all strategies in different local markets. In this context, stakeholder management for value creation (Freeman 2010, Parmar et al. 2010, Bridoux and Stoelhorst 2016, Tantalo and Priem 2016) becomes key because "no stakeholder stands alone" (Freeman 2010, p. 8), particularly in the interconnected digital context.

We focus on solutions that cannot only potentially mitigate collective action challenges but also generate virtuous cycles of value creation with stakeholders, rather than simply compensate stakeholders for losses ex post (Baron and Diermeier 2007). Anchored in business model design elements of structure, content, and governance (Zott and Amit 2007, Amit and Zott 2015), we specifically suggest three design levers that together constitute a solution to address challenges related to grassroots collective action proactively: (1) designing (or redesigning) a multisided business model structure, (2) designing (or redesigning) an inclusive stakeholder value proposition, and (3) designing (or redesigning) an ecosystem-centered governance. Although presented separately, the three design levers when combined constitute a *relational business model design*, which can reduce the likelihood and intensity of grassroots resistance and enrich the functioning of the digital platform as an ecosystem integrator of jointly created value. Table 1 relates the three elements of the relational business model design solutions to the specificities of digital platforms explained above (fast growth, distributed innovation, role flexibility, and direct local connectivity).

3.5.1. Designing a Multisided Business Model Structure.

Business model structure refers to how the firm is organized, and in the case of a platform, how it is linked with its users and providers. There is ample evidence of interaction between how the firm treats stakeholders and their behavior with the firm (Rindova and Fombrun 1999; Bridoux and Stoelhorst 2014, 2016). The relational business model design adopted by the platform is likely to signal how the firm treats stakeholders to local outsiders and insiders. The way one group of stakeholders is managed (e.g., outsiders) affects the nature of the platform relationship with other stakeholders (e.g., insiders) (Rowley 1997). This is because of the judgments and evaluations stakeholder groups pass on the platform firm (Bridoux and Stoelhorst 2016), which are particularly salient in tightly connected local contexts such as cities. Mindfully designing the structure of the digital platform business model to cater to multiple stakeholders (i.e., leveraging a multisided rather than typical two-sided designs) can enable a virtuous cycle of attention to stakeholders (Crilly and Sloan 2012). That is, a relational approach to joint value creation signaled by the platform early on can generate self-fulfilling expectations (of either continuous joint value creation or conflict) from different stakeholder groups (Bridoux and Stoelhorst 2016). Stakeholder management literature supports the idea that credible commitments to cooperate are important for stakeholder management (McEvily et al. 2000), that pivoting is usually difficult and time-consuming after stakeholder expectations have been set (Hampel et al. 2019), and that "consistency over time and across stakeholders" matters for joint value creation (Bridoux and Stoelhorst 2016, p. 245).

Conversely, the exclusion of ecosystem stakeholders from business model structural design is likely to lead to a vicious cycle of grassroots collective action, escalating conflict with local outsiders and negative indirect network effects with local insiders, resulting in value destruction and a potentially strong reaction from the local, regional or national regulatory bodies to ban platform operations. Consider the interaction between Airbnb and the city of Barcelona, where conflict had been escalating for several years—including several protests by local outsiders and numerous fines imposed on hosts and Airbnb by the City Council (Financial Times 2016). As Airbnb made few concessions to the City Council, it faced increased fines for recidivism (ACABA 2018) and further protests from local stakeholders (La Vanguardia 2018). This escalation made it difficult to find a solution and rebuild trust with neighborhood associations and other local stakeholders. Conflict management literature suggests that weak social bonds and perceived power advantage can increase conflict escalation

Table 1. Digital Platform Specificities: Implications for Main Constructs

		Collective action problems		Relational business model design solutions		
	Digital platform specificities (vs. nonplatform firms)	Localized scarce assets and local outsiders	Localized precarious labor and local insiders	Multisided structure	Inclusive stakeholder value proposition (SVP)	Ecosystem-centered governance (ECG)
Platform externalities (positive or negative)	Fast growth through network effects and winner-take-all strategies (Rochet and Tirole 2003, Cennamo and Santalo 2013, Gawer and Cusumano 2014)	• Fast growth exacerbates scarcity of assets at higher speeds	• Potential for contagion when social movement erupts (through negative network effects)	• Multisidedness facilitates coordination between stakeholders before negative externalities set in	• SVP offers additional value to different stakeholders taking into account negative externalities and discontent	• ECG prevents negative externalities and sustains value creation through more equitable and long-term focused value distribution within the local ecosystem
	(vs. typically more linear rather than exponential growth in nonplatform firms)			• Multisidedness helps to calibrate readily negative externalities and discontent		
	Openness and distributed innovation through standardized digital infrastructure for heterogeneous participants (Boudreau 2010, Yoo et al. 2012, Nambisan et al. 2018)	• Grassroots resistance prevents outsider participation in platform innovation	• Grassroots resistance prevents novel solutions and potential benefits of collective innovation	• Multisided structure with heterogenous actors increases innovation potential	• SVP promotes a better balance between value creation and value sharing	• ECG enables increased innovation and entrepreneurship by platform participants through aligned incentives
	(vs. typically more closed innovation approaches in nonplatform firms)			• Multisidedness fosters multilateral relationships, increasing innovation potential		
Role of local insiders and outsiders	Flexible, less structured roles of local platform participants (Curchod et al. 2019, Nambisan et al. 2019)	• Outsiders could become insiders	• Porous roles between users and providers increase the potential for spread of discontent among platform insiders	• Multisidedness helps align "unstable" roles between platform participants to enable boundary-spanning and shared collective identity	• Clarity in SVP for each stakeholder's role is a prerequisite for incentive alignment in ECG	• ECG improves alignment (Adner 2017) between platform participants and encourages agreement about SVP and everyone's roles
	(vs. more defined and hierarchically structured roles for employees in nonplatform firms)					
	Direct connectivity with local market "supply" and "demand"	• Greater potential for "discovering" unutilized assets that can be shared on physical asset platforms	• Greater potential for exploitation of unprotected precarious labor on labor platforms • Greater risk of ignoring local sensibilities	• Multisidedness enables quicker and more efficient local responsiveness for the platform embedded in local community of users and providers	• Potential to learn from local context to enrich digital platform firm's (global) value proposition	• ECG helps rebalance power differentials in local contexts, improve platform firm's reputation over time, and institutionalize stakeholder orientation
	(vs. clearer boundaries between employees and customers or suppliers in local contexts in nonplatform firms)					

(Wall and Callister 1995). The exclusion of ecosystem stakeholders by digital platforms from their business model is a contributing factor to conflict escalation; as such, exclusion suggests to local stakeholders that the digital platform has a power advantage and does not intend to create strong ties or engage in communal sharing with the local ecosystem.

Although designing a multisided business model structure is likely more effective to avoid grassroots resistance through coordination between stakeholders, doing so in response to negative local reactions (i.e., by redesigning a two-sided business model to include additional stakeholders) could potentially mitigate or even reverse grassroots resistance by calibrating negative externalities and discontent. For instance, instead of focusing on one stakeholder (such as customers or shareholders), Airbnb recently proposed "to create a company that considers the needs of all stakeholders," including communities, defined as "where our business takes place" (Airbnb 2020). Acknowledging the company's local impact, Brian Chesky (Airbnb's CEO) wrote an open letter in which he stated that "We must have the best interest of three stakeholders in mind: Airbnb the company (employees and shareholders), Airbnb the community (guests and hosts) and the world outside of Airbnb . . . we must find harmony between these stakeholders" (Chesky 2018). When discussing specific local disruptive impacts of Airbnb, Chesky (2018) explained that "one area we are focused on is making sure that, in markets that are significantly housing constrained, the Airbnb community is helping people stay in their homes and share their communities and not negatively impacting housing."

Of course, implementation may be more difficult after the emergence of collective action, as has been the case of Airbnb in several cities. Trust needs to be restored to engage all parties in the relationship for joint value creation. However, multisidedness can help digital platforms increase their innovation potential by engaging additional heterogeneous actors (e.g., local communities in the case of Airbnb) in boundary-spanning activities and enable a quicker and more efficient local responsiveness of the platform embedded in the local community. Multisided structural design can, therefore, enable positive externalities while reducing the negative ones.

3.5.2. Designing an Inclusive Stakeholder Value Proposition.

Business model content refers to what activities contribute to the value proposition of the firm, which enables value creation for customers (Chesbrough 2010, Osterwalder et al. 2010). Taking a design perspective that views business models as design objects (Amit and Zott 2015, Martins et al. 2015), some authors suggest that during business model design, firms should consider their partners in addition to customers when developing a value proposition (Gassmann et al. 2014). Applying this idea to digital platform business models and extending it to local outsiders, we argue that to address or, better still, prevent stakeholder resistance stemming from grassroots collective action, digital platform firms need to design (or redesign) their value proposition to create value for a number of stakeholders, including not only users and providers in two-sided platforms (i.e., local insiders) but also including local outsiders. That is, digital platform firms need to design an inclusive SVP. By inclusive, we mean a value proposition that creates value for two or more stakeholder groups simultaneously (Freeman 2010, Tantalo and Priem 2016). We first discuss local outsiders and then turn to local insiders.

Local outsiders can provide useful knowledge, expertise, and cues about local culture and industry expectations (Rindova and Petkova 2007, Zott and Huy 2007) that might help the platform firm to define an SVP or decide which features of the SVP to maintain, transform, or drop. This local learning can be useful for digital platforms to enrich the platform's global value proposition. In return, digital platforms can offer local outsiders new roles and responsibilities in the new markets. For example, Ozcan and Eisenhardt (2009) explain how platform entrants to the emerging mobile gaming market defined new roles for potential partners. Following similar logic, we suggest that digital platform firms can develop new roles for local outsiders or public authorities. Such proactive initiatives can motivate the development of strong ties between digital platforms and local outsiders, impress desirable symbols in outsiders' minds (Rindova and Fombrun 1999), and trigger synchronized action while preventing the escalation of conflict. Engaging local outsiders in SVP design also helps build legitimacy for the digital platform, which is particularly important in new markets (Navis and Glynn 2010, Lee et al. 2018). Finally, the inclusive SVP design facilitates ecosystem emergence around the digital platform while maintaining the platform's role as the gatekeeper in the network of local insiders and outsiders. As Rindova and Fombrun (1999, p. 705) stated: "competitive advantage depends not only on the material resources that firms possess and deploy but also on firms' ability to win favorable interpretations."

Digital platforms also need to include local insiders in the SVP design, particularly under conditions of highly localized or precarious labor leveraged in the platform's business model. Relational stakeholder management of insiders can help the digital platform mitigate or prevent collective resistance from insiders through the polarization of us-vs.-them identities

(Rowley and Moldoveanu 2003) or dramatic portrayal of insiders as victims (Ozcan and Gurses 2018). Relational stakeholder management helps defuse tensions by focusing on shared experiences (Hampel et al. 2019), generating loyalty that can reduce defections (Jones et al. 2018), and contribute incentives for alignment among platform participants. Inclusive SVP design contributes to the expected reciprocation of the relationship between stakeholders and the firm (Bridoux and Stoelhorst 2016) and could mitigate subsequent mobilization of local insiders, because of the increased identification of at least some local insiders with the digital platform (Scott and Lane 2000).

When engaging local insiders in SVP design, digital platform firms can design different value sharing schemes. Santos and Eisenhardt (2009) discuss how entrepreneurs can create new markets by offering partners revenue-sharing agreements to enhance collaboration and discourage competition. Focusing on insiders rather than competitors, we suggest that, through the SVP design, digital platform firms can create mechanisms for value sharing with local insiders who might suffer from negative externalities, particularly salient in cases of precarious labor. For instance, the SVP can alleviate social challenges (e.g., income inequality) improve the economic wealth of the city, or generate new sources of value creation for the local insiders directly. An inclusive SVP can thus promote a better balance between value creation and value sharing with platform participants. Along these lines, Baron (2018) discusses how Uber has recently added insurance to compensate passengers in case of an accident and guarantees for auto lease contracts (enabling people who do not own vehicles to drive for Uber). These initiatives exemplify how a platform can share value with its users and drivers (local insiders).

3.5.3. Designing Ecosystem-Centered Business Model Governance. Business model governance refers to who exercises control of which activity within the focal firm's business model and how it is done. The disruptive nature of digital platforms can have negative externalities such as increased traffic congestion, increased housing prices, or overtourism, and they can give rise to grassroots collective action against the digital platforms. We have argued that to mitigate the negative consequences of collective action, digital platforms can design a multisided structure and an inclusive SVP that help calibrate different needs of heterogeneous stakeholders. However, multisided structure and SVP require greater coordination efforts. Moreover, the flexibility of platform participant roles (compared with the more defined and structured roles for employees in nonplatform firms) increases coordination complexity that requires novel forms of incentives, organization, and alignment. Finally, given the dynamic nature of digital platforms, mechanisms are needed to ensure adjustment, recalibration, and rebalancing of value distribution between stakeholders, particularly important in cases of unexpected externalities. Together, these elements highlight the need for ecosystem-centered governance of digital platforms.

Existing research has recognized that "the most successful platforms are those that are able to incentivize the creation of entire ecosystems" (Nambisan et al. 2018, p. 357). The role of the digital platform designer is not only to create an ecosystem around the platform but also to ensure its sustained well-being over time. This can be realized by ensuring the quality of SVP and stimulating ecosystem growth and innovation around the platform while mitigating negative platform externalities through the design of collective incentives (Jenkins 1983). Ecosystem-centered governance refers to mechanisms that ensure long-term ecosystem well-being rather than a focus on one particular stakeholder (e.g., shareholder profit maximization).

Local stakeholders behind collective action do not always own clearly defined property rights (e.g., neighbors in the Airbnb platform), and their roles in the platform are often flexible and fluctuating (Table 1), making codification complex. Consequently, it is difficult for the digital platform to fully internalize stakeholders' concerns into the firm (Dorobantu and Odziemkowska 2017), making governance mechanisms associated with formal contracts, such as employment contracts in hierarchically structured organizations, impractical or not feasible. Therefore, given limited direct control over stakeholders in the platform setting, the inclusive SVP must be integrated with ecosystem-centered governance mechanisms to ensure coordination.

Ecosystem-centered governance function is important because digital platforms often occupy bottlenecks, operating features that constrain quality or exacerbate scarcity of available assets or labor. Ecosystem-centered governance mechanisms include pricing, but also communal sharing of data (e.g., Uber's sharing of data with cities to help urban planning), best-practice norms, certification (e.g., guests and hosts rate each other through the Airbnb platform), or training to ensure quality (e.g., Tujia, Airbnb's equivalent in China, provides training to its hosts),[14] and others (see Wareham et al. 2014 and Dattée et al. 2018 for other examples). Communal sharing arrangements, such as community benefits agreements (Dorobantu and Odziemkowska 2017), can help align collective incentives around perceptions of fairness, reciprocity, or common interests (Bridoux and Stoelhorst 2016), can increase a shared collective identity (Rowley and Moldoveanu 2003), and trigger motivations other

than self-interest from stakeholders (Bridoux and Stoelhorst 2016). Over time, ecosystem-centered governance can give rise to a sorting effect, where stakeholders who share similar values (e.g., fairness or reciprocity) might join (Bridoux and Stoelhorst 2014) and contribute to long-term survival and success of the ecosystem formed around the digital platform.

Ecosystem-centered governance is also vital to institutionalize and reinforce the multisided structure and the inclusive SVP over time. It can improve alignment between platform participants and encourage agreement about SVP, everyone's roles, and foster a more equitable and long-term-focused value distribution within local ecosystems. One example is the recent decision of Airbnb to redesign its governance by establishing a Stakeholder Committee on its Board of Directors. This committee will advise the board on how to institutionalize a multistakeholder approach into the platform governance and calibrate the impact of the company on its different stakeholders (Airbnb 2020).

3.5.4. Relational Business Model Design. Multisided structure, inclusive SVP, and ecosystem-centered governance together constitute relational business model design and are necessary separately but also reinforce each other to reduce the likelihood and intensity of grassroots resistance. A multisided structure ensures that the designer pays attention to a variety of stakeholders and increases the chances of designing an inclusive SVP. An inclusive SVP can be strengthened by ecosystem-centered governance that ensures the long-term well-being of the ecosystem rather than of a particular organization alone and helps rebalance power differentials in local contexts.

The relational approach to stakeholder management suggests that joint value creation increases with relational stakeholder management because of how the firm frames its relationship with stakeholders in the value creation process (Bridoux and Stoelhorst 2016). That is, an inclusive collaboration between the digital platform and stakeholders embodied in the relational business model design can trigger communal-sharing relational framing (Bridoux and Stoelhorst 2016), fostering a shared collective identity, such as local citizens who have common interests (Brickson 2007). Such shared collective identity and joint interests[15] between the digital platform and local stakeholders could reduce the likelihood and intensity of resistant collective action (Figure 1). In other words, the relational business model design generates favorable perceptions of the firm by different stakeholder groups and hence can help preempt or reduce stakeholder resistance, which otherwise can escalate, disrupting and delaying planned activities, and negatively affect shareholder value (Ingram et al. 2010, Dorobantu and Odziemkowska 2017, Dorobantu et al. 2017). Developing an inclusive collaboration with stakeholders early on can help digital platforms prevent the growth of resistance or legitimacy threats from stakeholders later on (Desai 2017), when the critical mass for resistance is achieved (Dorobantu et al. 2017). If grassroots resistance has not been preempted, relational redesign of the business model can reduce the intensity of grassroots resistance. This is particularly useful to accrue a sustainable competitive advantage in dynamic environments, characteristic of markets where digital platforms often operate (Helfat and Raubitschek 2018, Jones et al. 2018). We therefore propose the following:

Proposition 4. *When digital platform managers design business models to simultaneously include a multisided structure, an inclusive stakeholder value proposition, and an ecosystem-centered governance (i.e., the three elements that together constitute relational business model design), the likelihood and intensity of grassroots collective action to resist the digital platform decreases.*

4. Discussion

In this paper, we identify when grassroots collective action to resist digital platforms is more likely and propose solutions for relational business model design anchored in the stakeholder management literature. Relational business model design is fundamental to enable joint value creation with stakeholders for digital platforms that are characterized by fast scaling as they often have dramatic local ecosystem impacts through negative externalities. We explain how three elements including multisidedness, inclusive SVP, and ecosystem-centered governance are necessary for the relational business model design, but only when combined are they sufficient to reduce the likelihood and intensity of resistant collective action. Our research contributes a stakeholder-centered view of digital platform business models operating within local ecosystems. Although platforms have been traditionally studied by economists, we provide a distinctly managerial perspective focused on design to bridge digital platform research with the literature on collective action (Briscoe and Gupta 2016, Lee et al. 2018) and stakeholder management (Freeman 2010, Bridoux and Stoelhorst 2016).

4.1. Boundary Conditions of Our Theorizing

Our theorizing is bounded by the nature of the digital platforms and the characteristics of the local context where these platforms operate. Our theory about grassroots resistance (Propositions 1–3) applies to digitally enabled physical asset and labor platforms (and hybrids) but less so to the digital asset platforms, as digital assets are less subject to the location,

scarcity, or precariousness issues. This does not imply that digital asset platforms will not face resistance for other, idiosyncratic reasons: for instance, digital asset platform Spotify has faced resistance by high-status musicians (insiders), such as Taylor Swift, who refused to participate, and the digital asset platform Bitcoin has faced resistance by regulators because of money laundering concerns. Our suggested solutions (Proposition 4) therefore also best apply to the digitally enabled physical asset and labor platforms that are most at risk for collective action from local stakeholders.

Our theorizing is also specific to digital platforms in our treatment of the local insiders and outsiders. Although studies have examined the resistance of employees in hospitals (Kellogg 2011) or business settings (Briscoe and Safford 2008, DeCelles et al. 2020), local insiders in platform contexts are less dependent on the digital platform than when their relationship is regulated by a labor contract (Berg et al. 2018). This implies that resistance from local insiders in the digital platform business models might be more likely than in the nonplatform business models, where fear in terms of career costs might neutralize employee resistance (DeCelles et al. 2020).

Moreover, the likelihood and intensity of resistant collective action are related to the local context where digital platforms operate, as social movements are often tied to specific locations (McCarthy and Zald 1977, Ingram et al. 2010). Given that digital platforms rely on network effects for fast growth, they often aim at large urban areas for expansion. This might explain why many examples of collective action against platforms originate from large cities, such as London, Los Angeles, and New York. The population size of urban areas might contribute to a tipping point at which collective action emerges, in addition to other aspects such as education or the number of civic organizations and nonprofits that predict political and social engagement (Sampson et al. 2005, Baldassarri and Diani 2007, Helliwell and Putman 2007) or history of community mobilization (Dorobantu and Odziemkowska 2017). Formalization of collective action is also more likely with urbanization.

Finally, although our theorizing is focused on negative externalities that might lead to grassroots collective action against digital platforms, positive externalities also exist, as digital platforms can increase innovation and entrepreneurship in communities, help revitalize neighborhoods, and provide employment. Whereas we acknowledge the existence of positive externalities of digital platforms for local ecosystems, the main goal of this paper is to theorize when digital platforms might face resistance and what solutions are available.

4.2. Contribution to Research on Digital Platform Business Models

We contribute to the existing literature by identifying the sources of grassroots resistance to digital platforms, positing solutions anchored in relational business model design, and bridging collective action and stakeholder management research with the strategic management of platforms.

Existing digital platform literature has mainly been concerned with ecosystem actors to ensure customer demand (Jacobides et al. 2016), to study co-opetition relations with complementors (Brandenburger and Nalebuff 1995, Gawer and Henderson 2007, Adner 2017) and has only recently started to consider interactions with regulators (Parker et al. 2016, Cusumano et al. 2019, Paik et al. 2019). Researchers have also studied how incumbents resist digital platforms (Garud et al. 2002, Ansari et al. 2016). Although studying incumbent resistance is important, not dealing with other stakeholders, such as local insiders and outsiders, who might also be affected by the digital platform, is potentially damaging. We differentiate sources of resistance from local outsiders and insiders and argue that grassroots resistance and conflict with local stakeholders can damage the digital platform firms both economically (e.g., in terms of fines imposed by local governments) and symbolically, by affecting their legitimacy (Desai 2017, Uzunca et al. 2018) and reputation (Rindova et al. 2005, Baron and Diermeier 2007, Rindova and Martins 2012).

Additionally, we introduce the new concept of relational business model design as a solution to grassroots collective action that could enable digital platforms to become ecosystem integrators of jointly created value with local stakeholders. Steeped in relational stakeholder management literature (Bridoux and Stoelhorst 2016), we distill three levers for the relational business model design: multisided business model structure, inclusive SVP, and ecosystem-centered governance. Our stakeholder-centered view of digital platforms contrasts with traditional industrial economists' examination of two-sided market dynamics centered around profit maximization (Rochet and Tirole 2003, Hagiu 2006). The existing literature suggests that developing viable value propositions for partners and complementors is vital in well-functioning ecosystems (Gassmann et al. 2014, Wareham et al. 2014, Dattée et al. 2018). Our expanded analysis of the relevant ecosystem stakeholders, including local insiders and outsiders, sheds new light on the significance of multisidedness and inclusive SVP design for the efficient operation of a digital platform in varied local contexts. Given the fundamental role of stakeholders for profit generation and appropriation (Harrison et al. 2010, Barney 2018), as well as for the firm's financial valuation (King and Soule 2007,

Henisz et al. 2014), the perception by stakeholders of being insufficiently included in profit appropriation mechanisms can lead to imbalance and conflict escalation with the digital platforms.

Our inclusive conceptualization of stakeholders has implications for research on market creation by, and ecosystem emergence around, digital platforms. The literature suggests that structuring different partner roles and interfaces is one of the essential governance tasks in a successfully functioning ecosystem (Williamson and De Meyer 2012, Wareham et al. 2014, Ozcan and Santos 2015). Other authors suggest that governing ecosystems might be intricate due to the need to continuously balance co-opetitive tensions with different ecosystem stakeholders (Ansari et al. 2016). We take a step further by detailing the sources of conflict from local insiders and outsiders and providing solutions for managing these tensions through the relational business model design of the digital platform as a multisided ecosystem integrator.

Our arguments are particularly compelling in the contexts of new markets characterized by fast scaling, like the ones enabled by the rising sharing economy business models (Laamanen et al. 2018), where assets are owned by ecosystem stakeholders other than the platform firm. Although existing research has argued that the development of infrastructure is important for the creation of new markets (Lee et al. 2018), business models have not been explicitly considered as part of the market-creating infrastructure in this literature. Our examples of Airbnb and others demonstrate that new market creation can occur not only when new categories of products are introduced, such as pay-TV and satellite radio (Navis and Glynn 2010, Gurses and Ozcan 2015), but also when novel business models, such as the digitally enabled physical asset platforms (e.g., Airbnb and Mobike) or digitally enabled labor platforms (e.g., Upwork and TaskRabbit) facilitate physical asset or labor exchanges that did not previously exist. We stress the importance of ecosystem-centered governance arrangements in this context, which not only help to sustain joint value creation but also assure a well-balanced value distribution.

Although our focus has been on how relational business model design can decrease the likelihood and intensity of resistance, avoiding vicious cycles of value destruction, relational business models also hold the potential for value cocreation virtuous cycles. Multisided structure, inclusive SVP, and ecosystem-centered governance can increase network effects through platform exposure to a larger number of stakeholders. The inclusion of heterogeneous stakeholders (Priem et al. 2012) and multilateral relations can increase boundary-spanning innovation potential and entrepreneurship within the digital platform ecosystem (Nambisan et al. 2018). Ecosystem-centered governance can improve alignment between platform ecosystem stakeholders (Adner 2017, Helfat and Raubitschek 2018) and foster agreement about SVP and different roles of the included stakeholders. A multisided structure can enable quicker responsiveness to emerging local ecosystem issues as the platform increases its local market connectivity and calibrates its impact on externalities for different stakeholders. Inclusive SVP design can help the digital platform firm learn about the local contexts, potentially enriching the platform's global value proposition for other contexts. These positive ecosystem consequences (see Table 1 for a summary) are likely to move from a zero-sum value-redistribution situation to a joint value creation one (Freeman 2010) and thus generate a virtuous cycle of collective value creation (Casadesus-Masanell and Ricart 2010).

More broadly, we bring together insights from collective action (Briscoe and Gupta 2016, Lee et al. 2018) and stakeholder management literatures (Rindova and Fombrun 1999, Bridoux and Stoelhorst 2016) that thus far have evolved relatively separately from the strategic management literature on digital platforms. Although previous studies have examined collective dynamics to create new markets by firms (Lee et al. 2018) or to resist firms by stakeholders (Dorobantu et al. 2017), we examine potential solutions to collective action in the digital platform context taking the lens of business model design. This dialogue between relatively distinct literatures provides fruitful intersections, particularly useful to elaborate solutions in terms of the adequate design of digital platforms, with a focus on enabling thriving local ecosystems and joint value creation with local stakeholders.

4.3. Implications for Future Research

Our work raises stimulating questions about the dynamics of shared location and resources and stakeholder interactions in the context of digital platforms. Such new ways of organizing create novel dualities between stronger local embeddedness of platforms in local communities and decentralization and lower control by platforms over the stakeholders involved. Digital platforms also embody juxtapositions between little-regulated marketplaces and the promise of more sustainable and equitable consumption for a higher number of participants (Martin 2016). These new tensions and dualities suggest many exciting directions for future research on digital platform business models, communities, and market creation and transformation. Our integration of insights from collective action and relational stakeholder management research with strategy and business models provides a potentially useful lens to understand these dynamics and tensions between digital platforms and the local

context and invites researchers to test our theoretical propositions empirically.

In particular, more research on the design of business model governance focused on long-term ecosystem well-being is warranted. Although we did not theorize explicitly about how relational business model design affects the process of value cocreation, our study hints that this type of governance might be instrumental in sustaining joint value creation processes. Our work contrasts with the view of platforms as two-sided, where each side can be simply offered a distinctive value proposition through a clear contractual relationship. This view often neglects the underlying dynamics and externalities between stakeholders that cannot be internalized by the digital platform. Future work can explore how relational and collaborative governance structures can sustain value creation through delineating the elements digital platforms can control directly and those aspects they cannot control, but they can influence, shaping the environment in ways that favor the entire ecosystem. Opportunities for future research include additional integration of literature on alliances with market and nonmarket stakeholders (Dorobantu and Odziemkowska 2017) and the property rights and institutional economics perspectives on stakeholder governance and public-private collaborations (Klein et al. 2012, 2013, 2019).

We also foresee future avenues for research around stakeholder dynamics in the context of market creation, beyond the traditional strategic management focus on resistance from incumbents and government. Our work suggests that resistance from other stakeholders, such as local outsiders and insiders should be carefully studied, particularly in settings of rapidly growing digital platforms. Understanding the interaction between local insiders and outsiders, how they mobilize, the tactics they use to exert resistance, and how they influence one another (Dorobantu et al. 2017) will provide more significant nuances to our knowledge of how markets emerge, change, and evolve. Although our analysis suggests that local conditions in terms of local labor markets and markets for physical goods are important, future studies can examine empirically the effects of these, and potentially other characteristics of local contexts, on the likelihood and intensity of stakeholder resistance.

4.4. Managerial Implications

Managers of digital platforms should be aware of the potential collective action against their firms from local stakeholders, which can result in severe *techlash*. Especially in the cases of new market creation, managers have to think carefully about the tradeoffs between gaining the first-mover advantage and activating network effects while adding too much supply to the market too quickly, risking the generation of negative externalities for local stakeholders that might lead to fines or bans on platform operation in specific locations. This is particularly important for firms that operate in multiple locations around the world, where the potential for, and formalization of, grassroots collective actions can be differentially distributed and need to be managed appropriately at different local, regional, and national levels.

It follows from our propositions that proactive dialogue with local stakeholders is preferable to reactive stances, as in the latter case local stakeholders have more discretion to co-opt local governmental elites to insist on higher fines and generally stronger sanctions to platform operation, as happened, for instance, in the case of Airbnb in Amsterdam and Barcelona. Managers should therefore seek to conceptualize their digital platform business models as multisided to enable virtuous cycles of joint value creation early on and not let vicious cycles of conflict escalation develop. Granted, the collaborative process to design a multisided platform able to satisfy multiple stakeholders and facilitate their contributions to the joint value creation could be very cumbersome, as it is a demanding and creative process. Although we identify the challenges involved, we cannot provide recipes on how digital platforms should behave in all cases. A better understanding of the potential for grassroots collective action and improved capabilities to manage the relational stakeholder collaboration and joint value creation can help develop better strategies.

4.5. Policy Implications

The proliferation of digital platforms in the last decade has put pressure on local regulators to update or develop new rules for these new organizational forms. Although digital platforms have brought positive consequences to local ecosystems, including the generation of trust, jobs, reduced waste, and increased efficient use of (underused) resources, they have also given rise to negative externalities. These include power imbalances between the digital platforms and individual providers, offloading of costs onto local communities or providers, precarious labor conditions, and discrimination, among others. Our conceptual framework and examples suggest that local regulators might need to err on the side of prudence and caution, and try to encourage digital platform firms to participate in constructive confrontation rather than rely on one-sided collective action efforts generated by either incumbents or local stakeholders, who might react strongly to some of the negative

externalities generated by the platforms. Banning digital platforms (or inducing their exit from specific markets because of overregulation, see Baron 2018) might be too drastic a solution, which would lead to losing the benefits of these new ways of organizing. It seems to us that finding the middle ground through the nurturing of an ecosystem, where the multisided platform functions as an integrator of the jointly developed SVP, might be a stepping-stone to ensure that digital platforms operate in the interest of society. However, developing the necessary governance mechanisms for the ecosystem to prosper and integrate a variety of influential stakeholders with diverse interests may not only require learning through experimentation but also prudence and debate to avoid escalations of conflicts that are challenging to revert.

We emphasized the relevance of the location: local assets and local labor conditions, local institutions, and local grassroots movements are involved. As cities are the central locations for public-private collaborations, local public administrations can facilitate the interactions between digital platforms and their local context. We, therefore, suggest that local public authorities should engage in the cocreation of the ecosystems both to contribute to the business success of the digital platforms and to transform the local context by incorporating all needed stakeholders. More broadly, active stakeholder engagement can contribute to generating a more profound societal impact and enhance civic wealth creation in the communities where platform businesses operate.

5. Conclusion

In this paper, we identify relevant scope conditions for the emergence of grassroots collective action in reaction to digital platform business models. By establishing when grassroots collective action is more likely and theorizing about the potential solutions to deal with stakeholder resistance through the relational business model (re)design of multisided digital platforms, we provide practical suggestions for digital platform managers and regulators. We also attempt to transcend boundaries between research on strategic management, collective action, and stakeholder management to encourage a more productive dialogue across these literatures, develop more general and inclusive theories of digital platform business models, and stimulate additional research to help test and refine our theoretical claims.

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Endnotes

[1] Defined as those individuals or groups who do not participate in the operations of the focal digital platform and do not compete with it, in contrast to insiders, who either use or provide assets or services on the focal platform.

[2] Value proposition is defined as the value that the business model is expected to create for a particular actor (Chesbrough 2010, Osterwalder et al. 2010).

[3] Markets are defined as "structured and patterned exchanges that exhibit a high degree of regularity in product/service offering, the roles that actors play in the exchange, and the infrastructure that enables and governs the exchange" (Lee et al. 2018, p. 245).

[4] Some predigital platforms include credit cards, such as American Express, or catalogues, such as Yellow Pages.

[5] Building on Ansari et al. (2016), Iansiti and Levien (2004), and Moore (1996), ecosystems can be defined as networks of interconnected actors that depend on one another for their mutual effectiveness and survival.

[6] We thank our editors for making this point.

[7] See Table 1 for details about platform specificities and their influence on our key constructs.

[8] Although the three types are presented here as distinct, they, of course, allow for hybrids. For example, Uber combines labor and a physical asset in the form of a car in its value proposition to users.

[9] These are also referred to as transaction platforms in the literature, or "intermediary for direct exchange or transactions subject to network effects" (Cusumano et al. 2019, p. 21; see also Cennamo 2020).

[10] Many of these digital asset platforms are also referred to as innovation platforms in the literature or "technological foundation upon which other firms develop complementary innovations" (Cusumano et al. 2019, p. 21; see also Gawer 2014 and Cennamo 2020).

[11] Competitors are not part of local outsiders as they have other means, including price and quality adjustments, to respond and have been extensively analyzed by existing digital platform research (Seamans and Zhu 2014, Paik et al. 2019).

[12] See https://edition.cnn.com/2019/06/14/tech/postmates-blitz-up-worker-protest/index.html.

[13] See https://www.nytimes.com/2019/09/20/business/uber-lyft-drivers.html.

[14] See http://www.forbesindia.com/article/ckgsb/how-tujia-chinas-airbnb-is-different-from-airbnb/48853/1.

[15] Stakeholder theory is premised on the existence of "joint interests" between stakeholders (Freeman 2010, p. 8).

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