

# Micro Entry Theory: Understanding the Drivers and Effects of the Entry of Micro Players in the Context of Digital Platforms

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**ABSTRACT** Digital platforms have facilitated the entry into the market of micro players, a subcategory of specialists formed by individuals offering products and services on a very small scale. This study builds on previous research on micro players' entry, to formalize, validate, and expand a theory of micro entry that helps to explain the market dynamics when micro players use digital platforms to enter the market. We (1) examine how macro-economic conditions influence the entry of micro players and specialists and (2) investigate the differential effects of the entry of micro players and specialists on the generalists' performance. Our setting is the accommodation industry in Spain, in which generalists are represented by dominant hotels and micro players and specialists by occasional and regular operators who entered the market through Airbnb. We find that the entry of micro players into the market through digital platforms is driven by high unemployment rates and platform legitimacy, factors that do not similarly influence the entry of specialists. Additionally, the results show that the entry of specialists decreases generalists' performance, while micro players' entry is complementary.

**Keywords:** micro entry theory, resource partitioning theory, generalists, specialists, micro players, digital platforms

## INTRODUCTION

Resource partitioning theory has traditionally categorized firms into two groups: generalists and specialists. According to this theory, generalists operate in the market centre and specialists target smaller niches, and these two groups do not directly compete as

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they occupy different market spaces (Carroll, 1985). However, the proliferation of digital platforms has disrupted market dynamics and challenged the predictions of resource partitioning theory. Digital platforms such as Airbnb, Lyft, eBay, and Fiverr have enabled the entry of many individuals offering products and services on a small scale (Einav et al., 2016; Gawer, 2014), reshaping industries and changing the composition of organizational populations (Greve and Song, 2017). Previously, these individuals operated in the informal economy or had limited opportunities to monetize their assets and skills. Digital platforms grant them almost instantaneous entry at minimal risk or cost, introducing market participation conditions and empowering players that resource partitioning theory did not consider at its inception.

Previous research has identified micro players as a distinct category of specialists characterized by their small scale, narrow product scope, limited experience and legitimacy, low business model complexity, and limited resources and capabilities (Markman and Waldron, 2014). The framework of micro entry developed by Markman and Waldron predicts that micro players differ from 'traditional' specialists and have a different impact on the performance of generalists when entering the market.

With the increasing entry of micro players through digital platforms and the lack of formal propositions and empirical validation of the micro entry framework, there is a clear research opportunity to develop and test hypotheses that differentiate micro players and specialists entering the market through digital platforms based on diverse drivers that affect their entry and their different impact on generalists' performance. We predict that unemployment rate and the platform's legitimacy will have a more positive effect on the entry of micro players than on the entry of specialists. Moreover, we hypothesize that while the entry of specialists will harm generalists' performance, the entry of micro players will enhance it.

We test these hypotheses in the context of the accommodation industry in Spain, one of the world's top tourist destinations (UNWTO, 2020). We conceptualize generalists as dominant hotels, while micro players and specialists are represented by occasional and regular operators who have entered the market through Airbnb. Airbnb is a digital platform that has facilitated the entry of diverse market players in the accommodation industry. On one hand, it has enabled non-professionals and small-scale operators (i.e., micro players) to occasionally rent out spare rooms or vacant apartments. On the other hand, it has facilitated the regular operations of professional operators (i.e., specialists) specializing in short-term rentals (Chen et al., 2023; Markman et al., 2021).

Based on 4442 city-month observations spanning from 2010 to 2015, we find that unemployment and platform legitimacy drive the entry of micro players and specialists differently. Furthermore, we demonstrate that the entry of micro players, facilitated by digital platforms, enhances the performance of generalists, while the entry of specialists reduces it.

This article formalizes and empirically validates a theory of micro entry, building upon the previous work of Markman and Waldron (2014), by demonstrating the distinctness of micro players and highlighting how they differ from specialists in terms of the causes and effects of their market entry via digital platforms. Specifically, we show that in the context of digital platforms, both macro-economic conditions (e.g., unemployment) and platform features (e.g., legitimacy) influence the entry of micro players and specialists

differently, and explain the dynamics between generalists, micro players, and specialists, including how specialists entering the market via a digital platform may compete with generalists while micro players complement them.

Furthermore, the study challenges resource partitioning theory by examining the impact of digital platforms on market evolution. The results show that the entry of micro players through digital platforms introduces a subgroup of specialists that was not considered in the original theory. Moreover, the evidence suggests that digital platforms enable specialists to compete with generalists in their market, contradicting the original theoretical prediction of resource partitioning theory that generalists and specialists do not compete.

Lastly, our study addresses a recent call to generate more research that acknowledges the new dynamics introduced by the emergence of digital platforms (Menz et al., 2021). Specifically, our study focuses on understanding the entry of small players through digital platforms and the competition between incumbents and heterogeneous entrants that use digital platforms to access the market. Previous studies have examined macro-level factors (Gerwe et al., 2022; Huang et al., 2020) and platform characteristics (Skiti et al., 2022) that drive individuals to enter the supply side of the market (as service providers) through a digital platform. We extend this work by providing empirical evidence that confirms that some macro-level and platform factors affect differently the entry of occasional and regular service providers through a digital platform. We also show how the entry of service providers through digital platforms influences incumbents' performance (Li and Srinivasan, 2019; Zervas et al., 2017), by demonstrating that the effect differs depending on the type of entrant.

## BACKGROUND

### Generalists, Specialists, and Micro Players

Originating in ecology and biology, resource partitioning theory posits that to attain market equilibrium, generalists and specialists suppress rivalry over limited resources by 'partitioning' the market and occupying different segments and niches (Carroll et al., 2002; Carroll and Hannan, 1995, 2004). Generalists operate in the centre of the market with mainstream offerings, while specialists occupy the market periphery, targeting smaller niches. The specialist-generalist distinction has guided scholarly work in such diverse contexts as micro-radio (Greve et al., 2006), banking (Freeman and Lomi, 1994; Lomi, 1995), journalism (Carroll, 1985), winemaking (Swaminathan, 1995), brewing (Swaminathan and Carroll, 1995), car making (Hannan et al., 1995), auditing (Boone et al., 2000), organic farming (Sikavica and Pozner, 2013), security software (Fosfuri et al., 2020), and filming (Jia et al., 2022; Mezias and Mezias, 2000), to name a few.

The theory's identification of generalists as few and highly similar has received substantive support, but the clustering of often dissimilar specialists into a single group has increasingly drawn attention and raised questions (Hannan et al., 2007; Sikavica and Pozner, 2013). Such work has illustrated that specialists are not homogeneous.

For instance, resource partitioning theory has traditionally viewed specialists as ill-equipped to compete with generalists in market centres and therefore relegated to the periphery. However, according to some organizational scholars, some specialists choose

to locate near market epicentres, right next to generalists (Hannan et al., 2007; Liu and Wezel, 2015; Verhaal et al., 2017), and possibly target similar or the same customers. Furthermore, research has shown that different specialists use different business models. Sikavica and Pozner (2013) have labelled small specialists – those with very small-scale production and limits to their organizational growth – ‘the more specialized specialists’. These small specialists (e.g., microbrewers, artisans, micro-eco farmers) tie their authenticity to their small scale as a way to de-escalate rivalry with both generalists and other more typical specialists who aspire to scale up and reach generalists’ mass markets. Distinctly different identities, images, customer bases, and operational scales mean that some specialists fracture their market territory into even smaller niches – a reality the theory overlooked in its original form.

To address the issues above, Markman and Waldron (2014) proposed its conceptual extension. They identified a subcategory within the heterogeneous group of specialists they call micro players, which are ‘very small in scale, scope, or capability’ compared with traditional specialists (Markman and Waldron, 2014, p. 180). The resulting theory of micro entry posits that micro players differ from specialists because of their narrow product scope, very low experience, low business model complexity, vulnerability, questionable legitimacy, and limited resources and capabilities to scale up; differences that influence how these entities operate (Markman and Waldron, 2014).

In terms of competitive dynamics, according to micro entry theory, micro players do not damage generalists’ performance due to their pronounced size disparity and lack of the operational infrastructure and ability to scale up (Markman and Waldron, 2014). Furthermore, micro players can sometimes complement and enrich generalists’ performance due to agglomeration effects and when they target segments that generalists cannot serve well, so that the latter can divert resources to their more profitable segments and better serve core consumers (Markman and Waldron, 2014).

### **Micro Entry and Digital Platforms**

Digital platforms facilitate direct interactions among two (or several) types of users (e.g., sellers and buyers, app developers and users, hosts and guests, drivers and passengers, etc.) (Gawer, 2014; McIntyre and Srinivasan, 2017). These interactions create positive network effects, which imply that users’ utility increases with the number of users (Chen et al., 2022). For instance, the attractiveness of the Uber platform for riders increases with the number of Uber drivers.<sup>[1]</sup> The so-called virtuous cycle of network effects is one of the main reasons why digital platforms entered many sectors as peripheral start-ups, yet rapidly scaled up and expanded, becoming generalist organizations. Airbnb in the short-term accommodations sector is one well-known example.<sup>[2]</sup>

Organizational research has acknowledged that some digital platforms have the potential to change an industry population and structure by facilitating the entry of micro players; for example, Amazon’s reviews have increased the sales of self-published books, altering competitive dynamics within the publishing industry that used to be predominantly dominated by several large publishing houses (Greve and Song, 2017).

Two main reasons explain why digital platforms facilitate the entry of micro players. First, digital platforms drastically reduce transaction and entry costs for small players with limited resources and capabilities. They minimize commercial friction by providing safe operational and transactional infrastructure, including reputation systems, insurance, reliable payment systems, and ways of resolving conflict (Einav et al., 2016; Markman et al., 2021). For example, Airbnb and Xiaozhu (China) allow individuals to monetize parts of their homes safely and reliably; TaskRabbit and Fiverr enable taskers and giggers to monetize their skills and time across different employers.

Second, micro entry theory argues that generalists' modularity, defined as 'increasing partnering with and outsourcing to other players' (Markman and Waldron, 2014, p. 186), encourages the entry of micro players into the market. Building on the distinction between modularity and integration, this theory suggests that industries go through phases of expansion via modularity, when generalists outsource activities that are 'parceled out and undertaken by players that operate semi-independently', or contraction through integration, 'i.e., a few incumbents manage most activities internally' (Markman and Waldron, 2014, p. 186). Digital platforms are inherently modular by design (Gawer, 2014), that is, they need external players to function and grow. The asset-light business model of digital platforms, in which the company does not own the asset that underlies in transactions (e.g., Uber does not own cars; Airbnb does not own properties) makes the entry of other players not only desirable but essential for the platform to operate and facilitate transactions.

In this article, we adopt the definition of micro entrants provided by Markman and Waldron (2014) – small size, narrow product scope, very low experience, low business model complexity, questionable legitimacy, and lack of scalability. Importantly, in the context of digital platforms, these characteristics of micro players are tightly linked to the fact that such actors usually operate on an occasional, part-time basis. Occasional, short-term, and seasonal market players have always existed (babysitters, private tutors, sport trainers, people who run errands for neighbours, vacation rentals, etc.) but were not very visible as they were often part of the informal economy (Godfrey, 2011). For this reason, organizational theorists have tended to overlook occasional players (Ketchen et al., 2014). Digital platforms such as Airbnb and TaskRabbit (household chores) have given these micro players an opportunity to transition from the informal to the formal economy in sectors already populated by generalists and specialists. In line with micro entry theory, these individuals are characterized by their micro scale and limited resources to scale up. They do not need to make a large upfront investment to enter the market, as they are usually sharing their already available but underused resources (home, second residence, spare time, spare car, spare space in a car, etc.). They usually are inexperienced, and with questionable legitimacy, thus fitting the definition established by Markman and Waldron (2014).

Consider these examples of micro players versus traditional specialists. In the hospitality ecosystem, micro players might include mom-and-pop owners who rent a spare bedroom. In contrast, traditional specialists include professional real estate operators, property management firms, motels, and inns (on the low end), as well as hotels that target narrow niches, all of which rent their assets regularly and aspire to grow their brands and scale up by maximizing occupancy. Generalists, of course, are often hotels

that target broad markets. In the car rental market, generalists are the large car rental companies (Enterprise, Hertz, Avis), specialists are regional vehicle rental companies, and micro players can be those individuals who rent temporarily a car via Turo. In the consulting market, generalists are the largest management consulting companies that offer a broad range of consulting services (Bain, BCG, McKinsey etc.), specialists are specialized or boutique consulting firms, as well as consultants who work full time on consultancy. Finally, micro players are those individuals who offer consulting services occasionally, for instance via MePloy or Fiverr.

Of course, micro players have not been the sole beneficiaries of digital platforms. Recent research shows that platforms also facilitate the entry of small and medium businesses that offer specialized products and services on a permanent basis (Chen et al., 2023; Ranchordás, 2017; Xie et al., 2021).<sup>[3]</sup> For instance, on Airbnb individuals who rent their properties part-time coexist with full-time professional operators (O'Neil and Ouyang, 2016; Xie et al., 2021). Some researchers have called such small firms 'professionals' (Farronato and Fradkin, 2022; Xie et al., 2021). In line with resource partitioning and micro entry theories, we call them specialists, as they have more resources, legitimacy, and capacity to scale up than do micro players.

Given that the theory of micro entry does not include formal propositions and has not yet been empirically validated, there is a clear research opportunity to present and confirm some hypotheses to predict that micro players and specialists are different, because diverse drivers affect their entry and their dissimilar impact on generalists' performance. This is particularly the case in the context of micro entry via digital platforms.

## THEORY AND HYPOTHESES

There are several reasons for framing micro players as a distinct category of specialists. First, there are substantive differences between the two in terms of how and why they rely on platforms, including size disadvantage, operational intensity, identity, vulnerability, growth capacity, and legitimacy. Platforms may benefit any market player, including traditional specialists, but mostly as an additional way to carry out and extend their ongoing operations. But in the absence of digital platforms, very few micro players could enter markets, earn commercial legitimacy, and thrive.

Second, micro players and most specialists tend to differ in their ambitions. In the context of digital platforms, private individuals may tap the Airbnb platform to share a spare bedroom *occasionally*, using their profits not to scale up but to offset medical expenses, pay down personal debt, etc. In contrast, specialists, such as professional property management firms, small inns, and even boutique hotels, tap the Airbnb platform as an additional marketing channel to increase their yearly occupancy rate.

Third, because micro players on digital platforms tend to operate occasionally and at minimal capacity, their business is not as routinized or trusted as that of established specialists (De Reuver et al., 2018; Einav et al., 2016; Kyprianou, 2018), nor is their entry as noticeable. Typical specialists, by contrast, operate year-round and are more disciplined; they hone their capabilities and seek growth by adopting industry standards, behaviours

that often put them on a more adversarial path vis-à-vis generalists (Wu, 2008). The resources provided by the digital platform (e.g., marketing resources, instant accessibility to customers, transaction and payment support) enhance this competitiveness. Of course, platform resources also help micro players, but given their part-time nature, growth limitation, and smallness (Lehdonvirta et al., 2019), we theorize that (relative to most specialists) the entry of micro players into generalists' territory is less substitutive and perhaps even more complementing.

To demonstrate these behavioural differences, we follow a two-step analysis. We examine first whether two conditions – unemployment and platform legitimacy – influence the entry of micro players and specialists differently, and second whether their entries affect generalists' performance differently. Regarding the first condition, the unemployment level has been considered one of the most important factors that drive firms to enter a market (Audretsch et al., 2015) and individuals to participate in digital platforms (Huang et al., 2020). Specifically, the literature on digital platforms shows that a 1 per cent increase in the county level of unemployment is associated with a 21.8 per cent increase in the volume of county residents actively participating in a digital platform (Huang et al., 2020). Given the importance of unemployment as a driver of entry, we have chosen it to demonstrate its different effect on the entry of micro players and specialists. Regarding the second condition, recent research acknowledges that a platform's legitimacy helps to get the support of platform users – both on the supply and on the demand side (Garud et al., 2022).

Figures 1 and 2 depict the hypothesized relations and level of empirical support.

### Unemployment and the Entry of Micro Players and Specialists

Unemployment should motivate micro players and specialists differently (Audretsch et al., 2015). High levels of joblessness push individuals to add new sources of income (Johnson and Parker, 1996; Kalmi, 2013; Storey, 1991). The ability to earn extra cash swiftly is motivating (Folta et al., 2010), particularly when platforms allow part-time and temporary engagements. Part-time work through Fiverr or TaskRabbit has few if any precedents. Offsetting the risk of job insecurity, platforms also afford micro players

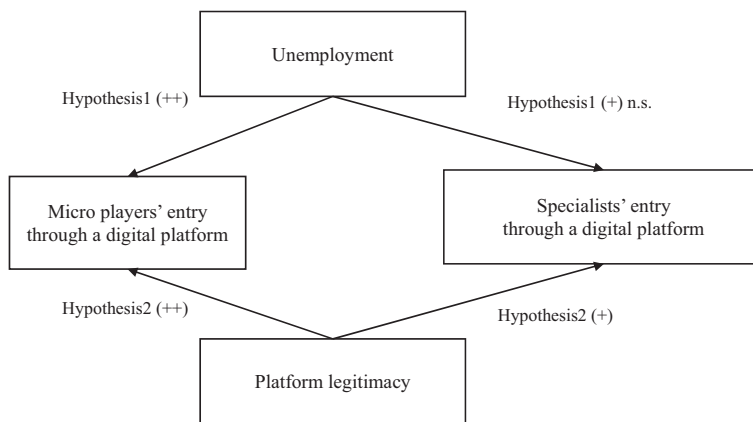


Figure 1. The determinants of market entry – specialists versus micro players

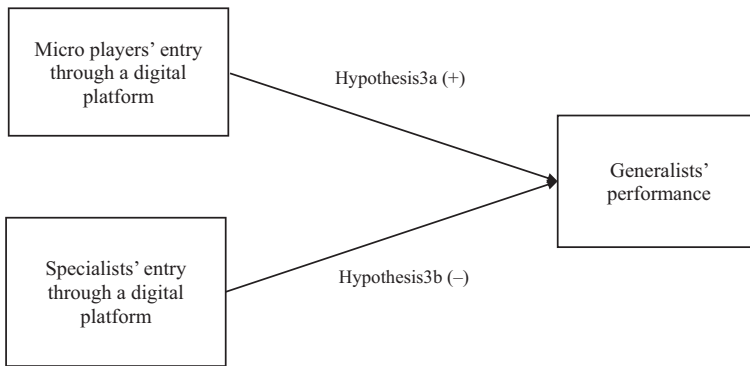


Figure 2. The relationship between the entry of micro players and specialists and generalists' performance

flexibility, autonomy, and a sense of control. In just ten years, Fiverr has afforded the entry of millions of part-time providers into the freelance marketplace for digital services.

But while job insecurity motivates micro players to monetize their idle skills or assets, it often forces specialists to conserve and contract (Huang et al., 2020). For example, vehicle owners incur almost no cost when they enter a ride-sharing platform to exploit only peak events, and the same applies to property owners who sporadically rent a spare bedroom (Markman et al., 2021). The situation is reversed for most specialists, whose full-time business models rarely afford the same operational flexibility, and whose customers now have less discretionary income (Ahmadjian and Robinson, 2001; Tangpong et al., 2015). To most typical specialists, a low level of unemployment means bad economic conditions (e.g., declining consumer demand, operations below capacity level) which are unfavourable to entering the market.

*Hypothesis 1:* Higher unemployment rates will have a stronger, more positive effect on the entry of micro players than on that of specialists.

### Platform Legitimacy and the Entry of Micro Players and Specialists

Legitimacy involves actions that 'are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions' (Suchman, 1995, p. 574). It requires organizational activities to be congruent with prevalent norms and values (Dowling and Pfeffer, 1975). Given that commerce needs cooperation among diverse stakeholders, legitimacy is almost a precondition for firm formation and function (Desai, 2018; Suddaby and Greenwood, 2005; Xu et al., 2014); when buyers, suppliers, investors, or employees question their legitimacy, firms face decline (Rao, 2000; Tauscher et al., 2021).

Recent studies highlight that the lack of cognitive and sociopolitical legitimacy are the main challenges that digital platform ventures confront (Garud et al., 2022). We will focus on cognitive legitimacy, which refers to the widespread social acceptance of an organizational form. It is achieved when the organization is 'taken for granted' (Hannan and Carroll, 1992). Organizational ecologists have theorized that population density drives legitimation (Hannan and Carroll, 1992). In the case of a new digital platform, as

it attracts more micro players and specialists, it will gain more visibility between them, and higher support, which will improve its cognitive legitimacy.

As a result, the higher population density will also create cross-side (or indirect) network effects; that is, the value of the platform to users will increase as more service providers join the platform (McIntyre and Srinivasan, 2017), which will also afford legitimacy (Garud et al., 2022). For instance, a growing number of drivers entices platforms to attract more users, as it permits faster pickups of passengers and less idle time for drivers, lowering labour costs and prices, producing even greater demand, and so on (Markman et al., 2021).

In conclusion, cognitive legitimacy of the platform can foster the entry of both micro players and specialists into the platform. However, we consider that the platform's legitimacy will be a more important driver for the entry of micro players than for the entry of specialists. A platform's legitimacy affords micro players much-needed legitimacy that they could hardly have created on their own (Phung et al., 2021). It can validate even obscure, part-time micro players, who in the past mostly operated in the informal economy and lacked mainstream legitimacy. Legitimacy provided by platforms benefits specialists too, but not to the same extent. Given the familiarity of their operations, specialists use platforms not to harness legitimacy but to extend their operations.

*Hypothesis 2:* Legitimacy provided by platforms will increase the entry of micro players more than the entry of specialists.

### **Effect on Generalists' Performance by Entry of Micro Players versus Specialists**

Our second step in demonstrating that micro players are distinct from specialists is to test how their market entry affects the performance of generalists (Figure 2) in the context of digital platforms. Resource partitioning theory explains that the scale advantage of generalists compels specialists to occupy more peripheral market regions (Carroll, 1985), preventing head-on confrontation and rivalry between specialists and generalists. Micro entry theory predicts that the entry of micro players (but not of specialists) may complement generalists' performance: 'Micro entrants – despite their size and scale disadvantages – operate with some impunity because their niches cannot sustain the growth needs of large incumbents. However, to sustain favorable market conditions and industry logic, micro entrants introduce offerings that complement, extend, and solidify incumbents' positions' (Markman and Waldron, 2014, p. 190).

We submit that the entries of micro players and specialists in the market through digital platforms trigger two different counteracting effects. On the one hand, platforms empower micro players and specialists with resources that would otherwise not be easily accessible to them (e.g., highly recognized brand name, market visibility, transparent and efficient mechanisms for matching with customers, etc.). Such resources allow micro players and specialists to access generalists' market segments, which can trigger a substitution effect. On the other hand, a massive entry of micro players and specialists through digital platforms may influence consumer behaviour, converting non-users into users,

which can expand generalists' demand. Such a scenario could occur in the following ways. Digital platforms lower the entry costs for micro players and specialists, which can lead to lower prices that can stimulate the demand by changing consumers' behaviour. For instance, the availability of cheap transportation alternatives offered by Turo, Uber, etc., can lead some consumers to reduce their propensity to own a car (Fraiberger and Sundararajan, 2017; Jiang and Tian, 2018; Ward et al., 2019). As consumers are less prone to have a car, the demand on car-rental companies might increase, which could benefit generalists such as Enterprise, Avis, or Hertz. Furthermore, digital platforms can expand the demand by facilitating a greater consumer awareness of the services offered by the industry. The marketing resources used by digital platforms can increase the visibility of the services provided by micro players and specialists, which at the end can raise consumer awareness of the services offered by the industry, converting non-users into users.

The two countering effects from the entry of micro players and specialists on generalists' performance – substitution and market expansion – can be indirectly observed in conflicting empirical findings of research on digital platforms. For instance, in support of the substitution effect, Zervas et al. (2017) show that a 1 per cent increase in Airbnb listings caused a 0.05 per cent decrease in hotel revenues in the US state of Texas; Li and Srinivasan (2019) show that the overall percentage decrease in hotel sales was between 0.30 per cent and 0.50 per cent in eight US cities after the entry of Airbnb. By contrast, in support of the creation of a new demand effect, Heo et al. (2019) show a positive effect of Airbnb supply on hotels' performance in Paris, although Blal et al. (2018) find a negligible effect in San Francisco.

In summary, the entry of both specialists and micro players via a digital platform can produce two opposing effects on generalists' performance: substitution and market expansion. However, we suggest that the substitution effect will be stronger for specialists, while for micro players, the market expansion effect will overcome the substitution effect. We discuss the rationale for this proposition next.

By augmenting their differentiated offerings and their professional services with the resources available from a digital platform, specialists can attract the customers of some generalists. Moreover, by granting almost costless marketplace entry and reducing transaction and marketing costs, digital platforms allow specialists to compete with generalists more effectively in more market segments, thus sidestepping the size advantage of generalists. Thus, specialists' entry via a digital platform, together with their permanence and growth aspirations, can have a negative impact on generalists' performance. Thus, we predict that the substitution effect of specialists can overcome the market expansion effect.

In contrast, the entry of micro players, given their part-time nature, growth limitation, and smallness, via a digital platform does not threaten generalists. In fact, in the context of digital platforms, we consider that micro players' flexibility and timed supply–demand matching are a boon to generalists (Luoma et al., 2018). To illustrate how micro players can complement generalists, we will use the example of Airbnb. Without the supply flexibility provided by the occasional renters, the accommodation industry would remain limited by incumbents' capacity. In 2019, for example, Barcelona hosted the Mobile World Congress precisely because Airbnb-assisted micro players allowed Barcelona's

housing ecosystem to – temporarily – accommodate 100,000 attendees. Thus, as micro players can help to expand the supply when it is needed, they can contribute to attract a new demand that can benefit generalists too. In fact, Joe Gebbia, one of Airbnb's founders, claimed that it was originally conceived as a way to complement the hotel industry during big events and not compete with it: 'If you have a pie chart of available accommodations, it's not like we're taking a slice out of the pie. We're making the pie bigger. Airbnb was able to help expand the supply to help visitors to the Olympics in London in 2012' (Shankland, 2013).

Micro players have improved generalists' performance in other sectors as well. Initially catering to poverty-stricken consumers in developing nations, the rise of microfinance and crowdfunding and the mass entry of micro players granted more funds to more entrepreneurs. Interestingly, this development expanded demand for traditional financial services from larger banks.<sup>[4]</sup> The World Bank estimates that more than half a billion people and microenterprises rely on microfinance-related operations, and though the microfinance phenomenon started as a narrow niche, it is now interconnected and benefiting generalists in developed nations too.

These two predictions lead us to Hypothesis 3:

*Hypothesis 3:* The entries of micro players and specialists will have asymmetric effects on the performance of generalists. That is, the entry of micro players will be associated with enhanced performance by generalists (Hypothesis 3a), while the entry of specialists will be associated with suppressed performance by generalists (Hypothesis 3b).

## METHODS AND DATA

We developed our dataset by combining data on the entry of micro players and specialists from the Spanish Airbnb website ([es.airbnb.com](https://es.airbnb.com)) with revenue per room data on generalist hotels from the Spanish National Statistical Office (INE) from 2010 to 2015. This focus is justified for several reasons. First, Airbnb enticed the entry of thousands of micro players and specialists in Spain, and worldwide, it afforded entry to more than 7 million accommodations (Airbnb, 2020; Stoll, 2020).<sup>[5]</sup> Second, Airbnb makes it easy to distinguish between specialists that list their properties on a regular basis and micro players that use the platform only occasionally. Third, the Spanish hospitality ecosystem provides a rich setting: a large sector size, diverse cities, and a range of accommodation services (Spain was the world's third-largest tourist destination in 2015, with 68.2 million international tourists) (UNWTO, 2016). Finally, the time span includes the first years of Airbnb in Spain (Airbnb officially entered Spain in February 2012), which allows us to analyse the factors that drove the entry of the first micro players and specialists onto this platform.

The first panel dataset (Panel A) includes 4442 city-month observations of properties rented by micro players and specialists in the top 63 tourist destinations in Spain; we used this sample to test our first conceptual model (Figure 1). To compare the effect of entry of micro players and specialists on generalists' performance (our second conceptual model;

see Figure 2), we used our Panel B dataset: 2662 city-month observations of profitability, again from Spain's INE.

### Generalists, Specialists, and Micro Players

Usually, generalists and specialists are defined according to market share, with the few but large generalists serving the biggest market segments and specialists focusing on all other segments (Carroll, 1985). Market share in our dataset is captured by number of stars accorded to a hotel. According to Spain's INE statistics, one-star hotels represent only 3.8 per cent of beds (59,748); two-star hotels hold 8.8 per cent (139,246); three-star hotels account for 34.1 per cent (538,652); four-star hotels have 47.7 per cent (753,460); and five-star hotels hold 5.6 per cent (87,815). Additional data from the Alimarket Census of Hotels show that four-star hotels have the biggest market share and enjoy the greatest economies of scale. Thus, in accordance with resource partitioning theory, we classified four-star hotels as generalists. To rule out selection bias, we tested other classification types, including combining the three- and four-star hotels and treating only the three-star hotels as generalists. The results vary, but the general pattern remains consistent; they are available upon request.

To differentiate between traditional specialists and micro players, we use number of days per year a property is listed. The early literature emphasized that Airbnb facilitated the entry of very small and part-time players: 'Airbnb is essentially an online platform through which ordinary people rent out their spaces as accommodation for tourists' (Guttentag, 2015, p. 1193). However, from the beginning it was evident that Airbnb was also enabling the entry of traditional specialists. For instance, O'Neil and Ouyang (2016) showed that in the 12 largest US metropolitan statistical areas, part-time hosts generated nearly 70 per cent of Airbnb revenue, but full-time operators (traditional specialists) accounted for the remaining 30 per cent. In response to the fast growth of Airbnb, some cities have regulated the short-term rental market (Hickey and Cookney, 2016; Li et al., 2022). In general, regulators have imposed stricter requirements on permanent short-term renting than on part-time home sharing (Guttentag, 2015), limiting the number of days per year that properties may be rented out on a short-term basis – typically, to 90 days (e.g., in San Francisco, London, and Berlin) (Gauß et al., 2022).

We therefore adopted the 90-day ceiling,<sup>[6]</sup> classifying micro players as those listing their properties on Airbnb for fewer than 90 days per year, and traditional specialists as those listing their properties for more than 90 days per year; and again, for added certainty, we reran the analysis for 120 days per year and the results remained the same.

### Dependent Variables

To test Hypotheses 1 and 2, we used entries of micro players and specialists as the dependent variables. For each listing, the date of market entry was the day a host created a listing on Airbnb. We then counted the number of listings in each city by month. This count produced 48,361 unique entries in the 63 Spanish cities (2010–15), of which only 9010 (19 per cent) were available for fewer than 90 days. We classified these entities as micro players.

We counted the entries over a time window of six months on the Airbnb platform, and we replicated the analysis over a time window of 12 months. To recap, *micro players' entries* is the sum of properties available for 90 days or less, first listed on Airbnb during the preceding six months, while *specialists' entries* is the sum of properties available for more than 90 days, first listed on Airbnb during the same period.

To test Hypothesis 3, we measured the performance of generalists as the average monthly revenue per room for the four-star hotels in each of the 63 cities. Because it allows hotels to gauge their performance vis-à-vis others, revenue per room is a common performance measure in the hospitality sector (Canina et al., 2005); we obtained this information from Spain's INE dataset.<sup>[7]</sup> We then adjusted for inflation using the Consumer Price Index for 2011 as the base year, and following Zervas et al. (2017), we used the log of this variable.

### Independent Variables

For the first part of our two-step study (Hypotheses 1 and 2), the independent variables are *unemployment* and *legitimacy*. The former is the monthly unemployment rate in each city (lagged by one period) as recorded by the Spanish Ministry of Employment and Social Security. We measured the *platform's legitimacy* of Airbnb in each of the 63 cities as the density of the properties (i.e., logarithm of the number of properties in each city-month), following previous research that uses organizational density as a proxy for cognitive legitimacy (Dobrev and Gotsopoulos, 2010; Ruef and Scott, 1998).

### Control Variables

For the first part of our two-step study (Hypotheses 1 and 2; Figure 1), we controlled for demographic and regulatory factors that can affect entry through Airbnb (Gerwe et al., 2022): the *city population* (log of the number of inhabitants), *resident age* (average age calculated across the province), and *education* (years of schooling at the regional level) – all obtained from the INE. We also controlled for the yearly number of *dwelling per 100 inhabitants* in each province, collected from the Spanish Ministry of Public Works. An increase in number of dwellings per inhabitant means greater rent capacity. In addition, to control for the size of the hotel industry, we included the monthly number of overnight hotel stays by city (log). We also accounted for the *level of regulation* by including a count of imposed restrictions, including (1) requiring Airbnb hosts to register their dwelling; (2) demanding that Airbnb hosts collect a tourism tax; (3) limiting renting of apartments in certain areas; (4) requiring owners to carry liability insurance; and (5) banning cohabitation. We also controlled for the level of *market concentration*. Like Fernandez and Marin (1998), we created a Herfindahl index of concentration using the number of rooms (i.e., installed capacity) for each (generalist) hotel, with data from the Alimarket Census of Hotels. In addition, we controlled for seasonal *demand variation* by using the coefficient of variation of the overnight hotel stays in the last year, and the *age of the platform* in the city by calculating the time in months since the first Airbnb property was listed in that city. Finally, we included fixed effects by year and month as well as by city.

For our second part (Hypothesis 3, Figure 2), we included five control variables for time-varying market conditions that can affect the hospitality ecosystem (McCann and Vroom, 2010): *market capacity*, *occupancy rate*, *service level*, *GDP*, and *entries of generalists*

*and specialists*. First, to control for variations in dwelling supply, we used *market capacity*, calculated as the logarithm of the one-period lagged number of beds in the wider region of each city, excluding the number of beds in that city to avoid endogeneity. We derived this variable from the Hotel Occupancy Survey published by the INE. Second, to control for demand conditions, we included the *occupancy rate in each market*. We used the average occupancy rate of the region (lagged one period), again excluding the focal city. Third, we controlled for the *level of service in the market*, as entrants and incumbents in the hospitality ecosystem compete not only in number of beds or rooms but also in amenities. Hotels that offer more amenities – e.g., 24-hour room service, gym, restaurants, casino, spa, shopping, and business services – require extra personnel. Past research has measured the service level in the hotel industry by using the staff-to-room ratio (Boella and Goss-Turner, 2013). We operationalized it as the number of hotel employees per 100 beds, for each month. Both controls were obtained from the Hotel Occupancy Survey (INE). Fourth, consumer buying power and occupancy levels are also influenced by the strength of local economies, so to control for this effect, we used the log of the gross domestic product (GDP) per capita for each province. Finally, we controlled for the number of *entries of generalists and specialists*, as they too affect market dynamics and generalists' performance. Using data from the Alimarket Census of Hotels, we counted the number of newly added beds in each star category.

Longitudinal studies should use time dummy variables to control for potential contemporaneous correlation between the residuals of units observed in each period (Certo and Semadeni, 2006). To control for such heterogeneity, we included *year and month fixed effects*. Dummy variables for each year and month control for time-varying factors, such as seasonal and macroeconomic trends that are common across cities and should reduce the bias of coefficient estimates. We also controlled for *city fixed effects* in order to address unobserved city characteristics such as attractiveness to tourists.

## Analysis

Given that in our first step (Hypotheses 1 and 2), the dependent variables (numbers of micro player and specialist entries) are count variables and over-dispersed, we used negative binomial regression. To statistically test the difference of the coefficients of the two independent variables on micro players' and specialists' entries, we jointly estimated the two equations using seemingly unrelated estimation (SUEST in Stata). To test the relationship between micro players' entry and generalists' performance (our second step; Hypothesis 3), we used a fixed effects model. In all the analyses, we used cluster-robust standard errors at the city level to account for autocorrelation.

## RESULTS

### Preliminary Results

As a prelude to our two-step study design, we ran simple t-tests, using the Airbnb dataset with all 48,361 listings to compare micro players and specialists on various characteristics. The tests confirmed that the two are distinctly different and, specifically, that

micro players have more limited resources in comparison with specialists as they manage fewer properties (57 per cent of micro players manage only one property in comparison with 37 per cent of specialists). As Table I shows, micro players are smaller, accommodate fewer guests, have fewer services, offer lower prices than specialists, and co-occupy their property with their guests. Moreover, they are less experienced, as they are less likely to be 'superhosts' (a coveted status on the Airbnb platform). Finally, their level of service is also lower; as they respond to customer needs less often, they are less likely to offer 24-hour check-in and instant book (a feature of Airbnb that allows guests to book immediately without needing to send a request to the host), and they receive fewer reviews.

To validate our classification of four-star hotels as generalists, we analysed data from the Alimarket Census of Hotels. In 2015, in the 63 Spanish top touristic cities, four-star hotels had the biggest market share and were larger than all other hotel types, with 59 per cent of the market (1399 hotels with 254,092 rooms); three-star hotels had 27 per cent (920 hotels with 114,931 rooms), five-star hotels 8 per cent (201 hotels with 34,508 rooms), two-star hotels 5 per cent (369 hotels with 22,996 rooms), and one-star hotels 2 per cent (171 hotels with 6538 rooms). In addition, 86 per cent of the beds of four-star hotels belonged to hotel chains, which had on average more than 4762 rooms. Again,

Table I. The characteristics of different types of Airbnb listings

<i>Average</i>	<i>Micro players (available less than 90 days)</i>	<i>Specialists (available more than 90 days)</i>	<i>Difference</i>	<i>t-value</i>
<b>Property characteristics</b>				
Number of bedrooms	2.12	2.62	-0.50	21.41***
Number of bathrooms	1.31	1.39	-0.07	8.65***
Number of guests a property can accommodate	3.20	3.80	-0.60	21.50***
Number of amenities (gym, pool, etc.)	10.93	11.15	-0.22	5.28***
Published nightly rate	76.97	81.90	-4.93	5.19***
<b>Host characteristics</b>				
Percentage of superhosts	4.67	6.05	-1.38	5.07***
Percentage of hosts with identified identity	52.73	56.13	-3.40	5.86***
Percentage of hosts with only one property	57.14	37.85	19.29	33.93***
<b>Service characteristics</b>				
Host response rate (%)	94.58	94.89	-0.30	2.01*
24-hour check-in (%)	14.61	16.42	-1.81	4.23***
Instant book enabled (%)	22.34	25.22	-2.88	5.72***
Number of reviews	11.24	19.32	-8.08	22.94***
Number of observations	9010	39,351		

<sup>+</sup>p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

no demarcation is perfect, but these figures support the view that the four-star hotels represent generalists.

Table II features the means, standard deviations, and correlations for testing Hypotheses 1 and 2 (Panel A) and Hypotheses 3a and 3b (Panel B).

### Effect of Unemployment and Legitimacy on the Entry of Specialists versus Micro Players

Table III presents the coefficients of unemployment levels and legitimacy for entries of specialists (Model 1) and micro players (Model 2). It also presents the results after we apply seemingly unrelated estimation (SUEST command in Stata) to assess the difference between the coefficients. Among the control variables, we find that the age of the population, the education level, the dwellings per 100 properties, and the strictness of the regulation affect the entry of specialists differently than the entry of micro players. These differences in the determinants of entry are consistent with our thesis that micro players differ from specialists.

In negative binomial regressions, the  $\beta$  coefficient reflects the effect that a one-unit change in predictor X has on the difference in the log values of outcome variable Y; that is,  $\beta = \Delta(\log Y_{t+1} - \log Y_t)$  (York et al., 2018). Calculating the exponent of both sides of the equation results in  $\exp(\beta) = \frac{Y_{t+1}}{Y_t}$ , which is the incidence rate ratio (IRR), or in other words, the relative change in the outcome variable for a one-unit change in the predictor variable.

Model 1 in Table III shows that unemployment has a statistically insignificant effect on the market entry of specialists (unemployment level  $\beta = -0.10$ ,  $p = 0.917$ ), while platform legitimacy has a significant positive effect ( $\beta = 0.21$ ,  $p = 0.000$ ). A one-standard-deviation ( $SD = 2.10$ ) increase in Airbnb's legitimacy in the city would result in an IRR of  $\exp(0.21 * 2.10) = 1.55$  – a 55 per cent increase in the rate of entry of specialists. In Model 2, the impact of unemployment on the entries of micro players is positive and significant ( $\beta = 7.48$ ,  $p = 0.000$ ). A one-standard-deviation increase in unemployment levels ( $SD = 0.03$ ) would result in an IRR of  $\exp(7.48 * 0.03) = 1.25$  – a 25 per cent increase in the rate of entry of micro players. Model 2 also shows that the impact of platform legitimacy on micro players' entries is positive and statistically significant ( $\beta = 0.35$ ,  $p = 0.000$ ). A one-standard-deviation ( $SD = 2.10$ ) increase in Airbnb's legitimacy in the city would result in an IRR of  $\exp(0.35 * 2.10) = 2.08$  – a 108 per cent increase in the rate of entry of micro players. The results of the seemingly unrelated estimation (SUEST) show that there is a significant difference in the coefficients of unemployment ( $\chi^2 = 12.21$ ,  $p = 0.001$ ) and legitimacy ( $\chi^2 = 2.81$ ,  $p = 0.09$ ) for entries of specialists and micro players. As these two variables affect the two types of entries differently, these results support Hypotheses 1 and 2.

### Effect of Specialists' and Micro Players' Entry on Generalists' Performance

Table IV shows the effects of the entry of specialists and micro players on the performance of generalists.

Model 2 tests the impact of the entry of micro players compared with the entry of specialists on generalist performance. It shows that the effect of *entry of specialists* is negative and statistically significant ( $\beta = -0.0005$ ;  $p = 0.023$ ); generalists' revenue declines by 5 per

Table II. Summary statistics and correlations

<i>Panel A</i>																
<i>Variable</i>	<i>Observations</i>	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	
1. Entries of micro players	4402	10.56	50.57													
2. Entries of specialists' rental properties	4402	46.30	169.23	0.98												
3. Unemployment level	4402	0.09	0.03	-0.08	-0.07											
4. Legitimacy	4402	2.02	2.10	0.46	0.54	0.05										
5. Population of the city (log)	4402	11.39	1.42	0.32	0.35	0.40	0.32									
6. Average age of the population	4402	41.25	2.16	0.04	0.02	-0.05	0.13	0.31								
7. Education level	4402	9.51	0.40	0.28	0.30	-0.51	0.43	-0.07	0.17							
8. Dwellings per 100 inhabitants	4402	54.46	6.25	-0.15	-0.14	-0.02	-0.04	-0.01	0.40	-0.19						
9. Size of the hotel industry	4402	11.95	1.02	0.28	0.32	-0.18	0.26	-0.06	-0.33	0.23	-0.22					
10. Level of regulation	4402	0.33	0.91	0.20	0.22	-0.16	0.35	-0.04	0.27	0.28	0.07	0.05				
11. Market concentration	4402	0.15	0.09	-0.19	-0.22	-0.17	-0.27	-0.42	-0.13	0.06	-0.05	-0.30	-0.02			
12. Demand variation	4402	0.33	0.17	-0.09	-0.08	-0.09	-0.04	-0.16	-0.09	-0.02	0.31	-0.11	0.08	0.08		
13. Age of the platform	4402	15.18	15.48	0.21	0.26	0.01	0.79	0.00	0.21	0.00	0.07	0.07	0.50	-0.07	-0.03	

(Continues)

Table II. (Continued)

<i>Panel B</i>												
<i>Variable</i>	<i>Observations</i>	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
1. Generalists' performance	2662	3.8	0.48									
2. Entries of micro players	2662	14.72	57.3	0.17								
3. Entries of specialists' rental properties	2662	63.56	194.22	0.19	0.98							
4. Market concentration	2662	0.13	0.06	-0.03	-0.30	-0.27						
5. Market capacity	2662	11.49	1.14	0.39	0.01	-0.02	-0.10					
6. Occupancy rate in the market	2662	0.52	0.22	0.64	0.02	-0.01	0.04	0.61				
7. Level of service in the market	2662	13.46	2.91	0.57	0.14	0.14	-0.11	0.14	0.33			
8. GDP per capita	2662	9.91	0.18	0.12	0.27	0.29	-0.15	-0.41	0.01	0.14		
9. Entries of generalists	2662	38.64	142.62	0.14	0.44	0.43	-0.25	-0.05	-0.03	0.12	0.28	
10. Entries of specialist hotels	2662	24.64	114.52	0.11	0.43	0.41	-0.19	-0.02	-0.06	0.11	0.23	0.61

Table III. Negative binomial regressions predicting the number of entries of micro players and specialists

	<i>Entries of specialist rental properties</i>	<i>Entries of micro players</i>	<i>Chi-square</i>
Intercept	-37.17***	-18.85	
Population of the city (log)	0.68 <sup>+</sup>	0.88	0.01
Average age of the population	0.68***	0.06	3.95*
Education level	-1.19***	0.20	3.44 <sup>+</sup>
Dwellings per 100 inhabitants	0.22***	0.06 <sup>+</sup>	3.25 <sup>+</sup>
Size of the hotel industry	0.10***	0.12***	0.09
Level of regulation	-0.02*	-0.07***	4.48*
Market concentration	0.44	0.87*	0.22
Demand variation	-0.18	0.80***	1.63
Age of the platform	-0.01	-0.04	1.79
Hypothesis 1: Unemployment level	-0.10	7.48***	12.21***
Hypothesis 2: Legitimacy (log number of properties)	0.21***	0.35***	2.81 <sup>+</sup>
Year-month dummies	Yes	Yes	
City dummies	Yes	Yes	
N	4399	4399	
Pseudo R-square	0.3486	0.416	

Note: Standard errors are clustered by city.

<sup>+</sup>p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

cent when 100 more specialists enter their market. In contrast, the effect of *micro players'* entry is positive and statistically significant ( $\beta = 0.0014$ ;  $p = 0.033$ ); generalists' revenue grows by 14 per cent when 100 more micro players enter their market. These results (and effect sizes) are consistent with Hypothesis 3, which states that the entry of micro players is more complementary to generalists' performance than the entry of specialists. We tested the equality of the two regression coefficients with a linear hypothesis test. In accord with Hypothesis 3, the effect of micro players' entry on generalists' performance is significantly different from the effect of specialists' entry ( $F = 4.78$ ;  $p = 0.033$ ).

### Robustness Checks

We conducted a series of robustness tests, including an alternate model specification to account for potential endogeneity in the entry variables as well as changes to the independent and dependent variables. First, a *two-stage least squares* (2SLS) instrumental variable approach produced results consistent with the baseline (Appendix 1). Second, we reclassified three-star hotels as generalists and also tried combining three-star and four-star hotels. The results remained consistent. Third, we used alternative measures of the rate of entry of micro players. When we defined micro players as those operating for fewer than 120 days per year or when we considered a time window of one year, the results

Table IV. Fixed-effects regression predicting the effect on generalists' performance of the number of entries of micro players and specialists

	<i>Model 1</i>	<i>Model 2</i>
Intercept	-6.41	-7.80
Market concentration	0.03	0.02
Market capacity	0.02	0.02
Occupancy rate in the market	1.46***	1.47***
Level of service in the market	0.08***	0.09***
GDP per capita	0.82	0.95 <sup>+</sup>
Entries of generalists	-0.00005	-0.00004
Entries of specialist hotels	-0.00007 <sup>+</sup>	-0.00005
Hypothesis 3a: Entries of micro players		0.00141*
Hypothesis 3b: Entries of specialist rental properties		-0.00049*
Year-month dummies	Yes	Yes
City dummies	Yes	Yes
Observations	2662	2662
R <sup>2</sup>	0.5993	0.6010

Note: Standard errors are clustered by city.

<sup>+</sup>p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

were consistent with those using fewer than 90 days as the threshold and a six-month time window. In addition, because the correlation table shows that the numbers of entries of micro players and specialists are strongly correlated, to alleviate concern about multicollinearity, we reran the analyses with both variables orthogonalized; again, the results remained robust. Finally, to understand the mechanism behind the positive relationship between micro players and generalists' performance, we ran additional analyses using the occupancy level and the average daily rate as dependent variables. The results show that the effect of micro players on generalists' revenue is mainly driven by price increases.

## DISCUSSION

In this article, we explore how digital platforms impact market evolution. We develop and validate the theory of micro entry and revisit predictions made by resource partitioning theory in the context of digital platforms. The results confirm that micro players are a distinct category of specialists because their entry via a digital platform is driven by high unemployment rates and platform legitimacy – conditions that do not similarly affect the entry of specialists. In addition, the findings confirm that micro players' entry is quite complementary and beneficial to generalists' performance, while the entry of specialists decreases generalists' performance.

This article offers several contributions to micro entry theory (Markman and Waldron, 2014). First, as the theory does not state formal propositions, our study

contributes to formalizing it by presenting specific hypotheses about the different conditions that affect the entry of micro players versus specialists and the different effects of their entry on generalists' performance. Second, our study contributes to validation of the theory in the context of a digital platform. Our findings confirm that micro players (i.e., properties available occasionally, less than 90 days) that enter the market via a generalist platform (Airbnb) are different than specialists (i.e., properties available more regularly, more than 90 days). Our descriptive analyses reveal that micro players that entered through Airbnb were smaller and less experienced than specialists, with lower quality and service. We confirm that the entry of micro players via Airbnb has a positive effect on generalists' performance as claimed by micro entry theory (Markman and Waldron, 2014). Third, our study extends micro entry theory by adding the role of the digital platform. Finally, our study also extends the theory by offering more specificity about the underlying reasons that explain the different effects of the entry of micro players and specialists on generalists' performance. Our results show that specialists that enter through a digital platform, such as Airbnb, can compete directly with generalists. In our setting, the revenue per room of four-star hotels decreased by 5 per cent when hotels faced the entry of 100 more specialists via Airbnb. Thus, it seems that a digital platform can reduce specialists' need for economies of scale. This will give rise to a direct competition between specialists and generalists for customers located at the centre of the market. Moreover, our results confirm that micro players complement generalists' offerings – four-star hotel revenues increased by 14 per cent with the entry of 100 more micro players via Airbnb. Although the platform's resources could potentially also help micro players compete against generalists, their part-time nature makes them more complementary to generalists. Micro players' flexibility can open temporary market niches, helping to attract new demand that can create sudden demand spikes that can allow generalists to raise prices.

Our study invites resource partitioning theory to recognize micro entrants as a category that is distinct from the 'typical' specialists and that digital platforms have the potential to change organizational populations (i.e., by facilitating the entry of both micro players and specialists, and by allowing specialists to compete directly against generalists). When we think systematically through this theory, it is abundantly clear that classifying the few and rather homogeneous generalists as a distinct subpopulation is conceptually sound. But classing the vast number of specialists as a unified subpopulation – despite clear disparities in size, scale, identity, motivation, and capabilities – is difficult. We cannot continue ignoring micro players, as digital platforms have facilitated their entry into the market.

This study also addresses a recent call to generate more research that acknowledges the new dynamics introduced by the emergence of digital platforms (Menz et al., 2021). More specifically, it contributes to the literature on the factors that influence the entry of individual service providers through digital platforms (Gerwe et al., 2022; Huang et al., 2020; Skiti et al., 2022) and also the effect of that entry on incumbents' performance (Li and Srinivasan, 2019; Zervas et al., 2017). First, our results confirm that digital platforms allow the entry of heterogeneous players (Einav et al., 2016). While the scant research about heterogeneous service providers in

peer-to-peer markets distinguishes between non-professionals and professionals (Chen et al., 2023), our results show that service providers can also be different based on their part-time or full-time nature. Second, we demonstrate that the effect on incumbents' performance depends on the type of entrant. To our knowledge, this is the first study that focuses on the influence of the type of entrant (i.e., occasional vs. full-time) as a moderator of the relationship between the entries of properties via Airbnb and hotels' performance.

We also contribute to the existing literature on market entry of digital platforms (Aversa et al., 2021; Cozzolino et al., 2018; Markman et al., 2019) by shedding light on how the heterogeneity of service providers entering the market through a digital platform influences incumbents' disruption.

Finally, our study answers the calls made by management scholars to advance knowledge accumulation by doing more ample testing and replication of existing theories (Hambrick, 2004, 2007; Oxley et al., 2010). As the first formal test of micro entry theory, our work contributes to clarifying the causal relationships between the drivers and outcomes of micro entrants, which we hope will stimulate future research of micro entry theory.

### **Limitations and Future Research Directions**

Our distinction between micro players and specialists in our empirical context assumes that the property is listed on only one platform. It seems possible that a micro player could be present on multiple platforms – which could obfuscate our definition of the micro player if she has fewer than 90 available days in Airbnb and another number of available days on another platform. This was less likely in our study's time frame (2010–15) than nowadays, as at that time, owners had to update the content, calendar, and rates of their listings manually in each separate platform. Also, in those years, Airbnb specialized in urban rentals while other platforms (e.g., Homeaway, Wimdu, Niumba, etc.) were focused on vacation rentals (Exceltur, 2015). Future research should consider how multihoming patterns can affect the distinction between micro players and specialists.

Our study creates other opportunities for future research on micro entry theory. For instance, as we are not comparing the entry of micro players and specialists before and after the emergence of Airbnb, future research can test if the entry of a digital platform encourages the entry of micro players. So, the effect of generalists' modularity on micro entry remains an interesting research question for the future.

Our study can also encourage more research about resource partitioning. First, researchers can investigate the dynamics of temporary market niches. Resource partitioning theory assumes that the resource space is stable (Jia et al., 2022), but recent research shows that the entry of specialists into the market centre can set off preference shifts within an industry (Verhaal et al., 2017). How do the preferences in a particular industry (e.g., hospitality, transportation, etc.) change after the entry of micro players?

Second, future research should explore the survival rates of generalists and specialists in a given industry after the entry of a digital platform. If digital platforms erode the boundaries between generalists and specialists, will intense competition

in the market centre further concentrate generalists, as resource partitioning theory predicts? For instance, in the hospitality industry, should we expect a higher concentration of the industry around the largest hotels and hotel chains, which will offer a larger variety of accommodation options (rooms, apartments, villas, etc.)? How will the intense competition affect the survival rate of specialists? According to resource partitioning theory, the intense competition between generalists and specialists should hurt specialists' performance, but we might expect that affiliation with a digital platform would help specialists survive.

Third, future research should investigate the generalizability of our findings to other settings. For instance, how does the entry of taskers and giggers (e.g., on TaskRabbit and Fiverr) and part-time drivers (e.g., on Uber and Lyft) influence the performance of the largest staffing and national transportation companies, respectively? Finally, we focused on how micro players affect the performance of generalists; it would be interesting to understand whether, how, and under what conditions their entry influences the performance of specialists.

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## NOTES

- [1] Uber managers explain the network effects in the IPO prospectus in the following terms: 'As we grow the number of Drivers, our market coverage improves, bringing down average wait times, which attracts more consumers. More consumers results in an increased volume of trips and higher Driver utilization, which attracts more Drivers and enables us to reduce fares for consumers' (Uber, 2019, p. 152).
- [2] The large size and the broad target segments of users characterize generalists' organizations. Importantly, as digital platforms may vary in their niche width, they can be generalists, if their width niche covers much of the market, or specialists, if they focus on a particular niche of the market. For instance, in 2022, Airbnb offered 6 million active listings worldwide, which included a broad range of properties (e.g., shared homes, entire homes, apartments, villas, etc.). Thus, it can be characterized as a generalist within the population of the short-term rental platforms. However, other digital platforms, like Homestay, are focused only on hosted housing where the host is always present. In 2020, Homestay offered 63,000 rooms. Its smaller niche width respect to Airbnb, allow us to characterize it as a specialist.
- [3] Similarly, eBay accepts both private sellers and business sellers, and Fiverr accepts both individual freelancers and firms (e.g., translator firms) (Chen et al., 2023).
- [4] Many generalists, including CitiGroup, Barclays, and General Electric, are now exploiting microfinance opportunities, and some have even created mutual funds that invest in microfinance firms.
- [5] Although Airbnb was the platform that dominated the short-term rental market in the period of our study, there were also other digital platforms competing in Spain. For that reason, there is the possibility that we are underestimating the number of micro players and specialists as we are not including the entries via other competing platforms. We consider that our results hold if we assume that the distribution of the entry of specialists and micro players is similar in those platforms to Airbnb. We are thankful to the anonymous reviewer who highlighted this point.
- [6] In the period from 2010 through 2015, there were no limits in Spain on the number of days that hosts could rent their apartments on Airbnb.
- [7] The Spanish National Statistics Institute does a monthly survey of all Spanish hotels to collect information on the average daily rate (ADR), occupancy rate, and revenue per room (REVPAR) of a double room with bathroom. This information is disclosed by city, not by individual hotel.

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## APPENDIX 1

We acknowledge that the entry of micro players, specialists, and generalists can be potentially endogenous, as all can affect the performance of generalists, whose high performance may entice more entry by micro players and specialists. For that reason, we used two-stage least squares (2SLS) instrumental variable regressions as a robustness test. Valid instruments should be strongly related to the endogenous variables but unrelated or weakly related to the dependent variable (Murray, 2006). As instruments, we used three legal restrictions on rental properties at the regional level: laws (1) requiring civil liability insurance; (2) requiring Airbnb hosts to register the tourist dwelling on a regional listing; and (3) prohibiting renting apartments in some areas. Each of the instrumental variables can take a value of zero or one. We also used internet access (the region's percentage of main dwellings that have access to the internet).

We included as endogenous variables the entries of not only micro players and specialist rental properties but also hotels (using a variable that sums the entries of generalist and specialist hotels). The F-statistic for the instrumental relevance test was above 10 (the threshold set by Staiger and Stock, 1997) for the entries of micro players ( $F = 20.15$ ), specialist rental properties ( $F = 22.52$ ), and hotels ( $F = 12.74$ ), indicating that our instruments were relevant predictors of these three variables. In addition, as our model included more instruments than potentially endogenous variables, we were able to test for instrument exogeneity (Wooldridge, 2010), a procedure in which a significant statistic means that the instruments are invalid. Wooldridge's robust score test of over-identifying restrictions failed to reject the null hypothesis that our instruments are valid (i.e., the instruments are uncorrelated with the error term and correctly excluded for the estimated equation) ( $\chi^2 = 0.111$ ,  $p = 0.7390$ ). Thus, the tests confirmed that the instruments were relevant and valid. Supporting this conclusion, four instrumental variables were statistically significant in all first-stage models (Table AI).

Table AI. Effect of entry of micro players on generalists' performance: two-stage least squares (2SLS) results, first stage

	<i>Entries of hotels</i>	<i>Entries of specialist rental properties</i>	<i>Entries of micro players</i>
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept	-1223.09	-7669.11***	-1607.33***
Market concentration	188.34*	-27.51	-11.18
Market capacity	-7.53	29.51**	5.90 <sup>+</sup>
Occupancy rate in the market	129.57	85.84 <sup>+</sup>	15
Level of service in the market	-2.8	-0.15	-0.49
GDP per capita	199.71	801.52***	172.54***
Insurance	49.48	-261.71***	-75.19***
Registration of tourist dwelling	-67.07	369.07***	112.01***
Prohibition to rent apartments in some zones	104.82**	-320.90***	-104.98***
Internet access	-8.76***	-9.65***	-2.88***
Year-month dummies	Yes	Yes	Yes
City dummies	Yes	Yes	Yes
N	2662	2662	2662
R <sup>2</sup>	0.6044	0.7238	0.6932
F	12.74	22.52	20.15

Note: Robust standard errors.

<sup>+</sup>p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

Table AII replicated the analyses of Table IV using two-stage least squares regression. Model 1 shows a positive and significant coefficient for the entries of micro players and a negative and significant coefficient for the entries of specialist rental properties. The result provides additional support for Hypothesis 3, giving us additional confidence in the robustness of our results.

Table AII. Two-stage least squares (2SLS) regression predicting the effect on generalists' performance of the number of entries of micro players: results, second stage

	<i>Model 1</i>
Intercept	-26.58***
Market concentration	-0.21
Market capacity	0.14*
Occupancy rate in the market	1.64***
Level of service in the market	0.11***
GDP per capita	2.75***
Entries of generalist and specialist hotels	0.00
Entries of micro players	0.04***
Entries of specialist rental properties	-0.01***
Year-month dummies	Yes
City dummies	Yes
N	2662
$\chi^2$	0.111
p-value	0.739

*Note:* Robust standard errors.

+p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.