Learning to Airbnb by Engaging in Online Communities of Practice

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Technological advances, combined with sustained, minimalist consumerism, have raised the popularity of sharing economy platforms like Airbnb and Uber. These platforms are considered to have disrupted traditional industries and revolutionized how consumers interact with their services. The Computer-Supported Cooperative Work (CSCW) community has researched various aspects of the sharing economy; however, it is unclear how novices grow into experts in its various instantiations. In this paper, we present a qualitative investigation of Airbnb hosts, and Facebook groups in which they participate, for an enriched understanding of their learning mechanisms. Drawing on the theory of Legitimate Peripheral Participation (LPP) [37], our findings highlight the learning mechanisms that enable novice hosts to transition from partaking in peripheral roles to becoming integrated members of their (Facebook) communities of practice. We also present recommendations for sharing economy platforms, micro-entrepreneurs, and the online communities that serve them both.

1 INTRODUCTION

The sharing economy has been growing at a rapid pace, with numerous emerging platforms such as Uber, Lyft, and Airbnb that have revolutionized how individuals interact with services long provided by established industries [58]. Researchers in the larger Human-Computer Interaction (HCI) community have actively engaged with various aspects of sharing economy platforms in recent years, examining design challenges they introduce, motivations that drive the adoption of these systems, and problematic labor practices, among others (*e.g.,* [13, 25, 31, 48, 50]). With growing adoption of diverse sharing economy platforms, individuals across socioeconomic strata are becoming increasingly reliant on them for enhanced livelihoods [49]. The expertise with which adoption is navigated depends, however, on existing literacies among new and aspiring users, and ways of augmenting them that might help transition novices to experts. This growth, the mechanisms by which it is sought, and the role that online communities play to provide support, are central to our research, which focuses on Airbnb, a popular instantiation of the sharing economy.

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Airbnb, founded in 2008 [2], is an online marketplace that enables its users to rent out properties or spare rooms to enlisted guests. Currently, there are over six million Airbnb listings across more than 191 countries [1]. Requirements for enlisting as an Airbnb host or guest are not stringent. However, the process of learning to become an *expert* Airbnb host is non-trivial. To better understand this, we posed the research questions below:

1. What kinds of informational resources do Airbnb hosts rely on for gaining expertise at Airbnb hosting?
2. How do the practices of Airbnb hosts change as they evolve from new to more experienced hosts?

Our research thus investigates how aspiring hosts learn the intricacies of the workings of the platform, how and along what dimensions they seek to improve their listings, and how they attempt to effectively negotiate their relationships with target guests.

We begin by referencing related work that explores HCI interests in the sharing economy, as well as challenges around micro-entrepreneurship; we rely on the framework of legitimate peripheral participation (LPP) to explore how new hosts learn and strategize to operate profitably [37]. We then detail how we conducted our research in Atlanta, Georgia through interviewing Airbnb hosts and observing participation on two Facebook groups about Airbnb hosting. Our findings highlight the challenges and opportunities hosts face in navigating Airbnb. We also unpack the resources and tactics hosts turn to for coping with difficult situations. We additionally discover how Airbnb hosting serves as a springboard to other endeavors. Finally, we articulate and discuss how the lessons learned from our research—particularly through the use of LPP—reveal opportunities for impacting diverse stakeholder groups, including sharing economy platforms, micro-entrepreneurs, and online communities catering to the interests of workers in the sharing economy.

2 RELATED WORK

We now situate our research amid prior scholarship on the sharing economy and its micro-entrepreneurs. We also describe the LPP framework we use to better understand these individuals—also our research participants, as they find their way to becoming expert hosts.

2.1 Sharing Economy Platforms, Airbnb, and CSCW

The sharing economy entails online peer-to-peer marketplaces that facilitate *"sharing underused assets or services, for free or for a fee, directly from individuals"* [5]. Recent years have seen a proliferation of such marketplaces in domains ranging from goods, household tasks, personal loans and food, to rides and accommodations [32]. The sharing economy has also become a prominent area of research; a recent systematic review of important trends [14] found that scholarship in this area has focused on the sociotechnical design of these platforms [12, 35], motivations to participate in the sharing economy [3], and the value of social connections [16]. This review highlights under-explored topic areas in sharing economy research relevant to the field of CSCW, including a lack of attention to "human-centered optimization" and how workers improve their decisional autonomy while minimizing costs [14]. We address this gap by surfacing how workers of the sharing economy seek and leverage informational resources to improve their performance.

Molz introduced the concept of "network hospitality" to describe the process of using online social technologies for enabling social interaction and exchange of accommodation [45]. Network hospitality draws attention to the complex intersections of hospitality and technology, and to the ways in which strangers make novel connections in a mobile and networked society [44]. Airbnb, a prime example of such platforms, allows hosts with spare accommodations to connect with guests who need lodging and are willing to pay for it. It currently provides access to more than 5 million

unique listings in 191 countries[1]. Early research on network hospitality platforms primarily focused on Couchsurfing, a free online hospitality exchange network. More recently, Airbnb has attracted scholarly interest across varied domains such as Law, Marketing, and Economics (*e.g.,* [9, 52]).

Researchers have been studying the hospitality exchange processes that occur via the Airbnb platform (*e.g.,* [25, 31, 32, 36, 41]). Some have explored individuals' motivations to act as Airbnb hosts, finding them to be mainly financial [25, 35, 52]. Others have studied the differences in participation on the platform across socioeconomic status and geographic locations; they found that areas with lower median household incomes tend to have more hosts but fewer new reviews [32, 54]. Dillahunt and colleagues have investigated the use of Airbnb's platform in the development context [11, 13]. We contribute to this work our research on the learning practices of Airbnb hosts.

One crucial aspect that distinguishes Airbnb from traditional hotels is that while traditional hotels are typically operated by lodging professionals, providers of accommodations on Airbnb tend to represent an unconventional workforce that in large part consists of "amateurs" occasionally renting out their apartments [56]. Hosting on Airbnb can mean a substantial source of income, but these hosts' abilities to consistently earn this income depends on how well they learn to serve their guests in competitive marketplaces, while remaining cautious and efficient with their expenses. Sharing economy platforms like Airbnb represent a general paradigm shift towards nonprofessional service providers [39]. It is, therefore, particularly important to examine the current learning strategies of workers in this space, and ways in which their pursuits may be supported. Prior work describes techniques used by participants of sharing economies [17, 25, 35, 36] but does not explore participants' approaches to learning towards success. This is the gap our paper addresses in the context of Airbnb hosting.

2.2 Learning to Become a Micro-Entrepreneur

Individuals working on sharing economy platforms have been described as "micro-entrepreneurs" [13, 55]; they use these platforms to manage their businesses without necessarily intending to grow them into companies [23]. They are usually not professionally trained to perform the tasks they undertake, such as managing paid guests (on Airbnb), or serving as drivers (in the case of Uber and Lyft). Lack of adequate training, coupled with the requirements to operate in a sociotechnical space where one is expected to appease the needs of customers and be evaluated using algorithms, frequently results in a working environment that is fraught with anxieties and uncertainties, as underscored in recent scholarship (*e.g.,* [31, 33, 50]).

Several scholars have investigated the challenges that micro-entrepreneurs face with sharing economy platforms. Raval and Dourish emphasized the need to consider not just the physical labor involved in these jobs, but also the management and maintenance of emotions, which workers have to perform on a daily basis [50]. Glöss et al. compared the perspectives of Uber drivers and traditional taxi drivers and found that although Uber drivers experienced more flexibility in their work, they also found the work more demanding [17]. Rosenblat and Stark showed that the reputation system in Uber can be stressful for drivers whose ratings decline for reasons they cannot identify [51]. More recently, Jhaver et al. highlighted the difficulties that Airbnb hosts face in negotiating their work practices, in serving Airbnb guests as well as dealing with semi-transparent algorithms that evaluate them and determine their sustenance and success on the platform [31].

In sum, existing research on micro-entrepreneurs of the sharing economy has focused on the challenges that different aspects of sharing economy platforms impose on their workers, but not yet examined the learning resources that workers on these platforms rely on to address such challenges. This is critical to understand, given evolving discourses around the future of work that predict

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[1]https://press.airbnb.com/about-us/

significant changes to the nature of jobs in the near future [29]. We contribute to this gap by investigating how Airbnb hosts learn from each other and from digital informational resources towards improving their efficiency and earnings.

2.3 Legitimate Peripheral Participation in Communities of Practice

We use Lave and Wenger's theory of Legitimate Peripheral Participation (LPP) to analyze our data [37]. LPP brings to scrutiny how newcomers in peripheral roles become active participants in a *Community of Practice* (CoP)—a group of people who engage in activities together and support each others' learning in a shared domain of interest [24, 37, 38, 47]. This could include a tribe learning to survive, artists seeking new forms of expression, activists protesting for law changes, among other things [37, 38, 53]. CoPs share three characteristics—*domain, community, and practice* [38]. The identity of a CoP depends on a shared domain interest, where all members are committed to the domain—Airbnb hosting is the shared commitment we study. The community is where members share information and help each other while building relationships with other members—the online Facebook groups we studied and recruited users from. The practice allows members to develop a shared set of resources to address challenges they face, as our participants did [20, 40, 57].

Researchers have applied LPP to better understand, for instance, online CoPs such as collaborators on Wikipedia [6], among other domains (*e.g.,* [22, 26, 34, 42, 46]). According to Lave and Wenger, the term "peripheral" suggests that *"there are multiple, varied, more- or less-engaged and -inclusive ways of being located in the fields of participation"* [37]. We use this construct to examine how Airbnb hosts move from periphery to core amid the communities of practice that engage other Airbnb hosts. As they engage online, they gradually acquire skills and expertise as hosts.

The value of LPP as an analytical lens remains unexplored in the case of the sharing economy and its many platforms. In this paper, we aim to demonstrate the value that it might bring, nevertheless, to learning about how users with varying strengths and abilities are able to augment them, as they pursue greater expertise (and consequently, improved livelihoods) through identifying, participating, and learning by participation in online communities.

3 METHODS

Our study took place in 2018, and targeted an understanding of learning mechanisms employed by Airbnb hosts in Atlanta, where the authors are located. Below we detail how our data was collected and analyzed, also reflecting on some limitations of our sample.

3.1 One-on-One Interviews

We interviewed 17 active hosts (Table 1), recruiting them via Facebook groups (see below). We had 8 new hosts (with less than a year of hosting experience) and 9 experienced hosts, 25-55 years old. Six participants identified as male and eleven identified as female, representing different ethnicities including Asian, African American, Latino, and Caucasian. Nine participants told us that their primary income was through sharing economy platforms (*e.g.,* Airbnb, Uber, Lyft), while eight relied on Airbnb hosting for supplemental income. Interview questions were focused on participants' experiences around Airbnb hosting, challenges they had faced, and resources they turned to for responding to such challenges. We concluded the interviews upon reaching data saturation [21].

3.2 Facebook Groups

We scanned Airbnb Community Center (ACC)[2] and requested to join various local, national, and international Airbnb hosting Facebook groups, as directed to them by interview participants. After studying the activity on these groups, we found that local groups had more engagement than national or international ones. The latter had posts of broad interest, and members did not appear to find responses useful when these were not relevant to their geographic region. While collecting data, we found that the ACC had less engagement than local Facebook groups. ACC Cities (ACC for specific cities) is currently unavailable in Atlanta.

There were four Facebook groups tailored for Airbnb hosts in Atlanta. We chose to study *Metro Atlanta Airbnb Hosts* and *From Zero to 100 (Atlanta AirBnB)* because these seemed to be the most active among the four. They had been formed in 2015 and 2016, and had over 500 and 1700 hosts, respectively. The *Metro Atlanta Airbnb* group was the first of these to be created by an Airbnb host wanting to help new hosts navigate the difficulties of hosting by learning from others. *From Zero to 100* was created by a former Uber/Lyft Driver. He had created a similar group for local ridesharing drivers and recruited members from there for his Airbnb group. Thus, a majority of members in his group were familiar with sharing economy platforms. Both groups functioned similarly—posts were approved by the moderators (the group founders) before being posted.

Participants found these Facebook groups mainly by word of mouth. They either knew the founders or someone within the group who added them. Some participants found the groups by searching for them on Facebook. The two groups were said to not be in competition with each other. Both founders and some participants were part of both Facebook groups; however, most participants were only on one. When asked if they were part of other Facebook groups, participants either said *(1)* no because they were satisfied with the activity on these groups, *(2)* no because they knew and trusted people in these groups, or *(3)* yes but did not find other groups helpful. Furthermore, participants said they preferred the Facebook groups over ACC because some hosts did not wish to share loopholes they had discovered on a group that Airbnb moderated.

We drew data from both Facebook groups to further understand hosts' experiences and lessons learned, as shared on these groups. Members posted about procedural aspects of hosting (*e.g.*, how to sign up for Airbnb, how to cancel a reservation, etc.) and new hosting tactics they discovered. We scanned approximately 300 posts and noted roughly 200 posts that related to learning. We then manually scraped the comment threads that included 10-30 comments per post.

3.3 Data Analysis

We audio-recorded and transcribed the data from our interviews. Our analysis began with open coding [7], in which we assigned short phrases as codes to our data. The first round of coding was done line by line, so that codes remained close to the data. Examples of first-level codes included "Started Airbnb for extra income" and "Joining the group before to learn about hosting." Next, we conducted focused coding [7] by identifying frequently occurring codes and using them to form higher-level descriptions. Focused codes included "Understanding how Airbnb hosting works" and "Improving Airbnb listing". Throughout this process, we wrote memos and engaged in the continual comparison of codes and their associated data with one another. For the Facebook groups, in addition to open and closed coding [7], we also scanned and filtered the posts for codes that were found in the interviews. While most themes overlapped between the interviews and Facebook groups, some like "filing taxes" did not.

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[2]A forum provided by Airbnb that allows hosts from around the world to discuss hosting topics. It is accessible at https://community.withairbnb.com.

P#	M/F	Age	Time as Host	Ethnicity	Education	Is Airbnb primary income?	Income from Airbnb/Year
P1	M	30	2 months	Asian	High school	No	9,600 USD
P2	F	55	6 months	Af-Am	Some college	No	21,600 USD
P3	M	46	8 years	Af-Am	Master's	Yes	200,000 USD
P4	F	31	1 year	Af-Am	High school	Yes	100,000 USD
P5	M	38	6 months	Af-Am	Bachelor's	No	60,000 USD
P6	M	30	3 years	Af-Am	High school	No	N/A
P7	F	31	2 years	Caucasian	Some college	Yes	N/A
P8	F	33	3 months	Af-Am	Some college	Yes	48,000 USD
P9	M	26	2 years	Caucasian	Bachelor's	No	4,200 USD
P10	F	28	6 months	Caucasian	Master's	No	13,200 USD
P11	F	24	1 month	Af-Am	Some college	No	N/A
P12	F	39	9 months	Caucasian	Master's	Yes	60,000 USD
P13	F	42	2 years	Af-Am	Bachelor's	No	7,200
P14	M	27	1 year	Latino	High school	No	8,400 USD
P15	F	28	4 months	Caucasian	Some college	No	N/A
P16	F	37	4 years	Caucasian	Bachelor's	Yes	36,000 USD
P17	F	25	5 months	Latina	Master's	Yes	14,400 USD

Table 1. Demographics of interviewees. "N/A" = data participants did not share. "Af-Am" = African American.

We iterated until we had finalized distinct themes that highlighted the learnings and participation of Airbnb hosts. Finally, we established connections between the themes leadings to the findings we present next. The emergent themes highlight the impact of online communities of practice in transitioning from peripheral to experienced members, leading us to use LPP [37] for our analysis.

3.4 Limitations

Our study had some limitations. All participants were from Atlanta; while this was a diverse group in terms of participants' ages, ethnicities, time spent as hosts, and education levels, and allowed for in-depth exploration, we cannot say how our findings might translate. We encourage future work to explore other cultures and geographies. Second, all participants were recruited via Facebook groups and interviewed about their engagement with these groups. Hosts not on social media, or not online, may have different learning mechanisms that could be valuable to study. Relatedly, inactivity on Facebook is also challenging to interpret and could mean that hosts quit Airbnb or did not feel the need to engage for other reasons. Finally, conducting this study through shadowing hosts and longitudinally studying their learning activity may yield a richer understanding of specific transitions reflected in the learning process.

4 FINDINGS

Below we first present participants' explorations as they join the online communities of practice, learning on the periphery. We then outline the information and skills gained by participants from engaging with these learning resources, finally presenting our findings on how they expand their horizons as core members of the community.

4.1 Exploring how to Host on Airbnb

It was on Facebook that many participants first became aware of the affordances of Airbnb hosting. As in prior work, we found that Airbnb hosting was seen as an avenue for attaining financial freedom where the earnings might supplement hosts' primary incomes [17, 25, 36]. Some participants relied on it as a primary income source, (such as P12, who had deteriorating health conditions). Multiple

participants mentioned that while money was a factor, they found joy in the personal relationships they cultivated through hosting, confirming prior findings that hosts are motivated by social and cultural interactions [17, 25, 36]. Additional affordances included flexibility in work timings, giving participants room to be more involved in their children's lives, for example. Airbnb hosting also seemed less strenuous than some participants' primary jobs. Further, participants felt that Airbnb was preferred over long-term rentals, due to greater wear and tear as well as lower rates.

We now describe how participants explored hosting while on the peripheries of their (Facebook) communities of practice. They found that the Airbnb website provided high-level information about hosting, but had insufficient detail on lower-level, *procedural* aspects of hosting—setting up listings, messaging guests, providing basic amenities, etc. Though most hosts relied on online resources, and resorted to co-hosting to bridge the gap between their information needs and current knowledge, some also learned from their offline experiences as guests. We discuss each of these below.

4.1.1 Learning Through Participation on Facebook. Participants used two Facebook groups—*From Zero to 100 (Atlanta Airbnb)* and *Atlanta Metro Airbnb Hosts*—to become better hosts. Different motivations led them to these groups. Many participants had prior personal connections, such as P14 who said that a group member's wife had helped him get started on Lyft. P7, a midwife, said, *"one of my clients introduced me to the [Facebook] group."*

Some participants had joined before hosting to learn what Airbnb hosting entailed. P17 had no experience with sharing economy platforms other than as a guest on Airbnb. She shared: *"I joined months before to see if it was something that [my partner and I] could tolerate as far as workload, because this is not our main source of income."* By engaging with the Facebook groups, P17 said she realized that she was overthinking the whole process—she too could be a host. P1 said that he along with his brother, both former Uber/Lyft drivers, learned from the Facebook group the difference between rideshare driving and Airbnb hosting; hosts must invest in a furnished place and cannot spontaneously quit without incurring significant financial costs, unlike drivers.

Other participants said they joined the Facebook groups after they had started hosting to improve and stay motivated. P4 believed *"it was necessary that I get connected to the Airbnb community in every which way possible [to become a successful host]."* P6 was an *"established host way before [he] joined the [Facebook] group"* and now uses the group for *"advice and motivation."* He further elaborated that seeing other members succeed as Airbnb hosts inspired him to continue. He said that if other hosts could maintain 10-15 units, he could too.

Airbnb provides a similar forum through ACC, but our participants found the Facebook groups more *"relatable,"* with familiar members, and in a *"similar market."* Another host shared she only used ACC when Airbnb posted a *"hot button topic,"* but otherwise was skeptical:

> *"It's like foxes guarding the henhouse. You can't be as open as you might be in a private group. Every person who is able to comment is connected to their host account. I don't want to take any risk being deactivated with no notice in case you come on too strongly with your opinions. They've threatened to deactivate hosts who are publicly disparaging."*

Additionally, the Facebook groups allowed potential hosts to seek established hosts (potential hosts identified established hosts as those who posted in the group often and frequently responded to posts) and connect with them to form individual relationships. They said they privately messaged these individuals, or set up in-person meetings, to ask questions and seek guidance on hosting. This allowed potential hosts to find answers to specific questions, and provided reassurance that hosting was a viable option worth pursuing. Overall, the Facebook groups were vital in providing potential hosts with a glimpse into the realities and potentialities of hosting.

4.1.2 Learning by Apprenticeship through Co-Hosting. In proposing LPP, Lave & Wenger [37] give the example of tailors performing fundamental but low-risk tasks like sewing buttons to gain exposure to tailoring; apprentices rely on the guidance of experienced tailors. We found a similar reliance on experienced hosts in our study. Some participants said they were initially nervous to fully dive into hosting; they wanted to learn the ropes while having a mentor for guidance. These participants opted for co-hosting, which they learned was possible via the Facebook groups. Depending on what the two parties negotiated, experienced hosts' responsibilities ranged from taking care of most of the procedural aspects to simply providing advice. For example, P5 said:

> *"When I first got started, I was very new...A guy with many properties [said he'll co-host]...you have the responsibility of the property, but he'll help you grow and scale it up. He takes 25 percent of the profits...you learn the game by shadowing him."*

Both parties would decide on responsibilities and associated fees. New hosts learned as apprentices about the hosting process while limiting their risks. Experienced hosts were able to give back to the community while making an additional income. Although the Airbnb website also had this provision of connecting to co-host with local experienced hosts, participants were more comfortable doing so on Facebook. Most hosts liked that they could follow experienced hosts' posts to determine if that is someone they wanted to shadow. For example, P6 said:

> *"I met [my co-host] on Facebook. He had been so successful and helped many new people. I wanted to learn from him."*

Several other participants and Facebook users like P1's brother said certain people were 'highly recommended by people in the Facebook group'. They trusted the group's opinion and chose them as their co-hosts. The Facebook groups were vital in providing a sense of community and solidarity among novice hosts to find experienced hosts to learn from.

4.1.3 Learning from Online Resources. Most interviewees, and other hosts on the Facebook groups, took paid online courses to learn about the procedural aspects of Airbnb. The most commonly taken courses were *AirbnbSecrets* and ones found on Udemy (https://www.udemy.com) such as *Airbnb Entrepreneur: Become the Best Listing in Town!* or *Mastering Airbnb*. Some participants found these through online searches, while others received these recommendations from hosts on Facebook. Participants enrolled in these courses claimed this was the easiest way to become an expert Airbnb host. These courses touched on various aspects, explaining how to set up a listing, giving high level information on becoming profitable, and other best practices. More detailed courses covered advertising tips, gaming the Airbnb search algorithm, maximizing profits, using automation software, possible liability issues, and much more.

P5 joined the *From Zero to 100* Facebook group after hearing of it from fellow Uber drivers. On reading the posts and talking to experienced hosts, he was keen to pursue an online course for Airbnb hosting. He and other members in the group *"split the cost of the course...[and] were all able to get the information and learn from it."* A host in a similar situation (P4) elaborated:

> *"[The] course broke down everything: how to apply for your units, how to set up your unit, and how to orchestrate your listing so you start making money right away. It broke down every detail. I pretty much learned everything [from the course]. Then, I got my account [set up] and I started playing around with the [Airbnb] platform."*

Some hosts who were less keen to invest in an online course researched online to learn about the procedural aspects of hosting. Their research ranged from reading blogs and listening to podcasts to watching YouTube videos. For example, P10 shared:

> *"After reading what people said on the Facebook groups, there were a couple of videos that I watched on YouTube. They were about people who host on Airbnb and what [amenities] they recommend having in the home."*

Participants appreciated using a combination of online resources (such as these courses) and the Facebook groups. They were able to learn details fundamental to hosting from the courses and used the Facebook groups to supplement their knowledge by turning to experienced hosts for help.

4.1.4 Learning from Experience as an Airbnb Guest. Participants who had previously been Airbnb guests told us they used their own preferences to inspire their decision-making as hosts, in amenities they chose to offer, or providing a "homey experience" because they preferred it so. P13 said:

> *"My hosts in Australia made breakfast for me and the other guests everyday. We learned so much about Australian history, and they learned things about our countries...I loved the experience...When I started hosting, I made it a point to interact with my guests."*

Having been an Airbnb guest had familiarized participants with the platform, making them more comfortable with hosting. Participants also said that while they knew what kinds of experiences they wished to offer guests, they were still uninformed regarding procedural aspects of hosting. For these, they relied on co-hosting and/or online informational resources, as mentioned above.

4.2 Transitioning into Skilled Airbnb Hosts

Most participants had minimal knowledge of Airbnb hosting when they first considered the option. After learning the procedural aspects of Airbnb hosting, participants' learning trajectories shifted in various ways. They were no longer peripheral members but rather part of the community of practice. Below we outline the knowledge and skills they acquired and how.

4.2.1 Cutting Costs. Participants recognized the importance of maximizing revenue and minimizing costs for becoming a profitable host. However, most participants had little business experience. They wanted to provide small tailored amenities as a social exchange [36] but it was not sustainable. They did not realize small but impactful ways to reduce their expenses, and relied on the Facebook groups for learning to become profitable by cutting short- and long-term costs. This became increasingly a priority as they gained experience and found themselves struggling to balance price and quality. They turned to experienced hosts on Facebook for advice. P10 said:

> *"I learned to not offer too much. Some people offer eggs and all these extra things. At the end of the day, when you offer too much, and you [only] charge 50 dollars a night, you're really not making that much profit."*

Learning about such margins occurred throughout the hosting experience. Some participants incorporated different hosting techniques early; others waited for months. One lesson many hosts learned on the Facebook groups was about smart thermostats. These thermostats allow hosts to control their listing's heating and cooling virtually, turning it on before guests arrive and off when they leave. This can significantly reduce the electricity bill by limiting energy waste. Many experienced hosts advertised the benefits of smart thermostats, such as the Facebook user below:

> *"If you haven't automated your thermostats, I would definitely do it. I walked into one [listing] yesterday, and they had the thermostat set to 90 degrees. Meanwhile, they were out of the unit all day. My goal is to have a Nest thermostat on all heating and cooling units. You [can set the] temperature to the appropriate conditions."*

In the comments following the above (and similar) posts, hosts asked questions such as *"Do you need an electrician to install it?", "Where did you get [your Nest]?", "How much money do you save now?", and "How does Nest compare to Ecobee?"* New hosts learned not just how smart thermostats

work, but also the differences between various thermostats in the market. They learned from other members which thermostat they should buy based on their needs and budget. Many participants were motivated to use a smart thermostat because other hosts were using them. They had not realized how intuitive it was to use, and how its initial investment could lower long-term costs.

4.2.2 Reducing Busy Work. Many hosts mentioned that they found all the "busy work" involved with Airbnb hosting annoying. This included making sure they had not double-booked (some hosts had listings on multiple platforms), sending welcome and reminder messages to guests, coordinating schedules with guests to give them a key, among other tasks. On the Facebook groups, novice hosts actively asked more experienced hosts to share ways of streamlining these processes, and experienced hosts shared the methods that they were using. We found hosts learning about two main technologies—smart locks and automation software—to ease their hosting experience.

Smart locks allowed hosts to remotely control their locks through a unique key code that guests could use to check themselves in. Hosts and guests did not need to coordinate schedules as a result. Hosts with multiple listings found these extremely useful. While many hosts installed smart locks to simplify the guest check-in process, they also identified other benefits. First, the lack of a physical key *"increased safety."* There was no danger of guests duplicating the key or re-entering after check-out, since the code could be changed remotely. Many smart locks also had attached cameras so that guests could not take advantage of the host's per person fee. In Atlanta, hosts can charge a fee based on the number of people staying at the listing. However, unless the hosts are constantly at the property, they cannot verify the number of guests, which could result in financial loss. As one Facebook user explained, *"[Smart locks] come into place because we can see how many people are going [inside the house]. You [can charge your guest] to pay for [the unregistered guests]."* The camera provides enough evidence for hosts to bill guests for additional people. Many participants found smart locks *"a game-changer."*

Many experienced hosts advertised software (on Facebook) that they used to automate aspects of hosting. One said, *"Smartbnb has tremendously helped me automate my Airbnb properties with automatic responses. If you don't have it, get it. It's only $18/month and well worth it."* Another mentioned, *"I just started using a channel manager [Uplift] to sync and manage my calendars on multiple listing platforms…It has worked flawlessly across all the platforms so we aren't worried about double booking."* Many novice host participants had not heard of such automation software before joining the Facebook groups. Participants who have used it have loved it thus far. Many mentioned that their ratings had increased because guests loved their quick response time, even though *"[guests] communicated the entire time with [a] robot."*

4.2.3 Improving Financial Literacy. Our participants highlighted that there are non-procedural skills such as filing taxes that hosting requires them to learn. These skills need not be fully understood when one becomes a host, but they do require mastery in the near future. In the case of taxes, hosts claimed that Airbnb provided minimal assistance with filing them. Novice hosts found the process confusing and complicated, and posed a variety of questions in the Facebook groups. For example, many novice hosts asked questions like *"It's tax time. [I] was just wondering what you guys wrote-off [sic] on your tax forms for the business costs associated with AirBnB?"* (Facebook user) and *"What do you do with multiple properties in terms of taxes and listing it as a LLC?"* (P4). Both posts generated over 20 comments. We saw other novice and experienced hosts gaining valuable information from the thread. In similar posts, we saw experienced hosts sharing screenshots of their information, as well as giving tips on what to do throughout the year to make tax-filing easier.

Some novice hosts used the Facebook groups to identify a reliable Certified Public Accountant (CPA). For example, one Facebook user posted:

> *"Hey guys! Can anyone suggest a good CPA who knows about short term rentals? This is my first year doing short term rentals. I now have multiple properties and I don't think TurboTax [will work for me this year]."*

New hosts said they posed such questions on Facebook because they valued the opinions of experienced members. They were also generally satisfied by talking to the recommended CPA, and recommended the same in other posts, occasionally adding on praise. In both these examples, Airbnb's lack of attention to such detail added value to the Facebook groups.

4.2.4 Making Sense and Making Do. Airbnb advertises that it protects hosts around different aspects of hosting, such as verifying guests, generating trust between hosts and guests, and protecting properties [1]. Prior work has also noted that structured platforms like Airbnb provide assurances to reduce risks [15, 36, 43]. We found that participants initially assumed they could trust Airbnb, but were forced to reset their expectations about it on facing a negative experience.

Some participants resorted to using Facebook groups to understand why these challenging situations occurred and how they could be resolved. For example, some participants had relied on Airbnb to conduct comprehensive guest verification but discovered that this verification process was not very thorough. For instance, P4 said, *"I trusted the Airbnb verification process...till I got scammed. [The information provided] wasn't even her real information...[Now] I don't trust their process."* Participants noted that they could not grasp why something like this would happen. They said they assumed Airbnb thoroughly checked guests before allowing them to book a reservation. Some hosts reached out to members in the Facebook group to make sense of the experience and why the incident occurred. Members of the group responded to the posts to share their insights, saying, *"[I believe] 'verified' only means he created a new Airbnb account and clicked the link in the email to verify his email address. Everything else is questionable."* Another member said, *"Guests can create both an alias name and photo display to hosts. Airbnb's verification process is designed for Airbnb to know a guest's identity, NOT for a host to know."*

New hosts learned what experienced hosts had discovered through their own hosting process. By learning the inner workings of Airbnb, newer hosts realized that various untoward incidents could occur. They learned how to avoid such situations by drawing upon how experienced hosts navigated such conditions, as one Facebook group member shared, *"I always ask ID. I also ask how many cars are coming and need parking. It's another way of telling if they're nearby and if they're [bringing] more than the guests they paid for."*

Although P4 initially relied on Airbnb for guest verification, when faced with a challenging situation, she drew upon the experiences of other hosts as well as her own to prevent the situation from occurring again. For example, she now asked for a selfie with an ID and the last four digits of the credit card number. She learned the selfie-with-ID trick from comments on a Facebook post about her incident. After testing it out, she felt that this was not secure enough, and additionally asking for a picture of the credit card's last four digits as another layer of security. Through active experimentation, P4 was able to solidify her own verification process.

4.3 Expanding the Horizons of Airbnb Hosting Expertise

After learning the procedural details of Airbnb hosting, participants sought various ways to grow as hosts, bringing the communities of practice to evolve. Below we outline how hosts, who are now core members, interact with the communities, modify their listings, and start new endeavors.

4.3.1 Helping Others. Lave and Wenger claim that as novices move from the periphery of a community to the center, they become more engaged [37]. We found that experienced hosts became more involved with the hosting community by providing support to novice hosts. Participants P16

and P3 started the Facebook groups for local hosts and actively moderate these groups. P16 said, *"I started the local Atlanta group because there wasn't one. [There were only groups with hosts from around the nation. The local group] allows hosts to share strategies for the local area such as pricing, events coming up"*. P3 explained that he had started another local Facebook group because he wanted *"a group for people with prior gig economy experience"*. Members need not have gig economy experience to join his group, but many discussions are focused around comparing ridesharing and Airbnb hosting.

Both P16 and P3 are active co-hosts. In addition to the financial benefits of co-hosting, they enjoy providing mentorship to novices. P16, who identifies co-hosts through the Airbnb platform, elaborated, *"[My husband and I have] been superhosts for 13 quarters in a row and so people look to us to help manage their properties"*. She said she hoped her experience could help prevent novices from repeating her mistakes. However, P3 identifies co-hosts through his Facebook group because he feels more personally connected to them. He was of the view that *"it's just good karma to help people and it'll come back to you ... I'm hoping [they'll] get out of whatever financial situation they may be in"*. He said he spends over 20 hours a week helping strangers out. Other experienced hosts engage with the community by actively commenting on posts to help. For example, P8 mentioned, *"I use Amazon, Sam's Club, and Webstaurant for all my bulk needs"* (when only seven months ago, she had announced that she was a new Airbnb host). These three are among the numerous experienced hosts who guide new hosts through the hosting process.

4.3.2 Expanding Properties. As participants became fully integrated into Airbnb hosting, many started expanding their listings. We noticed that participants took one of two routes—increasing the number of listings or increasing the quality of their listings. Participants who increased the number of their listings said that they realized the overhead of owning one versus multiple was roughly the same. As experienced hosts, they could now spend less time on menial tasks and focus on maximizing turnover. For example, P13 started renting out her parents' house on Airbnb. She said, *"My parents have lots of empty rooms since my brother and I are out of the house. I'm crazy about Airbnb hosting so I convinced them to host, but I take care of the listing."* She explained that she understands Airbnb well enough and needs little additional time for the second listing.

Some participants decided to diversify their properties to attract different types of guests. For example, P6 started hosting with one apartment and then expanded to a vintage camper and sailboat. The camper is a small trailer in his backyard, tailored for guests on a budget, while the secluded sailboat in another city is for guests wanting an expensive weekend getaway. He elaborated that, between the three properties, he finds guests with different needs. With profits from earlier listings, both P6 and P13 were able to invest in new properties.

Participants who decided to improve the quality of their listing either started providing more or nicer amenities. For example, P2 started off with renting out only one bedroom because *"the other three bedrooms were not furnished yet because I did each room [one at a time]"*. With the income generated from renting out one bedroom, she could now afford to furnish the rest. She could also now provide guests with more amenities such as laundry and kitchen access. We observed different ways in which hosts evolved their hosting practices as they gained more expertise. For example, P1's brother, who was a Facebook user, mentioned that he had just been approved for his second property. He had earlier posed several questions to other hosts before setting up his own listing, then asked about making it successful, and finally transitioned to giving others advice on their properties. Overall, as they gained greater experience in hosting, we saw participants become more comfortable in branching out with their listings.

4.3.3 Evolving Spaces. A few participants had utilized their listings for more than just Airbnb. For example, P10, who runs a luxury bed-and-breakfast, said she had been contacted by local and national photographers to use her listing for photo shoots. She said:

> *"HGTV did shots for [their] web content in my kitchen . . . their production company was [also] doing work for Target. [One day] I was scrolling through Instagram and there was an advertisement for Target's [products] and it was in my kitchen."*

Her listing has become popular for motherhood and couples' photo shoots because of the antique furniture and lighting, which she said provided a vintage ambiance. P10 uses Airbnb as her primary source of income so renting space out for other activities has allowed her to generate additional revenue. Another participant, P17, is using her Airbnb listing to showcase local women's artwork:

> *"We are in different local groups for women in Atlanta. A lot of them are artists and wanted a space to showcase [their art]. They would often offer their art for free to advertise [in our Airbnb]."*

This allows her to minimize decoration costs while helping artists gain exposure. She said many guests find the artwork intriguing and either contact the artists or buy the artwork. Both P10 and P17 have found new ways to engage their space now that they are more experienced hosts.

4.3.4 Starting New Businesses. On mastering the process of Airbnb hosting, we found hosts were inclined to start a new, related business. For example, P3, founder of *From Zero to 100* Facebook group with eight years of hosting experience, started a business whose Facebook page says:

> *"As Airbnb & Vacation Rental experts, we optimize your listing and pricing, generating between 10%-40% more in revenue and occupancy than owner managed homes. We have an around the clock response team for booking inquiries, guest verification, support, maintenance and damage review. Depending on your property & needs, we offer 2 levels of service that fit any Airbnb & Vacation Rental."*

P3 sees himself as an expert host, and shared hopes that his new service would help improve other hosts' listings. He advertised his service within the Facebook group he had started, offering discounts to members. Comments from his Facebook post convey that new hosts did become clients. P4 also started a cleaning service and runs it on the side: *"If you need help with hosting or cleaning, I have availability. [I'm a] super host and super clean."* Only a year ago she had been asking about how Airbnb worked. Although these two were the only participants who had started new and related businesses, we note that future entrepreneurs might see this as motivation to follow suit.

5 DISCUSSION

We now outline the lessons learned from our research for the benefit of *(1)* sharing economy platforms, *(2)* micro-entrepreneurs of the sharing economy, and *(3)* online communities catering to the needs of the above. We suggest how different stakeholders can co-create a more learning-oriented environment in support of micro-entrepreneurs.

5.1 For Sharing Economy Platforms to Support Micro-Entrepreneurs

Since sharing economy platforms typically employ individuals untrained to perform the tasks that are required of them (see 2.1), understanding how these platforms might identify communities of practice to support the learning processes of their workers is critical—not just for the workers, but also for other stakeholders who depend on these workers to provide reliable services.

Airbnb allows hosts to connect through ACC, but participants hesitated to use this resource. They feared that Airbnb would monitor this site and sanction them for negative opinions. Instead of using ACC, workers scrupulously developed external online support groups as their communities

of practice. This indicates a complex relationship between the platform and the hosts, where hosts rely on one another for informational resources but do not wish for their exchanges to be mediated by Airbnb. This also suggests that when sharing economy platforms invest in offering online spaces for interactions between community members, the success of such spaces may depend on platforms assuring workers that their activity on these spaces would not impact their evaluation.

Participants found the Facebook groups to be excellent learning resources, but identifying these communities was non-trivial. Many hosts only discovered them through personal connections to member hosts. Given the value they added for participants, we recommend that sharing economy platforms help connect users to such external hubs—for support and resources. There is an additional benefit to platforms that their users will be better prepared; our findings suggest that Facebook groups often serve as a testing ground for aspiring hosts to evaluate if they would want to become Airbnb hosts. When individuals can make informed decisions about becoming sharing economy micro-entrepreneurs, the platforms can invest resources in nurturing individuals who better understand the challenges involved in the work. Such individuals may also be less likely to drop out or contribute to undesirable experiences for their clients.

Many participants became Airbnb hosts based on their experiences as guests. Satisfied customers thus offer a critical pool from which platforms might nurture potential workers. Although Airbnb already suggests that its guests consider hosting, the process of becoming a host can be intimidating. Airbnb can scaffold this learning process by encouraging users to reflect on their experiences as guests and if they could see themselves as hosts. It can suggest the intermediate steps (*e.g.,* becoming a co-host) that individuals interested in hosting can take before becoming full-time hosts. It can also invite guests with interest in hosting to pursue conversations about hosting with other Airbnb workers, like with the hosts of the listings they stay at.

Platforms could help reduce the learning demands on new workers by recommending amenities they might find helpful to purchase. For example, we found that hosts, especially those new to Airbnb, were unable to ascertain the trade-offs between quality and price for various amenities. Airbnb could potentially offer Airbnb-branded amenities to reduce this kind of anxiety. This could make life easier for hosts and improve Airbnb's branding. As our findings convey, some participants waited for months before starting to use cost-saving solutions such as smart thermostats. Such products could be suggested to Airbnb users new to the platform. Airbnb can also incentivize the emerging alternative accommodations market to attend to the needs of its workers and offer products that can improve the efficiency of hosting [18].

Participants also found online courses that systematically taught how to become Airbnb hosts to be helpful in getting them started with hosting. Airbnb, and other platforms, could be more learning-oriented and offer free online tutorials with information on what new hosts might expect. We mention related takeaways below for micro-entrepreneurs who enroll in these courses.

5.2 For Sharing Economy Micro-Entrepreneurs Seeking Learning Resources

In this section, we reflect on how sharing economy workers in general, and Airbnb hosts in particular, might benefit from learning avenues and adopting resources that support learning.

Drawing on the Focus Theory of Normative Conduct [8], we imagine that learning among sharing economy workers can be influenced by *injunctive* norms—norms that set behavioral expectations by prescribing acceptable practices, as well as *descriptive* norms—norms that support experiential social learning through observations of how other community members behave. In line with this theory, we argue that workers take a holistic approach towards learning, deriving learning resources from what the platforms prescribe and also observing what other workers discuss in online spaces. In the case of Airbnb, we found that hosts felt more confident adopting practices that had been validated by other hosts on the Facebook groups, and that they could pose questions around. Participants

found the descriptive norms of hosting derived from seeing other hosts' posts to be more relevant than injunctive norms prescribed in Airbnb's communications to users. Descriptive norms are particularly crucial in setting expectations about platforms when the platforms are less likely to offer candid advice. Thus, highlighting the practices of successful workers can be an important learning resource for workers of Airbnb and other sharing economy platforms.

Airbnb hosts work in a rapidly evolving hospitality environment where they constantly compete with other hosts in their neighborhoods in terms of amenities they provide, tools and technologies they use, and how they interact with guests. Workers of other sharing economy platforms also operate in similarly competitive environments. As a result, these workers need to constantly learn new skills in order to remain competitive and maintain good earnings. Therefore, it is important to have not just a one-time bootcamp-style learning exposure (as Airbnb currently has) but develop a *learning infrastructure* that can durably address the evolving learning needs of micro-entrepreneurs; we found our participants relying on learning on a continued, not just a one-time, basis. These needs, however, got more sophisticated as hosts expanded their responsibilities and skill sets.

Online social interactions facilitated through Facebook groups played an important role in helping participants become more central members of the local Airbnb hosts community, and allowing them to learn from this community. Hosts do not just learn about hosting but also the emotional and social support they need to continue hosting. Moreover, Facebook groups provide hosts with a place to vent their anxieties and frustrations. These findings are in line with prior research on Uber that noted the many ways in which online communities for worker support can serve Uber drivers [33]. Thus, sharing economy workers may enjoy many benefits by increasing their sociability with other micro-entrepreneurs in their communities of practice. Such social resources may be particularly helpful for financially constrained users, who cannot otherwise access learning resources. For example, we found that some Airbnb hosts split the cost of online courses. Our analysis further suggests that even experienced workers could learn to optimize their earnings by referring to community resources in online support groups. They may also find it fulfilling to share what they have learned with other participants to be of assistance.

Online communities of practice can help sharing economy workers realize how they might adopt various tools for efficiency and savings. For example, Airbnb hosts can adopt software packages and automated solutions that help them with bookings and accounting work. In general, software tools that can guide workers on how to optimize their earnings can help many micro-entrepreneurs struggling to save costs. Micro-entrepreneurs can also learn from online communities and other digital learning resources about the affordances of platforms. These resources could provide them with information on how to expand their activities and skill sets. Conversations with other workers pursuing similar interests can help workers recognize their limitations and accordingly calibrate expectations. In local online communities of practice, offline ties might also be fruitfully strengthened.

New micro-entrepreneurs could also benefit from online courses designed to prepare and equip them with superior skills relevant to the sharing economy they participate in. The content of such courses could be improved by attending to the feedback of users who take these courses just after course completion, as well as a few months into their work experience We recommend that these courses note the geographic and cultural differences and customize their content to reflect varied needs of different workers. We also suggest that these courses should continually update their content in order to sustain their utility and enable workers to remain competitive.

5.3 For Online (and Offline) Communities to Support Situated Learning

Although participants did rely on online Facebook communities, they were more inclined to engage with groups that had hosts who were geographically situated in proximate neighborhoods.

Participants felt these groups afforded them more relevant, personalized advice, and hosts on these groups were culturally similar to them. This had the potential downside of limiting lessons learned to those geographically close, but many concerns may have also found resonance among hosts located further away. Affording micro-entrepreneurs the ability to self-calibrate and choose between information sources near or far, based on their information needs, could generate more support and/or lead them to potentially more useful solutions. These communities could also better support LPP by designing for categorization based on topics such as "help with technologies" or "help with taxes" so that users can be better equipped to find what they are looking for.

Even as we investigate ways of offering more support and assistance through online communities, it is important to recognize that there is a danger of bad actors on these communities who might start to engage in practices such as teaching users how to cheat their guests or violate laws. There could also be the problem of sharing of misinformation. These communities must therefore be well-moderated at all times. Maintaining the usability of online spaces without silencing minority voices, and appropriately eliminating offensive dialog, is a broader problem of content moderation that the HCI community has increasingly been grappling with in recent years [4, 27, 28, 30]. Figuring out which moderation techniques are most feasible and appropriate may require experimentation to begin with, especially for sustained usability of these online spaces. Careful tracking of what types of recommendations are being emphasized, and ensuring that bad actors do not proliferate is vital for allowing these communities to continue being leveraged as sites for learning.

Online communities can expand as communities of practice to combine with offline communities as well, enacting strong or weak ties [19], such that aspiring hosts could meet with professional experts in person and learn how to make changes to their properties, or decorate them appropriately and affordably. The role of DIY communities may also be particularly relevant in providing this kind of support, and could be leveraged to provide hosts with the skills and expertise to improve their ability to host. HCI research has also looked into the role of such communities (*e.g.,* [10]) and makerspaces more generally. Further, many potential hosts seek to meet experienced hosts in their neighborhoods to get advice. Online communities can more explicitly support offline meet-ups where expert hosts can introduce aspiring hosts to different aspects of hosting, and even generate opportunities for co-hosting. Separate webpage sections and online discussions focused solely on periodically scheduled (offline) meetings might also be helpful in this regard.

For Airbnb specifically, we recommend that an external platform is developed that is endorsed by Airbnb but not maintained or moderated by Airbnb. This may reduce hosts' apprehensions that Airbnb would hurt their accounts if they posted about negative experiences. Airbnb could advertise the platform on their website to allow all potential hosts to discover the platform, eliminating the need for personal connections currently required to identify relevant Facebook Groups. The platform could have subgroups based on geographic locations so potential hosts can form connections with people close to them. After selecting their respective cities, hosts could be assisted in discovering information relevant to where they are in the Airbnb hosting process: learning about Airbnb, improving their listings, or helping others host. Each of those options could link to different forums where users could share or seek help while having the option to connect offline. Such local forums could be moderated by trusted community members who are actively engaged and have a good understanding of local concerns. This kind of a platform could provide many of the benefits that Facebook groups currently provide, while accommodating others who may not wish to use Facebook.

6   CONCLUSIONS AND FUTURE WORK

The nature of work is rapidly evolving, particularly with the increasing prevalence of sharing economy platforms. Taking the example of Airbnb, with Airbnb hosts as our research participants,

our paper highlights the ways in which these hosts progress from being Airbnb novices to becoming expert hosts. By leveraging the lens of legitimate peripheral participation (LPP) for analysis [37], we highlight the ongoing interactions of Airbnb hosts with various learning resources, uncovering the nature of the communities of practice they gradually become a more central part of, as they improve their skill sets and expertise levels over time. We contend that the takeaways we glean from our research are valuable not only for Airbnb (the hosts, platform, and online communities of practice), but also for sharing economy platforms in general, particularly against the backdrop of the changing nature of work. We hope that future CSCW and sharing economy research will further investigate learning processes of workers to inform the design of more thoughtfully and deliberately designed learning infrastructures.

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