

**BEYOND THE CHICKEN AND EGG:
STRATEGY FORMATION IN TWO-SIDED MARKETPLACE VENTURES**

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March 20, 2018

Keywords: Platforms, Two-Sided Markets, Strategy Formation, Entrepreneurship, Learning

ABSTRACT

Extant literature highlights the importance of specific choices such as pricing and particular strategies like “get big fast” for strategy in two-sided markets. Yet it leaves open how executives form a viable strategy in entrepreneurial settings, particularly when buyers, sellers, and product may be uncertain. With an inductive case study of 8 two-sided marketplace ventures in multiple industries, we develop a theoretical framework that describes how entrepreneurs address this challenge: by focusing on successive strategic domains, beginning with supply. We also identify the specific sequence of domains (supply, demand, geography) and provide insight into the contingencies, accelerators, and dilemmas of each. Overall, we contribute a dynamic and holistic view of strategy formation in two-sided marketplace firms.

Numerous firms compete in the contemporary economy as two-sided markets. Consistent with others (Gawer, 2014; Zhu & Iansiti, 2012), we define a two-sided market as a type of platform that connects two distinct, mutually attracting groups of users—e.g., buyers and sellers. For example, Airbnb connects travelers with accommodations, Uber connects people with rides, and TaskRabbit connects people who need work done with people who will do it. But while these and other two-sided market firms are now stars, their success was not assured. In each firm, entrepreneurs had to formulate a set of interdependent activities linking buyers and sellers, across heterogeneous locations, to form a viable strategy for a novel opportunity.

Strategy formation is at the heart of why some two-sided market firms in entrepreneurial settings succeed while others do not. By *strategy formation*, we mean the process by which executives create a unique set of interdependent activities to create and capture value. By *entrepreneurial settings*, we mean the context of new firms – i.e., ventures competing in new “high-velocity” environments that are characterized by significant uncertainty, ambiguity and fast pace. Here, strategy formation is challenging for several reasons.

First, strategy formation in nascent two-sided marketplaces requires solving the well-known “*chicken-and-egg*” problem of buyers and sellers (Rochet & Tirole, 2006). That is, the value of the platform for buyers depends on having sellers affiliated with the platform and vice versa (Hagiu & Wright, 2015; Zhu & Iansiti, 2012). So without sellers, there is nothing to buy. Without buyers, sellers are not interested. In fact, this mutual attraction is a distinguishing feature of two-sided markets, and forms the basis of cross-side network effects. The dilemma for strategy formation is how to kick-start the cross-side network effects between buyers and sellers such that a virtuous cycle of growth can begin.

Second, strategy formation in nascent two-sided marketplaces is *complex*. That is, strategy

formation involves combining many activities – related to buyers, sellers, products, and geographies—into a complex system (i.e., numerous distinct yet connected elements) that works (Porter 1996, Siggelkow 2002). This puts a premium on a holistic understanding of how the various pieces of strategy fit together. The dilemma for strategy formation is how to assemble these pieces of strategy, particularly when it is unclear who the buyers and sellers are, what product will link them together, and how these pieces might change across geographic locations.

Third, strategy formation in nascent two-sided marketplaces requires *learning about a novel opportunity*. In other words, strategy formation is about doing something different from others and from before—something novel. But this novelty, coupled with the “high-velocity” of an entrepreneurial setting, limits the ability of entrepreneurs to predict the consequences of their actions (Baker & Nelson, 2005; Bingham & Eisenhardt, 2011; Sommer, Loch, & Dong, 2009). Thus, strategy formation emphasizes learning using experiential processes like trial-and-error (Bingham & Eisenhardt, 2011) and experimentation (Miner, Bassof, & Moorman, 2001). The dilemma for strategists is how to aggregate disparate learned insights into a coherent strategy.

Two broad streams of research provide insight into how entrepreneurs in two-sided marketplace firms form strategy in entrepreneurial settings. One stream focuses on platform strategy. It argues that growth on one side of the market will stimulate growth on the other side, creating a positive feedback loop (e.g., Rochet & Tirole, 2003; Caillaud & Jullien, 2003; Armstrong, 2006). Thus, cross-side network effects exist. For example, Schilling (2002) finds that a platform with a large user base of buyers is likely attract sellers of applications which, in turn, grows the size of the platform.

An important focus is the strategic implications of network effects. Often relying on formal models, some work looks at specific strategic choices such as pricing and governance (Caillaud &

Jullien, 2003; Parker & Van Alstyne, 2005; Rochet & Tirole, 2003, 2006). For example, Rochet and Tirole (2003) develop a model to argue that platform owners should subsidize the side that creates greater network externalities. A related line of inquiry focuses on broader strategies for exploiting network effects (Cowan, 1990; Schilling, 2002; Shapiro & Varian, 1998). Cross-side network effects can potentially “tip” the market in favor of the largest platform and may lead to a winner-take-all outcome (Eisenmann, Parker, & Van Alstyne, 2006; Katz & Shapiro, 1994; Wade, 1995). So, this work suggests aggressive strategic actions like the well-known “get big fast” strategy.

Recent research, however, highlights boundary conditions that limit the effectiveness of “get big fast” like low switching costs and competitive racing (Cennamo & Santalo, 2013; Hossain, Minor, & Morgan, 2011; Lee, Lee, & Lee, 2006). The strength of the network effects is especially relevant. For example, Zhu and Iansiti (2012) find that Microsoft successfully dethroned Sony in the video game industry when the former entered late with a higher quality platform. A reason was weak network effects. Finally, the structure of network effects may also have strategic implications (Afuah, 2013). For example, particular buyers or sellers may exert an unusually strong pull on others, creating a network structure with asymmetric network effects (Halaburda & Oberholzer-Gee, 2014). This asymmetry has strategic implications for which buyers and sellers are most advantageous to seek.

A second broad stream focuses on strategy formation process. Some of this work emphasizes strategy formation as *thinking*. That is, since strategy formation is about combining many activities into a complex system (i.e., numerous distinct yet connected elements) (Porter 1996, Siggelkow 2002), developing holistic mental representations is crucial (Ozcan & Eisenhardt, 2009). These representations are often shaped by analogies (Rindova & Kotha, 2001), economic insight (Hannah & Eisenhardt, 2018), identity (Zuzul & Tripsas, 2018), and personal values (Powell &

Baker, 2014). These high-level “blueprints” indicate how activities might fit together, and guide formation of a coherent strategy. Other work emphasizes strategy formation as *doing*. Since strategy formation is about doing something novel in a high-velocity environment, taking action and learning are essential. This learning can take a variety of forms including trial-and-error (Bingham & Eisenhardt, 2011), bricolage (Baker & Nelson, 2005), and experimentation (Miner et al., 2001). By engaging in learning, executives can form an emergent strategy that fits a novel opportunity.

Recent work examines strategy formation with the lens of solving a novel, complex problem (Ott & Eisenhardt, 2018). In so doing, this work broadly recognizes the relevance of both learning in different strategic domains (i.e., doing) and forming mental representations (i.e., thinking) (Ott, Eisenhardt, & Bingham, 2017). A general finding is that sequential focus on successive problem (strategic) domains improves performance. For instance, Baumann and Siggelkow (2013) use NK simulation to show that “chunky search”, a problem-solving process that starts with the most influential domain and proceeds to others is preferable to concurrent search across all domains. Extending this work, Ott and colleagues (Ott & Eisenhardt, 2018; Ott & Tidhar, 2018) rely on insights from cognitive science to show that strategy formation is most effective when executives focus successively on one domain at a time, shifting domains after reaching a “learning plateau” (but not an optimum).

In sum, the platform strategy literature clarifies the existence of network effects, and highlights their strategic implications such as specific choices about pricing and governance (e.g., Rochet & Tirole, 2003, 2006) and strategies such as “get big fast” (e.g., Eisenmann et al., 2006). But while useful, this work is often centered on static choices and sometimes narrow strategies such as pricing. It frequently assumes a mature marketplace. Thus, it leaves open how entrepreneurs initially resolve the “chicken-and-egg” dilemma and form a holistic strategy over time, particularly

when buyers, sellers, and product are initially uncertain. Conversely, the strategy formation literature highlights the importance of combining thinking and doing, and emphasizes sequentially focusing on successive domains to form strategy. Yet this work leaves open the specific sequence of domains in two-sided marketplace firms, and how to address their unique contingencies and dilemmas. Overall, despite the importance of two-sided marketplace firms, it is not yet obvious how executives initially form strategy. Thus, we ask: *How do entrepreneurs in two-sided marketplace ventures form strategy in entrepreneurial settings?*

To explore this question, we conduct an inductive multiple case study (Eisenhardt, 1989) of 8 ventures—i.e., young, privately-owned, and professionally funded firms. This method is particularly appropriate when prior theory is limited and for process questions such as ours. Our sampling approach includes 3 ventures for which we have four waves of in-depth field data and 5 high-profile ventures for which we rely on extensive archival data and some interviews. A strength of our study is combining the depth of field cases with the breadth of archival ones. A second strength is examining ventures in multiple industries. We track these ventures from founding until they begin to accelerate their growth (i.e., scale).

We contribute at the intersection of strategy and entrepreneurship. Our core insight is an emergent framework that describes how executives in two-sided market firms form strategy in entrepreneurial settings. We identify the specific domain sequence (i.e., supply, demand, and geography), and the contingencies, accelerators, and dilemmas in each domain. In contrast to the platform strategy literature (e.g., Rochet & Tirole, 2003; Schilling, 2002; Zhu & Iansiti, 2012), we contribute a dynamic view of strategy that identifies how strategy evolves from the start. We also contribute a holistic view of strategy that goes beyond the “chicken-and-egg” problem of buyers and sellers to include product and geography as well. We add to the strategy formation literature

(Gavetti & Rivkin, 2007; Ott & Eisenhardt, 2018) by unpacking the specific order of assembling domains in strategy formation and the challenges of strategy formation in each. Overall, we contribute a dynamic and holistic understanding of how strategy forms in two-sided marketplace firms – i.e., learn the basic strategy sequentially for each domain, and then accelerate growth.¹

METHODS

We use a multiple-case, inductive method to build theory about strategy formation (Eisenhardt, 1989). This method is appropriate for research questions that address a longitudinal process such as ours and for which current theory does not suffice (Eisenhardt, Graebner, & Sonenshein, 2016). Multiple cases enable replication logic with each case serving to confirm, or not, the inferences drawn from the others. Multiple cases typically yield more robust and generalizable theory than single cases (Eisenhardt & Graebner, 2007).

Our setting is ventures (i.e., privately-owned, professionally-funded young firms), consistent with many studies of strategy formation (e.g., Gavetti & Rivkin; 2007, Bingham & Eisenhardt; 2011; Rindova & Kotha, 2001). Ventures are a useful setting for several reasons. First, since ventures are small, they have more transparent strategy formation processes which are easier to study than those in large firms. Second, studying ventures from founding as we do avoids left-censoring and improves causal inference. Third, ventures are often resource-constrained with uncertain survival, making our focal interest, strategy formation, critical.

Our research sample is eight two-sided market ventures (Table 1). Given our aim or understanding how organizational actors form strategy, we employed a longitudinal design that comprehensively tracks the strategic decisions, actions, and learning of entrepreneurs during their ventures' initial years—from founding until the ventures achieved accelerated growth (i.e., scaling)

¹ Given page limits, we go directly to Methods in order to have more space to ground our emergent theory in the data.

(typically several years after founding) (Appendix).

A key strength of our study is its combination of field and archival cases, combining depth and breadth, respectively. For the field cases, we selected early-stage ventures (i.e., Seed or Series A financing) which helps to ensure that the ventures had a promising opportunity, but still lacked a well-formed strategy. Second, we selected firms in several sectors to add to the generalizability of our theory. Each addresses a distinct sector (i.e., culinary experiences, home services, and parking). Third, we include relatively high-performing firms in order to observe a sufficiently long history of strategy formation (including reaching accelerated growth).² Yet, they all had failures and mistakes, bringing useful contrast to our theory-building.

Complementing the field cases, we studied five archival cases. We chose these ventures because they have rich publicly available data and participate in a variety of sectors, adding to the generalizability of our theory. They are Airbnb (home-sharing), OpenTable (dining), Udacity (education), Lyft (ride-sharing), and Etsy (crafts). Although these firms may be longer lived and more successful than many, a sufficient history was necessary to understand the temporal flow of the strategy formation process. This requirement outweighed any advantage of a random sample, especially for a process-focused, theory-building study. Yet, each exhibited errors such as failed actions and major mistakes that bring useful insights to our theory building study.

Data Collection

For the field cases, we use several data sources: (1) archival materials including business media and internet sources, (2) interviews with the top management team (TMT), (3) interviews with other informants significantly involved in strategy formation, and (4) informal emails and phone calls to clarify details. Triangulation of data from multiple sources allows for more accurate

² We include matched poor-performing firms in an earlier paper on performance. Here, we focus on relatively high-performers to sufficient data over a long time period of time that includes accelerated growth in order to build a more precise and elaborated process theory.

measures (Jick, 1979). We began by collecting archival material on each firm. We used LexisNexis and Factiva to find all press on each firm from inception, and web-scraping to gather information from Crunchbase and AngelList. We supplemented these third party sources with material from company websites.

The primary data source is 60-to 90-minute interviews at each firm. A key strength of our study is its 4 waves of interviews and other data collection, conducted over about 4 years. This provides a more accurate tracking of strategy formation as it unfolds and before outcomes are clear than a single wave. We began by interviewing the top management team at the focal firm. We then asked each informant to identify anyone else whom they thought was significantly involved in strategy formation, and included those informants. Thus, we interviewed everyone who had substantial involvement in strategy formation at each firm. A key point is that only a small number of executives are integral to strategy formation at these new firms. In the initial interview, we asked informants about their background and role. We then asked informants to tell the firm history since founding with a focus on key decisions (including ones considered but not taken) and actions. Subsequently, we obtained three more waves of interviews with the informants most involved in strategy formation. These interviews focused on the recent history of the firm, and related actions and decisions. We took several steps to address data reliability and validity such as triangulated data and informants, non-directive questioning and anonymity. Overall, our approach of collecting data from multiple sources at multiple times leads to richer and more reliable base from which to build theory.

For the archival cases, we collected material on each firm from a variety of sources including LexisNexis, Factiva, Crunchbase and Google. Archival blogs and interviews with founders such as on YouTube provided a particularly rich source of real-time data on strategy

formation. We supplemented these data with a few interviews to clarify reasoning, identify paths not chosen, and create a more comprehensive, accurate history of each firm.

Data Analysis

Following a typical approach for theory-building from multiple cases (Eisenhardt, 1989; Eisenhardt et al., 2016), we began by preparing detailed case histories for each firm. For both types, we triangulated data from multiple informants and sources. We analyzed each case successively in relation to our research question, examining how executives formed strategy. A second researcher reviewed the interviews, archival data and the cases to form an independent view of the history, major constructs, and patterns of strategy formation.

As we progressed, we found that identifying individual strategic decisions and examining how they fit into a larger strategic pattern was central to understanding strategy formation. Consistent with prior work (Ott & Eisenhardt, 2018), we also found that informants thought about strategy formation in terms of specific domains. Thus, we began tracking decisions, learning, and actions in 4 emergent strategic domains: *supply* (i.e. side of the market providing focal good/service), *demand* (i.e. side of the market buying focal good/service), *geography* (i.e. location where good/service is available), and *product* (i.e. platform offering focal good/service between the two sides). For instance, whom to target as a host for culinary experiences is a decision in the supply domain while how to enter a new city is in the geography domain.

We then did cross-case analysis. We compared how strategy formation in one case was similar and different from others, and looked for consistent themes and constructs (Eisenhardt & Graebner, 2007). We used tables, charts, and other devices to enhance this comparison (Miles & Huberman, 1994). We then iterated among within-pair comparisons, across pairs, and across ventures. We used emerging patterns to form tentative theoretical constructs and arguments, and

refined them with replication logic and revisiting the data to resolve discrepancies. Iterating with theory and data allowed us to fine tune construct definitions and enrich the generalizability of the theoretical arguments (Eisenhardt & Graebner, 2007). As our theory clarified, we added comparisons to related literature to sharpen constructs, relationships among them, and logic of the theoretical arguments. We developed the emergent theory that we describe next (Figure 1).

EMERGENT FRAMEWORK

Our research question asks: *How do entrepreneurs in two-sided marketplace ventures form strategy in entrepreneurial settings?* Here, strategy formation is challenging: it requires solving the *chicken-and-egg problem* of buyers and sellers, fitting together the pieces of a *complex strategy* with multiple domains, and *learning about a novel opportunity* in a nascent market. Consistent with prior literature (Ott & Eisenhardt, 2018; Baumann & Siggelkow, 2013) our emergent framework confirms that these executives formed strategy by focusing on one domain at a time (Figure 1). We extend this work by indicating the specific domain sequence: supply, demand, and geography with product timing contingent on time-sensitivity (and related necessity for full online functioning). We also contribute the unique contingencies and dilemmas in each domain. Further, our framework indicates that accelerated growth (i.e., scaling) is successful only after passing through this sequence of domains. By contrast, our data indicate that attempting to tackle multiple strategic domains at once (e.g., “get big fast”) is ineffective because it is too difficult for executives to figure out how to both fit together the correct pieces of a complex strategy and kickstart network effects. Overall, while we observe that entrepreneurs attempt to form strategy in a variety of ways, we find an emergent but clear pattern of strategy formation in two-sided marketplaces. Next, we describe this pattern (Figure 1) in detail.

Supply or Demand: Sellers First

Strategy in two-sided marketplaces has a well-known chicken and egg problem. Without buyers, sellers are disinterested. Conversely, without sellers, there is nothing for buyers to buy. Thus, the dilemma for strategy formation is how to seed cross-side networks effects between buyers and sellers such that a virtuous cycle of growth can begin. Our executives debated whether to start with demand, supply, or both. But we observed that all of the firms made significant strategy progress when they started with *supply*. To do this, they first set the stage with at least minimal demand and product in a particular geography and then focused on learning about sellers (Table 2). In addition, the difficulty of learning about the supply domain was often shaped by whether the sellers were professionals or peers. Firms like Etsy, OpenTable, and QuickPaint targeted professionals, and typically solved the supply problem quickly. By contrast, firms like HomeChef, Airbnb, and EasyPark targeted inexperienced sellers (e.g., peers), and often developed their supply strategy more slowly with significantly more learning.³

A good example of targeting **professionals** is QuickPaint. QuickPaint began in New York City in 2012. QuickPaint’s founders had earlier launched a successful two-sided marketplace firm in cleaning services. They saw another opportunity for a two-sided marketplace that would match professional painters (sellers) with homeowners (buyers) with an innovative platform that provided quick and accurate online quotes for paint jobs (product). The CEO explained, “*Our thought process was that we really wanted to enable a quoting system where you can come to our site, enter some basic information and receive a binding quote online, which nobody else is doing.*”

QuickPaint founders quickly set the stage by developing a platform that included quote engine algorithms (product). But the platform was otherwise simple – e.g. requiring manual

³ QuickPaint, HomeChef, and EasyPark are pseudonyms for our 3 in-depth cases.

performance of most tasks like matching of painters and homeowners. As the CTO described, “*Everything was done through e-mail.*” They also lined up a few customers from their cleaning business as the initial demand (buyers) and a few professional painters from Craigslist to test out the platform (sellers), and stayed only in NYC (geography). Once the quote engine provided accurate and transparent costs, they moved to focus fully on learning about supply.

Based on their cleaning business, the founders initially assumed that supply would be difficult to develop. Yet, learning about supply was unexpectedly easy. Since the platform allowed painters to avoid time-consuming activities like bidding for jobs, its value was immediately clear to these professionals.⁴ For example, QuickPaint allowed painters to skip home visits to quote jobs and avoid tedious tasks like billing. Instead, painters could spend their time painting—i.e., where they made their money. Word of mouth about QuickPaint’s advantages spread quickly within the relatively close-knit local community of professional painters such that painters were easy to recruit. As the CEO recalled, “*We thought we would have more of a struggle getting crews to join than we have... What we were building was just such a huge benefit for the crews.*” QuickPaint also used a stellar Craigslist painter to develop a vetting process for adding new painters, and crystallized their learning into some simple rules for evaluating painters’ customer and painting skills. With their supply strategy now understood, QuickPaint founders pressed pause on adding new painters, and shifted their focus to demand.

A common theme among firms targeting professionals as sellers was an emphasis on “**influencers**” (i.e., high-status sellers that asymmetrically attract other sellers (same-side network effects) and buyers (cross-side network effects)).⁵ One is example is Etsy. The Etsy founders saw

⁴ Unlike professional painters, the cleaners (sellers) needed extensive vetting and training to do their jobs correctly.

⁵ Although we did not observe influencer-buyers in our cases, they can exist and have similar effect as influencer-sellers. For example, Uber initially used celebrities as influencer-buyers early on in their strategy formation.

the opportunity to connect “crafters” of hand-crafted goods (sellers) with consumers (buyers) via an easy-to-use online platform (product). The idea for Etsy came from building websites, especially one for an online craft community. As one founder explained, *“We began to actively participate in the community as we rebuilt it [website] to better understand the needs of its people.”* Two common themes in the community were dissatisfaction with eBay and the need for a better online marketplace. With that knowledge, the idea for Etsy was born.

After setting the stage with a focus on creating a uniquely visual, but technically straightforward product, the founders shifted to sellers. A board member noted, *“The way they built the marketplace was that they really focused on crafters.”* He went on to describe the simple rules for how the founders convinced top sellers to join Etsy “street teams”, a guerilla tactic of musicians. She said, *“The most important thing was creating local teams of Etsy sellers called “Street Teams” ...So Etsy would find sellers in Des Moines or St Louis or Chicago, and they [Etsy] would pay for the booth, give them an Etsy banner and they would man the Etsy booth and sell their products”.* Essentially, Etsy *“hacked crafts fairs”* by having top sellers go to those fairs and disrupt them. The founders also enticed top sellers by allowing them to create a curated selection of products on Etsy, termed “treasuries” and by building “forums” that were online seller discussion groups. As a board member noted, *“The founders never saw Etsy as just any commerce site...There was always a desire to be a place that sellers could come”.* The targeted influencers quickly grasped Etsy’s advantages. These influencers often brought along their own customers, and attracted other crafters, drawn in by the examples of their elite counterparts. An early Etsy employee described, *“We knew if they [influencers] set up shop on Etsy, and were successful, others would follow”.*

We also saw the influencer approach (and related asymmetric network effects) used

successfully at firms like Udacity (i.e., star professor-sellers) and OpenTable (i.e., top restaurant-sellers). For example, OpenTable used influencers to add restaurants (sellers) to their online reservation website (product). That is, they developed a simple rule to build supply in a city by targeting 8 to 20 leading restaurants in order to accelerate adoption other restaurants. An executive explained, *“We might get eight or ten of the influencers in a market. You get them to start signing up. The next fifty would all want to be with those top twenty or so”*.

In the above examples, firms targeted professionals. By providing product features that made conducting an ongoing business easier, they attracted sellers to their marketplace. But other firms like HomeChef, Lyft, and Airbnb launched firms with **peers**, not professionals, as the sellers. Here, we found that strategy formation is more challenging because it often requires substantial experimentation and trial-and-error learning to figure out who are the right sellers, and how to recruit, train, and retain them.

An example is Airbnb. The founders began in 2007 with an attempt to make money by renting air mattresses in their San Francisco apartment to convention goers. Serendipitously, their idea worked – i.e., they saw an opportunity to link hosts (sellers) and guests (buyers) attending special events. They set the stage by building a website for transactions (product), and simultaneously attempting to recruit both hosts and guests in multiple cities. For example, they traveled to the 2008 Republican and Democratic conventions, and festivals like SouthBySouthwest to add hosts and attract guests. They floundered for about 18 months.

A turning point came when the founders enrolled in Y-Combinator. There, a mentor advised a focus on supply (specifically, in New York City), and a pause in other domains. One founder said, *“Go to New York. That was the best advice we ever got”*. The founders began flying to New York every weekend to conduct interviews, pass out flyers, and walk door-to-door in an effort to learn

about hosts. As one co-founder explained, *“There were a myriad of tactics we used—we went as far as knocking on people’s doors... We did everything we could think of”*.

Although the founders initially targeted hosts with multiple properties like apartment owners and property groups, they had learned that these “power sellers” were not the right fit for Airbnb. As a founder noted, *“They had no pride, these power sellers, and our engineers spent six months developing tools for the wrong kind of person”*. Instead, during their weekly trips to NYC, the founders stayed with ordinary hosts to come up with ideas for how to improve Airbnb’s supply. One explained, *“We would meet with every one of our hosts. And we’d live with them”*. From doing this, the team learned who the best hosts are: first-timers who are interested in providing a unique, sometimes “quirky”, personal experience for guests. They also learned the simple rules for how best to recruit these types of hosts: word-of-mouth from current hosts to suitable friends and current guests who want to be hosts.

By visiting hosts, the founders also realized that their supply strategy needed to ensure high-quality listings. One problem was poor photographs. A designer by training, a co-founder recalled, *“I would be like, ‘Wow, the photos are terrible! This is actually a really nice house.’ ...So we thought, ‘What if you just clicked a button and a photographer next day would magically show up and photograph your home?’”*. As often happens at Airbnb, the team used “[co-founder’s] intuition to formulate experiments” to test his insights. So they experimented by testing whether professional photographs improved guest response. It did. So, Airbnb launched free professional photos for all host listings. They also hired a successful hotel executive to learn the simple rules for how to host – i.e. rules that captured Airbnb’s essence, yet were easy to remember and accommodated a range of properties (i.e., couches to luxury homes) and locations. They zeroed on a few rules like *“always offer local touches”* and *“always have fresh soap”*. Overall, by focusing their

learning on hosts, the founders developed a viable supply strategy.

Another example is HomeChef. Its founders were passionate foodies who saw the opportunity to build a two-sided market that connected local hosts in Asian destinations (sellers) with travelers (buyers) to provide the travelers with authentic culinary experiences. To start, they set the stage by quickly assembling a simple *“hacked together WordPress site”* (product) and reaching out to friends to be testers of the service (buyers) in several Asian countries (geography). Then, following the advice of advisors from firms like Expedia, they focused solely on learning about supply. As one founder explained, *“You can’t get any travelers unless you have great hosts. So we really focused on that first. And to be honest, we probably focused on that for the last year since we launched.”*

It took 18 months of trial-and-error learning to figure out who makes a good host, and how to find, train, and retain them. Initially, the founders believed that the ideal hosts were rural women whose lives could be improved by hosting for HomeChef. But they soon learned that their supply strategy was flawed: women in low-income rural areas rarely spoke English, and often lacked internet access. As one co-founder recalled, *“We found very quickly that, because we required that our hosts speak English and have access to the internet that put them into a middle or upper income bracket.”*

Consequently, the founders switched to higher-income hosts, and concentrated on learning about local culture and why potential hosts might be interested in joining HomeChef. An executive explained, *“We personally went to each host’s home to understand why they wanted to be hosts and give them as much information, be as transparent as possible about [HomeChef] so they felt completely comfortable about belonging in our community.”* They then consolidated their learning into a few simple rules for picking hosts like emphasizing cooking and storytelling skills, and for

training like requiring use of bottled water.

HomeChef also illustrates a solution to a common dilemma: **Seller stickiness**. While focusing on supply improves learning, how do marketplaces keep sellers engaged when there are few or no buyers? Unexpectedly, these founders learned that hosts gained significant social value from HomeChef’s Facebook page. The hosts stayed engaged by participating in the community even when they had stretches with no guests. As a co-founder explained:

“At first I thought Facebook was going to be more about spreading the word to travelers but now I would say 80% of the value for us has been being able to recognize hosts.... They're often the people who are commenting the most on our site.”

Other firms also addressed this seller stickiness. Lyft, for example, initially subsidized its drivers (sellers) by paying them an hourly wage to be “on call”, especially during peak hours. Others used creative (non-pricing) strategies to keep sellers engaged. Both OpenTable and Etsy engaged their professional sellers (i.e., restaurants and crafters, respectively) with tools to make their current businesses easier to run. OpenTable, for example, created a reservation management system that optimized table assignments and recognized frequent diners.

Finally, while the examples above highlight learning about supply from scratch, we also observed that sometimes firms accelerated their learning by beginning with “**chunks**” of sellers. For example, Lyft started learning about supply by obtaining drivers from TaskRabbit as that firm decided to stop offering driving services. A Lyft board member explained, *“We got a list of TaskRabbit contractors who were just interested in driving people around.”* Similarly, QuickPaint first recruited painters from Craigslist while EasyPark initially emphasized supply from organizations with often empty parking like churches. Although these approaches are typically not scalable in the long-run (e.g., TaskRabbit only had some drivers), they do provide early learning and an initial boost that kick-starts supply.

Why does supply come before demand? One reason is that sellers are usually more willing to wait for buyers than vice versa. Firms can often motivate sellers to remain on the platform (even if with few buyers) with tactics like financial payments (Lyft), social engagement (HomeChef, Airbnb), and valuable seller services that do not depend on buyers (Etsy, OpenTable). In contrast, buyers can often simply access existing substitutes. In addition, sellers may be more willing to wait despite vague prospects for future buyers because the identity of buyers is less important to them. They receive fungible assets (e.g., dollars, euros) from future transactions that are not buyer-specific. In contrast, since buyers gain particular (i.e., less fungible) products, the specifics of sellers are more germane to them.

Importantly, sellers are more influential in determining the cost structure and service level that are at the heart of marketplace liquidity (i.e., sufficient density to match buyers and sellers). Having sufficient sellers helps to ensure that the marketplace offers the minimum service level which buyers demand. As a successful VC told us, *“Aggregate supply and demand will come”*. Also, there is often a tipping point- i.e., critical mass that relates to buyer psychology and market economics. For example, HomeChef founders pointed to two or three hosts in a location as the critical mass for engaging travelers. Sellers also are more influential regarding unit costs. For example, if sellers have to travel too far to provide a service (e.g., low supply density), the unit costs of supply become too high and buyers will not join despite availability. In contrast, although buyers may have acquisition costs, they usually have less influence over the overall unit operating economics of the marketplace. As a seasoned investor summarized, *“Supply is what really drives the dynamics of a marketplace.”*

Fitting Supply with Demand: Buyers Next

The chicken-and-egg problem of two-sided marketplaces is rooted in the mutual attraction

between buyers and sellers. Thus, while focusing first on supply is advantageous, we also observed that all of the firms made significant strategy progress when they followed supply with a focus on *demand* (Table 3). This combination can then amplify the number of transactions and set cross-side network effects in motion. We also saw that learning about buyers is easier when value is clear – i.e., superior to existing substitutes for a familiar problem. Firms like Etsy, Lyft, and EasyPark provided clear value that compared favorably with well-known substitutes (e.g., taxis and Lyft, hotels and Airbnb, searching for parking and EasyPark), and so created a demand strategy relatively quickly. In contrast, other firms like HomeChef and QuickPaint had more difficulty figuring out who would buy and how to reach them. They often developed their demand strategy slowly with more learning.

EasyPark is an example with **clear value** such that learning about buyers (demand) came quickly. The founder saw the opportunity for a two-sided marketplace when his girlfriend struggled to find parking. He founded EasyPark to ease parking in densely populated cities by connecting drivers (buyers) with parking space owners (sellers). Learning about parking space owners (supply) was somewhat difficult and the platform (product) took time to build, but demand was easy. As an executive observed, “*People are always looking for parking.*” So once the team had a working platform (product) and a process for adding parking spaces (sellers) in their home city (geography), they turned to word-of-mouth marketing and a few cheap ads on social media. Since EasyPark was superior to substitutes (i.e., searching for parking in a crowded city) for solving a real problem, it attracted drivers and local media coverage. These, in turn, amplified demand. As a local TV station promoted, “*EasyPark is catching fire.*”

Lyft is another example where learning about buyers (demand) came quickly. Exploiting technical innovations from iPhone and Facebook, Lyft founders started their San Francisco-based

ride-sharing firm in 2012. They quickly set the stage by developing a platform in about six weeks, and creating a unique offline profile based on trust and the analogy of “getting a ride from a friend” (product). This led to, for example, the fist-bump greeting and pink mustaches on Lyft cars. As an observer noted, *“It is really about ‘Hey we’re different. We’re actually your friend that’s coming to pick you up...it was a way of differentiating against the Uber culture which was much more ‘black car, I’m a baller, I sit in the back, you’re my driver’”*. The founders next focused on supply. As per supply above, they recruited a “chunk” of drivers from TaskRabbit, and later Craigslist. The team personally interviewed every driver, inspected their cars, and paid them initially, especially during peak hours, to stay on the Lyft platform.

Almost immediately after Lyft launched in their first city, San Francisco, the service took off. As a board member noted, *“One [rider] came running up to me, and was like, ‘You have no idea how amazing this product is.’ I’ve never heard anyone rave about a product in such glowing terms, and I hadn’t even tried it out yet.”* A key point is that Lyft offered clear value. An investor in both Lyft and TaskRabbit compared the two on this point. In explaining TaskRabbit’s slow take-off, he pointed to its vague value proposition *“TaskRabbit tried to be more of a horizontal platform marketplace. It made it hard to describe the demand—what TaskRabbit was for? There was an explanation of the value proposition that needed to happen. What am I going to use it for?”* In contrast, noting Lyft’s clear value proposition, the investor enthused, *“Demand was actually the easiest piece...So for us, the demand side was never a problem...Lyft was so well-understood. So, you didn’t really have to explain it.”* Overall, the founders learned about riders quickly and relied almost exclusively on word-of-mouth to reach them. As an observer summarized, *“It was sudden, it was real word-of-mouth... It was a real fast start.”*

In contrast, firms like QuickPaint and HomeChef had a **less clear value**, making it more

difficult to learn demand – e.g., who are the buyers and how to attract them. QuickPaint illustrates. As per above, learning about painters (sellers) and building a platform (product) were fairly easy. Demand, however, required significant learning to figure out customers (buyers). The COO explained, *“We didn't know who we were going after, at first. We just thought, ‘Okay, there's painting. Everybody needs painting. Let's go after everybody.’ We didn't realize all the subsets of painting. We honestly didn't do enough work to realize how a lot of people consume painting services.”* So, they paused in other domains like adding painters (supply), improving the platform (product) and expanding outside NYC (geography). Instead they focused on buyers. As the COO noted, *“Our main focus is marketing and customer acquisition.”*

The founders initially targeted homeowners. But since homeowners infrequently need painting, the founders quickly learned that demand was non-recurring. The COO reflected, *“Customers don't come back for a second or third job. So every month, the slate's wiped clean. You have to start over.”* Instead, they needed repeat customers like building owners, decorators, and general contractors. A turning point came when the founders successfully experimented with direct sales. The CEO recalled, *“We experimented by hiring a salesperson, an outside sales rep who had painting industry experience to target these third party businesses representing the customer. We saw immediate success.”* The founders had a second breakthrough when they stumbled into realizing that a major paint manufacturer with a national retail presence could provide recurring customer flow. They made a deal with this company to use its paint, and gain access to its retail customers. These moves gave QuickPaint a viable demand strategy.

Another example is HomeChef. As per above, the founders sought to link travelers who wanted authentic cultural experiences (buyers) with locals who would cook meals in their homes (sellers). They spent about two years learning about hosts (sellers), and automating their platform

(product). During this time, they used friends and later tour operators to provide some travelers (buyers) to aid learning about hosts. But friends were not scalable, and while upscale tour clients were helpful in creating some demand, they were not the target traveler. Instead, the founders wanted to serve ordinary people like themselves who valued travel authenticity. But it was unclear how to reach these like-minded individuals at scale. A founder explained, *“I don't think that we could get to 10X travelers or 100X travelers without really changing how we think about getting customers.”*

When the founders switched to focus solely on travelers (buyers), they experimented with social media. They had some failed experiments (e.g., Google AdWords) that provided learning about how to find enough “right” travelers at a reasonable cost. One executive explained, *“We did a Google AdWords campaign that failed miserably... We were competing directly with restaurants and some hotels with experiences, and that's not where we should have been because it's so expensive to compete with those guys.”* They had some successful experiments (e.g., partnerships with large travel companies like Expedia). The founders continued using trial-and-error and experimentation to learn about how to reach travelers at scale. They subsequently consolidated that learning into simple rules such as *“avoid small partners”* because they lack reach, and *“focus on relationship building”* so that large partners stay engaged with HomeChef. With an understanding of demand in hand, they next focused on expanding to new countries.

Finally, Udacity illustrates a common dilemma – i.e., **no demand for supply**. A Stanford professor founded Udacity in 2011 during the initial froth around MOOCs. He saw an opportunity to “disrupt” higher education within online university courses (product) taught by professors (sellers) to students (buyers) around the world (geography). It proved easy to add professors, build a simple online platform, and attract thousands of students. But, unfortunately, the students were not

buyers. The students were unwilling to pay for a vague value proposition – i.e., non-accredited courses that they often did not complete. The team spent several years trying to learn who would actually buy. For example, they tried a paid partnership with a university to provide remedial math, but student outcomes were abysmal. As a professor described, *“It was the worst possible model—it was the least prepared students who needed the most remedial work and personalized attention taking online courses that provided the just opposite experience”*.

Eventually, the team concluded that there were simply too few student-buyers for their online courses taught by professors. So, they switched (i.e. pivoted) to a new opportunity: post-college education for technical professionals who want new skills for better jobs. The founder explained, *“We decided to really focus on job skills and working with companies”*. The team then re-started the entire strategy formation process, beginning with supply. They learned, for example, that top professionals at leading companies like Google were better teachers of this material than professors. They then also changed the product from university courses to the “nanodegree”—i.e. a set of short, project-based courses with material directly relevant to employers seeking specific employees like Android developers. With a new supply and product, the team returned to focusing on demand – i.e., students who would pay. The founder summarized, *“We know the basic formula is working”*.

Finally, while the above examples often describe learning demand from scratch, we also observed that sometimes firms accelerated their learning (as they did with sellers) by beginning with a “**chunk**” of buyers. For example, HomeChef learned about demand early on by working with tour operators who brought in blocks of client-travelers. Similarly, QuickPaint first recruited customers from their existing cleaning businesses while Airbnb used Craigslist to gain guests early on. Although these approaches had limited scalability in the long-run, they enabled early learning

and gave an initial boost that kick-started demand.

Why does demand follow supply? As per the prior section, buyers are often less willing to wait than sellers and more difficult to incentivize to wait. They can turn to existing substitutes. Moreover, buyers also have less influence than sellers on the cost structure and service level that are at the heart of marketplace liquidity. While they may demand a certain service level and balk if prices are too high, they are not typically the drivers of unit economics. In addition, buyers are less complicated than sellers. They simply come to the platform and use the product. In contrast, suppliers are much more integral to the product including platform operations. As one executive explained, “*Sellers are often important business partners of marketplace companies.*”

A further question asks why not *simultaneously* focus on both supply and demand? For example, perhaps Udacity’s mis-match of supply and demand could have been avoided by doing this. We think this is unlikely. First, we observe that it was problematic for our firms to juggle multiple domains at once. Airbnb (above) floundered when addressing multiple domains, and then gained traction with focus on supply. Similarly, QuickPaint, OpenTable and EasyPark (all described below) stumbled when they attempted to address multiple domains at once, and succeeded when they focused one.

More importantly, prior research highlights cognitive reasons for why focusing on a single domain is effective (Ott & Eisenhardt, 2018). That is, people learn more effectively when they focus on one task because they avoid the inefficiencies of task switching (Monsell, 2003), and instead increase their cognitive control. In turn, cognitive control enhances effort quality and learning (Koutstaal, 2012; Moulton et al., 2010). In addition, prior research on solving complex, novel problems (e.g., strategy formation in two-sided marketplaces) also finds that it is more effective to solve such problems by breaking them into domains and solving them successively

(Baumann & Siggelkow, 2013; Ott & Eisenhardt, 2018). By contrast, it is too difficult to solve domains together because it is difficult to learn with so much is changing at once.

Product: Intertwined with domains over time

The popular analogy of the chicken-and-egg dilemma overlooks the crucial role of the product (and related online platform) that connects sellers and buyers. We observed that, while all executives early on developed at least a simple product, they varied in terms of when they built a complete one (i.e., full functionality including an automated online platform). When the product was highly time-sensitive, firms focused first on building a complete product, even before supply. This was the case for firms like Lyft, EasyPark, and OpenTable. In contrast, when the product was less time-sensitive, firms like HomeChef and QuickPaint could get by with a simple platform and manual intervention. So they often delayed building a complete platform in order to remain flexible to new insights while they learned about other domains.

Lyft illustrates **time-sensitivity** and so building a complete product early. Specifically, its riders expected at least the almost immediate service of many taxis. So the founders set a target response time of three minutes which required high product functionality. Given high time-sensitivity, the team started by building a complete product including a fully automated platform. They also incorporated new technologies to make their platform seamlessly work, and so provide a superior experience for drivers (sellers) and riders (buyers). This added functionality was essential to Lyft's opportunity—i.e., enabled Lyft to match drivers and riders in real-time (unlike, for example, HomeChef's travelers who tolerated delay). In addition, since the founders had started a prior ride-share business, Zimride, they were familiar with the related logistics of this type of platform. So, they were able to build a complete product in about a month. As an observer noted, *“Lyft was really fast in building it [online platform], launching the beta, and then putting it into the*

public's hands."

Similarly, Etsy began with a relatively complete product that met the expectations of its sellers (makers) and buyers (customers) for time-sensitive transactions. The founders spent about two months creating this product including an automated online platform that was visually unique. A board member noted, "*Etsy was one of the first really emphasized a beautifully designed website...It was visually beautiful*". They also built helpful online tools like the curated "treasuries" and community forum, and offline tools like the Sellers Handbook to attract and retain professional crafters to Etsy. In addition, since some of its founders were experienced web-site builders and familiar with the craft community, they had a good sense of what these crafters needed, and how to improve over the principal substitute, eBay. After several months, the Etsy team launched their product and shifted to the supply domain.⁶

In contrast, HomeChef illustrates **time-insensitivity** and so starting with a simple platform with manual intervention. As described earlier, the firm matches travelers (buyers) with hosts (sellers) who cook culturally authentic meals in their homes. At the outset, the two non-technical founders spent \$1000 and two days creating a "*hacked together WordPress site*". They blended this simple website with manual intervention given that travelers were often booking months ahead, and so were not particularly time-sensitive. Travelers submitted their travel dates and preferences onto the website. In a day or two, HomeChef responded by manually making matches, and emailing details to hosts and travelers. A co-founder explained, "*Everything is like [co-founder] and I emailing and setting things up.*" Unlike other founders, the HomeChef founders also lacked industry experience, making building a complete platform at the outset particularly risky. With this rudimentary product in hand, the founders then focused on supply.

⁶ After our study ends, Etsy further upgraded its online platform as its growth surged.

When the HomeChef founders considered a shift to focus on demand about two years later, they realized that the platform needed greater functionality to meet the anticipated surge in additional travelers. As a co-founder explained, *“That’s the biggest goal, to automate a lot of the things that we’ve been doing manually so that we can actually scale.”* Another executive echoed, *“Building that functionality into the technology so we can scale successfully is big.”* So, the team paused other new activity in other domains, and focused on building a complete product before moving to demand. Overall, this approach—addressing basic functionality with a simple product platform early on, and delaying a complete product—allowed the founders to consolidate their learning over two years without over-investing in the wrong product. As a co-founder explained *“We were so glad that we didn’t spend tens of thousands of dollars building something because we just didn’t know.”*

A key observation is that determining the **right simplicity** for the product platform is often a dilemma.⁷ For example, while HomeChef’s founders planned a simple platform, and smoothly transitioned to a complete one after they had better design information, others did not. For example, QuickPaint waited too long. QuickPaint effectively began with a simple platform, but stayed with it too long. As per above, QuickPaint matches professional painters (sellers) with customers who need painting (buyers). A key aspect of their opportunity was a sophisticated online paint quote engine. So they focused initially on creating this engine that automated the quote process, but embedded it in a simple product platform that included substantial manual intervention. Like HomeChef, these customers did not need immediate response, especially since QuickPaint’s response times were already much faster than the traditional substitute approach of painters’ giving quotes after onsite visits. So a simple product to start made sense. As a founder said, *“We try not to over-optimize.”*

⁷ To use the lean startup language, we are highlighting the challenge of determining how minimal the “minimally viable product” can be.

Later, the QuickPaint founders (after addressing supply and demand) expanded from their initial location to San Francisco (geography). As the CEO explained, *“We were pretty confident that we would grow a big New York City business. And the next question was like, how big can this thing be?”* Their biggest surprise was that their paint quote system did not work well. That is, the platform that worked in NYC was insufficient for San Francisco with its much higher percentage of standalone houses and exterior painting jobs. The founders stopped their geographic expansion, and shifted focus to building a complete product (i.e., updated quote engine, fully automated online platform). As a founder said *“We expanded a little too soon”*. After finishing this product, they returned to San Francisco to focus again on geography.

A particularly good example of the challenge of the right simplicity is EasyPark. As per above, EasyPark’s founder saw an opportunity to improve parking in densely populated cities. He began by focusing on developing a mobile platform (product) that would connect drivers (buyers) with parking-space owners (sellers) in a real time. Developing a complete product early on made sense given this time-sensitivity. All was well until the founder became enamored with “get big fast”. So, the team rushed into other domains (i.e., supply and demand) with an incomplete product. EasyPark ended up with too few parking places, unhappy drivers, and a product that did not work well. As one executive lamented, *“The existing product was bug ridden, functionally incomplete and was causing [founder] a lot of pain.”* The team was constantly fighting fires on all fronts. Eventually, the founder paused in other domains, and focused solely on fixing the product. As the CEO realized, *“There’s no possible way that I see us scaling with the current app.”* With a mostly complete platform in place (i.e., a few non-essential features left for later), the team shifted their focus to supply.

Why does the sequential position of the product in strategy formation depend on time-

sensitivity? The primary reason is the dilemma that executives face in forming strategy to capture a novel opportunity in a nascent market. On the one hand, delaying development of a complete product enables learning from other domains, and avoids wasted effort by developing the wrong features (e.g., HomeChef’s reasoning). This negative outcome happened, for example, at Airbnb when the team initially rushed to develop an overly complete platform despite only modest time-sensitivity. They ended up wasting about 6 months of engineering time before they understood hosts. So, it is advantageous to develop as simple a product as possible early on.

On the other hand, accelerating the development of a complete product is critical when the product is time-sensitive. Buyers and suppliers may demand the functionality that a complete product provides as occurred at EasyPark. Moreover, the risk of developing the wrong product diminishes when the team has experience in the focal industry as at Lyft, and a visible substitute to benchmark such as eBay gave Etsy. Overall, it is advantageous to build as simple a product as possible but time-sensitivity and ultimately the need to scale affect when focus on a complete product occurs in strategy formation.

Geography: Every location is the same, every location is distinct

In the prior sections, we argued that strategy formation in a two-sided marketplace involves solving the chicken-and-egg problem of buyers and sellers, and the complex strategy formation problem of fitting these domains with a product that connects the two. In this section, we extend strategy formation to the geography domain. Geography is particularly relevant to strategy formation in two-sided marketplaces because the strength of cross-side network effects often depends on **proximity**—i.e., proximate buyers are attracted primarily to proximate sellers in the same location, and vice versa. For example, Chicago diners are primarily attracted to OpenTable’s

Chicago restaurants, not by Philadelphia ones.⁸ These network effects also depend on **critical mass**. Overall, a dilemma that marketplaces face in strategy formation is they cannot dominate if they stay in a niche or local for too long, but they also cannot grow if they expand too much, too fast.

A key insight is that all of our firms made significant strategy progress when they focused on geography *after* gaining a strong understanding of supply and demand and a stable platform. In addition, these executives recognized that some locations are more attractive than others, and so formulated simple rules for choosing the most advantageous ones. Similarly, they also recognized that every location is both like others and yet unique. So they tried to balance the efficiency of simple rules and processes that fit most locations with the flexibility to adjust to the unique features of each location. Overall, our firms developed simple rules and processes for which locations to enter and how to organize them, including insight into “critical mass” (especially relevant for two-sided markets).

QuickPaint illustrates. After locking down supply and demand in NYC, QuickPaint founders expanded to San Francisco. As per above, they entered with an inadequate product, but fixed it and re-entered. A founder described their choice of San Francisco as “*unscientific*”, based mostly on where their investors lived. They also explicitly copied Uber by hiring a local general manager. They made multiple mistakes like starting with a physical footprint that was too small for the population density of San Francisco. In fact, a founder termed their initial entry “*unspectacular*”.

But the QuickPaint team also learned in San Francisco. For example, they figured out better rules for choosing cities: *Pick affluent cities with lots of offices and tech savvy people* and *Look for high rates of construction*. They also gained insights about how to enter and organize. For example, they saw that the general manager approached worked, especially if that person were a local but

⁸ For firms like Lyft, OpenTable, and PaintQuick, proximity is local. In contrast, proximity is global for firms like Udacity and Etsy.

went to NYC for training. They also learned that usage of painters, not their number, gave them a better sense of critical mass. They further learned that their quoting engine needed tuning for the local conditions like building infrastructure and pricing while their strategies for painters and customers transferred well across cities. A founder summarized, *“Every city is a little bit different. Pricing is a little bit different in a new city. Transportation is a little bit different in a new city. But there are a lot of similarities like customer acquisition.”* Overall, the founders used San Francisco to, as several said, *“build a repeatable model”* that they crystallized into a playbook of simple rules. After San Francisco, they proceeded to rapidly scale by expanding to over 10 cities in a year, deepening their presence in existing cities, and grew bookings by 400%.

In contrast, OpenTable stumbled during geographic expansion. These executives started in Chicago and San Francisco where they developed a reasonably complete product and supply strategy focused on influencer-restaurants. But they did not learn about diners (buyers), brushed off huge customer acquisition costs,⁹ and ignored market liquidity. Instead, pushed to “get big fast” by investors, these executives signed up restaurants around the country without much thought about which cities to enter and how to organize them. The founder noted, *“It was this sort of tension of growing as fast as you can and sort of hoping that the revenue would come in”*. So, they quickly added about 800 restaurants in 17 cities (Rosenthal & Rachleff, 2011). But there were too few restaurants in each city to attract diners (i.e., thin market that lacked liquidity) and too much administrative overhead in each city to be profitable. OpenTable was spending \$1 million per month, but taking in only about \$100,000 per month (Atal, 2009).

The turning point came when a new CEO slashed the number of cities to four, and refocused on learning about the critical mass of restaurants needed to attract diners. A key insight was that

⁹ OpenTable subsidized restaurants for the platform’s hardware at an average of about \$4,000 per restaurant (Chicago Founders TV, 2012).

buyers started using OpenTable after the first few hundred restaurants in a major city joined the platform. The founder noted, *“Getting this next 200 or 300 restaurants, below the top 70 or 80 restaurants is when the diner would come to the site and you’d see our conversion numbers increase”*. So, the team turned to building their current cities into thick (i.e., liquid) markets, and then to adding cities according to a playbook including simple rules like: *send a team of three, go door-to-door, focus on influencers first, and go deep (i.e., get critical mass)*.

A key observation is that the right balance of **flexibility and efficiency**. In other words, the rigidity of the playbook for geographic expansion matters. An example is Airbnb, where the founders formally focused on geography in 2011. Their approach was shaped by the intuition that country entry *“should feel Airbnb”*. In practice, this meant simple rules like hiring locals with their own local personal networks, an understanding of local culture, and insight into local regulatory issues. Airbnb encouraged their country teams to use experiments to figure out supply and demand, and to rely on social events, often in bars, to connect with hosts and potential hosts.

But beyond this guidance, country teams had a relatively free hand to develop their locations. In France, for example, the country team started by cold-calling potential hosts who rented their apartments and homes on other vacation rental websites, and offering them discounts to join Airbnb. However, just as Airbnb had realized in the U.S., the French team learned that the ideal Airbnb hosts were first-time hosts in France too. As a French manager described, *“Hosts were often pulled onto the platform for financial reasons, but stayed because they enjoyed providing unique travel experiences.”*

Yet, the efficiency-flexibility balance is not always obvious. A telling comparison is Lyft versus Uber. While Lyft entered the peer-to-peer ride-sharing first, Uber expanded faster and more successfully into new locations. A key difference was the playbooks. The Uber executives

efficiently relied on simple rules for picking city entries (e.g., well-known “accelerants” like nightlife, lots of sporting events and demanding weather) (Teixeira & Brown, 2016b). They also created other simple rules such as for choosing which Uber service to launch first and when to leave a city. Yet simultaneously, Uber gave their city managers substantial flexibility to adapt to their local situations.

In contrast, the Lyft team also gained efficiency such as by using simple rules for picking cities, but they also limited flexibility with more restrictive handcuffs for their city managers including centralized decision making. A Lyft board member explained, *“Lyft and Uber had two very different strategies... Lyft was more centralized, while Uber gave a lot of their power and decision-making to the end market managers...They could pretty much do what they want.”* Thus, Lyft executives could not as readily accommodate heterogeneity across locations and localize their approach. The board member continued, *“If there are major hotels, like when you go to Hawaii, actually creating a really close relationship with the concierge so that the concierge tells people that Uber is now in Hawaii. Those things are critical.”* But it was more difficult for Lyft’s city managers to flexibly engage in these local activities. In analyzing Lyft, a VC noted, *“Ultimately, I actually think the localized strategy for these localized markets is really critical because these localized markets have a very specific way of attracting users. To be able to go deep into both supply and demand is critical.”*

Finally, HomeChef is intriguing because they focused on the geography domain twice. The first time occurred when the founders had just finished learning about hosts, had a simple but reliable (largely manual) platform, and had primarily the clients of tour operators as travelers. Their immediate aim was to signal their dominance for in-home culinary experiences in Asia, and preempt competition. To geographically expand, they travelled to various Asian locations, and spoke

with prospective hosts. They learned that traditional locations like Luang Prabang and Ubud were prime locations because they fit with HomeChef's emphasis on authentic experiences. In contrast, partier locations like the Bali beaches and Phuket were out. The founders also created a playbook for organizing different locations. Here, the team copied Yelp by creating "volunteer ambassadors" to vet prospective hosts: these ambassadors received free meals in return for vetting possible hosts and organizing events for them. The founders also determined the critical mass of hosts in a location. A founder explained, "*We realized that we didn't need like hundreds of hosts to launch in a new region. We needed between three to five hosts in each region because travelers aren't all traveling at the same time.*"

After successfully adding six cities in about six weeks and thus reinforcing their position in Asia, the founders pressed pause. They knew that their simple platform would not support substantial growth, and that tour clients were not their ultimate target traveler. So they first shifted their focus to building a complete online product platform, and then focused on demand as described earlier. Once their demand strategy was in hand, they focused on geography for a second time, but at a much larger scale. They expanded throughout Asia, Latin America, and now Europe. A founder summarized, "*We know how to scale.*"

Why does geography follow the supply and demand domains? One reason is that supply and demand are much more interdependent with one another. Executives can, thus, simplify their learning about these domains by holding geography constant. Moreover, well-running relationships among supply, demand and product strategies form a base or "*a repeatable model,*" from which to expand to new locations. Executives can then focus on learning about geography, figuring out what is alike versus unique across locations, and creating the right size playbook and simple rules. In contrast, when executives start expanding geographically without understanding other domains

well, there is too much change and even chaos to be effective. For example, OpenTable floundered when they tried to enter too many locations, too fast. They misunderstood supply, demand, and the basic structure of network effects. Overall, marketplace firms cannot dominate if they stay in a niche or too local for too long. More aggressive rivals may supplant them as was a motivating force for HomeChef's first geographic expansion. But they also cannot grow if they expand too much, too fast—without understanding supply and demand with an adequate, stable product platform.

DISCUSSION

Our core contribution is a theoretical framework that describes how executives in two-sided market firms form strategy in entrepreneurial settings (Figure 1). Prior literature on platform strategy highlights the strategic implications of network effects for specific choices such as pricing and governance (e.g., Rochet & Tirole; Adner et al., 2016) and particular strategies such as “get big fast” (e.g., Cennamo & Santalo, 2013). In contrast, the literature on strategy formation emphasizes forming strategy by combining thinking and doing (Gavetti & Rivkin, 2007; Ozcan & Eisenhardt, 2009) and sequentially focusing on successive domains (Ott & Eisenhardt, 2018).

By tracking 8 two-sided marketplace ventures in multiple industries from founding until their growth accelerates (Appendix), we add to these two literature streams. We contribute a *dynamic* view of strategy that indicates how strategy evolves from the start, and a *holistic* view that goes beyond the “chicken-and-egg” problem of buyers and sellers to product and geography as well. We also identify the specific *sequence of domains* in forming strategy, and the *contingencies*, *dilemmas*, and *accelerators* that occur in each domain. Overall, we contribute a dynamic, holistic, and generalized understanding of how strategy formation occurs in two-sided marketplace ventures. In short, first learn the basic strategy for each domain, and then accelerate growth (i.e., scale).

Strategy Formation in Two-Sided Market Firms

Our core contribution is an emergent framework that describes how executives in two-sided market firms form strategy in entrepreneurial settings (Figure 1). Consistent with prior literature (Ott & Eisenhardt, 2018; Baumann & Siggelkow, 2013), our emergent framework confirms that executives form strategy by focusing on one strategic domain at a time. We add by indicating the specific sequence of domains and tying this sequence to accelerated growth.

First, firms make progress in strategy formation when they start with the *supply* domain. In other words, while two-sided markets are characterized by the “chicken-and-egg” dilemma of buyers and sellers, strategy formation starts with sellers, not buyers. One reason is that sellers are usually more willing to wait than buyers, and can often be motivated to wait (even without buyers) by tactics like financial payments, social engagement and providing valuable seller services that are unrelated to buyers. More importantly, sellers are usually more influential in shaping the cost structure and service level of the marketplace. Having sufficient sellers helps to ensure the minimum service level that buyers demand. There is also often a tipping point in terms of a critical mass of sellers, below which buyers will not come and the market does not function. Sellers are also usually influential regarding unit costs. So while buyers may affect their own acquisition costs, the ongoing unit economics of platforms typically depend more on sellers. Indeed, sellers are typically more tightly integrated into product operations. As a savvy investor told us, *Supply is what we really drives the dynamics of a marketplace.*”

Second, firms make significant progress on strategy when they follow supply with *demand*. This combination amplifies the number of transactions, and can set in motion the emergence of network effects. As argued above, buyers are also likely to be less influential in shaping the cost structure and service levels of platforms, and less willing to wait for sellers. Buyers are also less

complicated than sellers as they often simply come to the platform and use the product. In contrast, as we observed at several firms like EasyPark, Airbnb, and OpenTable, and consistent with past research on solving novel and complex problems, executives who simultaneously focus on both sellers and buyers, are likely to end up juggling too many activities at once and ineffectively learn.

Third, firms make significant progress on strategy when they develop as simple a *product* as possible (i.e., minimum functionality) at the outset. However, time sensitivity shapes how simple. In other words, executives need at least a simple product early on to set the stage for learning about sellers. But when time sensitivity is high such as occurred at Lyft and EasyPark, executives need a more complete product (i.e., a fully functional, automated platform) at the start. The underlying reasoning is that delaying a complete product enables learning from other domains. Such learning can limit wasted effort by developing the wrong features. Yet at the same time, when there is high time sensitivity from the start, delaying is not feasible. Moreover, we observed that it can be challenging for executive to determine both the right level of product completeness, and the timing of when a complete product is needed.

Fourth, firms make significant progress on strategy when they address the *geography* domain *after* they have understood sellers and buyers, and have a stable product. Geography is particularly germane because the strength of cross-side network effects often depends on proximity¹⁰. One reason why geography follows sellers and buyers is that sellers and buyers are more interdependent with each other, than with geography. Thus, executives can simplify and accelerate their learning about buyers and sellers by holding geography constant. In addition, a smoothly running integration of sellers, buyers, and product can form a base or repeatable model for geographic expansion. Executives can then focus on learning about geographies, figuring out what

¹⁰ The relevant geographic unit that is relevant for network effects varies. For some firms like OpenTable it is relatively local (i.e., cities) while for others like Etsy and Udacity it is more global.

is similar and unique across locations, and creating a playbook of simple rules to add locations. A major dilemma is balancing the efficiency of simple rules and processes that exploit the similarities across locations v. flexibility to adapt to the unique features of a particular location. A second dilemma is the pace of geographic expansion. Two-sided market firms cannot dominate if they stay too local, but they cannot grow if they expand too much, too fast.

Overall, our emergent framework indicates that firms are able to accelerate their growth and so scale *after* they have stepped through each of the successive strategy domains and formed a viable strategy in each (Appendix indicates firm growth over time). In contrast, when firms attempt to “get big fast” like EasyPark and OpenTable, or otherwise skip domains, go out of sequence or juggle multiple domains, they flounder. The central implication is that two-sided market firms slow down and learn the strategy playbook before they accelerate growth.

Finally, we uncovered contingencies with implications for strategy formation. One is *seller heterogeneity* – i.e., when sellers are professionals (e.g., painters, restaurant owners), it is easier to form a supply strategy than when the sellers are inexperienced (e.g., peers). The latter take more time learning to identify, recruit, and train. A second is the *value clarity*. When the product value is clear (e.g., product solves an important problem and is superior to existing substitutes), it is much easier to form a demand strategy. In contrast, when product value is ambiguous, strategy formation requires more learning, and may end up without buyers. We also noted accelerators of strategy formation. For example, *influencers* can create asymmetric network effects that boost participation on both sides of the platform. These influencers are typically high-status, and have an unusually strong pull for other buyers and sellers. Another accelerator is *chunks* – i.e., groups of easy-to-acquire (but not scalable) sellers or buyers that accelerate learning and boost network effects. These tactics accelerate strategy formation.

Platform Strategy: Toward a dynamic, holistic, and generalized view

We make several contributions to the strategy literature on platforms. First, we contribute a more *dynamic view* of strategy. Prior platform research often centers on specific or static choices such as pricing (e.g., Rochet & Tirole, 2003) and particular strategies such as “get big fast” (e.g., Cennamo & Santalo, 2013). While useful, this work rarely looks inside firms, and so largely ignores the strategy formation *process* as it unfolds. Moreover, prior work often assumes a mature market with rivalry among well-known actors (Adner et al., 2016; Seamans and Zhu, 2017). This is a helpful lens, but it misses the pivotal early period of strategy formation – i.e., when strategy particularly matters and few firms actually succeed. Our contribution is a dynamic view of strategy that describes the process of strategy formation from founding until growth accelerates. More broadly, we also add by highlighting the central role of experiential learning processes like trial-and-error and experimentation in forming a viable strategy in two-sided market firms. In contrast, “get big fast” ignores how strategy formation actually occurs, and the need to slow down before accelerating.

Second, we contribute a more *holistic* view of strategy. Prior work on strategy in two-sided markets often centers on the “chicken-and-egg” dilemma of buyers and sellers (e.g., Eisenmann et al., 2006). So it frequently narrows the lens to tactics such as entry timing in isolation from other aspects of strategy. While this approach is useful for understanding a specific situation, our contribution is a more holistic view. We go beyond the “chicken-and-egg” problem of buyers and sellers to include product and geography. Moreover, while recent work usefully examines geography (Cullen & Farronato, 2016), we add by considering strategic domains collectively. When these domains together form a coherent strategy, firms are able to accelerate growth.

Third, we contribute a more *generalized* view of strategy formation in two-sided market

firms. Research on platform strategy is often based on evidence from single industries, and certain industries like video games are over-represented (McIntyre & Srinivasan, 2017). Consistent with recent work that highlights differences between platforms and contexts (Afuah 2013; Cullen & Farronato, 2016; Gawer, 2014), we examine firms that compete across multiple industries (e.g., crafts, painting, restaurants, and ride-sharing). As a result, we ground our emergent theoretical framework in a broader base of industry contexts. This, in turn, is likely to improve the accuracy and generalizability of our emergent framework. It also enables us to draw insights from varied industries that are less available to single industry studies.

Strategy Formation: Toward sequences, contingencies and accelerators

We also contribute to literature on strategy formation within the entrepreneurship and strategy literatures (Baker & Nelson, 2005; Gavetti and Rivkin, 2007; Eisenhardt & Bingham, 2017). First, we contribute to understanding the *sequence of assembling strategy domains*. Prior research indicates that strategy formation is a complex, novel problem that can be best addressed by breaking strategy into domains, and addressing each sequentially (Ott & Eisenhardt, 2018; Baumann and Siggelkow, 2013). We add to this work by indicating the specific domain order for two-sided markets. We also develop contingencies and accelerators (per above) that are relevant to strategy formation by two-sided marketplace ventures. More generally, we contribute the insight that the sequence of assembling domains matters when forming strategy. We also shed light on the underlying rationale for this order. Prior work points vaguely to starting with the most “important” domain (Baumann & Siggelkow, 2013) or with domain that creates the greatest “bottleneck” to growth (Eisenhardt & Bingham, 2017). We contribute a more precise insight that the sequence begins with the most interdependent domain and proceeds.

Second, we contribute to understanding the role of *timing* in strategy formation. We find that

executives in two-sided markets may adjust the timing of when they develop a complete product, depending upon their anticipation of greater demand and of the likely of learning. Similarly, we find that simple rules that propose particular rhythms contribute to the timing within particular strategic domain. Broadly, this is a promising area for future research.

Boundary Conditions

Like all studies, it is important to address boundary conditions. In particular, we study strategy formation from founding until firms are poised to accelerate their growth. In so doing, we highlight the necessity of first focusing on supply and then demand, but not both simultaneously. In contrast, it is like that strategy in mature two-sided marketplaces (i.e., have solved the chicken-and-egg) should be attentive to balancing buyers and sellers over time (i.e., attending to both sides of the platform simultaneously) (e.g., Cullen & Farronato, 2016). This is an avenue for future research.

CONCLUSION

Our aim is to shed light on how executives in two-sided market firms form strategy in entrepreneurial settings. Relying on a theory-building study of 8 ventures across a variety of industries, we develop a theoretical framework that describes how executives form strategy by successively addressing strategic domains in a specific sequential order. Broadly, we hope to contribute a deeper understanding of both strategy formation as a complex, novel problem solving process and the emergence of a platform strategy in two-sided marketplace firms.

REFERENCES

- Afuah, A. (2013). Are network effects really all about size? The role of structure and conduct. *Strategic management journal*, 34(3), 257-273.
- Armstrong, M. (2006). Competition in two-sided markets. *The RAND Journal of Economics*, 37(3), 668-691.
- Atal, M. (2009). OpenTable - The hottest spot in town. Retrieved from <http://fortune.com/2009/08/14/opentable-the-hottest-spot-in-town/>
- Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3), 329-366.
- Baumann, O., & Siggelkow, N. (2013). Dealing with complexity: Integrated vs. chunky search processes. *Organization science*, 24(1), 116-132.
- Bingham, C. B., & Eisenhardt, K. M. (2011). Rational heuristics: the 'simple rules' that strategists learn from process experience. *Strategic management journal*, 32(13), 1437-1464.
- Caillaud, B., & Jullien, B. (2003). Chicken & egg: Competition among intermediation service providers. *RAND journal of Economics*, 309-328.
- Cennamo, C., & Santalo, J. (2013). Platform competition: Strategic trade-offs in platform markets. *Strategic management journal*, 34(11), 1331-1350.
- Chicago Founders TV. (2012). Founders' Stories: OpenTable's Chuck Templeton. Retrieved from <https://www.chicagofounders.tv/foundersstories/>
- Cowan, R. (1990). Nuclear power reactors: a study in technological lock-in. *The journal of economic history*, 50(3), 541-567.
- Csaszar, F. A., & Levinthal, D. A. (2016). Mental representation and the discovery of new strategies. *Strategic management journal*, 37(10), 2031-2049.
- Cullen, Z., & Farronato, C. (2016). Outsourcing Tasks Online: Matching Supply and Demand on Peer-to-Peer Internet Platforms. *Harvard Business School Working Paper*.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.
- Eisenhardt, K. M., & Bingham, C. B. (2017). Superior Strategy in Entrepreneurial Settings: Thinking, Doing, and Opportunity Logic. *Working paper*.
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50(1), 25-32.
- Eisenhardt, K. M., Graebner, M. E., & Sonenshein, S. (2016). Grand Challenges and Inductive Methods: Rigor without Rigor Mortis. *Academy of Management Journal*, 59(4), 1113-1123.
- Eisenmann, T., Parker, G., & Van Alstyne, M. (2011). Platform envelopment. *Strategic management journal*, 32(12), 1270-1285. doi:10.1002/smj.935
- Eisenmann, T., Parker, G., & Van Alstyne, M. W. (2006). Strategies for two-sided markets. *Harvard business review*, 84(10), 92.
- Gavetti, G., & Rivkin, J. W. (2007). On the origin of strategy: Action and cognition over time. *Organization science*, 18(3), 420-439.
- Gawer, A. (2014). Bridging differing perspectives on technological platforms: Toward an integrative framework. *Research policy*, 43(7), 1239-1249.
- Greylock Partners (Producer). (2015). Blitzscaling 18: Brian Chesky on Launching Airbnb and the Challenges of Scale. Retrieved from https://www.youtube.com/watch?time_continue=2345&v=W608u6sBFpo

- Hagiu, A., & Wright, J. (2015). Multi-sided platforms. *International Journal of Industrial Organization*, 43, 162-174.
- Halaburda, H., & Oberholzer-Gee, F. (2014). The limits of scale. *Harvard business review*, 92(4), 94-99, 134.
- Hannah, D. P., & Eisenhardt, K. M. (2018). Origins and Outcomes of Firm Strategy in Emerging Ecosystems. *Strategic management journal*.
- Hossain, T., Minor, D., & Morgan, J. (2011). Competing matchmakers: an experimental analysis. *Management Science*, 57(11), 1913-1925.
- Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24(4), 602-611.
- Katz, M. L., & Shapiro, C. (1994). Systems competition and network effects. *Journal of economic perspectives*, 8(2), 93-115.
- Koutstaal, W. (2012). *The agile mind*: Oxford University Press.
- Lee, E., Lee, J., & Lee, J. (2006). Reconsideration of the winner-take-all hypothesis: Complex networks and local bias. *Management Science*, 52(12), 1838-1848.
- Maguire, C. (2011). How did Etsy build its brand name among independent sellers early on? Retrieved from <https://www.quora.com/How-did-Etsy-build-its-brand-name-among-independent-sellers-early-on>
- Maveal, D. (2014). How did Etsy get its first batch of independent sellers when it started? Retrieved from <https://www.quora.com/How-did-Etsy-get-its-first-batch-of-independent-sellers-when-it-started>
- McIntyre, D. P., & Srinivasan, A. (2017). Networks, platforms, and strategy: Emerging views and next steps. *Strategic management journal*, 38(1), 141-160.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*: sage.
- Miner, A. S., Bassof, P., & Moorman, C. (2001). Organizational improvisation and learning: A field study. *Administrative Science Quarterly*, 46(2), 304-337.
- Monsell, S. (2003). Task switching. *Trends in cognitive sciences*, 7(3), 134-140.
- Moulton, C.-a., Regehr, G., Lingard, L., Merritt, C., & MacRae, H. (2010). Slowing down to stay out of trouble in the operating room: remaining attentive in automaticity. *Academic Medicine*, 85(10), 1571-1577.
- Oppong, T. (2013). The 7 Things Billion-Dollar Startups Did to Be Successful. Retrieved from <http://alltopstartups.com/2013/05/22/the-7-things-billion-dollar-startups-did-to-be-successful/>
- Ott, T. E., & Eisenhardt, K. M. (2018). Weaving strategic decisions: Strategy formation under novelty, resource constraint, and complexity. *Working paper*.
- Ott, T. E., Eisenhardt, K. M., & Bingham, C. B. (2017). Strategy Formation in Entrepreneurial Settings: Past Insights and Future Directions. *Strategic Entrepreneurship Journal*.
- Ott, T. E., & Tidhar, R. (2018). Strategy Formation as Solving a Complex and Novel Problem. *Working paper*.
- Ozcan, P., & Eisenhardt, K. M. (2009). Origin of alliance portfolios: Entrepreneurs, network strategies, and firm performance. *Academy of Management Journal*, 52(2), 246-279.
- Parker, G. G., & Van Alstyne, M. W. (2005). Two-sided network effects: A theory of information product design. *Management Science*, 51(10), 1494-1504.
- Powell, E. E., & Baker, T. (2014). It's what you make of it: Founder identity and enacting strategic responses to adversity. *Academy of Management Journal*, 57(5), 1406-1433.

- Reuters (Producer). (2014). 'Nanodegrees' turn out computer programmers in just 6 months: Udacity CEO. Retrieved from <https://www.reuters.com/video/2014/07/03/nanodegrees-turn-out-computer-programmer?videoId=316862729>
- Rindova, V. P., & Kotha, S. (2001). Continuous “morphing”: Competing through dynamic capabilities, form, and function. *Academy of Management Journal*, 44(6), 1263-1280.
- Rochet, J. C., & Tirole, J. (2003). Platform competition in two-sided markets. *Journal of the european economic association*, 1(4), 990-1029.
- Rochet, J. C., & Tirole, J. (2006). Two-sided markets: a progress report. *The RAND Journal of Economics*, 37(3), 645-667.
- Rosenthal, S., & Rachleff, A. (2011). OpenTable: Stanford Graduate School of Business.
- Schilling, M. A. (2002). Technology success and failure in winner-take-all markets: The impact of learning orientation, timing, and network externalities. *Academy of Management Journal*, 45(2), 387-398.
- Shapiro, C., & Varian, H. R. (1998). *Information rules: a strategic guide to the network economy*: Harvard Business Press.
- Sommer, S. C., Loch, C. H., & Dong, J. (2009). Managing complexity and unforeseeable uncertainty in startup companies: An empirical study. *Organization science*, 20(1), 118-133.
- Sull, D., & Eisenhardt, K. M. (2015). *Simple rules: How to thrive in a complex world*: Houghton Mifflin Harcourt.
- Teixeira, T., & Brown, M. (2016a). Airbnb, Etsy, Uber: Acquiring the First Thousand Customers. *Harvard Business School Case*, 9-516.
- Teixeira, T., & Brown, M. (2016b). Airbnb, Etsy, Uber: growing from one thousand to one million customers. *Harvard Business School. Business Research for Business Leaders. Harvard Business School Case*, 516-108.
- Thompson, D. (2013). Airbnb CEO Brian Chesky on Building a Company and Starting a 'Sharing' Revolution. Retrieved from <https://www.theatlantic.com/business/archive/2013/08/airbnb-ceo-brian-chesky-on-building-a-company-and-starting-a-sharing-revolution/278635/>
- Vella, M., & Bradley, R. (2012). Airbnb CEO: "Grow fast, but not too fast". Retrieved from <http://fortune.com/2012/07/18/airbnb-ceo-grow-fast-but-not-too-fast%E2%80%A8/>
- Wade, J. (1995). Dynamics of organizational communities and technological bandwagons: An empirical investigation of community evolution in the microprocessor market. *Strategic management journal*, 16(S1), 111-133.
- Zhu, F., & Iansiti, M. (2012). Entry into platform-based markets. *Strategic management journal*, 33(1), 88-106.
- Zuzul, T., & Tripsas, M. (2018). Founder identity and firm flexibility in nascent industries. *Working paper*.

TABLES AND FIGURES

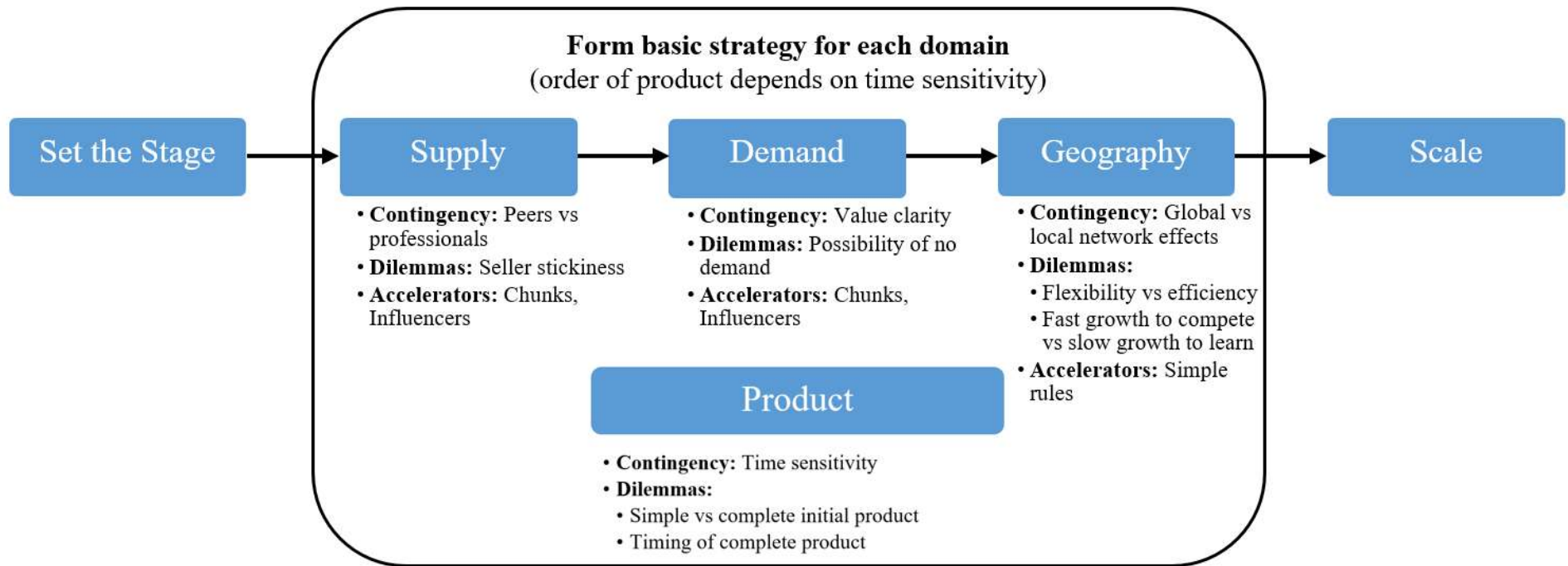


Figure 1: Two-sided Market Strategy Formation Process

Table 1: Description of Sample and Data

Firm	Founding Year	Founding Location	Number of Founders	Description	# /Waves Primary Interviews	# of Secondary Interviews	Number of Articles	Sample Sources
Airbnb	2007	San Francisco	3	Connects hosts and guests for accommodations	2	19	432	The Atlantic, New York Times, TechCrunch
HomeChef	2012	San Francisco	2	Connects hosts and guests of food events	4 waves	4	52	Hindustan Times, India Today, CNN, Huffington Post
EasyPark	2013	Boston	1	Connects drivers and owners of parking spots	4 waves	5	24	Boston Magazine, TechCrunch
Lyft	2012	San Francisco	2	Connects drivers and riders	2	18	644	Business Insider, Inc. Magazine, Pando
OpenTable	1998	San Francisco & Chicago	2	Connects restaurants and diners	0	8	181	Doejo, Eater, Forbes, TechCrunch
QuickPaint	2013	New York City	3	Connects painters and customers	4 waves	6	27	Fortune, Huffington Post, TechCrunch
Etsy	2005	New York City	4	Connects crafts makers and customers	1	5	184	The Guardian, Venturebeat, Inc. Magazine, Quora
Udacity	2011	San Francisco	3	Connects teachers and students	2	12	449	Fast Company, Inside Higher Ed, Reuters

Table 2: Supply Domain

Firm	Sellers	Difficulty of Learning	Professionals v. Peers	Set the Stage	Chunks	Seller Stickiness
Airbnb	Lodging hosts	High	Peers	<i>Demand:</i> Convention-goers <i>Product:</i> Basic website <i>Geography:</i> San Francisco	Craigslist	N/A
HomeChef	Food event hosts	High	Peers	<i>Demand:</i> Friends and family <i>Product:</i> Simple website <i>Geography:</i> Several Asian cities	None	Facebook community engagement
EasyPark	Parking spot owners	Moderate	Peers	<i>Demand:</i> Any driver <i>Product:</i> Online platform <i>Geography:</i> Familiar east coast cities	Churches	None
Lyft	Drivers	Moderate	Peers	<i>Demand:</i> Invited beta testers <i>Product:</i> Online platform <i>Geography:</i> San Francisco	TaskRabbit drivers Later Craigslist	Hourly pay, especially for peak hours
OpenTable	Restaurants	Low	Professionals	<i>Demand:</i> Sellers' customers <i>Product:</i> Reservation mgmt. system & website <i>Geography:</i> San Francisco and Chicago	Influencers	Platform value for ongoing restaurant businesses
QuickPaint	Painters	Low	Professionals	<i>Demand:</i> Customers from prior business <i>Product:</i> Quote algorithm & simple website <i>Geography:</i> New York City	Craigslist	Platform value for ongoing painting businesses
Etsy	Makers	Low	Professionals	<i>Demand:</i> Existing sellers' customers <i>Product:</i> Online platform <i>Geography:</i> North America	Influencers	Platform value, offline tools (e.g. Seller's handbook) for ongoing crafts business
Udacity	Teachers	Low	Professionals	<i>Demand:</i> Stanford U. students <i>Product:</i> Home video of course on YouTube <i>Geography:</i> Anywhere	Influencers	Personal impact, mission of higher education for all

Table 3: Demand Domain

Firm	Buyers	Difficulty of Learning	Value Clarity	Substitutes	Chunks	Channels
Airbnb	All travelers	Low	High	Hotels, Vacation rentals	Craigslist	Content marketing
HomeChef	All travelers, especially interested in cultural experiences	High	Moderate	Restaurants	Tour operators	Content marketing, Direct sales (partnerships)
EasyPark	All drivers	Low	High	Public parking	None	Word of mouth
Lyft	All riders	Low	High	Taxis	None	Word of mouth
OpenTable	All diners	Low	High	Phone reservations	None	Through sellers, Word of mouth
QuickPaint	Homeowners (failed), Contractors, bldg. owners, etc.	High	Low	Craigslist, Direct contact	Founders' existing cleaning business	Direct sales, Partnerships
Etsy	Anyone buying handmade crafts	Low	High	Craft shows, eBay	Other Etsy sellers and existing customers	Through sellers, Word of mouth
Udacity	Students (failed), Working professionals	High	Low	University classes (failed), Job-skills training	None	Content marketing

APPENDIX A: Firm Growth Patterns

