Decision Weaving:
Effective Strategy Formation in Entrepreneurial Settings

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ABSTRACT:

Strategy formation is central to why some firms succeed in entrepreneurial settings while others do not. Prior research suggests that executives effectively form strategies by acting to learn about novel opportunities, and thinking to develop a holistic understanding of the complex set of activities that must fit together in a strategy. But it remains unclear how effective strategists actually combine these processes. So, we ask: How do executives effectively form strategies in entrepreneurial settings? Given limited theory and research, we use theory-building case methods to take a rare look at how 3 matched pairs of firms in distinct two-sided markets attempt to form strategies. Our key contribution is a novel and effective strategy formation process: Decision weaving. Decision weaving is two-pronged: Executives use sequential focus to intensely figure out strategy in a focal domain and then move to a new one at a learning plateau. Simultaneously, they use easy and low-resource stepping stones both to advance progress in background domains and to maintain a holistic view. Broadly, we add to the organizational learning, managerial cognition, and strategy formation literatures. Overall, we contribute a portrait of a cognitively sophisticated, yet realistic strategist.

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In 2007, Brian Chesky and Joe Gebbia hosted three strangers who were attending a design convention in pricey San Francisco. The friends provided air mattresses and breakfast in return for much needed cash (Tame 2011). From this successful exchange, Chesky and Gebbia recognized a promising opportunity to connect hosts and travelers. But while Airbnb is now a global star, spotting the original opportunity was a long way from forming a successful strategy. The founders had to figure out the set of interdependent activities linking travelers, hosts, services and locations that would ultimately form the Airbnb strategy. It took about three years before they finally formed the strategy that launched Airbnb’s runaway success (Hempel 2012).

As the Airbnb vignette suggests, strategy formation is central to understanding why some firms succeed in entrepreneurial settings 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 entrepreneurial firms (i.e., new firms competing in nascent or unpredictable markets) and of established firms competing in these markets or with innovation-driven strategies. Yet, despite the relevance of strategy formation in entrepreneurial settings, the process remains unclear. Is it best to create strategy by taking actions and learning from experience (Baker and Nelson 2005, Bingham and Eisenhardt 2011)? Or is it better to create a holistic mental conceptualization of the interdependent activities that constitute a strategy (Gary and Wood 2011, Rindova et al. 2012)?

At its core, this dichotomy between doing and thinking arises from the tension between the novelty of the opportunity and the complexity of the underlying set of activities that must work together (Ott et al. 2017). On the one hand, effective strategy formation is about doing something different from others and from what has been done before – something novel. But this novelty limits executives’ ability to predict the consequences of their actions, and so puts a premium on taking actions and learning (strategizing by doing) (Baker and Nelson 2005, Bingham and Eisenhardt 2011, Rindova and Kotha 2001). While this approach has cognitive aspects, it emphasizes action, and uses experiential processes like trial-and-error (Bingham and Eisenhardt 2011), bricolage (Baker and Nelson 2005) and experimentation (Miner et al. 2001). By engaging in action, executives can form an emergent strategy that
fits a novel opportunity.

On the other hand, effective strategy formation is also about combining many activities – relating to customers, suppliers, logistics and so forth – into a complex system (i.e., numerous distinct yet connected elements) that works (Porter 1996, Siggelkow 2002). This puts a premium on holistic understanding with a relatively complete mental model of the strategy and its causal logic (strategizing by thinking) (Gary and Wood 2011, Ozcan and Eisenhardt 2009). Here executives develop holistic mental representations (Ozcan and Eisenhardt 2009) that are often shaped by analogies (Rindova and Kotha 2001), identity (Raffaelli et al. 2016, Zuzul and Tripsas 2017), economic insights (Hannah and Eisenhardt 2017), and personal values (Powell and Baker, 2014). These high-level “blueprints” indicate how activities might fit together, and guide formation of a coherent strategy.

Some research on strategy formation describes how executives combine strategizing by both doing and thinking. For example, some work argues that executives use holistic representations to guide strategy formation at the outset, and then engage in action (Gavetti et al. 2005, Gavetti and Levinthal 2000). For example, Siggelkow (2002) describes how the founder of Vanguard began with a holistic strategic blueprint that emphasized core elements like low-cost, and then elaborated those elements with activities and added elements over time. Similarly, Ozcan and Eisenhardt (2009) describe how executives who effectively formed strategy in the nascent mobile gaming industry began by conceptualizing a holistic blueprint of the industry architecture. They then experimented to fill gaps in their understanding of appropriate game genres and software platforms. In contrast, other work finds that executives begin by acting, and then create holistic representations. For example, Reymen et al. (2015) describes how entrepreneurs initially favored actions like effectuation, and then developed overall plans. Similarly, Gavetti and Rivkin (2007) describe how Lycos executives began forming strategy by emphasizing local search, and then used holistic representations such as an analogy to media companies.

Taken together, prior work on strategy formation suggests the relevance of both action and holistic understanding. Indeed, executives may combine them - acting to learn about novel opportunities in entrepreneurial settings, while also conceptualizing holistic representations that fit complex systems of
activities together (Gavetti and Rivkin 2007, Rindova et al. 2012). But, it is not yet obvious how executives actually do so. Moreover, much of the extant literature is descriptive, and so leaves open performance, an issue at the heart of strategy. So we ask: *how do executives effectively form strategy in entrepreneurial settings?*

To explore this question, we conduct a multiple-case, inductive study (Eisenhardt 1989) of 6 ventures (i.e., young, privately-owned, and professionally funded firms). While strategy formation in entrepreneurial settings occurs in both new and established firms, we focus on ventures because their strategy formation process is likely to be particularly transparent and critical. Using four waves of field work, real-time data, and archival records, we closely track strategy formation from founding until performance became clear, about four years later. We split the ventures into 3 pairs – each pair began at about the same time with similar teams and resources in similar nascent two-sided markets. This “racing” design provides an unusually close comparison of strategy formation in multiple firms. Each venture began with a promising opportunity, but only some effectively formed a strategy, survived and grew.

We contribute at the nexus of strategy, organizational learning and managerial cognition. Our core insight is a novel and effective strategy formation process: *Decision weaving.* This emergent framework describes how cognitively nuanced executives use both action and holistic understanding to form strategy in entrepreneurial settings while others do not. Decision weaving is two-pronged. Executives use *sequential focus* to split strategy formation into natural domains (i.e., modules). They then form domain strategies (using both doing and thinking) until they reach “good enough” *learning plateaus* (but not optima). Simultaneously, executives add low-resource activities via *stepping stones* that both advance strategy in background domains, and create a holistic understanding across domains and over time. Broadly, we add insights to the organizational learning, managerial cognition, and strategy formation literatures. Overall, we contribute to strategy by moving beyond bounded rationality and local search to paint a portrait of a cognitively sophisticated yet realistic strategist.

**THEORETICAL BACKGROUND**

Several research streams provide insights into strategy formation. One stream, *organizational*
Learning, focuses on the experiential processes by which executives “strategize by doing,” like bricolage, trial-and-error, and experimentation. These processes put a premium on action by using the resources at hand (Baker and Nelson 2005) and learning from experience (Bingham and Eisenhardt 2011, Miner et al. 2001).

One emphasis is on how executives form strategy with minimal resources. That is, they form strategy with an experiential (not predictive) approach that centers on making do with the resources at hand (Reymen et al. 2015, Sarasvathy 2001). This approach implies a creative understanding of resources, often re-imagining their uses. For instance, Baker and Nelson (2005) study how 29 resource-constrained entrepreneurial firms “create something from nothing” by engaging in bricolage. A central insight is that entrepreneurs, who continuously bricolage, rarely form a strategy. In contrast, those who begin with bricolage, but then focus their attention on a promising opportunity may succeed. For example, a farmer reimagined nuisance methane from coal mines as a heat source, and then formed an effective strategy for an ultimately successful greenhouse-vegetable business (Baker and Nelson 2005).

Another emphasis is learning from experience through processes like experimentation (Miner et al. 2001), trial-and-error (Bingham et al. 2007) and improvisation (Baker et al. 2003). Core to their effectiveness for strategy formation is codifying emergent insights into semi-structures like “simple rules” heuristics (Bingham et al. 2007). For instance, Bingham and colleagues (2007) study 12 ventures in order to understand how their trial-and-error experience influenced whether these entrepreneurs formed effective strategies. They find that experience per se does not lead to an effective strategy. Rather, only those entrepreneurs who consolidated their experience into simple rules gained from their experience.

Research on problem solving adds further insight by examining the effectiveness of patterns of experience. When a problem is nearly decomposable, breaking it into modules and separately forming solutions for them is effective (Baldwin and Clark 2000). When a problem is simple (i.e., composed of few elements), it can be solved all at once. But when a problem is novel and complex (i.e., composed of

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1 We include problem solving research with organizational learning because they are complements that emphasize action. Problem solving focuses on how to organize a firm’s experiences to form strategy (e.g., modular pieces v. entire strategy). Organizational learning focuses on learning processes like experimentation and trial-and-error to gain insights from those experiences.
numerous, interdependent parts) such as strategy formation, it becomes unclear how best to organize action. Acting on the interdependent pieces at once and trying to keep the entire strategy in mind likely yields a sub-optimal solution with an ensuing error catastrophe that makes learning difficult or even impossible (i.e., too many interconnected parts are changing at once). But, organizing action around modules can create ineffective oscillation among solutions to make the pieces fit (Mihm et al. 2003). Recent work using NK simulation shows that solving a large and important piece first, and then adding pieces (i.e., chunky search) may provide some resolution to this dilemma (Baumann and Siggelkow 2013). But chunky search is relatively slow, a key drawback in entrepreneurial settings.

Taken together, this work within organizational learning suggests that “strategizing by doing” enables executives to act quickly with few resources and to learn about novel opportunities in entrepreneurial settings. When executives consolidate their experience into semi-structures such as through selective bricolage (Baker and Nelson 2005) and simple rules (Bingham and Eisenhardt 2011), these processes are particularly effective. Yet, it remains unclear how executives should organize their experiences (e.g., individual strategy domains v. entire strategy at once) to form a strategy.

A second stream, managerial cognition, complements the first by focusing on forming a holistic understanding of strategy or “strategizing by thinking”. This understanding becomes a “blueprint” for conceptualizing the interlocking activities that comprise a strategy. Executives with more complete and accurate “blueprints” of their strategy are typically successful (Gary and Wood 2011, Rindova et al. 2012, Santos and Eisenhardt 2009). Finally, mental models such as from analogies, personal values, and identity can be particularly useful guides for providing this holistic understanding (Gavetti et al. 2005).

Some work emphasizes forming holistic understanding by planning. For instance, Delmar and Shane (2003) show that strategic plans decrease the likelihood of venture failure. Other work emphasizes understanding underlying economics. For example, in their study of strategy formation in the nascent residential solar industry, Hannah and Eisenhardt (2017) indicate that executives with a more complete understanding of ecosystem economics formed more effective strategies. Most work however, emphasizes holistic mental representations in the form of mental models (Kiss and Barr 2015, Marcel et
al. 2010). For example, Ozcan & Eisenhardt (2009) use an inductive multiple case-study of six
entrepreneurial game publishers to explore how entrepreneurs formed their strategy in the nascent U.S.
wireless gaming sector. They find that executives who formed successful strategies began by
conceptualizing an industry architecture that gave them a mental model for their own strategy. By
contrast, executives without such a view took myopic actions and formed less successful strategies.

There are several sources of mental models including analogies (Gregoire et al. 2010), identity
(Raffaelli et al. 2016, Zuzul and Tripsas 2017), and personal values (Fauchart and Gruber 2011, Powell
and Baker 2014). For example, Rindova and Kotha (2001) point to an analogy to media companies that
seeded a new mental model for Yahoo’s senior executives while Hannah and Eisenhardt (2017) find that
the personal values of executives at a residential solar firm around combating climate change provided a
mental model that shaped their strategy. Research on managerial cognition adds support for the
advantages of “strategizing by thinking”. Individuals with more complete mental models of the “deep
structure” and “causal logic” of their businesses form more effective strategies (Gary and Wood 2011)
and respond to market changes with a more diverse set of appropriate strategies (Kiss and Barr 2015).

Taken together, this work within managerial cognition on “strategizing by thinking” indicates that
executives use holistic mental representations that form high-level “blueprints” to shed light on how the
pieces of strategy might fit together (e.g. Ozcan and Eisenhardt 2009, Powell and Baker 2014). These
holistic representations come from varied sources such as planning, analogies, and identity. Moreover,
executives who use multiple or temporary representations are more likely to form more accurate
representations (Gavetti et al. 2005). When these representations accurately capture the deep structure of
the situation, they likely lead to more effective strategies (Gary and Wood 2011).

A third stream on strategy formation bridges the first two, and describes how executives combine
doing to learn about a novel opportunity and thinking to conceptualize a holistic understanding that forms
strategy (strategizing by doing and thinking). Some work describes how executives use holistic
representations to guide initial strategy formation (thinking), and then engage in action to search for a
strategy (doing). For example Gavetti and colleagues (Gavetti et al. 2005, Gavetti and Levinthal 2000)
use NK simulation to show that simulated strategists, who begin their “search” for a strategy with a holistic “map”, outperform those strategists who simply act via local search, particularly if they use the map temporarily and there is high interconnection among strategic domains. Similarly, Siggelkow (2002) describes how John Bogle began with a holistic strategic blueprint of five core elements like low cost when he spun out Vanguard. The author then presents discrete maps of Vanguard’s activities at 4 points in time during the firm’s evolution over two-plus decades. These maps show how Vanguard executives elaborated these elements (and “patched” two new ones) by “thickening” them (i.e., adding new, inter-connected activities around them).

Other work finds that executives begin by acting, and then form a holistic representation. For example, Reymen et al. (2015) observe that entrepreneurs began by engaging in effectuation (doing), and then moved to overall planning (thinking). Similarly, Gavetti & Rivkin (2007) describe how Lycos executives began strategy formation by first engaging in local search (doing), and then interleaving holistic representations including elements of personal identity, organizational identity, and analogy to media companies (thinking). Later, these executives also viewed strategy from a competitive positioning lens. In a historical case study, Gavetti and Menon (2016) use three theoretical lenses (i.e., evolutionary, cognitive, economic) to describe how Charles Merrill formed strategy at Merrill Lynch. He used an analogy to the grocery industry, understanding of the economics of the grocery business, and experience prior to starting the firm to form the strategy of this investment leader.

Taken together, the “strategizing by doing and thinking” stream indicates that executives rely on both action and holistic understanding to form strategy. While very promising, this stream has yet to reveal a clear normative understanding of the strategy formation process. Some work begins with existing theoretical lenses (e.g., evolutionary theory, effectuation) that limit the emergence of novel and potentially more valid theory. The case-based work is often descriptive, and so neglects the performance issue at the core of strategy. Finally, both the simulation and historical case work are often somewhat distant from what executives are actually doing and thinking. So, while this work is helpful, it leaves open the opportunity to provide a better understanding of how executives effectively form strategy.
In sum, organizational learning (doing) emphasizes forming strategy by taking actions to learn about novel opportunities. Managerial cognition (thinking) emphasizes forming strategy with a holistic mental representation of the complex set of activities that must mesh. “Strategizing by doing and thinking” is a promising synthesis, but it has yet to settle fully on how executives combine learning and thinking to form strategy effectively. Overall, despite the importance of understanding how executives in entrepreneurial settings move from a promising opportunity to a strategy, it remains unclear how executives effectively form strategies. We address this gap with a theory-building study.

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 et al. 2016). We use multiple cases (and related replication logic) which improve the likelihood of accurate, reliable theory relative to single cases for which incorrect abstraction and over-determined theory are more likely (Eisenhardt 1991). We use an embedded design with multiple units of analysis (e.g., strategic decision, strategic domain, firm) which helps to ensure richer, more accurate theory building (Yin 2013).

Our setting is ventures (i.e., privately-owned, professionally-funded young firms), consistent with many studies of strategy formation (e.g., Gavetti and Rivkin (2007), Bingham and Eisenhardt (2011), and Zuzul and Tripsas (2017)). Ventures are a useful setting for several reasons. First, since ventures are small, they often have more transparent strategy formation processes which are easier to study than those in large firms. Also by studying ventures from founding as we do, we can avoid left-censoring and improve causal inference. Second, ventures are often resource-constrained with very uncertain survival, making our focal interest, strategy formation, urgent and important. Third, ventures often operate in entrepreneurial settings, a focus of our study.

Our research sample is 6 ventures (Table 1). We used theoretical sampling to choose ventures that fulfilled two criteria. First, we selected early-stage ventures (i.e., Seed or Series A financing) which helps

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2 Thanks to a reviewer for suggesting clarification of our choice of ventures, not established firms, to study strategy formation.
to ensure that a venture had a promising opportunity, but still lacked a well-formed strategy. Professional investment also helps to control for the quality of the team and initial resources. Second, we selected ventures that addressed a two-sided market with a geographic component. Popular examples are Airbnb, RelayRides, and TaskRabbit. Ventures in these markets are attractive for our study because they require novel and complex strategies to cope with multiple, interdependent domains (i.e. suppliers, buyers, geographic areas, product platforms). Two-sided markets are also an increasingly common and important economic setting. Third, we selected ventures that were founded in about 2012 to ensure similar age and macro-economic conditions.

The 6 ventures consist of 3 matched pairs. Each pair addresses a distinct market (i.e., culinary experiences, home services, and parking) with distinct marketplace challenges such as: difficulty of scaling supply (high for parking, low for home services), importance of vetting supply (high for home services, low for parking), platform sophistication (high for home services, low for culinary), and time immediacy of demand (high for parking, low for culinary). Sampling across markets adds to the generalizability of our theory (Eisenhardt and Ott 2017).

The pairs also fortuitously have well-matched founding teams, including similar team size, age, startup experience, education, and CEO gender. For instance, both culinary ventures were founded by two people in their early thirties, with no startup experience, and with female CEOs who had recent MBAs from elite programs. Well-matched pairs sharpen within-pair comparison regarding the focal phenomenon (i.e., strategy formation) which yields more accurate theory while helping to rule out alternative explanations like team characteristics that are not of theoretical interest (Eisenhardt and Ott 2017).

Finally, variation across pairs (e.g., founding team’s entrepreneurial experience, marketplace) enables replication under different conditions and so enhances the generalizability of our emergent theory. A fortuitous turnaround by one venture, GoodParking, further sharpens causality.

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3 We appreciate a reviewer’s advice to indicate how our sample systematically varies vis a vis key characteristics of two-sided markets such as ease of scaling supply and repeatable demand. This variation contributes to the generalizability of our emergent framework.

4 We appreciate our reviewers’ advice to address controls (notably with matched pairs and a turnaround case) in order to strengthen our emergent framework re alternative explanations. We also have two additional cases that we do not report because they are not well-matched with other cases and because omitting them enables more evidence per case which our reviewers also requested. These cases also support decision weaving.
Data Collection

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 measures (Jick 1979). We began by collecting archival material on each firm. We used LexisNexis and Factivia 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 4 years. This provides a more accurate tracking of strategy formation as it unfolds than a single wave or short time period. 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 ventures. In the initial interview, we asked informants about their background and role. We then asked informants to tell the history of the firm since founding with a focus on key decisions (including ones considered but not taken) and unfolding actions. We then 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 (Table 2).

We took steps to address data reliability and validity. First, we began data collection before outcomes were known, thus limiting retrospective sense-making. We further reduced retrospective bias by collecting data over time (four waves, four to five years). Combining retrospective and real-time data increases both external validity and accuracy (by increasing the number of observations that ground the theory) and internal validity (by seeing events as they unfold) (Leonard-Barton 1990). Second, we structured the interviews to gather open-ended narratives, and compiled firm histories using nondirective
questioning that focused on events as noted above. This limits demand on informants. Third, we interviewed multiple individuals in each firm – i.e., those most involved in strategy formation. This provides a more complete and accurate picture than a single informant. Fourth, we triangulated our data with several sources such as media. Finally, anonymity enabled our informants to speak openly. This combination of steps, including collecting data from multiple sources at multiple times, leads to richer and more reliable theory (Miller et al. 1997).

**Data Analysis**

Following a typical approach for theory-building from multiple cases (Eisenhardt 1989, Eisenhardt et al. 2016), we began analysis by preparing detailed case histories for each firm. We triangulated data from multiple informants and sources. The histories are between 50 and 70 pages. We analyzed each case broadly and 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 the analysis 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 (Mintzberg et al. 1976), we defined a strategic decision as a choice that was important in terms of the resources committed or precedents set. This broad definition enabled focus on strategy formation without restricting our lens. 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 and Graebner
We used tables, charts, and other devices to enhance this comparison (Miles and 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 between theory and data allowed us to fine tune construct definitions and enrich the generalizability of the theoretical arguments (Eisenhardt and Graebner 2007). As our theory clarified, we added comparisons to related literature such as in cognitive science to sharpen constructs, relationships among them, and logic of the theoretical arguments.

Effective strategy formation

Our research question asks: How do executives effectively form strategy in entrepreneurial settings? As noted above and consistent with prior research (e.g., Porter 1996), we define strategy formation as the process by which executives create the unique set of interdependent activities through which the firm creates and captures value. We measure the effective strategy formation at the end of our study (mid-2017) in three ways: Strategy formation (i.e., degree to which firm formed a complete strategy- i.e., stable strategic activities in all four strategic domains), Strategy effectiveness (i.e., degree to which the firm achieved high performance with that firm strategy), and Strategy problems (i.e., degree to which strategy formation process had identifiable problems that limited effectiveness). These measures highly converged within each firm (Table 3).

First, we assessed Strategy formation as our informants did - i.e., degree to which firm had stable activities in each of the four strategic domains described earlier. Specifically, we used interview and archival data to assess strategy formation in terms of progress on a achieving a stable set of domain activities using a 3-point scale: High” – i.e., a stable set of multiple activities such that the domain is not a bottleneck to firm growth (2), “Moderate” – i.e., some stable or at least temporary activities, but the domain is incomplete and an impediment to growth (e.g., rough website that works but does not scale) (1), and “Low” – i.e., few or no stable activities (0) (Appendix A for specific measures, Table 3 for each

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5 We appreciate the reviewers’ advice to refine our outcome, strategy formation effectiveness. It relies on triangulated objective and subjective measures of intermediate and final outcomes, based in how informants understood strategy formation and conceptualized its effectiveness. It uses common outcome measures for ventures like survival and growth. It exhibits high convergent validity with all measures strongly converging for each firm. It also starkly contrasts across firms with more and less effective strategy formation.
firm). We then sum across domains. Following others (Siggelkow 2002), we also summarize *Strategy formation* in final strategic activities maps (Appendix B). We add process summaries (Appendix C).

Second, we assessed *Strategy effectiveness* using several *objective* measures of firm performance. *Survival* is an ultimate indicator of strategy formation effectiveness that we measured by (1) whether the firm existed throughout 2017. *Growth* is also an ultimate indicator of strategy formation effectiveness that is appropriate for several reasons. Growth is particularly relevant as it is the primary metric by which analysts, investors, and executives gauged performance in our study. It goes beyond simply survival. Second, growth is a performance variable that is particularly relevant across industries, and is often an antecedent to other performance measures such as profitability (Ahlstrom 2010, Eberhart et al. 2017). Third, growth is particularly germane to ventures because it captures whether the venture is gaining traction with its strategy, and for that reason is often used to assess venture performance (e.g. Baum and Bird 2010, Eisenhardt and Schoonhoven 1990). Finally and as typical of ventures, since financial measures such as profitability are often not available, we use operating measures. We measure growth by (2) available measures of growth such as number of locations in which the firm has a stable operating presence and bookings growth. We also measure *Strategy effectiveness* using *subjective* measures of firm performance: typical quotes from (3) internal informants, and (4) external informants such as media.

Third, we assessed *Strategy problems* by measuring issues that impeded strategy formation, and thus is a negative measure that complements the positive measures. Specifically, we measured four problems that emerged from our interview and archival data: (1) *Domain conflicts* - situations in which the decisions made in different domains are at odds (e.g., marketing decision decreases supply); (2) *Unplanned delays* - situations in which executives had to stop progress unexpectedly in one domain because of problems in another (e.g., city launch delayed by platform problems); (3) *Unbalanced domains* - situations in which one domain is growing faster than another can accommodate (e.g., too many buyers for the number of sellers); and (4) *Revisited decisions* - situations in which executives had to unwind one or more past decisions. We then counted the number of problems for each firm. As noted above, the three measures for strategy formation effectiveness converged highly within each firm (Table 3).
There is substantial variation in effective strategy formation within pairs and across firms (Table 3, Appendix A-C). Firms, like MasterChef and PaintPro, were very effective: high progress in strategy formation in all domains, strategy effectiveness (both survival and growth), and few strategy problems. For example, MasterChef formed a complete strategy with high firm performance and few problems. The firm dominates Asia, operates in over 60 locations, is expanding to Europe, was hailed as the “Next generation of culinary tourism” by a major publication, and is profitable. Similarly, PaintPro formed a complete strategy, has survived and is growing, and had few strategy problems. It now successfully operates in 10 U.S. cities with rapidly increasing bookings (400% growth). For example, a VC enthused, “We’re excited to see the growth.” GoodParking is a fortuitous turnaround (described later) that bolsters causality. It has moderate strategy formation effectiveness, dominates its local market, doubled its transactions last year, and is expanding to new cities. A TV network termed GoodParking as “on fire.”

In striking contrast, none of the paired firms, HellsKitchen, LastRequest, and BlindSpot, survived. Despite similar opportunities, founding teams, and resources, these firms made little progress on forming strategy, were plagued by strategy formation problems, and failed (Table 1). For example, HellsKitchen’s CEO wrote her firm’s obituary, “[Co-founder] and I, and the rest of the team gave it our all…Sadly now it's time to say goodbye,” We turn now to our emergent theoretical framework for effective strategy formation that attempts to explain these substantial differences.⁶

**EMERGENT FRAMEWORK FOR EFFECTIVE STRATEGY FORMATION**

When forming strategy in entrepreneurial settings, executives face the tension between doing and thinking that arises from the novelty of the opportunity and complexity of the diverse activities that must mesh to capture that opportunity. Thus, strategy formation is likely about both action – how executives form strategy by learning from experience - and about cognition – how executives form strategy by conceptualizing how diverse yet interdependent activities combine into a coherent whole. Yet, past research leaves open how executives effectively form strategy. Our theory-building study addresses this

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⁶ Our matched pairs design, turnaround case, and selection of Seed/ Series A ventures helps sharpen causality and control for alternative explanations. We further discuss generalizability, alternative explanations and boundary conditions in the Discussion.
gap. While we saw several approaches, executives who effectively formed strategy used what we term: decision weaving. We next describe the two facets of this emergent theoretical framework: sequential focus and stepping stones.

Attacking the Focal Domain: Sequential Focus

We define sequential focus as the process by which executives a) concentrate on forming strategy in a single focal domain, b) explicitly place other domains in the background, and c) move to the next domain at a learning plateau (“good enough”, not optimum) and repeat the process. We assessed that executives used sequential focus when 1) we observed at least three repetitions of the sequential focus pattern, 2) multiple executives confirmed attempting to learn about one focal domain while moving the rest to the background, and 3) multiple executives confirmed that, when they reached a learning plateau of a “good enough” set of activities for the focal domain, they moved to the next domain (Table 4).

Executives who followed sequential focus had more effective strategy formation, while other executives made little progress on their strategies, and ultimately failed.

MasterChef illustrates. The two founders were avid international travelers. Yet while they sought authentic travel experiences, they often had difficulty finding traditional food. This led them to speculate that there might be an opportunity for an online marketplace connecting Western travelers with Asian hosts who could offer authentic culinary experiences in their homes. So they started MasterChef.

As the founders began, it was difficult to know where to start forming their strategy. Should they figure out the technology platform, determine how to get hosts, market to travelers, or something else? They decided that hosts (supply) and travelers (demand) were the most critical bottlenecks to growth, and narrowed their choice. As one Co-CEO described,

“We started working on trying to figure out: hosts or travelers? It is a two sided marketplace...”

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7 We conduct a theory-building study, and so rely on the Theoretical Background to motivate our research question, but not to determine our emergent framework (unlike studies such as Gavetti & Menon (2016) which use extant theoretical lenses). We aim to answer our research question inductively, not to use extant theory or focus on tying research strands together. We appreciate a reviewer’s comments to clarify this.

8 Since we have multiple cases and page constraints, we present less evidence per case than single-cases, but provide similar total evidence. We use multiple cases because they are likely to yield more accurate, reliable and parsimonious theory than single cases (Eisenhardt and Graebner, 2007). As noted in Methods, we interviewed all individuals significantly involved in strategy formation at each firm, a small number given the early stage of these ventures. We balance quotes from a mix of informants to show depth of support while staying within page constraints. We appreciate a reviewer raising these issues.
we do need hosts and travelers to make this work.” (Co-CEO 1, MasterChef)

The executives ran through analogies to firms like Uber and Airbnb, and queried advisors who had worked at companies like Lyft and Expedia. A Co-CEO described their search,

“So in terms of the first growth strategy, we relied pretty heavily on our common sense but also asked advisors for advice from people at Airbnb and Lyft, and Uber and any kind of two sided market place we could find.” (Co-CEO 1, MasterChef)

Following the advice, the executives focused on hosts (supply): A top-notch host community was the key to a superb experience. Excellent hosts would then draw excellent reviews which, in turn, would add travelers (demand) and accelerate platform (product) improvement because excellent hosts would be motivated to give great feedback. Thus, the team focused on hosts, and consciously held back on other domains. As explained by both co-CEOs, they maintained this focus for about two years.

“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.” (Co-CEO 1, MasterChef)

“So we brought on a few hosts and... we spent two years in just those few countries really understanding what it is that they wanted.” (Co-CEO 2, MasterChef)

To learn about host activities like how to attract them and which hosts to use, the executives began by visiting friends in India. They went to potential hosts’ homes to develop relationships with them, learn their reasons for hosting, and understand the local culture. 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 has possible about [MasterChef] so they felt completely comfortable about belonging in our community.” (Co-CEO 2, MasterChef)

The executives initially assumed that low income women in rural villages would be their hosts, but they quickly learned that this would not work. As a Co-CEO explained,

“We thought we would give women in rural villages the opportunity to make money doing what they love. 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.” (Co-CEO 2, MasterChef)

So, they crystallized a simple rule: “Choose hosts who speak English and can access the Internet.” They also added activities around hosts like a host training program, and community building for hosts using Facebook plus MasterChef’s newsletter and blog. As one executive said,

“That’s the backbone of what we do, is have a great community of hosts. So we’re really trying to
build in ways to make this a valuable community for them. So, 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 get so happy when we say that we're featuring them, they're often the people who are commenting the most on our site.” (Co-CEO 1, MasterChef)

Simultaneously, the executives consciously moved the other domains like product and geography to the background. For example, they operated a barebones technology platform connecting hosts and travelers (product). As one executive said, they “hacked together a WordPress site” in a few days and manually booked meals. Similarly, they held back on recruiting travelers (demand) by relying on word of mouth. An executive said, “We haven’t spent much money on marketing yet.” (Co-CEO 1, MasterChef).

As the executives became able to find and train hosts quickly and effectively, they reached a plateau at which they further consolidated their learning into processes like training and added simple rules like “Choose strong storytellers” and “Pick great cooks - great food is a must”. They now understood the basic activities of hosts (supply), progress that an executive attributed to their singular focus on supply,

“Because we focused and tried to understand the cultural differences and all the things that could go wrong and that are wonderful experiences in Asia, we learned a ton.” (Co-CEO 2, MasterChef)

At this plateau, MasterChef executives switched their focus to the geographic domain: adding Asian locations beyond their initial few. Their aim was to “own the Asia market”. They began using trial-and-error to learn simple rules about favorable destinations: “Avoid partier locations like Phuket”, “Choose locations with authentic local culture like Ubud”, and “Skip places like Singapore (locals eat out) and Hong Kong (homes too small to entertain)”. They also learned a simple rule about when to stop adding hosts, “3-5 hosts are enough for critical mass in a location”, and a process for using volunteer ambassadors (copied from Yelp) to scale locations faster. These ambassadors received free meals in return for vetting possible hosts. After successfully adding 6 cities in about six weeks in early 2015, the executives had a sufficiently proven set of activities for adding cities (geography).

At this plateau (geography), the executives next put the technology platform (product) in the foreground while placing other domains (including geography) in the background. Their inability to scale their hacked manual platform for more transactions was the new bottleneck to resolve. A fully automated,
user-friendly technology platform (product) was essential. As one executive 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. Everything is like [co-founder] and I emailing and setting things up. And so building that into the technology so we can scale successfully is big.” (Co-CEO 1, MasterChef)

Yet the executives also noted that focusing earlier on the platform would have been a mistake because they did not know enough, especially about travelers. As one Co-CEO said,

“We were so glad that we didn't spend tens of thousands of dollars building something because we just didn't know right. What are the features that they navigate to, what are the things that they are having trouble with? We can't decide at stage 1 what travelers would need. Now that we're at a different stage where we are handling a lot more travelers, we realize that we have to automate a lot more about the website and the user experience. So we're now building another website... We're very glad that we postponed that decision to much later.” (Co-CEO 2, MasterChef)

The executives focused for the next six months on bringing the platform to life. At the same time, they pressed pause on the other domains (geography, supply, and demand). An executive noted,

“There's a lot of things that we’ve been holding the brakes on.... We're really hoping that [new platform] will allow us to drive more marketing campaigns and partnerships that would allow people to book instantly because it will automate the process that we couldn't afford to scale before. It's opening a door to us to start these partnerships that we've been holding off on.” (Co-CEO 1, MasterChef)

The executives launched their new technology platform in September 2015, but maintained their focus until it provided a seamless experience for travelers. They reached a plateau in a few months: platform was not a bottleneck but also not optimal – i.e., travelers’ user experience was superb but everything else was only “good enough”. As one executive described,

“You don't have to wait for the website to be perfect. As long as it works, then that's what matters. We wanted to make sure that it worked for travelers, and for everybody else we would work on updating it as time went by... We made sure that a traveler's booking would go through automatically. So Stripe worked, payment processing worked and pay out processing worked. Everything else that seemed a bit off, like if we didn’t have content on some of the pages or things weren't working well for the ambassadors and host applications, that was something that we continued to work on.” (Co-CEO 2, MasterChef)

Once the executives achieved this plateau (product), they moved the platform (product) to the background (e.g., making small tweaks over time). They switched their focal domain to adding travelers (demand). The executives recognized the importance of this new bottleneck,

“I don't think that we could get to 10X travelers or 100X travelers without really changing how we think about getting customers.” (Co-CEO 1, MasterChef)

“We started marketing at Q1 2016.” (Co-CEO 2, MasterChef)
Focusing on travelers (demand) involved experimentation with marketing channels. The first channel experiment, Google AdWords, failed. But it taught the executives to avoid competing directly with hotels and restaurants. One executive described this lesson,

“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. So what we were really looking for were the words like cooking class, rather than authentic experience or culinary experience because that's not really working. Cooking lessons, cooking class, local experience, things like that.” (Co-CEO 2, MasterChef)

By contrast, they did experiments with three channels that proved viable: partnerships with large travel companies, social media (especially Facebook), and content marketing through their newsletter and blog. They started consolidating their learning into simple rules for each channel. For instance, they created several rules for partnering: “Avoid small partners” because they lack scale and “Focus on relationship building” to get the attention of the big ones. On the latter, an executive said,

“It's really about relationship building... That was one of the big things that we learned. Having the face to face contact helped because I got the chance to really explain to them how we're different from everybody else. It really helped to get to know somebody who was managing the team so they could expedite some of our products.” (Co-CEO 2, MasterChef)

The executives reached a new learning plateau (demand), and now had a strategy with activities that worked across the four strategic domains. As our study ended, MasterChef had a dominant business in Asia, was profitable and accelerating growth via its new marketing channels (demand), new hosts in existing locations (supply), and expansion into Europe and South America (geography). 9 As one executive said,

“No that we've seen that we are in the top destinations in Asia, our goal is to expand to other regions.... because we were in Asia for the greater part of our existence, our big travel seasons end up being Q4 and Q1. We really wanted to regulate the physicality of travel and have experiences in Europe so that we could get spring and summer travel as well. So that's our big push this year is to really expand into different parts of Europe and also some parts of South America.” (Co-CEO 2, MasterChef)

A major media outlet summarized MasterChef as the “next generation of culinary tourism.”

Another example of sequential focus is PaintPro. Unlike the first-time entrepreneurs at

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9 Consistent with decision weaving, MasterChef (and other effective strategists) stopped pausing in domains and instead began to scale aggressively when they had reached learning plateaus in all 4 domains. This occurred for MasterChef as our study ended.
MasterChef, the PaintPro executives were successful founders of a two-sided market firm in cleaning services. They saw a similar opportunity for a two-sided market to connect homeowners (demand) with painters (supply) using a sophisticated online paint quote system (product). Like MasterChef, PaintPro’s strategy included four strategic domains: supply, demand, geography and product. Unlike MasterChef, they focused first on the product. Since the opportunity was providing unique value to consumers with consistent, accurate and transparent online quotes, executives saw the product as the first bottleneck to growth. As executives described,

“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. So what we did is…we used some basic assumptions: We were able to pull painter production rates, we were able to pull average room sizes, and we used them as plugins, to give customers a very general quote.” (CEO, PaintPro)

Although the executives kept the supply, demand, and geography domains in the background, they did recruit a few customers from their cleaning business and a few Craigslist painters to learn where the quote engine worked well v. made mistakes. As the CEO said,

“Customers would come to the site and get their quote, and we would then find a crew to go do the job. Based upon every job, we would really collect data and feedback about our quote. ‘Did we charge too much here?’ ‘Did we charge too little here?’ ‘What were variables that we did not account for?’ And we just continued to refine.” (CEO, PaintPro)

As they learned, they updated the quote engine (product) and added simple rules for the platform like “Never make the customer or painter pay for misquotes”. They eventually reached a plateau (not an optimum): The quote engine provided fairly accurate and transparent costs, but still kept much of the painting transaction manual. As the CTO said,

“I just boiled it down to, ‘Alright, let's give people a little bit of value,’ which is where we got the cost-estimator. And then, the rest of it was a form that didn't even go into a database, it just went straight to the customer service reps, and everything was done through e-mail.” (CTO, PaintPro)

At this plateau (product), the executives next shifted their focus to painters (supply). Based on their cleaning business experience, they expected that it would be difficult to recruit and train painters. Yet unlike both the cleaning business and MasterChef, adding supply at PaintPro was unexpectedly easy: Professional painters needed little training and the online platform added significant value to them.
because they could skip unproductive tasks like visiting potential jobs and bidding. The CEO recounted,

“We thought we would have more of a struggle getting crews to join than we have... What we really saw that we didn't anticipate on the supply side, was first, that what we were building was just such a huge benefit for the crews... and then as crews interacted and that kind of stuff, it spread amongst the (painter) community.” (CEO, PaintPro)

The executives also thoughtfully considered what makes for a stellar consumer paint experience. Based on their own experience as homeowners, they settled on two aspects: quality painting and pleasant interactions. Since they were not painters themselves, they were not sure how to judge quality painting. Luckily, one of the original Craigslist painters wanted to help. He developed a process for existing PaintPro painters to accompany potential painters on jobs to judge their quality. For pleasant interactions, an executive created an interview process that included being annoying in order to test a painter’s interpersonal skills. As the executives summarized their vetting process,

“Ensuring that the crews know what they're doing, so industry expertise, and then just having pleasant interactions, and we have a whole process for that. And once they're through the process, they got access to the system.” (CEO, PaintPro)

“Assuming they all do a good job... when the painter walks in and they're nice and they're courteous and they put people at ease when they're in their homes, it makes everything go much easier.” (COO, PaintPro)

With these processes and related simple rules, the executives reached a supply plateau that they termed being on “cruise control.” As the COO said,

“People just started coming to us. Painters started referring other painters. Paint stores started referring painters to us. [Major Paint Retailer] started sending us people, so we're at a point now where it's kind of on cruise control with that stuff.” (COO, PaintPro)

Consistent with sequential focus, the executives stopped adding painters at this plateau (supply), and switched their focus to customers as the new bottleneck (demand). The COO described this choice of a new bottleneck, “It’s really an easy discussion. What moves the revenue?” At first, the executives were naïve, thinking that everyone needed painting. As an executive noted,

“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 back then.” (COO, PaintPro)

The executives learned that most demand is non-recurring, and so customer acquisition is
ongoing. After a while, they realized that they needed to find repeatable demand. The COO observed,

“...one day we realized the business isn’t that repetitive. Customers don’t come back for a second or third. So every month, the slate’s wiped clean. You have to start over. So, we decided we were gonna look for more sustainable partnerships that would enable us to scale up quicker and have a base that we could rely on every month for revenue.” (COO, PaintPro)

While focused on demand, the executives explicitly moved the other domains to the background. They remained only in New York City (geography), and stopped adding painters (supply). For example, the CEO explained the supply pause, “We were able to say, ‘We’re gonna put you in a pipeline here, but we’re not gonna onboard you until our demand goes up a little bit.’” As the COO noted, they also remained with their sub-optimal platform that annoyingly required manual assistance (product),

“We could have a system that totally automates the operation and makes life easier on a lot of us but that would take time and resources away from marketing. Right now, we’re doing well operationally even though it’s a pain in our butts. But we want to shift. Our main focus is marketing and customer acquisition.” (CTO, PaintPro)

While focused on demand, the executives used experimentation and trial-and-error to learn that general contractors and office owners are major sources of recurring demand, and that a sales team is the key to building this demand. As the CEO said,

“We experimented by hiring a sales person, an outside sales rep who had painting industry experience to target these third party businesses representing the customer. We saw immediate success, actually success that was way beyond anything we had ever expected. Once we saw that we really weaved in. We’re approaching sales organization of nearly 20 people at this point, all that was built out of that one experiment.” (CEO, PaintPro)

With these insights, the executives reached a demand plateau such that they could start scaling NYC with their sales team process. At this plateau, they moved to a new focal domain, cities (geography).

“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? So, does this work in other cities? How much will it cost to launch another city? So that was like a big thing that we wanted to prove out.” (CEO, PaintPro)

With the executives now focused on geography, they entered San Francisco. Again they used trial-and-error to learn. For example, they learned how to select the size of the entry point. Since San Francisco is much less dense than NYC, they misjudged this size with an initial footprint that was too small. They also had to pause their geography focus, and segue briefly back to a product focus to upgrade their quote engine for San Francisco’s high percentage of standalone houses and exterior painting jobs. As
our study ended in 2017, PaintPro had figured out geographic expansion, and had a strategy with activities that worked for all four domains. Like MasterChef at a similar point of a complete strategy, they started scaling aggressively: Expanded successfully to 10 U.S. cities, served over 20,000 customers, were growing bookings at 400% per year, and raised substantial investment funding.

In contrast, HellsKitchen (paired w/MasterChef), LastRequest (paired w/PaintPro), and BlindSpot (paired w/GoodParking) did not engage in sequential focus. Instead, they overlapped domains with no distinction between foreground (focal) and background domains. They were distracted and chaotic, rarely gaining stable activities and traction in any strategic domain. HellsKitchen illustrates. These founders saw an opportunity much like MasterChef’s – i.e., connect guests with local hosts who would serve superb meals in their homes. Unlike MasterChef, these executives never focused on any one domain. Instead, they simultaneously devoted substantial resources and attention to multiple domains at once. For example, they devoted attention to supply like holding direct marketing events for potential hosts and forming relationships with food bloggers to publicize their hosts. They also emphasized demand. As the CEO said,

“You need one person to host, you need 8 people to eat for it to be viable for the host.” (CEO, HellsKitchen)

While figuring out supply and demand, they kept changing the product like adding big improvements to the platform and major new product ideas like private events. The CTO confirmed, “We've recently put out a feature on the site that lets you make events private, both for the guests and for the hosts.” This substantially changed host and guest interactions. These executives also began expanding beyond their launch city, Brussels. They opened their platform so that any host from anywhere could join. While they ended up with a good host or two in diverse locations like Costa Rica and Quebec, they lacked the time to develop simple rules for picking hosts and processes like host training, and to learn how to cater to guests in these very different locations.

Addressing multiple domains simultaneously meant that executives could not focus long enough to learn much in depth. MasterChef executives, who devoted almost two years to gaining experience with
hosts, learned processes and simple rules to scale hosts quickly and effectively. In contrast, HellsKitchen executives shifted resources from hosts to guests, to product, to geography, and back. They never reached a plateau where they could consolidate their understanding of any domain. Instead, they were constantly solving immediate problems in multiple domains. The CEO described this constant oscillation.

“I mean we check in every morning to see which events still need people for the event to get confirmed... It's a constant pendulum, it's just shifting back and forth....out of balance.” (CEO, HellsKitchen)

Lack of sequential focus created problems like conflicting activities across domains. For example, adding private events (product) weakened the tie of hosts (supply) and guests (demand) to HellsKitchen by encouraging guests to go directly to hosts and so skip HellsKitchen. As time went on, the executives were still trying to figure out stable activities. For example, the CEO in 2016 (4 years after founding) described the lack of progress on demand, saying, “We need to figure out where to focus our marketing efforts, or how we’re gonna speak about ourselves as a brand.” In 2017, HellsKitchen still lacked stable activities in the four strategic domains and failed.

Similarly, LastRequest (paired w/PaintPro) did not use sequential focus. LastRequest linked buyers of services like painting (demand) with providers (supply). Yet instead of sequential focus, the executives addressed all domains at once: they created a website (product) that let any buyer (demand) and any provider (supply) join in any of thirty two cities (geography). But, the website was unstable, there was too much demand for the supply, and there were constant problems with poor quality providers. Despite substantial financial resources (largest in our sample) based on the founders’ past success, the executives were over-whelmed and ran out of money. The firm failed.

Finally, a particularly insightful venture is GoodParking (paired w/BlindSpot) which began with sequential focus, strayed, and then returned to it. GoodParking’s founder saw an opportunity to solve parking problems in Boston by connecting drivers to owners of private spaces like driveways. These executives focused first on the platform (product) because they believed that a mobile platform could be a key differentiator. Yet before reaching a plateau where the platform (product) had the basic features that could reliably link drivers to open parking spots, the executives also began adding parking spot owners
(supply), marketing to drivers (demand), and planning an expansion to Chicago (geography). The founder was fixated on what he termed “get big fast”.

Unfortunately since the platform (product) was unstable and its basic design was flawed, technical problems emerged that needed immediate attention. As the product executive noted,

“The CEO had started with a development firm that didn't serve him well. So, part of the problem was product design, and part was just that the existing product was bug ridden, functionally incomplete and was causing him a lot of pain.” (Product executive, GoodParking)

Simultaneously, the executives were also spreading their attention and resources across too many domains, and became swamped. They ended up with a stream of technology problems which exasperated customers and soaked up time and resources. The executives spent the next six months improving the platform (product) while simultaneously coping with angry drivers (demand). Simultaneously, they had trouble keeping parking spot owners (supply) on the platform because of platform snafus and too few drivers.

Eventually, the executives returned to sequential focus by working only on the platform (product), and nothing else. As the CEO now recognized,

“The new platform is in development right now. I'm waiting (in the other domains) because there's no possible way that I see us scaling with the current app…. It just doesn't do what we need it to do.” (CEO, GoodParking)

By mid-2015, GoodParking reached a plateau (product). The platform still lacked some features, but it was reliable according to transaction metrics. The CEO described this plateau, “You see metrics and you see a plateau on a few things and that's when you know you're good.”

The executives continued sequential focus by putting parking spots (supply) in the foreground. They hired a few salespeople to call on residential and commercial prospects. By knocking on doors, they learned that community and commercial organizations like churches, schools, and grocery stores were major parking space owners that they could quickly onboard. As the executives elaborated,

“It was going after businesses but also churches, schools, non-profits, community centers, those kind of things. We're seeing...success with that, especially recently. That process is getting a lot easier for us, and it'll grow upon itself.” (Director of Marketing, GoodParking)

“We've found some really interesting organizations that we know are really open to this type of
stuff, like churches. The ones who do have parking lots. They’re only using them really one day a week…. They need to have money to operate and this creates another revenue stream. And then the retail operations we’ve also uncovered, like Burger Kings, CVSs... They’re also willing to uncover this revenue stream.” (CEO, GoodParking)

This supply success led the executives to explore other supply partnerships, including with a major car-sharing company. They also gained trial-and-error experience in working with these partners.

Consistent with sequential focus, they moved other domains to the background. They continued to pause city expansion (geography), relied only on word of mouth for drivers (demand), and manually intervened when platform issues arose (product). They maintained a supply focus through 2016, when they reached a plateau (not optimum) that would enable scaling. The CEO described,

“I’m 110% comfortable and confident about [our supply process], but I’m not comfortable with it at all, if you know what I mean. I know it works but if I knew it works with 110% accuracy then we’d probably be ringing the bell at the New York Stock Exchange. There's nothing's figured out with 100% certainty. We're just very confident with what we've proved out in Boston that we can deploy in other cities.” (CEO, GoodParking)

GoodParking then moved to focus on demand. As our study ended, GoodParking had figured out several strategic domains (supply, demand, and product), dominated its home market, had a major partnership with a large firm, was expanding to Chicago, and was being courted by investors. Its 2017 transactions more than doubled over 2016 while a TV network enthused, “GoodParking is catching fire.”

Sequential focus is effective for strategy formation for several reasons. First, sequential focus promotes fast and efficient learning by doing. By avoiding cognitive switching between domains, executives can make progress faster and more effectively than when attention is split. Cognitive science research supports this reasoning. For example, Monsell (2003) finds that switching between tasks increases the completion times of both tasks, lowers the effectiveness of effort allocated to both tasks, and increases forgetting of relevant information. Similarly, others (Rogers, Robert and Monsell 1995, Rubinstein et al. 2001) find that this mental gear-changing detracts from progress on tasks, and adds to mental fatigue. Switching costs worsen when the switches are unpredictable (Monsell et al. 2003) and frequent (Speier et al. 1999) because such switches increase forgetting. Consistent with these insights, we observed that executives (like those at HellsKitchen), who frequently and unexpectedly switched among
domains, lost track of their progress in interrupted domains and gained little traction in any domain as they struggled to determine which activities would work. In contrast, maintaining focus until a learning plateau avoids juggling too many activities at once, and creates opportunities to consolidate learning.¹⁰

Second, sequential focus is effective because it increases the quality of effort and learning. When individuals actively eliminate distractions and focus attention on a single task, they increase their cognitive control – i.e., their mental resources devoted to the focal task (Koutstaal 2012). For instance, when expert surgeons reach a critical point that requires them to be more effortful, they increase their cognitive control by removing distractions like small talk and focusing solely on the surgery (Moulton et al. 2010). Increased cognitive control improves the likelihood that an individual will persist in problem solving and be more learning-oriented (Koutstaal 2012). Thus, sequential focus – i.e., concentrating on a single domain and deliberately moving other domains to the mental background – increases the persistence needed to reach a plateau where learning can then be consolidated into processes and simple rules (Bingham et al. 2007, Gary and Wood 2011). This pause at a plateau may also encourage strategists to re-visit analogies (Gavetti and Rivkin 2007) and move in new directions (Okhuysen and Eisenhardt 2002), both of which are likely to improve strategy formation. Finally, when individuals consolidate learning into the basic structure of a domain (i.e. causal system), they are better able to return to the domain quickly and with high recall.

More subtly, sequential focus is effective because it increases the likelihood of holistic thinking across domains, and thus a more coherent strategy. One means of integration is what is known in psychology as “open goals.” That is, when individuals move specific domains to their mental background, they are likely to form open goals about those domains – i.e., future intentions to accomplish at a later time (Moss et al. 2007). Open goals are integrative because they create peripheral awareness: even when focused elsewhere, individuals are more likely to notice relevant information about those goals that may emerge unexpectedly (Marsh et al. 1998, Moss et al. 2007). For example, when MasterChef executives

¹⁰The benefits and mechanisms of sequential focus relate to all individuals, not just those with particular cognitive styles. That said, people with particular cognitive styles may be more likely to use sequential focus and decision weaving, broadly. We thank our reviewer for raising this exciting future research area.
put demand in the background, they formed an “open goal” to engage in marketing experiments (demand) in the future, and then maintained background awareness of potential experiments even as they focused on their platform (product). Open goals also reduce the transition time to a new focal domain.

Pausing at a plateau, not an optimum, is a second means by which sequential focus increases the likelihood of holistic thinking. Incorporating some learning (but not optimizing) maintains loose coupling – i.e., flexibility to incorporate new information to improve fit with later focal domains (Davis et al. 2009). For example, it was easy for PaintPro executives to segue briefly to their “plateaued” online quote system (product) after they learned from experiences in San Francisco about painting stand-alone homes that could not have easily learned in NYC. By pausing at a plateau rather than optimizing, they were easily able to adjust the quote system (product), and so better integrate product and geography domains. 11

**Integrating Background Domains: Stepping Stones**

Effective executives used sequential focus to improve and accelerate learning from experience in focal domains. But, they also complemented sequential focus with a second process that we termed “stepping stones.” That is, while these executives focused on a single domain, they also took incremental, inexpensive actions (stepping stones) in non-focal domains. These stepping stones enabled some progress in background domains without taking concentration away from the focal domain.

We define *stepping stones* as purposively incremental, easy, and low-resource actions that make progress toward preferred activities in a background domain. They are ways of “making do” in a background domain until that domain becomes focal – i.e., stepping stones span the gap between what executives hope to do in the future, and what they can do in the present while they devote most of their time and resources elsewhere. We assessed a stepping stone by: when at least two executives reported taking intentionally incremental, easy, and low-resource actions toward a specific desired end state in a

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11 Our theoretical arguments rely on 3 sources: logic, past research (often from base disciplines like cognitive science and psychology), and case evidence. This mix is appropriate for theory-building case studies (Eisenhardt, 1989) and theory building generally including deductive research. Cognitive science and psychological research are especially useful for making theoretical arguments in our study because executives (like all people) usually cannot articulate/are unaware of their thinking processes such as open goals and cognitive control. In fact, our use of cognitive research is an advance over prior strategy research that relies on very dated assumptions like bounded rationality and local search, and simple functionalist arguments like sensing and seizing. We appreciate our reviewers’ raising these important issues.
specific background domain. We then counted the number of stepping stones and the number of domains in which they occurred, and gave an overall rating (Table 5). The executives who used stepping stones had more effective strategy formation than those who did not.

PaintPro illustrates. As described earlier, PaintPro executives began by focusing on creating a unique, online quote system for painting jobs (product). But while they maintained focus on building this quote system, they also used stepping stones to make modest progress in background domains. One stepping stone was Craigslist that they used to recruit a handful of painters (supply). Craigslist was a very cheap and easy-to-use source of painters. As one executive noted,

“Yeah, it's a good starting point. I think there's a big variable in talent that you can get, but there are some really talented people on Craigslist.... You can find some really good people to work with on Craigslist.” (CEO, PaintPro)

By recruiting a handful of painters (and no more), PaintPro executives began to develop their understanding of how to attract top-notch painters (supply) with simple rules like “Ensure that painters make more on PaintPro than on their own.” This was valuable learning because these executives admittedly did not know much about painting. Serendipitously, one of their first painters was outstanding. Later when supply was the focal domain, he helped PaintPro to develop the vetting process. Recruiting a handful of painters also accelerated development of the quote system for the product (focal domain) because the painters provided feedback. As another executive said,

“We started on Craigslist. We got our first painter off of Craigslist, and he turned out to be awesome... We didn't know, really, anything about painting. And so our ad came in, we looked at him, and we just started growing... and we got our first five or six painters from Craigslist.” (COO, PaintPro)

A second stepping stone was customers from their cleaning business. PaintPro executives used a few of them as a stepping stone to scaling customers and achieving repeatable demand (demand). Given their platform (product) focus at the time, they lacked the time and resources for traditional marketing. So they went after “low hanging fruit” – i.e., they contacted a few businesses that already used their cleaning services, and convinced several to book painting jobs. They obtained just enough work to create test cases for their online quote system and to learn a little about customers, but not enough to distract them from their focus. As one executive said,
“We felt it was really the low-hanging fruit like, "Okay, we have these two or three relationships, we know that these companies are able to send cleaning business to our cleaning company and we're fairly confident that they're able to send painting business to our painting companies." We tackled those and that started to get the jobs coming in.” (CEO, PaintPro)

Later, after PaintPro switched their focal domain to painters (supply), they again turned to their cleaning business for a handful of customers as a stepping stone to repeatable customers (demand). But they also used their cleaning business as a stepping stone to an advanced marketing campaign (demand) by copying easy marketing tactics like online profiles and email campaigns. As the COO described,

“We used the basic (marketing) stuff we learned from our cleaning business, in terms of making sure all our online profiles were updated, sending out emails to people... We didn't have a lot of money back then. Sending out emails, just making calls .... Looking back, I'm not sure how it worked, but it did. We just started getting customers with limited resources.” (COO, PaintPro)

A second example is MasterChef where executives also used stepping stones. As described in sequential focus, these executives began with hosts (supply) as the focal domain. They, however, also wanted to begin making some progress on background domains. One such domain was the website (product). They built a “quick and dirty” WordPress website in a few days for about $1,000 as a stepping stone to a fully automated platform. The site was a simple interface that let customers enter requests which employees would then manually match with hosts, and email confirmation back to travelers.

A second background domain where MasterChef executives wanted to make modest progress was travelers (demand). The dilemma was how to attract a few travelers to try out their hosts without de-focusing from supply. Their first stepping stone was simply viral marketing to friends. This brought in some travelers. A better stepping stone came later in a serendipitous encounter with a tour operator. Shortly after this conversation, the tour operator inquired about using MasterChef to provide a culinary experience for an upcoming tour. While the executives had not thought about tour operators, they quickly realized that tour guests could be a stepping stone to learn about travelers (demand). Yet, they were wary about how well tours fit their long-term aim of serving all travelers, not just the upmarket ones who book tours. They were also concerned about how much tours would disrupt their plans for MasterChef to be its own brand, not an add-on tour service. Tours would also change the business model from an online marketplace to a direct sales model. As one executive described,
“It’s a different business model. It’s a very old school phone call, relationship business. They have different needs in terms of branding... We don't actually communicate with the traveler... So it’s different operationally.” (Co-CEO 1, MasterChef)

Despite these concerns, the executives decided that tours were a worthwhile stepping stone – i.e., easy, inexpensive way to make modest progress toward gaining many travelers (demand). Tours required almost no marketing effort, yet provided travelers and experience for hosts. As a Co-CEO described,

“So it was an inbound request from a tour operator.... That was the first light bulb for us of maybe we should actually be talking to them a little more strategically and figuring out how we could fit tours in.” (Co-CEO 1, MasterChef)

The other co-CEO noted the added profitability and short-term scaling possibilities,

“Because these guys don’t offer their travelers itemized list of expenses... Just ‘this is your final bill’, they are able to charge whatever they want on top of what we price it at. So they don’t take from our commission which is great for us. So we realized that working with tour operators was a great way to scale the business from a sales perspective, at least for the near term.” (Co-CEO 2, MasterChef)

So, the MasterChef executives purposefully decided to add a few tours as a stepping stone. These tours provided most of the early bookings. As planned, tours became an increasingly small component of overall revenue over time. Nonetheless, tours were a useful stepping stone to learn about travelers (demand) and improve their hosts (supply). As the co-CEOs noted,

“We’ve found tours to be really valuable for getting into the travel industry and exploring” (Co-CEO1, MasterChef).

“The tour operator was great because it got us revenue. It allowed us to test all the different experiences and get feedback so we can improve the experiences that we offer. So it’s definitely a great short term decision.” (Co-CEO 2, MasterChef)

MasterChef executives also used other stepping stones such as volunteer “ambassadors” to vet hosts on their way toward the long term aim of having employees as regional managers (geography). Overall, MasterChef’s use of stepping stones enabled executives to make some minor progress on multiple domains while remaining focused on only one.

In contrast, HellsKitchen (paired w/MasterChef), LastRequest (paired w/PaintPro), and BlindSpot (paired w/GoodParking) never used stepping stones at all. Instead, they went to resource-intensive actions right away. They split their attention and spread resources across domains, switching between domains without much thought of the future or of how the domains fit together. LastRequest illustrates. Like
PaintPro, the LastRequest founders spotted an opportunity for an online market that connected buyers who needed jobs done (e.g., painting) (demand) with people who could do them (supply). But unlike PaintPro, LastRequest executives addressed multiple domains with resource-intensive actions, not stepping stones. They simultaneously launched in thirty-two cities (geography), and allowed anyone to be a requestor (demand), provider (supply) or both. They also put no restrictions on the types of requests that could be made (product). As the CFO described, “We didn’t think... We just said ‘Let's just launch everywhere’”. They raised substantial financial resources (highest in our sample) based on the reputations of the founders. This let them spend significant funds on building an excellent website, and on substantial advertising to attract requestors and providers in multiple cities. But their metro market places were too thin – i.e., too few requestors and providers such that it was hard to match supply and demand, a problem exacerbated by too much demand. These mismatches led both requestors and providers to leave the platform. As the CFO described,

“Engagement dropped like a rock, because people would just request all of these random things, ‘I need this specific hub cap for my car’ to ‘I need somebody to go 50 miles and grab me something and bring it back.’ A huge spectrum of things... random things that not anyone out there that was getting those alerts could actually fulfill.” (CFO, LastRequest)

After eight months, the executives recognized that they needed to focus. The CEO lamented, “We were doing a lot of things poorly. 6 months of data that showed that we had 11% fulfillment rate... There's a 9 in 10 chance nothing happens. We saw a lot of glimpses of [success] but there was no way to guarantee more of it without just really really tightening focus both geographically and the service orientation.” (CEO, Last Request)

So they cut back, but it was too late. They never did figure out stepping stones. Instead, as the CFO noted, they lost requestors and providers, ran out of money and failed,

“We had to continually get more and more narrow and focused. We ended up focused. By that time we had lost demand... And by then, supply had already gotten disenchanted. So with a limited amount of runway, we decided to disband.” (CFO, LastRequest)

HellsKitchen and BlindSpot also avoided stepping stones. They scattered their resources across domains, trying one action and then another. HellsKitchen illustrates. These executives often reacted to serendipitous opportunities, but never put them into a larger context of stepping stones to a desired end state in any domain. For example, they responded to guest requests to book hosts for private parties, but
did not think forward enough into the future to realize that this opportunity would encourage guests to book directly, and so disintermediate HellsKitchen which then occurred. Similarly, they reacted to random requests like that of a Quebec City chef to become a host without thinking forward to the implications of scattered hosts for quality control, and for critical mass in a city. Their chefs were too dispersed to gain scale economies such as for advertising. HellsKitchen failed.

Finally, GoodParking is again a useful turnaround case because these executives began without stepping stones, and switched to them after a major fiasco. As discussed above, these executives began by focusing on developing their mobile platform (product). But they did not use stepping stones. So while they were making progress on their platform, they made no progress on the background domains. When these executives launched their platform, they simultaneously attempted to ramp up their neglected background domains: parking places (supply) and drivers (demand). But without prior stepping stones to learn about supply and demand, they misunderstood both – e.g., failed to realize that providing parking places was difficult, and conversely attracting drivers was easy. As a result, they had too few parking places for the number of drivers. They compounded this misfit by launching their platform before reaching a plateau where it reliably worked. Instead, the platform was “buggy” with design flaws. So, GoodParking ended up in the nightmare of a mobile platform that was unreliable, angry drivers, and too few parking spaces.

To end the nightmare, GoodParking went back to sequential focus: focusing solely on their platform (product). But this time, they also used stepping stones, particularly for parking places (supply). One stepping stone was an inexpensive team of college students, who were paid on commission and sent to targeted neighborhoods with well-known parking shortages. Their job was to attract home owners with driveways to join GoodParking (supply). A second stepping stone was churches (supply). GoodParking executives focused on a few churches because they were an “easy sell” – i.e., under-utilized parking lots owned by cash-strapped non-profits. A third stepping stone was small A/B testing for adding supply which was easy and inexpensive to implement on Facebook (supply). As the CEO said,

“Yeah, we didn't start doing any Facebook analytics, even really any type of spend, a large spend
at least, until we were comfortable with the product… We would do small like $200, $300 tests but it wasn't $10,000 for Facebook or Twitter marketing each month.” (CEO, GoodParking)

Later while focused on adding customers in Boston (demand), GoodParking executives used another stepping stone – i.e., “soft” launch of their mobile platform in Chicago as a stepping stone to rolling out their service to major U.S. metros (geography). They wanted to explore on a small scale how their service would work in a second city. They picked Chicago because of its similarities to Boston – i.e., tightly knit neighborhoods with poor parking, similar buildings and infrastructure, and the challenge of snow. In addition, the CEO was familiar with Chicago. As he described,

“So, the Chicago reasoning is, I’ve lived there. I understand the market really really well. And, this city is very similar to Boston from a geographical standpoint on how buildings are located, where parking spots are located, how easily accessible are they.” (CEO, GoodParking)

The Director of Marketing echoed this,

“(CEO) worked in Chicago for a while, he's a Midwest guy at heart... And so, I think there's a feeling of familiarity there. And obviously, it being our first expansion city, we want it to be some place that you feel comfortable with. Like, you know, the layout of the culture and the political landscape.” (Director of Marketing, GoodParking)

This “soft” launch of Chicago was small, easy and inexpensive. While still focused on building demand in Boston, GoodParking made a software change to add Chicago as an “active” city to their platform, but did not do much else. As the CEO said, “Yeah, Chicago is just a tester for us. We aren't actively pushing hard in Chicago.” As our study ended, GoodParking was growing in Boston (i.e., doubling transactions), entering Chicago and poised to launch in several other cities. A major TV network extolled, “GoodParking is on fire”.

Stepping stones are effective for strategy formation for several reasons. First, stepping stones are effective because they help executives to avoid errors and be creative. Individuals who mentally contrast their present reality with a desired future are better able to spot obstacles along the path to that future, prepare for obstacles, and stop when failure is likely (Oettingen 2012, Oettingen et al. 2001). Thus, they are likely to make fewer mistakes as they progress. As cognitive science research further indicates,

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12 Like sequential focus, we use 3 sources of theoretical arguments: logic, prior research (especially from base disciplines), and case evidence. Again, prior research such as from cognitive science is particularly helpful because executives (like most people) cannot articulate/are unaware of their own cognitive processing such as the cognitive implications of abstraction, constraints, and peripheral awareness.
thinking about the immediate situation promotes concrete thinking (Trope and Liberman 2010), while thinking about the future conversely promotes abstract thinking (Atance and O’Neill 2001, Christian et al. 2013). This combination of low and high abstraction (i.e., varied abstraction) improves creativity and stimulates new alternatives, especially in complex and novel problems such as strategy formation (Dow et al. 2010, Goldstone and Son 2005, Hamilton 2015).

Second, stepping stones also improve creativity because they are constrained in scale and resources. These constraints force individuals to think differently in order to progress (Niu and Liu 2009, Stokes 2006) such as by re-imagining uses for existing resources. For example, resource and time constraints led PaintPro to use Craigslist as a creative source for painters, and MasterChef to recognize the unexpected possibility of tour operators as a short-term alternative for demand. By contrast, LastRequest was not resource-constrained. Instead, they wasted many resources by pursuing large actions.

Finally, stepping stones are effective because they encourage holistic thinking. They improve the peripheral awareness of executives regarding background domains (Moss et al. 2007) and enable progress in those domains without distracting from the focal domain. For example, MasterChef executives gradually improved their manual booking process, and so had ideas for their eventual focused overhaul of their platform linking travelers and hosts (product). Similarly, a serendipitously excellent Craigslist painter at PaintPro helped these executives to make progress on attracting painters while they focused on their online quote system (product). Thus, executives gain the advantages of focused learning in a focal domain (sequential focus) while also holistically making minor progress in other domains (stepping stones). For example, adding travelers from a few tours while focusing elsewhere helped MasterChef to simultaneously learn about guests, and gain a more holistic understanding of the interplay of travelers (demand), platform (product), and hosts (supply).

**DISCUSSION**

Our core insight is a novel and effective strategy formation process: *Decision weaving*. Prior research identifies the importance of “strategizing by doing” to learn about novel opportunities (e.g.,
Baker and Nelson 2005, Bingham and Eisenhardt 2011) and “strategizing by thinking” to holistically understand the complex set of activities that must mesh together in a strategy (e.g., Rindova and Kotha 2001, Ozcan and Eisenhardt 2009). Yet, this work leaves open how executives effectively form strategy in entrepreneurial settings. By comparing 3 venture-pairs with promising opportunities but not strategies, we contribute an emergent framework that describes how cognitively nuanced executives effectively combine doing and thinking to form strategies while others do not. In doing so, we also contribute the new concepts of sequential focus, learning plateau, and stepping stones. We further add to the organizational learning, managerial cognition, and strategy formation literatures. Overall, we contribute a realistic and cognitively sophisticated portrait of successful strategists.

**Decision Weaving as Effective Strategy Formation**

Our central contribution is the decision weaving framework for effective strategy formation (Figure 1). This framework has several insights. First, executives who form strategy well (i.e., effective strategists) use sequential focus. That is, they break-up strategy into domains, thus conceptualizing strategy formation as modular with cognitively manageable chunks that correspond to natural strategic blocks. In contrast, prior research points to holistic mental representations such as analogy and identity as providing high-level “maps” of strategy (e.g., Gavetti et al. 2005, Powell and Baker 2014). While these holistic representations are important (as per below), the core insight here is that effective strategists conceptualize the problem of strategy formation as modular. That is, the work of strategy formation primarily occurs by figuring out strategic activities in successive domains. Moreover, effective strategists appear to put the domain that most blocks growth in the foreground to tackle first.

Second, when effective strategists focus on a specific focal domain, they combine acting to learn about the opportunity (doing) with understanding how the activities fit together (thinking). On the one hand, by focusing specifically on one domain, individuals learn better – i.e., faster, more efficiently and with higher quality than if they split their attention across multiple domains. Building on cognitive science research (e.g., Monsell 2003, Koutstaal 2012), the underlying rationale is that explicit focus mitigates cognitive switching costs, enhances cognitive control, promotes recall, and so improves
learning. On the other hand, effective strategists simultaneously use holistic mental representations like analogy and identity to provide blueprints for how activities might fit together in a strategy. For example, MasterChef executives used analogies to Airbnb and Lyft, and their organizational identity as providers of authentic cultural experiences. As expected (e.g., Rindova and Kotha 2001, Gavetti and Levinthal 2000), these representations provided initial, broad guidance about what to do (e.g., begin with supply at MasterChef). We contribute by noting that effective strategists use mental representations in other ways. Mental representations like analogies can spotlight anomalies that improve learning (e.g., PaintPro learned from misfits with an analogy to their cleaning business), and can provide specific ideas (not just metaphors and maps) to be copied (e.g., MasterChef copied Yelp’s ambassador program). We also add that effective strategists use mental representations throughout strategy formation (not just at the outset).

Third, effective strategists use *stepping stones*. Stepping stones play a critical role in strategy formation because they (like sequential focus) combine acting to learn about the opportunity (doing) with understanding how the activities fit together (thinking). Stepping stones enable some learning and progress in the relevant background domain. But stepping stones can also improve learning in the focal domain by providing feedback. For example, by using a few tours as a stepping stone to serving all travelers (demand), MasterChef also gained feedback about their host selection (supply) in their focal domain. We also observed that stepping-stones are often both opportunistic like taking advantage of Craigslist to find painters (PaintPro) and serendipitous like taking advantage of a chance encounter with a tour operator (MasterChef). In addition to learning, stepping stones also improve holistic understanding because they help executives to be integrative – both over time (i.e., tying present action to the future end-state of a stepping stone) (Goldstone and Son 2005, Hamilton 2015), and across domains (i.e., tying activities in the stepping-stone domain with those in other domains).

Finally, effective strategists rely on *learning plateaus*. They use learning plateaus as opportunities to consolidate learning about the focal domain such as by crystallizing simple rules. This consolidation improves understanding (Bingham et al. 2007). Such simple rules and processes, in turn, are the scaffolding by which effective strategists ultimately scale their firms. Finally, effective strategists use
plateaus as triggering events to switch from one domain to the next. Such triggers help executives to avoid spending too much or too little time on a domain. Moreover, since a plateau is not an optimum, it leaves activities under-specified and loosely coupled, making it easier to backtrack if activities misfit. For example, by pausing with a “good enough” platform (product), PaintPro could easily backtrack to update the platform after their San Francisco experience indicated needed improvements. Together, both stepping stones and learning plateaus provide holistic counter-weights to the modularity of sequential focus.

Overall, decision weaving works because it simultaneously enhances learning from action (“strategizing by doing”) in the focal and stepping-stone domains while achieving holistic understanding (“strategizing by thinking”) within the focal domain, across domains, and over time. Thus, it mitigates the primary challenges of doing (i.e., combining diverse experiences into a holistic understanding), and of thinking (i.e., updating a holistic understanding in the face of new information and change) that we noted at the outset. Finally and as described earlier, prior research on problem solving identifies an unresolved dilemma in how to organize action to solve complex, novel problems like strategy formation in entrepreneurial settings (Baumann and Siggelkow 2013, Mihm et al. 2003). By combining the modularity of sequential focus with the holistic counterweights of stepping stones and learning plateaus, decision weaving contributes a plausible resolution of this dilemma.13

A useful comparison is with Siggelkow’s (2002) Vanguard study.14 Although Vanguard was not a venture and the mutual funds industry was not nascent, our studies share similarities. Using archival sources and 13 interviews, Siggelkow presents maps of Vanguard’s organizational system at 4 times to describe its evolution over several decades: Executives began with a blueprint of five core elements like low cost, and then elaborated these elements (and added two “patched” elements) by sometimes “thickening” (i.e., adding new, inter-connected activities) and sometimes “coasting” (i.e., status quo). This historical case study offers a much needed 30,000 foot description of strategy evolution over twenty-plus years. In contrast, we take a rare look inside strategy formation for 6 ventures in entrepreneurial

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13 The first author is working on a paper that takes the next step to experiment with decision weaving using NK simulation, and compare decision weaving’s effectiveness with that of other strategy formation processes like local search and chunky search. Preliminary results are favorable.
14 We appreciate our reviewer’s suggestion to include comparison with Siggelkow’s single historical case study of Vanguard (2002).
settings in the critical early years between a promising opportunity and forming a strategy. Our study covers a shorter and recent time period with multiple waves of triangulated data. These data create depth in understanding the strategy formation process as it happened. We develop novel concepts like sequential focus, stepping stones, and learning plateaus. Significantly, our study covers about the first 5 years of the ventures – i.e., precisely the most active and consequential time period of Vanguard’s strategic evolution.15

Our studies are complements. Siggelkow (2002) takes a long view of strategy evolution while we go deep into the turbulent and consequential time of initial strategy formation. The studies are similar in their recognition of modular sets of activities and elaboration (thickening) of those activities within domains (core elements). Indeed, Vanguard may have used decision weaving although the study is too high-level to confirm features like stepping stones and learning plateaus. But the studies are also different. The Vanguard study is descriptive with a functionalist logic of configuration building. In contrast, our study is normative with a theoretical logic based primarily in cognitive science and psychology. In sum, Siggelkow (2002) provides a bird’s eye, descriptive view of strategy evolution over decades while we complement with an in-depth, normative view of strategy formation at its most active, consequential time.

Toward Insights for Related Literatures

Broadly, we add to the three literatures outlined in the Introduction. First, we add to organizational learning via highlighting that effective strategists use an extensive repertoire of processes, contingently applied. This extends prior research that often focuses on one or maybe two processes (e.g., Baker and Nelson 2005, Bingham and Eisenhardt 2011). We contribute that experimentation and trial-and-error are especially helpful in the focal domain where attention is focused on learning, and substantial resources are available. Here, the aim is a concentrated effort to reach a plateau. In contrast, bricolage and improvisation are more germane to background domains. These processes are opportunistic and take advantage of serendipity, and so fit well with stepping stones – i.e., these processes are fast, and rely on

15 3 of Siggelkow’s 4 maps are in this same short time frame of the initial 5 years. Another key point is that Siggelkow’s core and periphery elements are permanent distinctions while our focal and background domains are temporary distinctions related to which domain is the key growth bottleneck at any point in time.
inexpensive (e.g., hacking a cheap website at MasterChef, hiring a few college students at GoodParking) or re-imagined (e.g., cleaning business customers as sales prospects at PaintPro) resources.

We also contribute to the *managerial cognition* literature. As noted above, we add insights into how effective strategists use analogies and other mental models. Like prior research (Gavetti et al. 2005, Gregoire et al. 2010), we observed that our executives invoked analogies at the beginning of strategy formation (e.g., “Uber of xxx”). But our effective strategists went beyond superficial rhetoric and seeding strategies. Rather, they used mental representations throughout strategy formation as comparisons to foster learning (particularly when anomalies arose), and provide specific ideas to copy or adapt.

Further, we contribute to the micro-foundations of strategy formation by introducing concepts like cognitive control, open goals, and abstraction level from cognitive science and psychology. Traditional views of strategy formation often assume extreme and dated views of strategists – i.e., either hyper-rational (positioning school) or myopic local searchers dependent on luck (evolutionary school) (Gavetti and Rivkin 2007). Some recent work takes simple, functionalist views of managerial cognition like “sensing” and “seizing” that are not grounded in cognitive science (Helfat and Peteraf 2014).

Decision weaving takes a next step with concepts and theory that are based in research on the human mind. Concepts like open goals and cognitive control help to explain why behaviors like sequential focus trigger both better learning and holistic understanding. Concepts like abstraction help to explain why behaviors like stepping stones promote creativity. This work forms a grounded research base for the cognitive underpinnings of why some executives effectively form strategies while others do not. An intriguing future research direction is to explore whether cognitive style and other individual differences make some executives more likely to use decision weaving.

Finally, decision weaving contributes to the *strategy formation* literature that combines doing and thinking. While very valuable, this work is often relatively distant from the phenomenon (i.e., single historical cases and simulations), embedded in pre-existing theories (e.g., effectuation, evolutionary theory, positioning), and/or descriptive. The resulting combinations of doing and thinking leave room for more accurate and normative conceptions. By engaging in a theory-building study of 3 venture-pairs, we
are less constrained by past work, and so more able to add insights in several ways.

We identify decision weaving as a novel, grounded and normative approach to strategy formation. We add a theoretical logic that importantly includes cognitive science and psychology insights. The result is a cognitively nuanced, yet realistic portrait of effective strategists. Finally, we address the fundamental dilemma of strategy formation in entrepreneurial settings: How to combine “doing” to learn about a novel opportunity with “thinking” to understand how a complex set of activities fit together (Ott et al. 2017). Decision weaving works because it exploits the modular efficiency of sequential focus for doing while counterweighting with holistic stepping stones and learning plateaus.

Boundary conditions and alternative explanations

As in all studies, it is essential to address boundary conditions. One is whether decision weaving generalizes to established firms forming strategies in entrepreneurial settings. For example, acting in multiple domains (rather than sequential focus) may be feasible for established firms because they likely have many more resources than ventures. While possible, this ignores the challenge of learning from experience when many interconnected facets are simultaneously in flux (i.e., error catastrophe) (Davis et al. 2009, Gell-Mann 1994, Kauffman 1989). It becomes difficult to isolate the individual effects of any one change, and so to learn. It also ignores the challenge of updating a holistic representation as change and learning occur. Our arguments are bolstered by evidence from LastRequest. LastRequest’s high-status founders raised substantial VC funding (most in our study) that allowed aggressive pursuit of multiple domains at once. But, the interconnectedness among the domains made it difficult for these executives to gain traction – e.g., learn from their actions and maintain a holistic understanding. Too much was changing. They ultimately failed. In addition, our arguments are consistent with the problem solving literature on novel, complex problems – i.e., tackling multiple fronts at once is ineffective because individuals cannot readily integrate moving and interconnected parts (Mihm et al. 2003). Overall, while more resources can accelerate the decision weaving process (e.g., speed learning in the focal domain, create more stepping stones that speed progress), they are unlikely to alter the contours of this effective process. Thus, forming strategy is likely an organic growth process such that strategy emerges, not a
mechanistic process such that strategy is assembled in parallel (Brown and Eisenhardt 1998, Kelly 1994). This is an intriguing area for future research.

A second boundary condition is whether decision weaving generalizes beyond two-sided markets. We chose two-sided markets because they are an increasingly common type of strategic situation. We also wanted to study strategy formation where the interconnectedness (i.e., complexity) among domains is high, thus spotlighting this aspect of strategy that makes its formation especially difficult. As expected, we uncovered insights about two-sided markets per se – e.g., strategy is best formed by starting with supply, and by focusing on the platform (product), early or late, contingent on its difficulty.16 But while these insights are useful, our focus here is on effective strategy formation at a more general level. Thus, we expect that decision weaving generalizes to other strategic situations in which the opportunity is novel and the activity system is complex. Here, the fundamental dilemma that decision weaving addresses arises – i.e., need to learn about a novel opportunity and have a holistic understanding of how a complex set of activities fits together. In contrast, if the opportunity is well-known or the activity system has independent or few strategic domains, then decision weaving is less likely to be imperative.

As in all research, there are potential alternative explanations. An important one is that taking actions in multiple domains at once (as we saw in the less effective firms) may be slow to gain traction in any one domain, but ultimately leads to effective strategies.17 While possible, we think that this explanation is unlikely. As argued above, a key reason is that simultaneously tackling many domains at once cripples learning: it becomes difficult to assess causality because executives cannot link outcomes to actions. Our data are consistent. Firms that followed this approach - HellsKitchen, LastRequest, and BlindSpot – uselessly spent resources, made little or no progress in any strategy domain, and fell behind their benchmark pair. While perhaps they might have eventually succeeded, none was alive long enough for this to occur. Finally, GoodParking’s turnaround is telling. Consistent with an error catastrophe, these executives floundered when they tackled multiple and vaguely prioritized domains at once - i.e., flawed

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16 We appreciate a reviewer’s advice to develop the specifics of strategy in two-sided markets. We are working on this. For example, the order of domains in sequential focus depends on the marketplace. Uber, for example, used sequential focus, beginning with its complex platform.

17 We appreciate the suggestion of a thoughtful reviewer to consider this alternative explanation.
product with too many drivers and too few parking places led to constant firefighting without strategic progress. In contrast, when GoodParking switched to decision weaving, the firm rebounded – i.e., created a viable strategy in their home metro and were expanding geographically as our study ended.

CONCLUSION

We began by asking how some executives in entrepreneurial settings move from a promising opportunity to a successful strategy while others do not. We noted a fundamental dilemma between acting to learn about a novel opportunity and conceptualizing a holistic understanding of how a complex set of activities fit together. With a rare look at strategy formation inside 3 matched pairs of firms over multiple years and waves of data collection, we develop the theoretical framework of decision weaving (i.e., sequential focus and decision weaving) for how effective strategists resolve this dilemma. Overall, we contribute a portrait of a cognitively sophisticated yet realistic strategist that goes beyond prior work.

References.


Tame J (2011) *Startups Open Sourced: Stories to inspire & educate* (Startups Open Sourced).
Figure 1: Effective Strategy Formation: Decision Weaving

**Decision Weaving Processes**

**Sequential Focus**
- Focus on a single domain
- Move other domains to the background
- Maintain focus till learning plateau
  *not optimum*

**Stepping Stones**
- Purposively incremental, easy, & low-resource actions
- “Make do” in background domains toward end-state

**Underlying Arguments**

- Promotes fast & efficient learning by avoiding switching costs
- Increases quality of effort & learning by increasing cognitive control, persistence, & learning orientation
- Increases holistic thinking via open goals & plateaus

**Propositions**

- **P1**: Executives who use sequential focus are more likely than others to:
  - (a) gain sustained traction within individual domains;
  - (b) consolidate learning into effective simple rules in multiple domains;
  - (c) successfully adjust domain strategies to new information;
  - (d) recognize opportunities for stepping stones.

- **P2**: Executives who use stepping stones are more likely than others to:
  - (a) avoid critical errors within domains;
  - (b) use more creative, opportunistic actions;
  - (c) learn critical interconnections among domains.

- **P3** – Executives who combine sequential focus with stepping stones (Decision Weaving) are more likely than others to effectively form strategies.
### Table 1: Description of Sample Firms

<table>
<thead>
<tr>
<th>Firm</th>
<th>Year Founded</th>
<th>Marketplace challenges</th>
<th>Initial Location</th>
<th>Initial $ Raised</th>
<th># of Founders</th>
<th>Avg Age</th>
<th>Founder Experience</th>
<th>Highest Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>MasterChef</td>
<td>2012</td>
<td>Connects guests and hosts of food events</td>
<td>Scaling supply: Mod, Vetting supply: High, Technology sophistication: Low, Repeatable demand: High, Demand immediacy: Low</td>
<td>West Coast</td>
<td>$900K</td>
<td>2</td>
<td>32</td>
<td>No</td>
</tr>
<tr>
<td>HellsKitchen</td>
<td>2012</td>
<td>Connects guests and hosts of food events</td>
<td>Scaling supply: Low, Vetting supply: High, Technology sophistication: High, Repeatable demand: High, Demand immediacy: Low</td>
<td>East Coast</td>
<td>$579K</td>
<td>2</td>
<td>30</td>
<td>No</td>
</tr>
<tr>
<td>PaintPro</td>
<td>2013</td>
<td>Connects customers and suppliers of local services</td>
<td>Scaling supply: Low, Vetting supply: High, Technology sophistication: High, Repeatable demand: High, Demand immediacy: Mixed</td>
<td>East Coast</td>
<td>$200K</td>
<td>3</td>
<td>30</td>
<td>Very Successful</td>
</tr>
<tr>
<td>LastRequest</td>
<td>2011</td>
<td>Connects customers and suppliers of local services</td>
<td>Scaling supply: High, Vetting supply: Low, Technology sophistication: High, Repeatable demand: Low, Demand immediacy: Mixed</td>
<td>West Coast</td>
<td>$1,000K ((^{18}))</td>
<td>3</td>
<td>32</td>
<td>Very Successful</td>
</tr>
<tr>
<td>GoodParking</td>
<td>2013</td>
<td>Connects drivers and owners of parking spots</td>
<td>Scaling supply: High, Vetting supply: Low, Technology sophistication: High, Repeatable demand: Low, Demand immediacy: High</td>
<td>East Coast</td>
<td>$500K</td>
<td>1</td>
<td>29</td>
<td>No</td>
</tr>
<tr>
<td>BlindSpot</td>
<td>2013</td>
<td>Connects drivers and owners of parking spots</td>
<td>Scaling supply: High, Vetting supply: Low, Technology sophistication: High, Repeatable demand: Low, Demand immediacy: High</td>
<td>West Coast</td>
<td>$200K</td>
<td>1</td>
<td>28</td>
<td>No</td>
</tr>
</tbody>
</table>

\(^{18}\) LastRequest followed this seed round with a Series A, and raised about $15 million early in its short life.
### Table 2: Description of Data

<table>
<thead>
<tr>
<th>Firm</th>
<th>Number of Interview Waves</th>
<th>Company Blog &amp; Social Media Posts</th>
<th>Title of Focal Informants</th>
<th>Number of Articles / Pages</th>
<th>Sample Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>MasterChef</td>
<td>4</td>
<td>204</td>
<td>Co-CEO/Founder Co-CEO/Founder</td>
<td>52/155</td>
<td>Hindustan Times, India Today, CNN, Huffington Post</td>
</tr>
<tr>
<td>PaintPro</td>
<td>4</td>
<td>351</td>
<td>CEO/Founder COO/Founder CTO/Founder</td>
<td>27/50</td>
<td>Fortune, Huffington Post, TechCrunch</td>
</tr>
<tr>
<td>LastRequest</td>
<td>3 (failed before 4th wave)</td>
<td>143</td>
<td>CEO/Founder CFO/Founder COO/Founder Consultant</td>
<td>194/655</td>
<td>CNN, The New York Times, Mercury News, Newsweek</td>
</tr>
<tr>
<td>GoodParking</td>
<td>4</td>
<td>150</td>
<td>CEO/Founder Director of Marketing Product executive</td>
<td>24/67</td>
<td>Boston Magazine, TechCrunch</td>
</tr>
<tr>
<td>BlindSpot</td>
<td>4</td>
<td>102</td>
<td>CEO/Founder VP Communication/Founder</td>
<td>18/40</td>
<td>Business Insider, SFGate, USA Today</td>
</tr>
</tbody>
</table>
### Table 3: Strategy Formation Effectiveness (As of end of study - Mid-2017)

<table>
<thead>
<tr>
<th>Firm</th>
<th>Overall rating</th>
<th>Strategy formation</th>
<th>Strategy formation problems</th>
<th>Strategy Performance</th>
<th>Subjective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MasterChef</strong></td>
<td>High</td>
<td><strong>Progress: High (8)</strong></td>
<td>Problems: 1 Types: Unplanned delays</td>
<td><strong>Survived</strong></td>
<td>&quot;Today, 200 host chefs participate in 18 countries.&quot; (Major TV network, 2016)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 domains</td>
<td></td>
<td></td>
<td>&quot;Next generation of culinary tourism.&quot; (Major biz pub, 2016)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Domain example:</strong> Hosts (Supply): Choose strong storytellers, pick great cooks, access to internet, &amp; English speaking. Recruit via referrals and retain via Facebook community, vet w/volunteer ambassadors.</td>
<td></td>
<td></td>
<td>&quot;We are seen as the top destination in Asia. Now we're in over 27 countries and 60+ destinations with over 700 hosts right now.&quot; (Co-CEO 1, 2017)</td>
</tr>
<tr>
<td><strong>HellsKitchen</strong></td>
<td>Low</td>
<td><strong>Progress: Low (1)</strong></td>
<td>Total problems: 6 Types: Domain conflicts, Unplanned delays, Unbalanced growth, Revisited decisions</td>
<td><strong>Failed</strong></td>
<td>&quot;I rate performance of the original concept at a 4 [of 10].&quot; (CEO, 2015)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 domains</td>
<td></td>
<td></td>
<td>&quot;[CTO] and I, and the rest of the team gave it our all….Sadly now it's time to say goodbye.” (CEO , 2017)</td>
</tr>
<tr>
<td><strong>PaintPro</strong></td>
<td>High</td>
<td><strong>Progress: High (8)</strong></td>
<td>Total problems: 3 Types: Unplanned delays, Unbalanced growth, Revisited decisions</td>
<td><strong>Survived</strong></td>
<td>&quot;We did our first seven figure revenue month recently, which was a really big milestone for us.” (CEO, 2017)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 domains</td>
<td></td>
<td></td>
<td>&quot;We're excited to see the growth.” (Investor, 2017)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Domain example:</strong> Customers (Demand): Pick home and office owners, locate in metro areas with high density and affluence. Reach via partnerships with general contractors and paint stores. Manage recurring customers with internal sales team.</td>
<td></td>
<td></td>
<td>&quot;The launch of [Portland, LA, and Dallas] comes during enormous growth with Q1 2017 surpassing Q1 2016 in year-to-date booking by 400%...Over the past calendar year, [PaintPro] has increased its average job size by over 95% and grown its staff by 80%.” (Major biz pub, 2017)</td>
</tr>
<tr>
<td><strong>LastRequest</strong></td>
<td>Low</td>
<td><strong>Progress: Low (0)</strong></td>
<td>Total problems: 9 Types: Domain conflicts, Unplanned delays, Unbalanced growth, Revisited decisions</td>
<td><strong>Failed</strong></td>
<td>&quot;The core &quot;want engine&quot; concept that sucked in US$15m of seed funding is a &quot;gone-burger&quot; and the co-founder is out the door.” (Major biz pub 2013)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 domains</td>
<td></td>
<td></td>
<td>&quot;We had to continually get more and more narrow… By that time we had lost demand... And by then, supply had already gotten disenchanted... With a limited amount of runway, we decided to disband.” (CFO, 2015)</td>
</tr>
<tr>
<td><strong>GoodParking</strong></td>
<td>Moderate</td>
<td><strong>Progress: Mod (6)</strong></td>
<td>Total problems: 4 Types: Unplanned delays, Unbalanced growth, Revisited</td>
<td><strong>Survived</strong></td>
<td>&quot;I would say in total we’ve been growing ahead of pace, but there’s also some things where we’ve been growing behind pace.” (CEO, 2015)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 domains: Product, supply, demand,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BlindSpot</td>
<td>Low</td>
<td><strong>Progress:</strong> Low (1)</td>
<td><strong>Total problems:</strong> 6</td>
<td><strong>Failed</strong></td>
<td><strong>Types:</strong> Unplanned delays, Unbalanced growth, Revisited decisions</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Domain example:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platform (Product):</td>
<td>Stable website</td>
<td><strong>Domain example:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile platform (Product): Has seamless experience for drivers booking parking spots. Key features include payment, navigation, and conflict resolution.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Growth</strong></td>
<td>Dominates home metro</td>
<td>More than 2X transactions 2017</td>
<td>Major partnership w/car-share firm</td>
<td>“Hours booked and transactions have more than doubled in the past year.” (CEO, 2017)</td>
<td>“With over 50,000 downloads in the metro area, GoodParking is catching fire.” (Major TV network, 2017)</td>
</tr>
<tr>
<td>Firm</td>
<td>Overall rating</td>
<td># Sequential focus repetitions</td>
<td>Learning in each focal domain (% Informants)</td>
<td># Learning plateaus</td>
<td>Focal domains – Representative quotes</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>--------------------------------</td>
<td>---------------------------------------------</td>
<td>--------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>MasterChef</td>
<td>High</td>
<td>4 (Supply, Geography, Product, Demand)</td>
<td>100% all focal domains</td>
<td>4</td>
<td>(Supply) &quot;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.&quot; (Co-CEO 1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Geography) &quot;We added 6 locations in 6 weeks, and so we knew how to scale.” (Co-CEO 2)</td>
</tr>
<tr>
<td>HellsKitchen</td>
<td>Low</td>
<td>0 N/A</td>
<td>Little learning reported</td>
<td>0</td>
<td>(Addressed all domains at once) “It’s a constant pendulum, it’s just shifting back and forth.” (CEO)</td>
</tr>
<tr>
<td>PaintPro</td>
<td>High</td>
<td>4 (Product, Supply, Geography, Demand)</td>
<td>66-100% across focal domains</td>
<td>4</td>
<td>(Product) &quot;Our thought process was that we really wanted to enable a quoting system.” (CEO)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Demand) “We experimented by hiring a sales person, an outside sales rep who had painting industry experience to target these third party businesses representing the customer. We saw immediate success…Once we saw that we really weaved it in, we're approaching sales organization of nearly 20 people.” (CEO)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Supply) &quot;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? Does this work in other cities? Does our quoting work in other cities?...So that was like a big thing that we wanted to prove out.” (CEO)</td>
</tr>
</tbody>
</table>

**SF example - Demand:** Focused on travelers (Demand) for 10 months while they experimented with multiple partners, Google AdWords, social media, content marketing, and direct advertising. Put expansion to other continents on hold (Geography), added only a few hosts (3-5) in existing locations (Supply), and limited new features (Product). Learned that Facebook, large tourism partners like Expedia, and content marketing worked best and learned how to work with each including simple rules.

**SF example - Supply:** Focus on painters (Supply) for 3 months as they ramped up acquisition and vetting of painters through retail paint stores, direct sales, and Craigslist. Put online quote system (Product) on hold, remained only in New York City (Geography), and used a few customers from their prior business (Demand). Learned how to vet painters on painting quality and customer interaction skills, and how to add painters quickly including simple rules. Moved to next focal domain (Demand) without onboarding all painters who wanted to join.
<table>
<thead>
<tr>
<th>Firm</th>
<th>Overall rating</th>
<th># Sequential focus repetitions</th>
<th>Learning in each focal domain (% Informants)</th>
<th># Learning plateaus</th>
<th>Focal domains - Representative quotes</th>
<th>Background domains – Representative quotes</th>
<th>Learning Plateaus – Representative quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LastRequest</td>
<td>Low</td>
<td>0</td>
<td>N/A</td>
<td>0</td>
<td>Addressed all domains at once but too many problems from earlier lack of focus.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>GoodParking</td>
<td>Mod</td>
<td>3 (Product, Supply, Demand, Geo in progress)</td>
<td>66-100% across focal domains</td>
<td>3</td>
<td>(Product) “The new platform is in development right now. I’m waiting (in the other domains) because there’s no possible way that I could see us scaling with the current app.” (CEO)</td>
<td>(Demand) “Yeah, we didn’t start doing any Facebook analytics, even really any type of spend, a large spend at least, until we were comfortable with the product.” (CEO)</td>
<td>(Product) “So, we didn’t need to get it perfect with the most important use cases, we just needed to get mostly right.” (Director of Product)</td>
</tr>
<tr>
<td>BlindSpot</td>
<td>Low</td>
<td>0</td>
<td>N/A</td>
<td>0</td>
<td>Addressed Supply, Demand, and Product at once. Did not initially distinguish between Demand and Supply.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Firm</td>
<td>Overall rating</td>
<td># Stepping stones</td>
<td># Domains w/step. Stones</td>
<td>Examples: End state</td>
<td>Stepping stone</td>
<td>Representative quotes</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
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<td>------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>MasterChef</td>
<td>High</td>
<td>7</td>
<td>4</td>
<td>Demand: Marketplace for all customers</td>
<td>Demand: Partner with a tour operator</td>
<td>&quot;The tour operators was great because it got us revenue. It allowed us to test all the different experiences and get feedback so we can improve the experiences that we offer. So it’s definitely a great short term decision.&quot; (Co-CEO 2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Product: Fully automated transactions</td>
<td>Product: Hacked website, much still manual</td>
<td>&quot;We kept asking ourselves, what is the smallest thing that we can build that would help us determine if this idea is worth pursuing? Essentially a hacked Word Press site. So we spent like $1000 building it.” (Co-CEO 1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Geography: Regional managers</td>
<td>Geography: Volunteer ambassadors copied from Yelp</td>
<td>Geography: “The plan has always been to hire regional managers, so that’s what we’re looking at next. That sort of first phase was all through word of mouth, working with the ambassadors.” (Co-CEO 1)</td>
<td></td>
</tr>
<tr>
<td>HellsKitchen</td>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>Unclear end states</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>PaintPro</td>
<td>High</td>
<td>5</td>
<td>3</td>
<td>Supply: Professional painters</td>
<td>Supply: A few Craigslist painters</td>
<td>&quot;We didn’t know, really, anything about painting… We got our first five or six painters from Craigslist.” (COO)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Demand: Repeatable demand</td>
<td>Demand: Prior business clients</td>
<td>Demand: “It was really the low-hanging fruit like, “Okay, we know that these companies are able to send cleaning business to our cleaning company and we’re fairly confident that they’re able to send painting business to our painting company.” (CEO)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Demand: Advanced marketing tactics</td>
<td>Demand: Marketing activities from prior business</td>
<td>Demand: “We used the basic (marketing) stuff we learned from our cleaning business, in terms of making sure all our online profiles were updated, sending out emails to people.” (COO, PaintPro)</td>
<td></td>
</tr>
<tr>
<td>LastRequest</td>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>Be everywhere with every service</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Firm</td>
<td>Overall rating</td>
<td># Stepping stones</td>
<td># Domains w/step. Stones</td>
<td>Examples: End state</td>
<td>Stepping stone</td>
<td>Representative quotes</td>
<td></td>
</tr>
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<td>------------</td>
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<td>--------------------------</td>
<td>---------------------</td>
<td>----------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>GoodParking</td>
<td>High</td>
<td>5</td>
<td>4</td>
<td>Supply: Enough individual and commercial owners to meet demand</td>
<td>Supply: Small and cheap A/B testing</td>
<td>Supply: “We would do small like $200, $300 tests but it wasn’t $10,000 for Facebook or Twitter marketing each month.” (Director of Marketing)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Geography: All major U.S. metro areas</td>
<td>Geography: “Soft” launch in Chicago</td>
<td>Geography “Yeah, Chicago was just a tester for us. We aren’t actively pushing hard in Chicago.” (CEO)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Demand: Become major brand name</td>
<td>Demand: Free advertising</td>
<td>Demand: “We won a competition with a local marketing group and what they do is they provide digital advertising, outdoor advertising. It was $40,000 worth of ad space and it was basically a movie that played on a billboard for 15 seconds at a time, 24 hours a day, seven days a week, for a month straight.” (CEO)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Supply: Enough individual and commercial owners to meet demand</td>
<td>Supply: Summer interns</td>
<td>Supply: “This was four kids on a summer break from college in between junior and senior year. We said, “Hey, we’re gonna pay you guys $10 for each spot you get. Go.” And we really didn’t give them any other instructions.” (CEO)</td>
<td></td>
</tr>
<tr>
<td>BlindSpot</td>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>Match supply and demand</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>
Appendix A: Strategy formation

As noted in the text, we measured effective strategy formation in several ways, including strategy formation – i.e., degree to which firm had formed a complete strategy in all four strategic domains. To do so, we combined data from interviews, press archives, social media, and other sources to measure the number of domains in which each firm made significant progress toward a well-defined set of activities. We created a scale of high (strategy formation = 2), moderate (strategy formation = 1), and low (strategy formation = 0). Below, we describe how we measured strategy formation in each domain.

High progress in the supply domain was an activity system that consisted of specifying who supply was, how to recruit and keep supply, and which partners such that a consistent source of supply to fulfill all demand. Moderate progress was some activities specified, but not all or sometimes could not fulfill all demand like HellsKitchen. Low progress was few or no specified activities, and often could not fulfill demand like LastRequest.

High progress in the demand domain was an activity system that consisted of specifying who was demand, how to recruit demand, and what partners or media to work with such that consistent sources of demand were established beyond word of mouth. Moderate progress was some activities specified but not all, and with some scaling of demand such as with targeted social media advertising or sales teams. Low progress was firms that relied solely on word of mouth, friends and personal networks.

High progress in the product domain was a stable, working platform (and related products and services) that connected supply and demand, and that could scale with transaction volume. Moderate progress was a stable, working platform that relied extensively on manual intervention, and could not readily scale. Low progress was constantly changing the core features or offerings (and related products and services) such that the platform was unstable and could not scale.

High progress in the geography domain was an activity system that consisted of specifying what types of locations to enter, which to avoid, and how to enter, and that was enabling the launching of new locations on a regular basis. Moderate progress consisted of some specification of where to enter, but achieved successful entry in only a few experimental locations. Low progress consisted of no specification on where to enter or only operated in original location.
### Appendix A Table: Strategy Formation by Domain (as of end of study – mid-2017)

<table>
<thead>
<tr>
<th>Firm</th>
<th>Supply</th>
<th>Demand</th>
<th>Product</th>
<th>Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td>MasterChef</td>
<td>HIGH</td>
<td>HIGH</td>
<td>HIGH Stable and scalable</td>
<td>HIGH Where: Asian and South American cultural locations, expand to Europe How: Ambassadors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Who: Simple rules for vetting hosts (Strong storytellers, etc.) How: Activities for attracting locals, and keeping thru Facebook community Partners: Ambassador program Fulfill all demand: Yes</td>
<td>platform</td>
<td></td>
</tr>
<tr>
<td>HellsKitchen</td>
<td>MODERATE</td>
<td>LOW</td>
<td>LOW In flux among open, social and private events, Not scalable</td>
<td>LOW No specified activities, ad hoc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Who: Local foodies How: Start with events on other sites and convert guests. Partners: Food critics, bloggers, etc. Fulfill all demand: No</td>
<td>Who: Locals or tourists? How: Still experimenting Partners: Tours and bloggers</td>
<td></td>
</tr>
<tr>
<td>PaintPro</td>
<td>HIGH</td>
<td>HIGH</td>
<td>HIGH Stable and scalable</td>
<td>HIGH Where: US metros, dense population, relatively affluent How: Enter w/known partners at specific footprint</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Who: Licensed painters How: In platform referrals, clear vetting process and simple rules for how to attract and retain painters Partners: Major paint supplier Fulfill all demand: Yes</td>
<td>Who: Home owners and commercial spaces How: Recurring partnerships managed by internal sales Home owners managed on platform Partners: General contractors and paint stores</td>
<td></td>
</tr>
<tr>
<td>LastRequest</td>
<td>LOW</td>
<td>LOW</td>
<td>LOW In flux between request (demand) and storefront (supply) features, Not scalable</td>
<td>LOW Where: NFL cities. Then scaled back, criteria unclear</td>
</tr>
<tr>
<td>GoodParking</td>
<td>HIGH</td>
<td>MODERATE</td>
<td>HIGH Stable and scalable</td>
<td>MODERATE Where: US metros w/neighborhoods and poor parking Ongoing at end of study</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Who: Individuals in parking-challenged neighborhoods and organizations with under-used parking like churches, fast food retailers How: Platform and in-house sales team with some simple rules Partners: Retail and car-sharing firms Fulfill all demand: Yes</td>
<td>Who: All drivers How: Word of mouth Relatively easy to add drivers</td>
<td></td>
</tr>
<tr>
<td>BlindSpot</td>
<td>LOW</td>
<td>LOW</td>
<td>MODERATE Stable website, but not scalable</td>
<td>LOW Where: Original founding location</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Who: Oscillate among individuals, organizations, parking lots, etc. How: Many ideas, no traction Partners: Not yet Fulfill all demand: No</td>
<td>Who: All drivers How: Word of mouth Partners: Experimented</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B: Strategic activities maps for domains, by firm, at end of study – mid-2017

MasterChef

Demand
- Content marketing
- Trust important for travelers
- Target travelers looking for authentic food
- Marketing experiments
- Social media
- Tour operator partners
- Partner with large travel booking firms (e.g. Viator)
- Market at point of booking

Supply
- Vet each host
- Hosts must speak English, have internet
- Launch with 5 hosts per city
- Recruit good storytellers
- Must train veters
- Serve authentic food, learn to cook
- Serve local experts in Asia
- Use ambassadors to vet in new cities
- Become experts in Asia
- Test local expert in Japan

Product
- Early emails to travelers describing directions and venue
- Have customers to write about themselves for host
- Take payments at booking and hold till after event
- Hacked together wordpress site
- Automated matching algorithm
- Highlight the hosts and food
- Curated marketplace
- Meals, cooking experiences, and market visits depending on location

Geography
- Cities with high tourism
- Worldwide expansion
- Cities with culinary tradition
- Regional experts as managers

Future activity
- Stepping stone activity
- Current activity
Appendix C: Strategy formation summaries for each firm

MasterChef

Supply
- Demand: Tours
- Supply: "Hacked Wordpress site"
- Supply: Pause
- Geography: "Own Asia" & Volunteer ambassadors

Geography
- Demand: Tours
- Product: "Hacked Wordpress site"
- Avoid cities with no in home dining (Hong Kong, etc.), 3-5 hosts enough

Product
- Demand: Plan marketing experiments
- Supply: Pause, only 5 hosts per city
- Geography: Pause, Asia only

Demand
- Supply: Pause, only 5 hosts per city
- Geographies: Pilot local expert in Japan, Future: City and Regional experts

Learned:
- Rules for vetting hosts, how to train ambassadors, etc.
- How to outsource, automated matching, etc.
- 3 channels and how to work with each
GoodParking

- **Stepping Stones**
  - Product: Fix crucial bugs only
  - Demand: Free advertising
  - Geographies: “Soft launch” in Chicago

- **Forefront**
  - Product: Scaled back to focus
  - Supply: Summer interns for sales & small A/B testing
  - Demand: Pause

- **Learned**
  - Supply: Seamless experience for drivers
  - Demand: Sales process for onboarding retail, how to fit in partner operations

- **Timeline**
  - 1 year
  - 10 months
  - 1 year
  - Ongoing