MAVERICK AND DIPLOMAT:
STRATEGY FORMATION IN NASCENT MARKETS WITHIN ESTABLISHED FIELDS

ERIC B. VOLMAR
Department of Management Science and Engineering
Stanford University
volmar@stanford.edu

KATHLEEN M. EISENHARDT
Department of Management Science and Engineering
Stanford University
kme@stanford.edu

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Abstract: Grounded in a theory-building study of two EdTech ventures in the nascent MOOC (massive open online course) market, we unpack their strategy formation processes as these ventures face a dual challenge: Forming strategy in a nascent market while changing an established field. Our core contribution is a theoretical framework that identifies two distinct yet effective processes. One (Maverick) is a *competitive, learning centric process* while the other (Diplomat) is a *cooperative, diplomacy-centric* one. Yet despite their differences, they share the same novel, complex problem-solving structure. More broadly, we contribute to institutional entrepreneurship by focusing on venture performance and identifying the field-changing tactics of diplomacy. We contribute to the learning and entrepreneurship literature by identifying limits of rapid experimentation and pivots, and the value of collaborative learning. Overall, we bridge institutional and commercial entrepreneurship.

INTRODUCTION

In 2006, Anne Wojcicki and two co-founders launched their personal genomics venture, 23andMe. 23andMe took advantage of breakthrough technology that lowered the cost and speed of gene sequencing. The aim was to change healthcare by giving consumers access to their own genetic information, and so take charge of their health (Murphy 2013). Yet, while the founders focused on building a successful business around changing healthcare, they largely ignored powerful healthcare actors like doctors, hospitals, regulators, and "big pharma" firms (Kalkus et al. 2020). While 23andMe had success, it also ran into opposition from doctors, regulators, health advocates, and others. It proved challenging for 23andMe and its peers to succeed in the nascent personal genomics market (Gao & McDonald 2022).

As 23andMe suggests, it can be difficult for ventures to effectively form strategy in nascent markets within established fields like healthcare. By *strategy formation*, we mean the process by which firms attempt to build a unique set of activities that creates competitive advantage and commercial success (Ott et al. 2017, Porter 1996, Rivkin 2000). Yet, many of society's most critical challenges such as increasing access to education (Christensen et al. 2015), improving public health (Gao & McDonald 2022), developing sustainable energy (York et al. 2016), building smart infrastructure (Zuzul & Edmondson 2017), and enhancing national security (Wang et al. 2020) occur in these fields. The nascent markets that emerge in them (our focus) can offer attractive opportunities for ventures. But, they also present the dual challenge of both forming a successful commercial strategy (or simply strategy) in a nascent market while changing an established field, especially ones like healthcare, education and national security where the commercial logic of for-profit firms is not dominant.[1]

Several research streams offer insights into how ventures might effectively form strategy in the nascent markets that emerge within established fields. One stream centers on *learning theory and entrepreneurship* in nascent markets. This work often examines one or two learning processes like trial-and-error (Rindova & Kotha 2001), bricolage (Baker & Nelson 2005), and experimentation (Andries et al.

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[1] By successful, we mean commercial success, and henceforth simply use "successful strategy" w/specific measures in Methods.

2013) by which ventures attempt to resolve the uncertainties of nascent markets. Recent work also emphasizes a portfolio of learning processes, particularly rapid experimentation and pivots (Contigiani & Levinthal 2019, McDonald & Eisenhardt 2020, Camuffo et al. 2022), in order to find product market-fit, design a viable business model and broadly form an effective strategy. Yet while valuable, it is unclear how these learning processes operate in established fields like education, national defense, and healthcare where the pace is often slow, non-commercial norms and values may be relevant, and mantras like "move fast, break things" may not be acceptable.

A second stream centers on *institutional theory and institutional entrepreneurship*. Following others (Battilana et al. 2009), we define *institutional entrepreneurship* as how actors attempt to change an organizational field (or simply field). In the context of ventures, early work examines how ventures attempt to change a field by enhancing their legitimacy such as with symbols, stories, and high-status affiliations (Hargadon & Douglas 2001, Navis & Glynn 2010, Santos & Eisenhardt 2009). Later work focuses on how ventures attempt to change a field by using tactics to influence public policymakers, particularly regulators (Ansari et al. 2016, Gurses & Ozcan 2015, Lee et al. 2018). Yet while legitimacy and favorable regulation are likely helpful, it is unclear how ventures resolve other uncertainties of nascent markets like product-market fit and form strategies that gain commercial success.

Together, these streams indicate that ventures entering nascent markets within established fields should deploy 1) learning processes, particularly rapid experimentation and occasional pivots, to resolve the uncertainties of nascent markets and 2) field-changing tactics to achieve legitimacy and influence public policy in established fields. Yet while likely helpful, it is unclear how learning might be different in established fields, where the pace is often slow, non-commercial values and norms may matter, and mantras like "fail fast" may be inappropriate. While legitimacy and favorable regulation are likely useful, they are unlikely to resolve other product, customer, and technical uncertainties in nascent markets. Finally, since these are streams that rarely intersect (Battilana et al. 2009, Tolbert et al. 2011), they offer limited collective insight into how ventures resolve the dual challenge of forming a successful strategy in a nascent market while changing an established field. Consequently, we know relatively little about how

ventures succeed in some of society's most critical settings. We address this gap by asking: *How do ventures effectively form strategy in the nascent markets that emerge in established fields?*[2]

Given limited theoretical understanding and empirical evidence, we employ a multi-case theory-building method (Eisenhardt & Graebner 2007). The setting is the nascent massive open online course (MOOC) market that emerged in 2012 in the U.S. higher education field. We closely track the two ventures that began this market, from their founding. By *venture*, we mean a new for-profit firm that is funded by professional investors like VCs. These ventures (Maverick, Diplomat) are closely matched in terms of founding date, resources, technologies, and leadership teams. Both achieved successful strategies and some positive societal impact, but used different strategy formation processes.

We contribute at the intersection of organization theory, strategy, and entrepreneurship. Our primary contribution is a theoretical framework that identifies two distinct processes for effectively forming strategy in nascent markets within established fields. The first process (Maverick) is a *competitive, learning-centric* path that begins with a vision of being a substitute for incumbents. The second process (Diplomat) is a *cooperative, diplomacy-centric* path that begins with a vision of being a complementor to incumbents. These processes diverge early on with a) different engagement with the field and nascent market, b) different speeds of change, and c) distinct approaches to building activities. Overall, we identify two distinct yet effective processes for strategy formation in nascent markets within established fields.[3] Finally and despite their differences, they share the same underlying novel, complex problem solving structure

Broadly, we contribute to institutional theory and the institutional entrepreneurship literature by adding the tools of diplomacy. These tools expand the repertoire of field-changing tactics to include the diplomatic gambits that nations use to further their own aims when working with other nations with their own interests. We contribute to learning theory and the entrepreneurship literature by highlighting the

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[2] As in other theory-building approaches like formal models and verbal theory, a multi-case theory building approach such as ours can have a causal research question. We appreciate a reviewer raising this issue. We elaborate in Methods.

[3] We cannot rule out that other effective processes exist. We appreciate a reviewer's raising this issue and return to it in the Discussion.

limits of experimentation and pivots, and the relevance of collaborative learning. Overall, we answer the critical call to link commercial and institutional entrepreneurship (Ansari et al. 2016, Battilana et al. 2009)

THEORETICAL BACKGROUND

Our research question asks how ventures effectively form strategy in nascent markets that emerge in established fields. One stream focuses on *learning theory and entrepreneurship in nascent markets*. Early work often examines one or two learning processes such as trial-and-error (Bingham & Eisenhardt, 2011), experimentation (Andries et al. 2013, Bingham & Davis 2012), and bricolage (Baker & Nelson 2005). For example, Rindova and Kotha (2001) show how Yahoo! entrepreneurs used trial-and-error learning to "continuously morph" their strategy. Similarly, Baker and Nelson (2005) describe how entrepreneurs use bricolage to form effective strategies by inventing new uses for existing resources. Extending this work, McDonald and Eisenhardt (2020) note the effectiveness of a repertoire of learning processes like experimentation to test critical assumptions, vicarious learning from others, and passive learning by watching events unfold. Collectively, this work finds that engaging in learning processes often reduces the uncertainties of nascent markets. and so can help ventures effectively form strategy.

Recent studies indicate interest in rapid experimentation, including parallel and serial experimentation (Bremner and Eisenhardt 2022), large-scale economic experiments (Pillai et al. 2020), and incremental A/B testing (Koning et al. 2022). Noteworthy are studies ulsing rigorous causal designs. For example, Camuffo et al (2022) find that entrepreneurs who experiment by testing hypotheses are likely to be either more successful or appropriately exit quickly. Closely related to experimentation is pivoting (Pillai et al. 2020; Blank 2013). Pivots are substantial changes in strategic direction that typically occur in response to learned insights (Kirtley & O'Mahony 2023). Research indicates that founder identity influences the propensity to pivot (Grimes 2018), and that consistent communication of meaning to stakeholders helps to ensure an effective pivot (McDonald & Gao 2019). Finally, the combination of rapid experimentation and occasional pivots is at the heart of the popular lean startup method (Blank 2013, Contigiani & Levinthal 2019, Leatherbee & Katila 2020).

Overall, this stream points to the value of multiple learning processes, pivots, and the particular

power of rapid experimentation to resolve uncertainties and effectively form strategy in nascent markets. Yet while valuable, this stream leaves open how these learning processes operate in established fields. For example, these fields often operate at a slow pace that may be inconsistent with rapid experimentation. They are often resistant to change, making it difficult to pivot. Field actors may regard attempts to learn as inappropriate if they violate the field's values and norms such as for public safety. Common mantras like "fail fast" and "move fast, break things" may even be unacceptable in some established fields like education, healthcare, and national security.

A second stream focuses on *institutional theory and institutional entrepreneurship*.[4] Per above, institutional entrepreneurship focuses on how actors attempt to change a focal field (Battilana et al. 2009). Following others (Zietsma et al. 2017; Scott 2008) we define an *organizational field* (or simply field) as a collection of interdependent organizations that participate in a social and economic order with shared meanings and logics (i.e., values, norms and practices of acceptable behavior (Thornton et al. 2012)) within a sphere of activity. The field is a core concept in institutional theory that encompasses the informal and socio-cognitive forces that constrain action, not just formal and legal ones (Zietsma et al. 2017; Scott 2008). Thus, it is a richer conception of the institutional environment that better fits our study than the concept of sector in strategy and economics. *Established* fields have relatively stable membership, logics, and status hierarchy (Zietsma et al. 2017). In many established fields, the commercial logic of profit-making firms may be less relevant than other logics like professional, social welfare, and state logics (Pahnke et al. 2015, Thornton et al. 2012). Yet as argued above, many of society's most critical challenges such as better access to education (Christensen et al. 2015), improved public health (Gao & McDonald 2022), improving urban infrastructure (Zuzul & Edmondson 2017), and maintaining national security (Wang et al. 2020) occur in established fields where commercial logic does not dominate.

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[4] Like institutional economics (North 1991), institutional theory emphasizes that formal institutions like the state, family, corporation and religion create constraints that structure political, economic and social interaction (Uzunca & Ozcan, 2018; Scott 2008). Institutional theory, however, is broader as it emphasizes the informal and socio-cognitive forces of institutions, in addition to their formal and legal ones (Battilana et al, 2009).

In the context of ventures, early work in institutional entrepreneurship examines how ventures attempt to change a field by signaling legitimacy using symbols, stories and high-status affiliations (e.g., Hargadon & Douglas 2000; Navis & Glynn 2010). For example, Santos and Eisenhardt (2009) describe how a very successful e-commerce venture signaled legitimacy in the established retail field with familiar symbols on its website like shopping cart, checkout, and wish list. Zuzul and Edmondson (2017) discuss how a venture used a compelling founding story to attract media coverage that explained and legitimated the venture to skeptics in the urban planning field. Navis and Glynn (2010) note the importance of high-status affitliations for satellite-radio ventures to signal their legitimacy in the broadcasting field. These signals help ventures to be seen as legitimate, and so are a step toward field change.

More recent studies explore the field-changing (sometimes termed non-market) tactics by which ventures attempt to influence public policymakers, particularly regulators. One tactic is framing (Hiatt & Park 2013, York et al. 2016). For example, Yue and Wang (2023) describe how ventures in the nascent civilian drone market used a public interest frame to influence regulators within the established transportation field. Framing can also be used to counter resistant incumbents. For example, Gurses and Ozcan (2015) describe how ventures framed cable TV as a social good for the rural U.S., and so influenced a key regulator while side-stepping objections by incumbents. Another strategy is collective action. For example, Lee et al (2017) describe how ventures effectively organized around an industry association to persuade regulators to favorably categorize organic foods. Finally, ventures can co-create regulations with regulators to influence a field to their advantage. For example, Gao and McDonald (2022) show how ventures worked with the FDA to co-create regulation by providing proprietary knowledge about the innovation frontier that this regulator that did not have.

Overall, this stream notes the value of gaining legitimacy and influencing public policy in order for ventures to change fields to their advantage. While helpful, this stream leaves open whether there are other useful field-changing tactics beyond influencing single actors like regulators charged with promoting the public good. It also misses how ventures might resolve other uncertainties in nascent markets like product-market fit. Finally, successful field-changing tactics may give ventures a false sense

of accomplishment that distracts from forming a successful strategy (Zuzul & Edmondson 2017).

Together, these two streams indicate that ventures in nascent markets within established fields should deploy 1) learning processes like rapid experimentation to reduce the uncertainties of nascent markets, and 2) field-changing tactics to gain legitimacy and favorable public policy. But it is unclear how learning operates in established fields that are slow-paced and lack a dominant commercial logic. Likewise, field-changing tactics may fail to resolve many uncertainties around products and customers in nascent markets, lead to over-confidence, and not be broadly useful beyond influencing single actors like regulators. Finally, since these streams rarely connect (Tolbert et al. 2011; Ansari et al. 2016), they give limited collective insight into the dual challenge of forming a successful strategy in a nascent market while changing an established field. We address this gap.

METHODS

Given limited theory and evidence related to our research question, we use multi-case theory-building (Eisenhardt 1989). This method also fits with process research questions such as ours (Langley 1999) as well as causal research questions such as we ask (Eisenhardt 2021). The anticipated result is a process theory that is grounded in longitudinal data and that links constructs over time with underlying theoretical arguments.[5]

Research setting

We began in 2016 with an interest in how ventures succeed in nascent markets that emerge within established fields, particularly those like health care, national defense, and education where some of society's most critical challenges occur and where the commercial logic is not dominant. After considering alternatives, we chose the nascent MOOC (massive online open course) market that emerged within the U.S. higher education field in 2012.

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[5] We appreciate a reviewer's raising the fit of our method with a causal research question. Like other theory building methods (e.g., verbal theory, formal models), this method can propose a causal theory, but cannot test it. Multi-case theory building is used in numerous studies with causal research questions (e.g., Navis & Glynn 2010; Zuzul & Tripsas 2020; Ott & Eisenhardt 2020). The theory emerges from longitudinal data that enhance causal inference by grounding the theory in successive temporal events and actions. The theory is strengthened by linking its constructs together over time with theoretical arguments. The theory is typically bolstered by case selection that offers "controls" that mitigate some alternative explanations, as we discuss later in Methods. A next step is to test the emergent theory empirically.

The MOOC market was triggered by the confluence of novel technologies like video distribution at scale, cloud computing, social networking, and gamification (Ng & Widom 2014). This market is appropriate for our research for several reasons. First, the MOOC market is nascent during our study period, thus fitting our research question. Its entrants sought to democratize university-level education by offering affordable or even free courses taught by elite faculty to anyone anywhere (Pappano 2012). While video-based education existed, MOOCs were revolutionary because of their extreme technical scalability and global availability (Ng & Widom 2014). Combined with cutting-edge social networking and gamification technologies, many believed that MOOCs had disruptive potential (e.g., Christensen et al. 2015). One pundit exclaimed, *"Welcome to the college education revolution. Big breakthroughs happen when what is suddenly possible meets what is desperately necessary."* A media outlet enthused, "*Revolution hits the universities"* while another proclaimed 2012 *"The Year of the MOOC"* . Consistent with being a nascent market (e.g., Navis & Glynn 2010, Santos & Eisenhardt 2009), it was highly uncertain what the MOOC product actually was, who would want it, and who would pay. Entrepreneurs and others saw a huge potential, but had no idea what a successful strategy might be. An investor noted, "*Sooner or later, you'll figure out a business, but don't worry too much about that at the beginning."*

Second, the MOOC market emerged within an established field, thus also fitting our research question. The U.S. higher education is an established field that has existed for well over 100 years and has clear membership, making it amenable to study (Christensen et al. 2015, Meyer et al. 2007, Scott 2008). Specifically, we define the field as comprised of the organizations that formally educate students in academic disciplines at the post-secondary level and offer degrees, and supporting organizations. Central actors are universities while supporting organizations include testing services and accrediting bodies. Although some universities also ascribe to religious (e.g., Notre Dame) or state (e.g., University of Michigan) logic, the primary logic within the field is a professional academic logic, not a commercial one (Musselin 2021, Scott & Biag 2016, Thornton et al. 2012). This logic rests on the personal expertise of the faculty who engage in the research and teaching crafts. Consistent with a professional logic (Pahnke et al. 2015), status within the profession is a primary goal for many. Consistent with an established field

(Zietsma et al. 2017), there are many shared practices like the academic calendar, professorial ranks, tenure, four-year degrees, faculty senate, and letter grading as well as shared norms like collective governance, and student, faculty, and administrative roles (Frank and Meyer 2020). Also consistent with an established field (Zeitsma et al. 2017), an almost stable status hierarchy has existed among universities for decades (Christensen et al. 2015).

Third, the nascent MOOC market received extensive media coverage since its beginning, thus creating a rich trove of real-time data during our study.

Matched-pair cases

We use a matched-pair case design (Bechky & O'Mahony 2015). This design consists of two cases which 1) share many similar or matched features that mitigate or "control" for some alternative explanations *and* 2) have a major difference that isolates a key phenomenon of theoretical interest. This design is used in many studies (e.g., DiBenigno & Kellogg 2014), including exemplar venture studies (e.g., Battilana & Dorado 2010, Navis & Glynn 2010, McDonald & Gao 2019). Compared with single cases, matched-pairs offer the better grounding of two cases (not one), more precise conceptualization because of comparison, and less likelihood of over-determined theory (Eisenhardt 2021).

Compared with more cases, matched pairs enable more complete presentation of case data, but also more potential for over-determined theory (Yin 2018). Matched pairs are especially useful when only 2 cases exist (e.g., 2 satellite radio stations (Navis & Glynn 2010)). Similar to a "talking pig" single case (Siggelkow 2007), matched pairs are particularly powerful when the pair is a *unique comparison* – i.e., high similarity on many features *and* a theoretically-relevant difference (Bechky & O'Mahony 2015). For example, Battilana and Dorado (2010) studied two microfinancing banks that were highly similar except for a key difference in their employee socialization process that was the focus of this exemplar study.

Our matched-pair is the two ventures that launched the nascent MOOC market in early 2012. These ventures sought to use MOOC technologies to democratize university education by offering inexpensive or even free courses taught by elite faculty to anyone around the globe. This pair is attractive for several reasons. First, it is the *complete population* of the founding ventures (i.e., new for-profit firms with

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professional investors). This allows us to track the ventures and the market as they began. A non-profit organization began late in 2012. It is included as relevant in our analysis, but is not in our sample because (as a non-profit) it is not a venture and so does not fit our research question. Several firms existed in related markets in 2012.[6] (See Appendix for MOOC market details).

Second, our two ventures offer a *unique comparison* (Bechky & O'Mahony 2015). On the one hand, they had many founding similarities (Table 1). Both raised similar initial funding from top VC and angel investors (about $20 million). Their founding teams were similar in size, age, and background as prominent faculty and researchers at elite universities. The teams had little or no startup, or even industry, experience. Neither team began with a strategy, although both recognized the need to form one and ultimately make money. On the other hand, these ventures had a major, theoretically-relevant difference – i.e. they formed very different strategies that were both successful. The ventures are part of a larger study of the MOOC market by the first author. During pilot interviews, he realized these two ventures were a unique comparison – i.e., many similarities like founding conditions and success *and* a major theoretically relevant difference in their strategies. Unpacking this difference was the genesis of this paper.

Data collection

We use several data sources: 1) archival data like news articles, venture blogs, and employee reviews, 2) interviews with founders, executives, and managers in each venture, 3) interviews with other informed sources like experts, partners, and investors, and 4) informal emails and calls to clarify details. This variety provides robust triangulation from multiple distinct data sources (Table 2).

We began data collection in 2016 by gathering archival data from 2012. We used Factiva to collect media (e.g., news articles, interviews) about the ventures and the market from major media sources (e.g., New York Times, Wall Street Journal) and specialty ones (e.g., Chronicle of Higher Education, Tech Crunch). We also collected venture blog posts, industry reports, course data (Class Central), employee

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[6] In 2012, 4 for-profit incumbents existed in related markets, but not the MOOC market. All used traditional video technology, not the MOOC technologies. 2 offered vocational training for a fee. A third was a marketplace where anyone could offer any content. Its executives viewed their venture as a substitute for books by experts, not MOOCs. The 4th was a video platform using traditional video technologies for traditional expensive, limited access degrees. We describe them further in the Appendix.

reviews (Glassdoor), and a teaching case (Diplomat). We continued archival data collection through 2017, with limited collection through 2020. Since many news articles simply mention the venture, we distinguish these articles from focal ones that mention the venture at least twice. Focal articles typically cover key events like product launches and discuss venture actions, strategy, and history. We also collected blogs from venture executives. These blogs typically cover key events like new products and partners. To focus on relevant blogs, the first author selected all venture blogs with titles related to our research question, and cross-checked these selections using keyword searches for words like *partners*.

Our primary data source is 115 interviews (65 first-hand, 51 online) with internal and external informants. We conducted the 65 first-hand interviews, beginning with the first wave in 2017. We added 2 additional waves (2018, 2019) to fill gaps in our data. Internal informants included founders, executive team, and managers across functions (e.g., product, engineering, partnerships) and across time for each venture. External informants included partners, advisors, and experts. We interviewed some informants, who were closely involved in strategy formation, multiple times (e.g., Maverick's CMO, Diplomat's CEO). (See Table A1 for timing of interviews).

We used a semi-structured interview guide with two sections. First, we asked overview questions about the informant (e.g., role, background) and the venture (e.g., objectives). Second, we asked informants to provide a chronological account of the venture's history since founding (or prior interview). For external informants, we adjusted the interview to fit their knowledge like the higher education field (experts). We used interview techniques, like non-directive questioning and courtroom-style emphasis on facts and actions, to gather open-ended narratives and limit response bias (Eisenhardt and Graebner 2007). For example, when we asked informants to relate the venture's chronology, we moved the interview along by simply asking, "What happened next?" rather than a more directive prompt. We also stayed close to specific actions and events, thus mitigating retrospective sense-making. We used a chronological format that improves informant recall and accuracy, rather than either directive or purely open-ended questions that are often more difficult for informants to answer accurately (Langley & Meziani 2020). To further improve accuracy, we avoided leading questions (e.g., Did you experiment?)

and speculative ones (e.g, Why did the venture succeed?). The interviews were 30 to 90 minutes, recorded and transcribed.

We also gathered 51 online interviews (e.g., YouTube, Startup School, Entrepreneurial Thought Leaders) with founders and executives. Given high media interest in MOOCs, these interviews begin in 2012 as our ventures began, and continue throughout our study. They include a variety of formats and questions, but typically cover founding actions, major events like pivots and executive hires, and recent activities. These online interviews were especially valuable for providing real-time data on the ventures that complements our first-hand interviews. Together, these triangulated data from multiple informants, time periods, and types of interviews provide a richer, more comprehensive, and more reliable view of the strategy formation process than any single data source.

We took several steps to ensure data validity. First, we collected both real-time (mitigate bias) and retrospective (efficient data collection) interview data. Since our first-hand interviews begin in 2017, the online interviews and other archival data were particularly useful for providing real-time accounts to corroborate and complement our first-hand interviews. Second, we used semi-structured interviews for our first-hand interviews (see above) that emphasize chronological accounts of actions and events, and nondirective interview techniques like courtroom-style questions to improve accuracy, gather open-ended narratives and limit response biases (Huber & Power 1985). Third, we interviewed a variety of internal and external informants across functions (e.g., partnerships, marketing), levels (e.g., founders, executive team, managers), perspectives (e.g., experts, partners, investors), and time (e.g., founding, later years). These varied informants provide a more complete, accurate, and corroborated account than any single source could provide (Kumar et al. 1993). Fourth, we promised anonymity to encourage candid information. Together, these data provide a holistic, triangulated account of the venture from multiple informant perspectives and data sources. They are a strength of our study.

Although the MOOC market and our ventures continued, we concluded the study at the natural endpoint at the end of 2015 when each venture had formed an effective strategy (see below). We continued data collection through the events of 2017 with more limited collection through 2020.

Data analysis

We began our theory-building analysis by creating case histories for each venture (Eisenhardt & Graebner 2007). The cases focused on key themes over time from multiple informants and data sources. We integrated interviews, media articles, blogs, employee reviews, a teaching case, and other archival data to create detailed narratives for each venture's history. The archival data were particularly useful in establishing an initial timeline, and later in corroborating key events, actions, activities and decisions described by informants. The first-hand interviews were especially useful to flesh out timelines with rich details and insights unavailable in archival data (e.g., decisions considered but not taken). Since we began our first-hand interviews in 2017, we took care to ensure that the data from archival sources (e.g., online interviews) and the first-hand interviews converged. The first-hand interviews either corroborated real-time archival sources or added complementary insights such as granular details about particular actions and events (e.g., specific experiments). We also corroborated the accounts among first-hand informants (e.g., partnership descriptions by Diplomat executives compared with those of partners). There were few inconsistencies. When details were unclear or seemed inconsistent, we returned to the data and/or gathered more data in follow-up interviews and emails. This iterative, labor-intensive process enabled creation of a rich, comprehensive history that was supported by multiple data sources. Each case is about 120 single-spaced pages, including quotes, analytic tables, and exhibits. One author wrote the cases while the other reviewed the data independently. We then resolved the few differences by returning to the data and/or with followup emails and calls. (See Table A2 for data sources used for these histories, by year).

We analyzed each case broadly as well as in relation to our research question. Within each case, we developed initial constructs and themes (Eisenhardt & Graebner 2007). After analyzing each case alone, we used cross-case analysis to compare constructs and themes that emerged from the two cases. We used typical cross-case analytic techniques such as comparing the cases for similarities and differences, and the presence (or absence) of themes (Eisenhardt 2021). We iterated between the emergent theory and data to sharpen constructs and theoretical logic, and to ground them better in the data (Glaser & Strauss 1967).

Since two cases may lead to over-determined theory, we used several mitigating tactics.[7] They include emphasis on a) simple theory that includes the most important, well-grounded constructs – like regularization used in machine learning to avoid over-fitting (Choudhury et al. 2021, Tidhar & Eisenhardt 2019) - and b) theoretical arguments linking constructs to i) lessen the likelihood of including random correlations and i) hone the precise abstraction level of the constructs (Grodal et al. 2021, Eisenhardt 2021). As the theory became more apparent, we brought in relevant literature including diplomacy from political science to refine these insights. We continued this iterative, creative process until reaching strong correspondence among the data, constructs, and theoretical framework (Glaser & Strauss 1967).

Our research question asks: *How do ventures effectively form strategy in nascent markets that emerge within established fields?* We assessed effective strategy formation using measures that highly converge for each venture (Table 3). First, we measured effective strategy formation by whether the process led to a <u>complete strategy</u> – i.e., one with specific customers, products, revenue sources, business model, partners, and activities to support the strategy (Rivkin 2000, Ott & Eisenhardt 2020). Per above, since both ventures finished forming an effective strategy by the end of 2015, we measured a complete strategy and other measures (below) at this time and post-study as relevant. There was little (if any) conflict among informants (first-hand and archival) and other data sources on these assessments. Second, we measured effective strategy formation by whether the process led to <u>successful strategy</u>, using *quantitative* indicators of commercial success relevant for-profit firms such as ours (e.g., revenue, market share, profitability) at the end of 2015 and post-study, and *qualitative* assessments from informants and media. Third, we bolstered these measures with common, indirect valuation-related indicators of successful strategy in ventures: a) Series D funding round (typically available only to ventures with potentially successful strategies in place) and b) $1billion "unicorn" valuation (typically signals whether investors believe that the venture has or will have a successful strategy. Per above, these measures highly converge for each venture.

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[7] We appreciate a reviewer's noting this issue. These tactics lessen the probability of over-determined theory but do not eliminate it.

Both Diplomat and Maverick effectively formed strategies (Table 3). Diplomat went from $3M in revenue in 2014 to $60M two years later to $300M in 2020. It consistently remains the market leader. A media outlet touted Diplomat as *"The most stable and secure EdTech".* Another echoed, "*Diplomat has the advantage of working with the most highly-regarded brands in higher ed."* Yet, true to the initial aim of democratizing education, 90% of its learners take courses for free. Maverick grew from $5M in 2014 to $30M two years later, and is widely seen as having the most innovative strategy. The media enthused, "*Maverick is by far the leader in terms of execution, they seem to have it together"* Although Maverick strayed more from the initial aim of democratizing education, it enabled advanced tech careers that had been unavailable to many by lowering cost and access barriers. An expert declared, "*Maverick just nailed it…Careers are aspirational and everybody tries to do that but Maverick is way, way ahead."* We turn to the theoretical framework that describes their different, yet effective, strategy formation processes.

EMERGENT THEORETICAL FRAMEWORK

Vision of the field and broad engagement (2012-2013)

Maverick and Diplomat began in early 2012 after their founders' online courses (MOOCs) each attracted over 100,000 students.[8] These successes triggered what the media termed "*MOOC mania*". Both ventures sought to democratize higher education by offering very affordable or even free courses taught by elite faculty using MOOC technologies. Both received similar VC funding, although neither was under immediate pressure to be profitable. Yet despite many similarities, they followed different yet effective strategy formation processes. One is a competitive, learning-centric process (Maverick) and the other is a cooperative, diplomacy-centric process (Diplomat) (Figure 1).

Maverick: Competitive vision and broad learning

In learning-centric processes like lean start up (Blank 2013), entrepreneurs form strategy by testing assumptions about products and markets. The focus is on rapid experimentation with minimum viable products, and pivots when product, market, or other assumptions appear incorrect (Contigiani & Levinthal

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[8] Maverick and Diplomat were the first ventures in the nascent MOOC market.. See Methods and the Appendix for other details.

2018). Our data reveal that Maverick followed a similar process. It begins with 1) a competitive vision of the field leading to 2) local learning via rapid experimentation, and 3) distant learning via "big bet" experiments (Table 4).

Maverick was founded by a prominent professor and two junior researchers at an elite university. They began with a competitive vision of Maverick as a substitute and ultimately replacement for traditional universities. A founder and the CEO explained the vision, "*We'll be just like any other university, but a university for the 21ˢᵗ century.*" He elaborated, "*In 50 years, there will be only 10 institutions in the world delivering higher education and Maverick has a shot at being one of them.*" An investor noted, *"I don't think they had a business model other than disrupt Harvard."*

Given this competitive vision, Maverick's founders saw little reason to engage with universities. Instead, they engaged in local learning about the nascent MOOC market. By *local learning*, we mean acting to add incremental knowledge near what is already known, often by small experiments. Maverick engaged in local learning with *rapid experimentation* on course content that began right after founding. The team hypothesized that, if a specialized course could attract over 100,000 people, general courses would attract even more. For this first experiment, Maverick enlisted a popular professor from another university to teach introductory computer science. A founder enthusiastically described,

> *In this class we go from no programming skills whatsoever...And in seven weeks' time, you can build an application...We hope to get 500,000 students enrolled. It's an ambitious number, but why not?*

Maverick launched the course in two weeks and feedback was quick. The new course attracted only 90,000 students. The second course experiment quickly followed a month later. It attracted only 5,000, and its dropout rate was over 90%. The lead founder and CEO lamented, "[student adoption] *by any corporate metric you might consider was not going up but going down.*" Another founder ruefully said, "*So while we were being celebrated as the big disruptor, the heroes who finally brought higher education into the 21ˢᵗ Century, the numbers didn't work!*"

The team pored over written student comments and spoke with students to learn what went wrong. An investor noted, "*Instead of going, "Screw 'em, what do they know? They're only my customers,"*

Maverick dealt with the ugly fact." A founder described,

> *I spent hours every day chatting with students, having phone calls. We call the people who drop out, and find out what's going on.*

Thee team learned, for example, that many students saw little benefit to MOOCs, beyond satisfying their curiosity.

Based on student feedback, Maverick continued local learning in late 2012 and 2013 using rapid experimentation with A/B testing of many small changes in course content, mentoring, and faculty. Over time, Maverick learned a lot about how students learn in MOOCs. For example, one founder described improvements to mentoring and insights about the value of credentials based on this learning,

> *We recently looked into the biggest drawback of MOOCs, which is the enormous dropout rates... Some of the MOOCs that we offer - we now actually staff those with mentors and online hotline 24/7....And I think there's value in credentialing.*

Maverick complemented local learning with <u>distant learning</u> via "big bet" experiments that provided learning about areas of the higher education field that were far from the team's current knowledge. By *"big bet" experiment*, we mean testing a set of multiple changes at once. Maverick had two such experiments.

In one, a large and prominent public university approached Maverick in late 2012 to deliver an online master's degree in a key technical discipline that was in high demand. Although Maverick had declined other university relationships, they accepted this as a unique opportunity to experiment with an elite university on a MOOC-based MS degree – one that could accommodate many more students at a much lower cost than an on-campus degree. It would be the first MS degree in the MOOC market. The CEO enthused about what he termed a "*moon shot"* and pointed to the chance of being a blue print for significantly increasing access to higher eduation. He elaborated,

> *I have been dreaming of putting an entire degree online, and to make access to the material free of charge... This is truly a moon shot, and much of what we project are speculations at this point. But if this model stands, it could serve as a blueprint for making higher education more accessible in the 21st century.*

The university leaders chose Maverick because of the academic status of its CEO. Their motivations for the degree itself were more varied. For some, this degree was an opportunity to lead a

transformative innovation in higher education. Others saw partnering with Maverick as an opportunity to

learn about online education. Notes from the Faculty Senate summarized,

> *There is currently tremendous popular interest in MOOCs, but no "top-ten" quality degree*
> *program built on the platform...It is an experiment that no other institution of our caliber has*
> *embarked on (yet!). But everyone is talking about moving in this direction.*

Consistent with norms of the higher education field, the degree proposal went to the Faculty Senate.

Some described "*significant internal disagreements*." Others saw the debate as typical. One professor

clarified, "*I wouldn't call it disagreement...I would call it typical heated academic debate*." 6 months later

(spring 2013), the Senate voted to approve the degree. Courses would start another 6 months later in early

2014 to fit the academic calendar. For the higher education field, this was fast. Senate notes indicated that

the program was "*moving forward at a rapid pace.*" But for Maverick, this was slow. Although the

partnership proceeded, the Maverick team was frustrated by the glacial pace of the university and its

labyrinth of seemingly byzantine academic norms and practices around decision making.

A second "big bet" experiment also began in late 2012, but targeted remedial courses for freshmen.

A governor approached Maverick to address a crisis in his state's university system: More than 50% of

freshmen could not meet basic requirements. A media report noted,

> *The Governor, who has been pushing state universities to move more aggressively into online*
> *education, approached Maverick to come up with a technological solution for what has*
> *become a vexing challenge...more than 50 percent of entering students cannot meet basic*
> *requirements.*

Maverick saw this experiment as an exciting opportunity to add for-credit courses to the MOOC

market for the first time, and to address a significant challenge in higher education. An executive

enthused, "*You have the ability to change the entire system. It's great! It's innovative! Why wouldn't you*

do it, right?" The press echoed,

> *The state university's deal with Maverick is the first time that professors at a university have*
> *collaborated with a provider of a MOOC — massive open online course — to create for-*
> *credit courses with students watching videos and taking interactive quizzes, and receiving*
> *support from online mentors.*

In early 2013, Maverick and the university system agreed to experiment with 3 online remedial

courses for credit to several hundred students. Yet, experimentation proved difficult. Some professors saw

the experiment as inconsistent with the values of the higher education field like research. For example, a professor warily observed, "*We're a little apprehensive about the MOOC model and the MOOC mania because there isn't a lot of research about it"*. Others saw the MOOC experiment as contrary to the governance values and curriculum development practices of higher education. As one faculty member wrote, "*These 'courses' undermine shared governance, run roughshod over established curriculum development procedures and move colleges toward the era of 'teacherless classrooms'"*Still others saw Maverick's experiment as a threat to them, with one faculty group writing, "*Let's not kid ourselves. Administrators are beginning a process of replacing faculty with cheap online education."*

Maverick launched the first course in mid-2013. The pass rate was unexpectedly lower than on-campus courses (about 40% v. 75%). Like many ventures, Maverick viewed this failure as a normal part of experimentation. A founder described,

> *We have to be honest about the fact that we're experimenting...We're not perfect yet. There are a lot of improvements we can make…You have to work really hard, look at data, and improve to get better and better and better.*

In contrast, faculty saw this failure as problematic, particularly for students at a vulnerable life stage. In a typical argument, one claimed*"There are real-world ,long-term consequences when you 'fail fast' in higher eduation"*. Nonetheless, Maverick continued by updating poor videos, changing course pacing, notifying students when they fell behind, and adding support staff.

With the second wave of course experiments, completion rates substantially improved with some performing better than on-campus peers. A Maverick manager enthused, "*Completion rates in the pilots we've been running have been 85%, as opposed to 5% or 4% which is common in MOOC-land*!" Yet, despite these improvements, the media was writing scathing headlines like *The Maverick Debacle* and *MOOCs Get an 'F'*. Faculty continued to complain. In a typical comment, one warned that "*The move to MOOCs comes at great peril to our university.*" The Faculty Senate demanded a review.

As 2013 ended, Maverick had about 40 free MOOCs, 1.5M global users, 20 faculty, and two "big bet" experiments. The venture had learned much about the uncertainties of the nascent market around courses and students. Yet, Maverick was frustrated by the slow pace of universities and had stumbled in

the labyrinth of seemingly byzantine academic values, norms, and practices. Maverick had some elements of a tentative strategy, but lacked major ones like revenue sources and a business model.

Diplomat: Cooperative vision and broad coalition formation

A second path to effective strategy formation is a cooperative, diplomacy-centric process. By *diplomacy*, we mean the art and practice of maintaining relations between nations (U.S. State Department 2021). In diplomacy (Freeman 1997, Kissinger 1994, Nye 2008), nations have distinct interests, but also recognize mutual dependence when promoting those interests in a shared world. Where their interests align, nations often form coalitions to advance those interests from a strengthened position. Yet, since no two nations have perfectly overlapping interests, they also rely on co-creating solutions to reach compromises on disputed issues. Like diplomacy among nations, our data reveal that Diplomat relied on a cooperative, diplomacy-centric process. It begins with 1) a cooperative vision of the field, leading to 2) coalition building of bilateral relationships with high-status actors and then others, and 3) coalition strengthening by solidifying bilateral relationships and adding multilateral ones (Table 5).

Like Maverick, Diplomat was founded by prominent professors at an elite university. Unlike Maverick, they began with a cooperative vision of Diplomat as a complementor to universities. One cofounder stated,*"I don't think we saw ourselves as disrupting education. We wanted to empower people to have access to broader education."* The other elaborated, "*We formed Diplomat whose goal is to take the best courses from the best instructors at the best universities and provide them to everyone for free."*

Given this cooperative vision, they engaged to coalition building with university partners. By *coalition building*, we mean the process of forming bilateral relationships based on shared interests (U.S. State Department 2021, David et al 2013, Lounsbury et al 2003). In doing so, Diplomat sought to become a legitimate and ultimately valuable member of the higher education field.

Diplomat began coalition building by securing *bilateral relationships* with 4 high-status universities (2 public, 2 private) right after founding. These relationships involved a simple commitment by the university to add free MOOCs whenever it wished to Diplomat's platform. Diplomat purposefully sought these high-status relationships to signal legitimacy and attract others. A cofounder elaborated,

We were very fortunate in having the early four universities that were at the top of the rankings…They really gave us a certain sense of legitimacy which is what causes other universities to be willing to jump on board.

Leaders at the 4 universities had shared interests with Diplomat to be at the forefront of the MOOC

tsunami to democratize education. A university leader elaborated the decision to join with Diplomat.,

There was something compelling in the story of democratizing education, in open [education], in finding scale and global reach…there would be a few top-tier institutions that were going to engage in the MOOC space.

Leveraging the legitimacy signals of these first bilateral relationships, Diplomat pursued more

universities throughout 2012 in what executives termed a "*land grab*" to sign up university partners.

They hoped that a large coalition that would somehow be valuable in the future. An executive explained,

Diplomat was kind of a "land grab," if you will, for signing up all the universities. Where it's like "get all the good names". They're not exactly sure why they're working with us yet, but we want all the partners!

In contrast, Maverick eschewed most university relationships as it focused on learning about the nascent

market. It did not, for example, compete in Diplomat's "land grab".

Consistent with high-level diplomacy, a key to coalition building was the leadership of a cofounder.

A manager related, "*[Cofounder] was never in the office…always on planes.*" Another manager noted,

[Cofouner] flew around those first two years and secured an unbelievable number of universities." As in

coalition building among nations (Freeman 1997), this cofounder understood that universities have

similar interests, but also varied ones. Some wanted to expand their own global reach. Some wanted to

support the mission of increasing access to higher education. Still others wanted to mitigate a perceived

threat. An expert, for example, warned, "*Everyone knows what had just happened to traditional print

newspapers when digital appeared.*" This cofounder summarized her "pitch" to potential partners,

One was the amazing reach that universities get, that individual faculty members get. It's not every day you get to reach 100,000 people in one fell swoop. Another was alignment with universities' public mission of getting education to a large number of people. And the third piece was a certain sense of combined fear and inevitability.

Like a skilled diplomat (Nye 2008, Padgett & Ansell 1993), this cofounder could also "*speak the

language*" of different kinds of universities - from elite ones interested in maintaining prestige to liberal

arts colleges seeking better teaching. This "multi-vocality" also meant tailoring the pitch with nuanced value propositions. A manager described, *"The value proposition varied depending on the university"*.

Another key to coalition building was making it easy to join. Diplomat removed frictions like fees, exclusivity, and complex contracts. Instead, partners simply agreed to offer MOOCs. In a few months, Diplomat added almost 30 university relationships from its targeted "top 100" universities. These partners soon contributed about 200 MOOCs, from the humanities to the sciences. Again Diplomat made it easy join by having no particular preferences for faculty or courses. An executive described,

> *The earliest classes were random. "Who wants to sign up?" Universities tried to pick professors to represent the university well at teaching, were more famous, want to teach, and want to try out this new innovative teaching thing.*

Yet, as a for-profit venture, Diplomat sometimes hit obstacles in the higher education field. Some universities declined to partner, citing Diplomat's for-profit status. A university leader explained, "*What did <u>not</u> make Diplomat attractive to a place like us is the fact that Diplomat's a for-profit. That worked against them."* Others preferred to wait or DIY. A non-profit entered about 8 months after Diplomat in late 2012. This organization did not change Diplomat's strategy formation process, and instead reinforced its rapid coalition building.[9] Overall, Diplomat gained many bilateral relationships, but not every one.

Diplomat bolstered its coalition building by <u>coalition strengthening</u> that solidified its bilateral relationships and added new multilateral ones. For example, Diplomat created partner-management teams in late 2012. These teams acted as "envoys" who met with coalition counterparts to solidify these bilateral relationships. Most team members were recent graduates who were inspired by the aim of democratizing education. A founder described these employees, "*Amazing people who otherwise [without democratizing education] would not have joined."* Their role was supporting faculty courses and relationship building, but not student learning like Maverick. An executive elaborated,

> *We have a team of partnership managers, a very talented group of mostly graduates of elite schools who travel regularly to visit the campuses they're responsible for and keep the conversation going and try to inform...Their role keeps the relations with the university strong.*

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[9] Per the Editor, we discuss this entrant more fully in the Appendix.

This executive continued, *"We're cultivating our suppliers, not our customer".* Central to their role was funneling faculty requests for new platform features to Diplomat's engineers. Rather than restricting these requests, Diplomat acquiesced to as many as possible, thus further strengthening these bilateral relationships, including "locking-in" faculty to the platform.

In early 2013, Diplomat strengthened its coalition by adding multilateral ties. For example, it created a multilateral Advisory Board, a body that is much like a diplomatic council (i.e., governing body among nations) of the highest-level leaders. This board added relationships among Diplomat and its members. It consisted of 9 very senior university representatives (e.g., provosts) who served rotating terms. The choice of provosts was particularly astute because they were often faster to embrace change like MOOCs than others in their universities. A Diplomat executive described this board and choice.

> *The Advisory Board was basically to get high-level buy in from some of our key partners as we thought about rolling out new policies. Universities move a lot more slowly than the private sector.... And so the dealing with the provosts on that advisory board is actually very useful because by and large the senior administrators were less resistant to change than their subordinates."*

Diplomat also strengthened the coalition by adding other multilateral relationships within its coalition. For example, Diplomat organized an annual Partners Conference. Holding the first conference at an Ivy League campus in early 2013 helped to signal Diplomat's legitimacy. The aims were two: Solidify Diplomat's bilateral relationships with its partners and facilitate those partners' building relationships with each other, thus adding multilateral relationships to strengthen the entire coalition. A Diplomat executive explained,

> *The idea was to bring the partners together for basically two purposes. One, so the company could bring everyone up-to-date on what we were doing, what was in the product pipeline, what new features we were building towards the platform…The other major point was to create a space for our partners to discuss what they were doing and share their learning.*

As 2013 ended, Diplomat had over 500 free MOOCs, about 5M global users, and about 90 university partners, all the highest in the nascent MOOC market. Diplomat reached 1M users faster than Facebook. Yet, Diplomat learned little about nascent market uncertainties around students and courses, and lacked key strategy elements like revenue sources and a business model.

Summary. Maverick's competitive, learning-centric process led to broad learning – both local and distant - that resolved many uncertainties about students and courses in the nascent MOOC market. Conversely, Diplomat's cooperative, diplomacy-centric process led to a broad coalition of university partners, and established Diplomat's legitimacy and value in the field. Yet, Maverick had not navigated the higher education field well and Diplomat had learned little about the uncertainties of the nascent MOOC market. As per above, neither had yet formed a complete, successful strategy.

A key question is why did these very similar ventures (Table 1) pursue such different strategy formation processes.[10] As we considered our data, we were struck by non-demographic founder differences, especially founder identity. By *founder identity*, we mean an individual's understanding of "who I am" and "who I want to be as an entrepreneur" (Powell & Baker 2014). Fauchert and Gruber (2011) reveal 3 founder identities that shape strategic actions: Darwinian (i.e., self-interest including making money and accumulating personal wealth), Communitarian (i.e., improve their own community through their innovations), and Missionary (i.e., strong vision and ambition to advance a social cause). Clarysse et al. (2023) add that academic founders like ours tend to be communitarians and missionaries.

Consistent with this research, our data suggest that Diplomat's cofounders had communitarian identities – e.g., one was described as being *"inspired to improve on campus teaching"* and the other as *"passionate about improving and spreading learning technologies."* Further, the communitarian identity fits the cooperative, diplomacy-centric process that emphasizes Diplomat as a complementor to universities – i.e., working closely within the university community to improve it with MOOCs. In contrast, Maverick's lead founder likely had a misisoniary identity – e.g., he was described as a *"disruptor"* with a strong vision of the *"university of the future"* with MOOCs to further the social cause of improving student access and success, unlike (in his view) traditional universities. The missionary identity fits well the competitive, learning-centric process that viewed Maverick as a substitute to

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[10] We appreciate a reviewer's advice to explore why the 2 ventures had such different processes. We examined our data for explanations (e.g., funding differences over time). Non-demographic founder differences, particularly founder identity, emerged as the only plausible explanation that we could uncover.

universities and student outcomes as critical. In sum and while speculative, founder identity may be a key to the choice of strategy formation process.

Completing the strategy: Changing direction and adding activities (2014-2015)

By 2014, MOOC mania gave way to more realistic expectations.[11] A typical article noted, *"Even the loudest critics of MOOCs do not expect them to fade away. More likely they will morph".* Yet while the market was better understood, it remained nascent. As a pundit noted, "*MOOCs remain in the experimental category – without a compelling business model."* As for-profit firms, effective strategy formation for the ventures meant forming a commercially successful one, not just a complete one.

Maverick: Pause, pivot, and add optimally distinct activities

Prior work indicates that pivoting can be helpful during strategy formation when the product, market, or other assumptions appear to be incorrect (Kirtley & O'Mahony 2023, McDonald & Gao 2019). By *pivot*, we mean a significant shift in strategy such as to different products, markets, partners, and business models (Blank 2013). Thus, Maverick continued its strategy formation process by 1) pausing to integrate prior learning and then pivoting toward a successful strategy, and 2) adding optimally distinct activities that both support the strategy and are legitimating in the higher education field (Table 6).

With the prospect of waiting 18 months for the Faculty Senate review (above), Maverick withdrew from its university system relationship and paused – i.e., stopped adding new actions. Maverick had learned that many students were motivated to complete courses by the prospect of course credit or a degree. Yet, this meant collaborating with universities which Maverick wanted to avoid. The team had also learned that universities, in their view, were slow, byzantine, and insufficiently atuned to student outcomes. In fact, the CEO stated his "*biggest miscalculation"* as believing that Maverick could work with universities. An investor noted, "*In many ways, this was Maverick's ah-ha moment."* Others agreed. An executive described,

> *It's good to be a little bit separate from existing universities because the speed with which we can move, the type of people we can hire are very different from what we could do at a*

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[11] There were no entrants in 2014. In 2015, there were a few small regional entrants in countries like China, Israel, and the UK. They were not material to Maverick and Diplomat.

university, and [we] are just experimenting a lot with non-traditional ways of educating.... It turned out to be a bit of a conflict because universities don't like to be disrupted!

Yet, while it was clear what did not work, it was not obvious what to do next.

The CEO took several months to integrate his understanding of what had been learned at Maverick since founding. An executive noted, *"This was the start of some really hard introspection."* During this pause, the CEO crystallized two key insights. First, the critical student outcome is a better job. As the CEO observed, "*At the end of the day, the true value proposition of education is employment."* Second, the relevant faculty are in the corporations inventing technologies, not universities. The CEO noted, "*If you focus on the single question of who knows best what students need in the workforce, it's the people already in the workforce."* An executive expanded,

> *We go regularly to heads of engineering, CEOs, and ask them, "What do you want?" And they say, "Well, I'm desperate to get people with these and these and these skills." They'll go back to universities and say, "Are you teaching those skills?" And universities say, "Well kind of...wait a little bit and we're going to do it eventually."*

In early 2014, the CEO announced a <u>pivot</u> toward a new strategy, including a new business model. An investor exclaimed, *"We're in a new business model!".... It was an hour on the phone with the CEO. And I said, "This is a huge insight."* He went on to observe, "*This is how pivots happen—integrate and change the mental model."*

While incomplete, the CEO saw this new strategy as successful strategy (i.e., one achieving commercial success) by focusing on lifelong learning. It called for 1) graduate-level technical education 2) for working professionals who want a better job 3) taught by expert employees of corporate partners who would 4) hire the graduating students. Revenue and activities would follow. An executive enthused,

> *You get this beautiful formula…you can go to students and say, "Look, our value proposition to you is a job that you love because you'll be in demand." For companies, we say, "Look, we have this amazing student, and you don't need to pay a dime to try to recruit them."*

Executives explicitly used the term "pivot". One said, "*We had a very hard pivot… We decided to say that we are not focused on replacing colleges. We're focusing on lifelong learning."* Another executive conceded, *"We were never going to really replace traditional universities."*

Pivots typically require a change to the organization (McDonald and Gao 2019). At Maverick, the CEO changed the executive team. He hired people with deep business experience while his two cofounders who lacked business experience left. An investor explained,

> *The exec staff clearly changed. ... This happens any time you do a major pivot. The key people you have before are no longer the key people because your hypotheses about what was important before are no longer important.*

The new executives brought business acumen that fit with the pivot toward a successful strategy. The new marketing director, for example, proposed an MBA-like market segmentation that Maverick had lacked. She noted, "*I told the CEO I'll only take the job if you agree that we position Maverick this way: Kahn Academy is K-12, Diplomat is universities, and we'll take lifelong learning.*"

In contrast, since many early employees had come from the higher education field, they did not fit the pivot well. One executive noted, *"Everybody had come from some kind of academia."* Another described, "*They didn't understand that you needed to make money to have a job*". Some employees left, but others adapted. A manager noted, "*They either left or got on board...People here are still staunch advocates of students, but they've sort of evolved their thinking into what that means.*"

Pivots often require new relationships (Blank 2013). In mid-2014, Maverick approached leading technology firms like Google and Nvidia to partner by developing courses, contributing faculty, and hiring graduates. Maverick pursued these firms because of their high-status and their expertise with in-demand technologies. The firms joined to signal thought leadership and gain preferred access to well-trained job candidates. An executive called the decision to partner a "*no-brainer*." Another said,

> *We specifically don't make any money from this. We are only really interested in getting the free courses out there, and we are okay with Maverick making money on those things…We believe that doing that for developers will eventually…come back to the company.*

Maverick appreciated that these firms were accustomed to making money, a welcome contrast with university partners. Maverick also appreciated that they were comfortable with speed, again unlike universities. An executive explained, "*Get people together really fast - It's much easier to do that under the ways of tech companies*." Maverick formed relationships with 9 leading tech firms in several months.

The pivot set the stage for <u>adding optimally distinct activities</u> to complete the strategy. By *optimally*

distinct, we mean activities that effectively support the strategy, but also signal legitimacy in the field. That is, optimally distinct activities conform, but are also advantageously different (Zhao et al. 2017).

Maverick was now focused on "working professionals who want a better job." A manager confirmed, "*The value proposition to the student is that I'm doing this because I want to upskill myself in order to get a better job*." Yet, many students still expected (and benefitted from) some features of traditional universities like course credit and degrees. So Maverick's activities needed to fit with those of universities, but also be different - and better, for at least these students.

Central to Maverick's optimal distinctiveness was an innovative degree-like program that Maverick labeled the "techno-degree". Like traditional university degrees, the techno-degree consisted of related courses taught by faculty. Yet, unlike traditional degrees, the techno-degree was short (6 to 9 months) and corresponded to job titles like web developer and data analyst, not a university's academic disciplines. Also unlike universities, the "faculty" were corporate employees and the "courses" were highly project-based. In fact, Maverick accentuated some of its differences from universities like hands-on projects that let students directly demonstrate their new skills to employers. A product executive summarized, "*A lot of things make our programs not look like MOOCs, and instead look like really immersive virtual learning experiences.*" Finally, Maverick framed its techno-degree as a new product category within higher-education and with a legitimating hybrid label (Wry et al. 2014). Maverick started advertising the "techno-degree" on social media. A student, for example, said, "*So Maverick started popping up on my Facebook feed, and I see this program....And it looks like they have hiring partners!*"

Also important for optimal distinctiveness was grading. Similar to universities, Maverick saw the need for "grading", preferably by humans. Yet, scaling grading online was a challenge. In late 2014, Maverick employees began grading. Students loved this grading, but disliked the week-long turnaround. So Maverick experimented with "*Uber for graders*" in which Maverick graduates and others would grade assignments on a piece-rate basis. Over time, Maverick experimented to refine this activity, and ultimately attracted enough graders to return assignments in 2 hours. The cost was also lower cost than employee-graders. A key point is that "Uber" grading is optimally distinct – i.e., it resembles university

grading, but is "better" for at least these students. An executive described,

> *We built an Uber-like platform. Now every person with a computer can become a global code reviewer...They give students back a very insightful and detailed, human-level, expert-level review of their work, typically within two hours. Including detailed feedback on coding style, what works, what doesn't work, and so on.*

He continued, *"Anybody who's been in college is saying, 'Is this possible?'"*

Similar to universities, Maverick also introduced "student advising", "placement services" and "scholarships" activities, but again by experimenting. For example, Maverick experimented with one-to-one advising by hiring mentors and then A/B testing to learn how to provide online advice effectively at scale. Experiments included varying the time zone, language, content, and instructor skills. The mentoring manager touted what he termed "*very tightly-controlled experiments".* He described a typical experiment,

> *We ran things like, what if the instructor is a subject-matter expert vs. what if they're not?...We split the students up into halves, and we had a control and an experiment. Then when we compared the two groups and found actually 35 percentage points higher in terms of progress in the experiment.*

Learning about placement was particularly helpful to Maverick because it led to insights for improving the content of techno-degrees, like iOS Developer. A content manager described,

> *We spent hours scouring job descriptions and interviewing hiring managers to identify the key skills they look for in iOS Developers. The result is a curriculum specifically designed to meet the needs of the job market, with portfolio projects that give you key technical talking points in any interview.*

Another key point is that Maverick's optimally distinct activities were often consistent with the profitability needed for a successful strategy. For example, the team introduced "scholarships" for students, but corporate partners paid. These scholarships let companies access job candidates and tout their corporate social responsibility. Maverick, in turn, increased revenue and profit.

By the end of 2015, Maverick's strategy was complete: elite technology companies provide faculty, unique courses, and high-status brands. These and other firms provide jobs. Working professionals pay (or have scholarships), complete techno-degrees and take the jobs. Maverick provides the platform, course production, and global reach. Supporting activities like degrees, grading, and mentoring exist. Post-study, this strategy was succesful, accelerated revenue growth and achieved profitability in 2019

after Maverick raised Series D and became a unicorn in 2015 (Table 3). Maverick continues to prosper

(Table 3, Appendix) . As one executive said,

> *We're the only ones that can say we work with partners like [top technology companies] to*
> *create cutting-edge content that allows you to get a job.... Nobody says that!*

Diplomat: Segue and co-create profitable activities with willing partners

In diplomacy, coalition partners have overlapping interests, but rarely identical ones (Freeman

1997, Nye 2008). So, nations try to shift coalitions toward their own interests, often by co-creating

favorable compromises with willing partners. For Diplomat, its coalition formation (above) gave the

venture a legitimate, valuable position in the field that set the stage for a shift toward its own interests.

Thus, Diplomat continued its strategy formation process by 1) segueing toward a successful strategy and

2) co-creating profitable activities using collaborative learning with willing partners.

First, Diplomat engaged in a <u>segue</u> toward a successful strategy in early 2014 (Table 7). By *segue,*

we mean a slow, subtle shift in strategy. Like diplomacy among nations, Diplomat's segue was quiet and

discrete, enabling pursuit of its commercial interests without upsetting its university partners. Given the

slow pace of established fields like higher education and the antipathy of some towards the profit-making

logic of ventures, a segue (not a pivot) was wise. A co-founder described,

> *Universities are venerable institutions with a lot to offer, really amazingly smart, mission-*
> *driven people, and so on. But not the most nimble, not the most risk taking, especially when it*
> *comes to—I think legitimately—things that are at the core of what makes them who they are,*
> *their content, their faculties, their brands. And so it took a while to convince them that the*
> *rewards were worth the risks.*

So unlike Maverick's an abrupt pivot announced in the media, Diplomat made a slow and subtle segue .

The segue began with a new CEO. The two co-founders were academics. They amicably stepped

aside as the board sought a new CEO. As one early employee said,

> *There was a mutual understanding that the company had reached a stage of growth where*
> *you needed someone with management experience. It was pretty clear that [co founders]*
> *were very good at being visionary and talking. But none of us, especially them, had*
> *experience running a company.*

The dilemma was finding a new CEO who understood business while also reassuring Diplomat's

partners. As in diplomacy among nations, Diplomat's choice of top leadership would be a strong signal to

its partners about the venture's future intentions. An executive described the dilemma,

> *One point weighing on everybody's mind was what would be the universities' reaction to a change in leadership….So let's say you bring in someone from Google or Wall Street, they would spook everyone. Like "Oh, now they're just going to grab content and make money."*

The board shrewdly resolved this dilemma. The new CEO was a prestigious academic researcher and a successful president of an elite university. He could frame Diplomat's position within the higher education field reassuringly. As he noted, "*It's the mission of a great research university to advance knowledge through research and disseminate it through teaching.*" He went on, *"Diplomat is scaling the teaching mission by orders of magnitude."* Further, this CEO had enormous academic credibility among leaders in the higher education field around the world. An executive described,

> *It was a natural thing coming from one of the most prestigious universities going to a company where we recruit the very best universities in the world. The CEO came with a lot of connections. The CEO knew all of the presidents of leading American universities, most of the leaders of universities in Asia, and quite a few in Europe.*

Yet, the new CEO also understood business and the university as a business given his many years as a university president. Overall, this CEO was an ideal choice – i.e., a reassuring profile to persuade reluctant university partners to let Diplomat make money.

Diplomat continued its segue by adding "successful strategy" to the new CEO's mandate. As the new CEO stated, "*I was brought in to perfect the transformation from a pure scale play with no monetization model to make it a business.*" Now the board expected Diplomat to capitalize on its university relationships and their brands as competitive advantages, and monetize them in a successful strategy. Yet, the risk was "*losing partners*", an executive noted. The new CEO elaborated,

> *One [issue] was, we need a monetization model. We need to make this a company. A second was, we want to make sure our relationships with the university partners are really solid, and not ephemeral....We all understand that the value of Diplomat was, in large part, its university brands.*

Finally, although the CEO mandate changed, Diplomat's cooperative (not competitive) vision did not. The new CEO reaffirmed, "*We're very mindful that we don't want to be a university. We want to be a facilitator…Make the great universities have an even bigger impact on the world.*"

Diplomat continued its segue by shifting employee attention toward a successful strategy. For

example, the new CEO added several committees to brainstorm new product ideas that could be profitable. A manager described these committees as "*let many flowers bloom*". Previously, Diplomat had <u>never</u> chosen specific courses or students. Rather, it had left these decisions to universities. Now, employees were thinking strategically about products, markets, and profitability.

Second, this segue led to <u>co-creating profitable activities</u> using collaborative learning with willing partners to complete the strategy. For some university leaders and even more faculty, profit was associated with unsavory for-profit "universities" like University of Phoenix. An executive described this tension, *"There's a tension with us being for-profit and them feeling some mistrust like 'are they going to take advantage of us?'"* A partner noted, "*Diplomat is a for-profit company. That scared a lot of people. Because if you have a for-profit company at the center....it's just centralization of power".* So, like nations trying to shift their coalition by co-creating favorable compromises with willing partners, co-creating profitable activities was key to Diplomat's shifting its coalition toward a successful strategy[12].

An early co-creation was the paid credential. In mid-2014, Diplomat floated an idea among its university partners for a sequence of MOOCs, but did not tightly define it. As a professor noted, "*I'm not sure Diplomat had nailed down the terminology and how they were going to deliver...It was informal."* While most were disinterested, 3 professors at a small university opted in. Their data analytics MOOC had attracted over 100,000 students. Diplomat and these professors collaboratively learned about the activities for what they termed a "credential" like its timing, pricing, and content. A key point is that these professors valued the creativity of Diplomat's collaborative learning approach. One said,

> *The intersection of Diplomat and our university being really flexible has allowed us to do really creative things...to deliver education in a way that nobody's done before.*

Diplomat unveiled the mutual financial and student success of this credential at its annual Partners Conference. An executive called it "*an accidental home run*" while some attendees called it a

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[12] It is hard to remember the extreme uncertainty of MOOCs and reluctance to monetize them by universities, that seems trival now. As an excutive told us, "*You have to understand that…persuading universities to grant credit for online courses or if they are a first tier university, associating their name with them was very very difficult then.."*

"*blockbuster*". Many saw this credential as a "*pivotal moment*" – i.e., universities finally saw the possibilities of MOOCs to make money, not just democratize education. A manager noted,

> *This was the first time universities started to see, "Whoa. I could actually make some real money from this thing, and hire more faculty, have more..." Until then, I think it was for most of them, like a philanthropic offering.*

Moreover, the field saw Diplomat's partner as a top-tier research university, thus adding legitimacy to the paid credential. A partnership manager noted, "*All of a sudden [small research university] was making millions…Now there wasn't such a gap necessarily between being able to serve learners vs. being able to actually make a profit.*" A Diplomat executive summarized how the paid credential was a turning point in forming a successful strategy,

> *It was a big turning point for the company because we said, "Hey okay, we can make money!" Before then, Diplomat <u>never</u> had a content strategy. We just let partners put up whatever they wanted. We went back to our partners and said, "Hey look, this is the kind of revenue [small research university] is making."*

> Yet, like diplomacy (Nye 2008), unilateral creation often fails, as Diplomat saw with on-demand.

Inspired by Netflix, Diplomat unilaterally developed a platform for on-demand courses. A manager noted,

> *One of the big pushes was to move our content to an on-demand….The idea was, "Hey, this content is what we have. We should be running it all the time.*

University partners, however, objected. One partner challenged, "*Is Diplomat really going to be the Netflix of education?*" Others argued that on-demand would fail. A partner declared, "*I became a very vocal voice <u>against</u> on-demand, just because of learner behavior. I know they need structure.*" On-demand also broke long-held norms in the higher education field. A manager described,

> *When you try to get people whose product is so intimately tied to a specific time and space to change, the idea of blowing these up makes their heads explode! University administrators and faculty don't like that feeling. So they put their foot down.*

Despite these objections, Diplomat pushed ahead and failed. As university critics predicted, learners actually do need due dates and structure. After this setback, Diplomat collaboratively learned with a few partners, including experiments with timing of start dates, cohorts, and deadlines. Collaborative learning was slow, but part of co-creation with universities. As the CEO noted,

> *The first impulse is, "It's the Internet!...People should get this whenever they want it."Yet*

these changes took many conversations with our leading partners. You know, meetings and conference calls and campus visits, to get people on board...That's slowing things down in terms of adopting new features or new pricing models. We just have to live with that.

Diplomat continued with co-creation. In late 2014, a large public university brought an idea for a MOOC-based MBA to Diplomat. Prior to its segue, Diplomat agreed to almost any partner's idea. Now, the team prioritized profit, particularly the relevance of scale for profit,*"We're playing for scale and don't want to introduce features that would maybe improve learning, but reduce capacity."* By these criteria, Diplomat saw a MOOC MBA as attractive. For university leaders, reaching many people with a low-cost degree was central to its mandate as public university. As one described,

We started with, "If we could offer this [MBA] at a much lower cost….How can we do that, but still have it be financially viable for the institution? Well, we can scale it…with MOOCs!"

The parties began collaborative learning, described by both as*"creative"* and *"agonizing"*. The eventual degree was novel with 4 unique credentials. A key point is again that this university partner valued Diplomat's collaborative learning approach. A member told us, *"Diplomat was willing to have that conversation with us".* A lead administrator echoed,

One of the things I really liked about Diplomat was their willingness to listen to our ideas and actually implement them. And some of them were a little bit crazy...We didn't want to just take the traditional degree and put it online because we didn't think that would work.

Finally, a particularly critical co-creation was the paywall. In 2015. Diplomat had an idea for a freemium revenue model – i.e., free access to all courses, but payment for assessment and credit. An executive described this as the "*next step to profitability"* A product manager elaborated,

We landed on a model where you could watch all the videos in any course… but you can't take or submit the assessments, and get feedback on them, unless you're a paid student.

Diplomat's executives astutely framed the paywall as a benefit for universities: revenue for them and necessary for Diplomat's survival. An executive described,

We essentially persuaded administrations that this was in their long-term interest. "If you want us to stick around and be able to do this for you, distribute these courses. We have to create something people will pay for.

After gaining agreement, Diplomat then used collaborative learning (e.g., A/B testing of price points) with several universities. The pace again was slow. An executive noted, "*We could've done that [paywall]*

six months earlier. We were hesitant… about offending our partners."

By the end of 2015, Diplomat's strategy was complete: university partners provide faculty, wide-ranging courses, and brands. A variety of learners enroll in courses, certificates, and degrees (some paying, many not). Diplomat provides the platform and global reach. Profit-making activities like credentials, a paywall, and degree programs exist. Post-study, this successful strategy led to accelerated revenue growth. Diplomat continues its position as the market leader, after raising series D and unicorn status (Table 3). The CEO summarized, *"We figured out monetization of MOOCs."* A board member added,

> *We navigated the tension between the startup world and the university world relatively well…We were able to convince the universities that we were not greedy business people out to put them out of business, but really part of who they were. And we were all in it together.*

Summary. After its pivot, Maverick better navigated the higher education field even as it continued learning about the nascent MOOC market. By adding optimally distinct activities, it assembled activities that were commercially successful, but also signaled legitimacy in the field. After its segue, Diplomat better learned about the nascent market in collaboration with willing partners even as it maintained its valuable coalition. By co-creating profitable activities, it assembled activities that were legitimate in the field, but also commercially successful. Overall, each venture both learned about the nascent MOOC market and navigated the higher education field. Each also effectively formed its strategy (Table 3).

A key question is why were rivals largely ignored in these strategy formation processes[13]. A key reason is likely that high-performing ventures like ours are largely self-focused in their strategy formation. As McDonald and Eisenhardt (2020) describe, these ventures engage in "parallel play" such that they focus on figuring out their own strategies in their highly uncertain nascent markets. In these markets, it is too uncertain to know how to differentiate other than from substitutes or know what resources will be valuable. Their peer ventures are small and insignificant. So they focus on figuring out their own strategies. In other words, high-performing ventures "*play the course, not the players*"

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[13] We thank our Editor for the advice to address why competitors did not appreciably influence strategy formation.

(McDonald & Eisenhardt, 2020). Consistent with parallel play, a Maverick founder said, "*I don't worry about other ventures.*" Similarly, an investor advised Diplomat, *"Focus on the quality of the product itself and gaining traction with universities and students, the rest will take care of itself*." In contrast, strategic positioning and interaction may be more germane in mature markets (e.g., products, customers and rivals clarify), not nascent ones (Furr & Eisenhardt 2021).

DISCUSSIO

We began by asking how ventures effectively form strategy in nascent markets that emerge in established fields, especially where commercial logic is not dominant. Many of society's most critical challenges such as increasing access to education (Christensen et al. 2015), improving public health (Gao & McDonald 2022), developing sustainable energy (York et al. 2016), building smart infrastructure (Zuzul & Edmondson 2017), and enhancing national security (Wang et al. 2020) occur in these fields. But, they also present ventures with the dual challenge of forming a successful strategy in a nascent market while changing an established field. By tracking two closely matched ventures from founding until forming a successful strategy, we contribute a theoretical framework of two different yet effective strategy formation processes. Finally and despite their distinctions, they share the same problem-solving structure of a novel, complex problem.

Broadly, we also contribute to *institutional theory and institutional entrepreneurship* by adding a diplomacy lens that emphasizes coalitions and performance outcomes rather than just regulation and change. To *learning theory and entrepreneurship* in nascent markets, we add limits to experimentation and pivots, and the value of collaborative learning in established fields. Overall, we answer the call to study commercial entrepreneurs who are also institutional entrepreneurs (Battilana et al. 2009).

Strategy formation in nascent markets within institutional fields

Our primary contribution is a theoretical framework for how ventures can effectively form strategy in nascent markets within established fields. It consists of two processes (Figure 1). One is a *competitive, learning-centric* process. It begins with a 1) competitive vision of the venture as a substitute and ultimately replacement for field incumbents like traditional universities. Given this vision, there is little

reason to engage with field incumbents. Instead, this vision encourages 2) <u>broad learning</u> to resolve at least some uncertainties of the nascent market. But since ventures may not have yet formed a successful strategy, they change direction by a 3) a <u>pause</u> to consolidate learning and <u>pivot</u> toward a more promising strategy. The pivot sets the stage for 4) adding <u>optimally distinct activities</u> in order to complete the strategy. These activities are both familiar and expected (and thus legitimate) within the field, but also different and ideally more effective the nascent market. Overall, the <u>central idea</u> is that ventures can effectively form strategy by resolving at least some uncertainties of the nascent market, and then pivoting to navigate and change the established field by learning optimally distinct activities (i.e., ones that are both legitimate and commercially effective) to complete the strategy.

The second process is a *cooperative, diplomacy-centric* one. It begins with a 1) <u>cooperative vision</u> of the venture as a complementor to field incumbents like traditional universities. Given this vision, it is important to engage with the field. So this vision encourages 2) <u>broad coalition formation</u> in the established field, including bilateral and multilateral relationships, to become a legitimate and valuable field member. Yet, since ventures have not yet formed a successful strategy, they change direction by a 3) <u>segue</u> toward a more promising strategy. This segue sets the stage for 4) co-creating <u>profitable activities</u> using collaborative learning with willing partners to complete the strategy. Overall, the <u>central idea</u> is that ventures can effectively form strategy by becoming a legitimate, valued field member, and then seguing to resolve nascent market uncertainties by using collaborative learning to co-create profitable activities (i.e., ones that are both legitimate and commercially effective) to complete the strategy.

A key question is why are both processes effective? First, both *address the dual challenge* that ventures in nascent markets within established fields face: learning about the uncertainties of a nascent market to form a successful strategy while gaining the legitimacy to change an established field. But, they do so in different sequences. Thus, while Maverick's process first emphasizes learning about the nascent market, it later calls for assembling optimally distinct activities that add legitimacy within the field. Similarly, while Diplomat's process first emphasizes gaining legitimacy in the field, it later calls for adding profitable activities via collaborative learning to resolve uncertainties in the nascent market. Thus

despite different sequences, both processes address learning about a nascent market and gaining

legitimacy in an established field.

A second and more subtle reason is the *problem-solving structure* of both processes. That is, both

begin by focusing on one task: learning in the nascent market <u>or</u> building legitimacy in the established

field – but not both. Why? This structure fits with strategy formation as a novel, complex problem

(Baumann & Siggelkow 2013, Ott & Eisenhardt 2020). By *novel*, we mean a problem that is new and not

previously seen like strategy formation in a nascent market. By *complex*, we mean a problem with

multiple, interconnected activities like strategy formation that combines legitimating and commercially

effective activities in an established field. Such problems require *hybrid problem solving* – an approach

that transcends modular and integrative problem solving (Baumann & Siggelkow 2013, Bremner &

Eisenhardt 2022). That is, actors partially solve one part of the problem, shift direction, then solve a

second part while building on the partial solution to the first. This repeats until the entire problem is

solved. Similarly, our ventures partially solved either the market (Maverick) or the field (Diplomat),

changed directions, and then tackled both by building on the first. In contrast, trying solve the field and

the market in parallel as separate modules (modular problem solving) risks loss of fit (Baumann and

Siggelkow 2013). Trying to solve them together simultaneously (integrative problem solving) is too

difficult because too much happens at once with tasks that are too different – i.e., experimentation to learn

v. forming relationships with universities require very different skills, operating at different speeds

(Bremner and Eisenhardt 2022). Finally, switching between the two is inefficient – i.e., increases

completion times, lowers effectiveness, and increases forgetting (Monsell 2003, Rubinstein et al. 2001).

Thus despite different steps, both processes have the same underlying hybrid problem solving structure

that fits a novel, complex problem like strategy formation in a nascent market within an established field.

Contributing to institutional theory and institutional entrepreneurship

We also contribute to institutional theory and institutional entrepreneurship. First, we add the

diplomacy lens. A key strand of institutional entrepreneuship research examines how actors attempt to

influence public policymakers, especially regulators (Ansari et al. 2016, Gurses & Ozcan 2015, Lee et al.

2018). These regulators are often seen as single actors with the mission of serving the public good (e.g., Gao & McDonald 2022). In contrast, Diplomat faced different circumstances for which the diplomacy lens and its related tactics are particularly well-suited. That is, diplomacy adopts the point of view of a nation and how that nation can pursue its own own interests in an interconnected world (Freeman 1997). Thus, like a nation, a venture is a standalone entity operating in a larger context of many other organizations that have different interests and often different values and norms.

By adding the diplomacy lens, we contribute its field-changing tactics to institutional entrepreneurship. Field-changing tactics like solidifying bilateral relationships at multiple hierarchical levels, and adding multilateral relationships (Nye 2008) add the richness of coalitional moves. These expand institutional entrepreneurship beyond forming high-status relationships. In addition, we add the importance of field-changing tactics like partnership teams, annual meetings, and advisory boards that maintain coalitions and have corollaries in diplomacy, as noted earlier. A key point is that coalitions can, over time, be a source of competitive advantage, as occurred at Diplomat. Finally, we add the field-changing tactic from diplomacy of collaborative learning to co-create a series of wins that accumulate and change the trajectory of the field.

Second, we contribute to institutional entrepreneurship by including *performance* in the dependent variable. Prior work typically focuses on field change as the dependent variable (e.g., Battilana et al. 2009, Pacheco et al. 2010). While useful, we broaden institutional entepreneurship by using effective strategy formation, including financial performance, as the dependent variable. In doing so, we begin to bridge the gap between commercial and institutional entrepreneurship. As Zuzul and Edmondson (2017) note, even a well-endowed venture that focuses only on institutional entrepreneurship rarely survives.

Contributions to learning theory and entrepreneurship

By extending to the important context of established fields like healthcare, defense and education, we make several contributions to the literature on learning theory and entrepreneurship in nascent markets. First, we add *limits to rapid experimentation and pivots*. A key research strand emphasizes the value of these practices to resolve uncertainties and accelerate the progress of strategy formation in

nascent markets (Andries et al. 2013, Contigiani & Levinthal 2013; Ott & Eisenhardt 2020; Camuffo et al. 2022). Yet, as we saw with Maverick's rapid experimentation in a university system and Diplomat's rapid on-demand platform, this experimentation can be a misfit with the slow pace of many established fields. This experimentation can also lead to frustration with field incumbents and mistakes in understanding the field. Related mantras like "fail fast" and "move fast, break things" can be out of step with values like protecting vulnerable students and norms like collective governance in universities. Similarly, the subtley and discretion of segues fit well with changing direction in an established field, whereas pivots may be too abrupt. Pivots can also take ventures away from addressing the "hard problems" of the field (e.g., remedial education for disadvantaged students) that have high social value, as we saw at Maverick. Overall, rapid experimentation and pivots likely require a slower pace and greater contextual awareness in established fields such as we studied.

Second, we add *collaborative learning* to the repertoire of learning processes in nascent markets. Although it can be slower than other learning processes, collaborative learning with willing partners can be effective for introducing innovations that change an established field. As we saw at Diplomat, these partners often have field-specific knowledge and legitimacy - both of which are useful for helping ventures to move the field in the direction of their interests. As we also saw, the success of these partners can also provide role models that stimulates change by other incumbents. A key to collaborative learning is for the venture to give partners the flexibility to co-create rather than trying to force a particular change. Overall, collaborative learning emerges as an essential learning process when ventures attempt to change an established field.

Boundary conditions, limitations and future directions

As in all theory-building studies, it is essential to address potential boundary conditions. One is whether our theoretical framework generalizes to *mature firms* diversifying into a nascent market within an established field. On the one hand, if the mature firm is new to the field and lacks existing relationships and legitimacy, then it is likely to face the dual challenges that our theoretical framework addresseses. Here, our framework is likely to generalize. One the other hand, if the mature firm is already

in the field and has existing relationships with field incumbents, then our framework may still apply but only modestly.

Another potential boundary condition is whether our theoretical framework generalizes to *other fields.* On the one hand, if the field is an established one with incumbents (like higher education, but also fields like healthcare, national security, and public infrastructure), then our framework likely generalizes. If the field also involves regulation, then prior work on regulatory actors is also likely to be relevant (Gao & McDonald, 2022). On the other hand, if the field is new, incumbents and their status order may be unstable, unclear, or non-existent. Here, the formation of strong coalitions is likely useful as per our framework, but it is unclear with whom and how to form such coalitions. In fact, since the field itself may lack legitimacy, creating field legitimacy may be paramount (Wry et al. 2014; Navis & Glynn 2010; Grodal 2018). Thus, our theoretical framework likely has relevance, but is only modestly useful. Overall, while our theoretical framework likely has some generalizeability, testing it and clarifying its generalizability are key avenues for future research.

Like all research, ours has limitations.[14] One limitation is the potential for over-detemined theory, especially with two cases. As described in Methods, we took mitigating steps like regularization (i.e., including only major constructs) and theoretical arguments (i.e., mitigate random correlation and incorrect abstraction of constructs). Nonetheless, our theory may be over-determined. A second limitation is the possible existence of other effective processes. As noted above, our two processes share the same problem-solving structure – one that fits novel, complex problems such as we studied. While this shared structure helps to mitigate the possibility of other effective processes, we cannot rule out that such a process exists. Another limitation is studying only successful ventures. Unlike theory-testing studies using random sampling, our theory-building study uses theoretical sampling such that our unique matched-pair sample is suitable (see Methods). Also, both ventures made mistakes that offer counterfactuals that sharpen theory-building like Diplomat's foregoing co-creation with on-demand. That

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[14] We appreciate reviewer advice to consider limitations, especially of our sample of two successful cases, and mplications/tradeoffs of the 2 processes

said, unsuccessful ventures could sharpen our theory. Finally and as per Methods, our sample design mitigates many alternative explanations, but not all. Overall, future research that tests our theory, including larger samples and greater outcome variation, is a critical next step.

CONCLUSION

We began by describing the dual challenges of strategy formation faced by ventures that enter nascent markets within established fields. This is an important context where many crucial societal challenges occur. By tracking two closely matched ventures in the nascent MOOC market that emerged in the U.S. higher education field, we ask how do ventures effectively form strategy in these settings. Our primary contribution is an emergent theoretical framework that describes two contrasting yet effective strategy formation processes. In doing so, we begin to bridge the gap between institutional and commercial entrepreneurship. The next step is empirical test.

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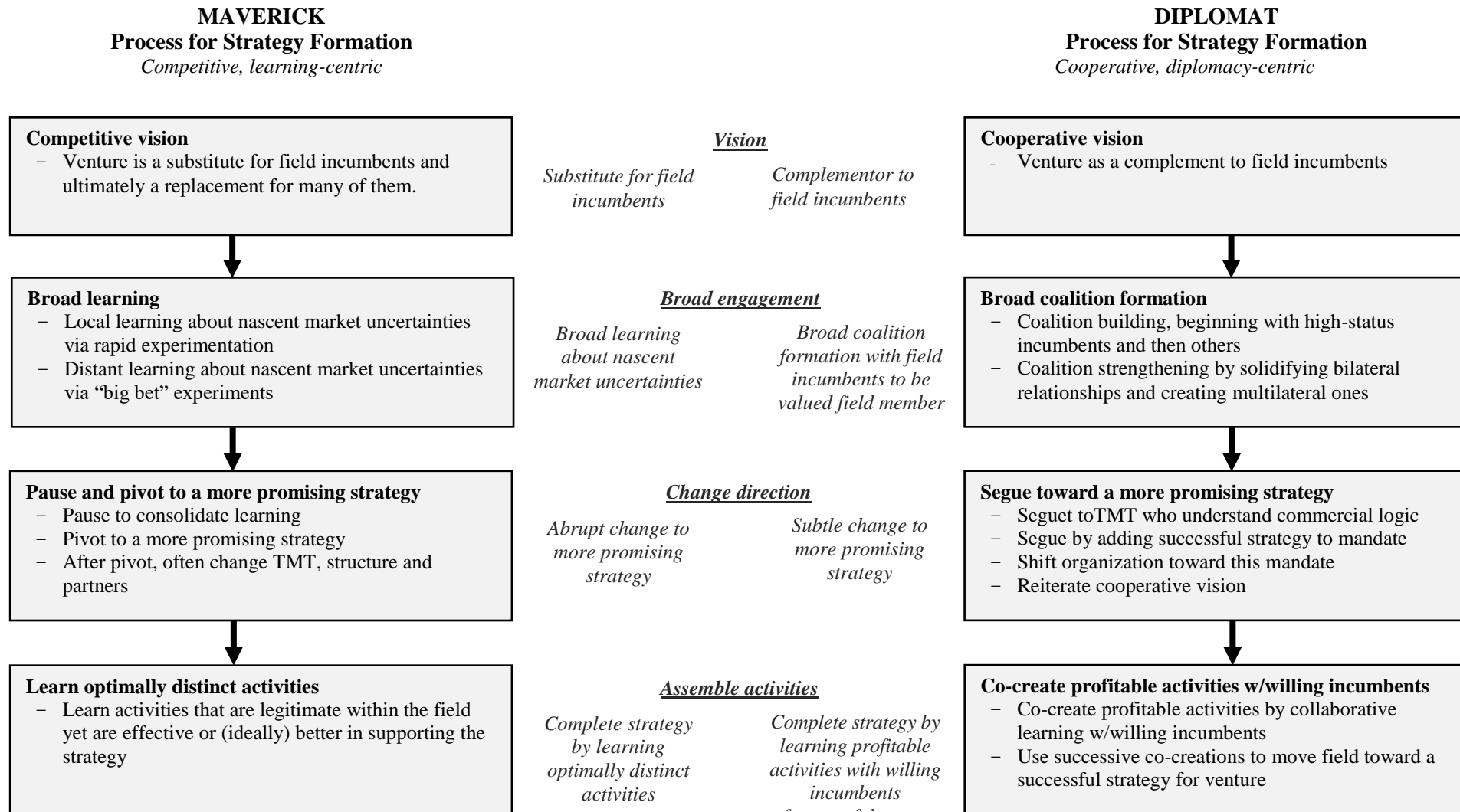**Figure 1. Process model of effective strategy formation in nascent markets within established fields.**

MAVERICK **Process for Strategy Formation** *Competitive, learning-centric*		DIPLOMAT **Process for Strategy Formation** *Cooperative, diplomacy-centric*

Competitive vision
- Venture is a substitute for field incumbents and ultimately a replacement for many of them.

Vision

Substitute for field incumbents

Complementor to field incumbents

Cooperative vision
- Venture as a complement to field incumbents

↓

Broad learning
- Local learning about nascent market uncertainties via rapid experimentation
- Distant learning about nascent market uncertainties via "big bet" experiments

Broad engagement

Broad learning about nascent market uncertainties

Broad coalition formation with field incumbents to be valued field member

Broad coalition formation
- Coalition building, beginning with high-status incumbents and then others
- Coalition strengthening by solidifying bilateral relationships and creating multilateral ones

↓

Pause and pivot to a more promising strategy
- Pause to consolidate learning
- Pivot to a more promising strategy
- After pivot, often change TMT, structure and partners

Change direction

Abrupt change to more promising strategy

Subtle change to more promising strategy

Segue toward a more promising strategy
- Seguet toTMT who understand commercial logic
- Segue by adding successful strategy to mandate
- Shift organization toward this mandate
- Reiterate cooperative vision

↓

Learn optimally distinct activities
- Learn activities that are legitimate within the field yet are effective or (ideally) better in supporting the strategy

Assemble activities

Complete strategy by learning optimally distinct activities

Complete strategy by learning profitable activities with willing incumbents

Co-create profitable activities w/willing incumbents
- Co-create profitable activities by collaborative learning w/willing incumbents
- Use successive co-creations to move field toward a successful strategy for venture

Table 1. Sample ventures.

	Maverick	**Diplomat**
Founding conditions		
Location	United States, metro area	United States, metro area
Origin	A founder offered a university course online to anyone for free (attracted over 100,000 learners)	A founder offered a university course online to anyone for free (attracted over 100,000 people)
Founding date	Early 2012	Early 2012
Aim	Democratize education by making elite university courses accessible to anyone	Democratize education by making elite university courses accessible to anyone
First-year funding	$20M venture capital from premier VCs and angels	$20M venture capital from premier VCs and angels
Founding team		
Co-founder	Prominent professor at elite university	Prominent professor at elite university
Age	Early 40s	Mid 30s
Industry experience	Co-founder of a corporate research lab	Co-founder of a corporate research lab
Venture experience	None	None
Highest degree	PhD	PhD
Co-founder	University researcher	Prominent professor at elite university
Age	Late 20s	Early 40s
Industry experience	Scientific research organization	None
Venture experience	Engineer in 2 technology ventures	None
Highest degree	PhD	PhD
Co-founder	University researcher	
Age	Late 20s	
Industry experience	None	
Venture experience	None	
Highest degree	BS	

Table 2. Overview of data sources.

Source	Primary purposes	Maverick		Diplomat	
		Count	Details (first-hand)	Count	Details (first-hand)
Internal interviews	Firm history including key events and actions, partnerships, decisions, experiments, decision making, mistakes, and miscellaneous other info about venture	43	4 (2)　Investors and board members 17 (2) Co-fdrs, CEO 16 (8)　Executives 6 (5)　　Managers	49	3 (3)　Investors and board members 16 (2)　Co-fders, CEO 18 (14) Executives 12 (12) Managers
External interviews	Same as internal interviews	8	3 (2)　Advisors 5 (3)　Partners	15	2 (2)　　Advisors 13 (9)　Partners
			11 MOOC market experts – relevant to both ventures		
Media articles Focal	Key events and actions, product launches, executive changes, funding rounds, performance, decisions and other miscellaneous info related to venture	71	*New York Times, Wall Street Journal, Wired, Chronicle of Higher Education, Tech Crunch,* and similar media articles related to focal venture	61	Similar news articles
Relevant venture blogs	Key events and actions, new products, executive changes, partnership announcements, performance, and miscellaneous info related to venture	36	Relevant ones from over 1000 (selected by promising titles and key word searches)	24	Relevant ones from over 700 (selected by promising titles and key word searches)
Employee reviews	Comments on topics like organizational strengths and weaknesses, leadership style, and compensation	140	Glassdoor	133	Glassdoor
Class Central	Detailed record of partners and courses for each venture since founding				
Teaching case	Diplomat only. Key events and actions of focal venture. Venture history. Overviews of MOOC market and higher education field.				

Table 3. Effective strategy formation

Effective strategy formation	Maverick	Diplomat
Complete strategy (End of 2015)	<u>Learners</u>: Technical professionals who want a better job. <u>Products</u>: Courses that comprise a "techno-degree" for advanced tech jobs. <u>Partners</u>: Executives from corporate partner design & teach courses. Corporate partners hire graduates. <u>Business model</u>: Marketplace connecting learners w/ courses and a marketplace connecting learners w/employers. <u>Revenue model</u>: Learner pays subscription fee, some subsidized by corporate scholarships	<u>Learners</u>: Wide variety of traditional students, professionals looking to upgrade skills & lifelong learners. <u>Products</u>: Wide variety of university courses plus focused certificates and degrees. <u>Partners</u>: Faculty of university partners design & teach courses. <u>Business model</u>: A marketplace that connects courses, certificates and degrees with learners. <u>Revenue model</u>: Freemium courses, paid certificates and paid degrees. Revenue split w/universities. Otherwise free.
Successful strategy *Revenue 2014* *2015* *2016* *2018*	Several million $20M $29M $90M	$3M About $10M $60M $140M
Market share *Profitability* *(net positive income)*	Consistent #2/3 in US, top 5 global Yes (2019)	Consistently #1 in US and global Yes (2019)
Indirect quatitative indicators *Series D* *Unicorn* *Employees 2015,2016* *Partners 2015,2016* *Learners 2015,2016* *Courses 2015, 2016*	Yes (2015) Yes (2019) 130, 220 19, 20 corporations & 1university 4,5 million 123,170	Yes (early 2017) Yes (early 2017) 220, 300 135,150 universities & corporations 17,23 million 1545, 2303
Successful strategy representative quotes	*We're the only ones that can say we work with partners like [top tech firms] to create cutting-edge content that allows you to get a job.... Nobody says that!* (Executive) *Maverick just nailed it ... Careers are aspirational and everybody tries to do that but Maverick is way, way ahead.* (Expert) *Maverick is by far the leader in terms of execution, they seem to have it together ... They're solving an actual employee problem.* (Media)	*We navigated the tension between the startup world and the university world relatively well…We were able to convince the universities that we were not greedy businesspeople out to put them out of business, but really part of who they were. And we were all in it together. And I think that was absolutely critical to our success.* (Co-founder) *Diplomat has the advantage of working with most highly regarded brands in higher ed.* (Media) *Diplomat is the most stable and secure EdTech.* (Media)

Table 4. Maverick Era 1: Competitive vision and broad learning (2012-2013)

Process steps	Actions	*Representative illustrations*	Results	*Representative illustrations*
Competitive vision	• Replace universities through new MOOC technologies - 3/3 founders and all investors agreed (*early 2012 – late 2013*)	*We're really trying to disrupt higher education.* (Co-founder) *By using technology, we can make the cost per student really low while delivering a high-quality learning experience.* (Executive) *I don't think they had a business model other than disrupt Harvard.* (Investor)	• Major media attention (e.g., 17 focal articles in outlets like *New York Times, Tech Crunch, Chronicle of Higher Education*)	*Maverick is the gorilla of MOOCs* (National news article) *Big-name universities are understandably loath to alter long-held procedures...So be it, Maverick says.* (National news article)
Local learning via rapid experimentation	• Rapid experimentation of course variations - Instructors - Content - Video length - Quiz features - Screens (*early 2012 – mid 2013*)	*We often do A/B testing where we test two different ways of conveying something and observe the effect.* (Co-founder 3) *Listening to customers. I spent hours every day chatting with students, having phone calls. We call the people who drop out, and find out what's going on.* (Co-founder 2) *When the data didn't match the vision, instead of going, "Screw 'em, what do they know? They're only my customers," Maverick dealt with the ugly fact.* (Investor)	• Improved course design • Improved student retention • Identified additional student needs - Mentoring - Credit - Degrees - Payment	At first. *So while we were being celebrated as the big disruptor, the heroes who finally brought higher education into the 21st Century, the numbers didn't work!* (Maverick co-founder) Later. *Lots of core data about the learning experience. Impoved retention.* (Co-founder)
Distant learning via "big bet" experiments	• First MOOC online MS degree - Elite public university partner - $7000 price - MS degree for outstanding grad students (*mid 2012 - late 2013*)	*This is truly a moon shot, and much of what we project are speculations at this point. But if this model stands, it could serve as a blueprint for making higher education more accessible in the 21st century.* (Co-founder) *It is an experiment that no other institution of our caliber has embarked on (yet!)...An opportunity to be a leader rather than a follower if we act quickly.* (University administrator)	• Fast process for university • Slow and unfamiliar process for Maverick • Later, high demand (e.g., 2300 applications) • Later, highly successful degree	*We found the right match in our partnership and really stopped a lot of the other conversations we were having.* (Executive) Later. *They were able to not only serve a lot more students than their traditional program. They were serving categorically different students.* (Industry expert)
	• First low-cost MOOC courses for credit - Large public university system partner - $150 price - Remedial courses for freshmen	*The Governor...approached Maverick to come up with a technological solution for what has become a vexing challenge.* (News article) *You have the ability to change the entire system. It's great! It's innovative! Why wouldn't you do it, right?* (Maverick	• At first, low completion rates (about 40% v. 75% on-campus courses) • Later, better student outcomes but also extensive criticism - Backlash from faculty	At first. *Maverick recognized, Not only do we not know how to serve these people, we're not providing them the infrastructure they need."* (Industry expert) *We have to honest about the fact that we're experimenting. We are not perfect yet.* (Co-founder)

(*mid 2012 - mid 2013*)	executive)	- Media critique: *The Failure of Maverick* *Maverick Debacle*	<u>Later</u> *Completion rates in the pilots we've been running have been 85%, as opposed to 5% or 4% which is common in MOOC-land! (*Co-founder) Later, *There are real-world, long-term consequences when we "fail fast" in higher education.* (Faculty group)

Table 5. Diplomat Era 1: Cooperative vision and broad coalition formation (2012-2013).

Process steps	Actions	*Representative illustration*	Results	*Representative illustration*

Cooperative vision	• Help universities expand their mission & influence
	  - 2/2 co-founders and all investors agreed
	  (*early 2012*)
		I don't think we saw ourselves as disrupting education. (Co-founder)
		
		We see a future...where elite universities serve millions, not thousands. (Diplomat press release)
			• Attracted media attention (e.g., 18 key articles in *New York Times*, *Tech Crunch*, *Chronicle of Higher Education*)
			• Interest from elite universities
				Diplomat has captured lots of eyeballs...The cofounders emphasize the goals they have in common with their university partners...Universities may feel this is a trend they can't resist, and one that might even improve the way they do their job. (News article)

Coalition building	• Approach very high-status universities
	  - Affirm cooperative vision
	  - Multi-vocal pitch of MOOC opportunity & threat
	  (*early 2012*)
		There was something compelling in the story of democratizing education, in open [education], in finding scale and global reach, and the sort of charismatic leadership of Diplomat's academic founders....That there would be a few top-tier institutions that were going to engage in this MOOC space. (University administrator)	• Increased legitimacy w/ very high-status partners
			  - 4 top-20 universities
			  - Leveraged these relationships to build coalition
				We were very fortunate in having the early four universities that were at the top of the rankings...They really gave us a certain sense of legitimacy. (Co-founder)

	• Approach other top universities, reduce friction to join:
	  - No content requirements
	  - No partnership fees
	  - No required exclusivity
	  (*mid-2012 - mid 2013*)
		The value proposition for participating universities is clear – they can increase visibility, expand their programs, and derive meaningful analytics from a very large pool of participants. (Investor)
		
		In order to please our partners, we've pretty much let them put whatever content they want on...We're a coalition of the willing. (Executive)
			• Greatly expanded the size of the coalition
			  - *2012*: 29 more universities (primarily top 100 global)
			  - *2013*: 59 more universities (primarily top 200)
			• By far, leader in the MOOC market for courses
			  - *2012*: 200+ courses
			  - *2013*: 500+ courses
				Diplomat was kind of a "land grab," if you will, for signing up all the universities. Where it's like "get all the good names"....we want all the partners! (Executive)
				
				The earliest classes were random. "Who wants to sign up?" Universities tried to pick professors to represent the university well at teaching, were more famous, want to teach, and want to try out this new innovative teaching thing. (Executive)

	• "Speak the language" of different universities
	  - Identify specific interests
	  - Adapt value proposition
	  (*early 2012 – late 2013*)
		The value proposition varied depending on the university....You had to adjust your talk or speak slightly different languages. (Partnerships manager)	• Attracted diverse partners
			  - Public and private
			  - Research and teaching
			  - Geographically dispersed (4 continents, 19 countries)
				At its most basic level and broadest level, the value proposition was around opening access to education. For others, there was also the promise and the value of innovating...in particular teaching at scale. There was kind of a wide range of values for the institutions themselves.. (Partnerships manager)

Coalition strengthening	• Solidify bilateral relationships
	  - Partnerships teams as envoys to specific
		We have a team of partnership managers, a very talented group of mostly graduates of elite schools who travel regularly to visit the campuses	• Achieved ongoing direct channels with partners
			  - Ties with 100 universities
			  - Links to administrations,
				Academic institutions...care about their partnership managers. "Do they share their value system?" ... "Do I feel like

university partners (*early 2013 and beyond*)	*they're responsible for and keep the conversation going and try to inform...Their role keeps the relations with the university strong...We were cultivating our suppliers, not our customer.* (Executive)	faculty, and staff - Specialties with region-specific needs	*they get me?"* (Executive) *Partnership managers' portfolios would focus on particular regions because there were different needs for each of those regions.* (Partnerships manager)
• Add multilateral ties - Advisory Board (i.e., diplomatic council) (rotating group of 9 senior university leaders) - Provided insights on academic & business decisions (*early 2013 and beyond)*	*The Advisory Board was basically to get high-level buy in from some of our key partners as we thought about rolling out new policies.* (Executive) *The Advisory Board is made up of presidents and chancellors from different partners that represent different interests in the partner community.* (Manager)	• Aligned interests with partners - Anchored Diplomat in higher education field - Fostered collective identity among universities & Diplomat	*The Advisory Board, has been core to any of Diplomat's activities.* (Executive) *The university advisory board also plays a role here in keeping anchoring us a little more academic than the company otherwise would have.* (Executive)
- Annual conferences (i.e., summit conferences) for university partners	*The idea was to bring the partners together for basically two purposes. One, so the company could bring everyone up-to-date...The other major point was to create a space for our partners to discuss what they were doing and share their learning with one another.* (Executive)	• Increased collaboration & identity - with & among coalition members - Better communication wpartners - Better partner feedback - Collaboration among partners & Diplomat - Build common identity	*The partnership conference was a great opportunity to actually get real feedback from them, and all at once...They had different goals and it was interesting to see how much that varied, but they were all interested in getting more usage and getting more enrollments.* (Manager)

Table 6. Maverick Era 2: Pause, pivot, and add optimally distinct activities (2014-2015).

Process steps	Actions	*Representative illustration*	Results	*Representative illustration*
Pause to consolidate learning	• Reflected on learning from 2012-2013 - Several month pause - Stopped new activities - - Updated mental model (*late 2013 - early 2014*)	*This was the start of some really hard introspection...A time where I would say we were in the wandering period. You know, what do we do? You know colleges are not working out. Where do we go?* (Maverick executive) *We really stopped...Strategy is defined a lot of ways but in many ways it's deciding the things you're going to say no to.* (Maverick executive) *This is how pivots happen—integrate and change the mental model.* (Maverick investor)	• Updated vision - New strategy concept - Link students and employers through industry skills training	*This was Maverick's ah-ha moment.* (Industry expert) *We decided we're not focusing on replacing colleges. We're focusing on lifelong learning.* (Marketing executive) *"We're in a new business model!"…. It was an hour on the phone with the CEO. And I said, "This is a huge insight. You are going to run away from your competitors."* (Investor)
Pivot to more promising strategy	• Reset strategy concept - Stopped university partnerships - Added 9 corporate partners - Created 4 techno-degrees (*mid 2014 - late 2014*)	*We had a very hard pivot.* (Maverick executive) *We just decided as a company...to build the core competency of the really great partnerships with industry.* (Maverick executive) *People here are still staunch advocates of students, but they've sort of evolved their thinking into what that means.* (Maverick manager)	• Conflict among leadership about the new vision - 2 of 3 co-founders (plus other staff) disagreed, left the venture • Product-market fit - Product: exclusive industry skills training - Market: career-driven tech workers - Link between tech companies and workers	*The exec staff clearly changed. ... This happens any time you do a major pivot. The key people you have before are no longer the key people because your hypotheses about what was important before are no longer important.* (Maverick investor) *You get this beautiful formula...you can go to students and say, "Look, our value proposition to you is a job that you love because you'll be in demand." For companies, we say, "Look, we have this amazing student, and you don't need to pay a dime to try to recruit them."* (Maverick executive)
Add optimally distinct activities	• Continued A/B testing, scale successful product features - Mentoring services (40 mentors) - Human grading (110 graders) - Tech topics (6 new credentials) (*late 2014 - mid 2015*)	*We've experimented with different versions of what works and what doesn't, what scales, keeping time zones, different languages, all of this into account, because our students are all over...We ran three different versions of this [mentoring program]... very tightly-controlled experiments.* (Maverick mentoring manager)	• Product tailored to customers, increased demand - 60% completion rates (only 3-5% for MOOCs) - Late: 2014: 3,000 paid enrollments - Mid-2015: 11,000 paid enrollments	*They give students back a very insightful and detailed, human-level, expert-level review of their work, typically within two hours. Including detailed feedback on coding style, what works, what doesn't work, and so on...Anybody who's been in college is saying, "Is this possible?"* (Maverick executive)

• Experimented with tuition models, like corporate scholarships and tuition incentives (*late 2015*)	*We have hundreds of employees enrolled in Maverick scholarship programs so they can reskill where they need to and have these learning opportunities in one place.* (Maverick corporate partner)	• Increased revenue to about $25 million	*It propelled us onto a different playing field, in a way because here was somebody who was actually saying, "I'm going to help you be able to get your tuition back, overall."* (Maverick executive)

Table 7. Diplomat Era 2: Segue and co-create profitable activities with willing partners.

Process steps	Actions	*Representative illustration*	Results	*Representative illustration*
Segue toward commercial strategy	• New CEO w/academic legitimacy and commercial skill - A prominent scholar and university president named CEO (*early 2014*)	*One point weighing on everybody's mind was what would be the universities' reaction to a change in leadership....So let's say you bring in someone from Google or Wall Street, they would spook everyone. Like "Oh, now they're just going to grab content and make money."* (Diplomat executive)	• Added commercial skills to senior leadership • Reaffirmed Diplomat as an aligned academic partner - More connections and status w/university leaders - More understanding of university interests	*It was a natural thing coming from one of the most prestigious universities going to a company where we recruit the very best universities in the world. The CEO came with a lot of connections. The CEO knew all of the presidents of leading American universities, most of the leaders of universities in Asia, and quite a few in Europe.* (Diplomat executive)
	• New mandate for commercial strategy - Begin commercializing - Continue strengthening university relationships (*early 2014*)	*There were several [objectives from the board]. One was, we need a monetization model. We need to make this a company. A second was, we want to make sure our relationships with the university partners are really solid* (Diplomat CEO)	• Added commercial strategy goal - Increased employee attention on products, markets - Increased business capabilities	*One of the first things I did after joining was a P&L review. P&L, and content strategy, and packaging of content...focus on the value we are delivering....giving a voice to the business side.* (Diplomat executive)
Co-create profitable activities w/willing partners	• Rough product idea for co-creation w/opt-in partners - Co-create a credential with a willing university partner (*early 2014*)	*The intersection of Diplomat and our university being really flexible has allowed us to do really creative things...to deliver education in a way that nobody's done before.* (University faculty)	• Partners and Diplomat can serve learners and make money w/certificates - 1st "blockbuster" product (800,000 students, $1 million in 6 months) - Success exemplar for certificates	*All of a sudden [small research university] was making millions...Now there wasn't such a gap necessarily between being able to serve learners vs. being able to actually make a profit.* (Diplomat manager)
	• Rough product idea for co-creation from partners - Co-create a novel MBA degree w/proactive university partner (*mid 2014 - early 2015*)	*One of the things I really liked about Diplomat was their willingness to listen to our ideas and actually implement them...We didn't want to just take the traditional degree and put it online...Diplomat was willing to have that conversation with us and willing to innovate with us.* (University administrator)	• Partners and Diplomat can serve learners and make money w/degrees - Low-cost innovative MBA - Prestige for university - Success exemplar for degrees	*You can charge $20,000 and it's still much cheaper than a normal MBA."* (Diplomat executive) *We started to build a team of people to go out to our partners and talk seriously about degrees.* (Diplomat CEO)
	• Failed unilateral product idea • Later, co-create rough product idea w/interested partners - On-demand courses (*mid 2014*)	*One of the big pushes was to move our content to an on-demand model. We didn't quite know whether that would mean no deadlines or some auto-generated deadlines. But the idea was, "Hey, this content is what we have. We should be running it all the time, and*	• Unilateral action fails • Co-creation succeeds - On demand courses every 4 weeks with soft deadlines and cohorts	*Diplomat was using scary words like "Netflix" and "on-demand." When you try to get people whose product is so intimately tied to a specific time and space to change, the idea of blowing these up makes their heads explode! University administrators and faculty*

	with or without the professors." (Diplomat manager)		*don't like that feeling. So they put their foot down.* (Diplomat manager)
• Slowly co-create and negotiate policy change - Co-create and negotiate w/select university leaders a paywall (*late 2015*)	*Diplomat was hiring executive leaders...saying, "We need a better business model. We're not going to generate enough revenue, just putting it out there saying, 'pay if you can' is not going to work. We actually have to put a little bit of a barrier in place."* (University administrator)	• Partners and Diplomat can make money w/paywall for extras but also free and open access - Increased revenue - Survival of Diplomat	*We essentially persuaded administrations that this was in their long-term interest. "If you want us to stick around and be able to do this for you, distribute these courses. We have to create something people will pay for."* (Diplomat CEO)

Appendix: History of MOOC Market   (to come later)

Table A1. Data sources by year of data collection.

Venture, *Data source*	2012	2013	2014	2015	2016	2017	2018	2019	Total
Maverick									
Total interviews	4	6	4	5	3	13	9	7	**51**
By source									
Archival	4	6	4	5	3	1	1	5	**29**
First-hand						12	8	2	**22**
By type of informant									
Investors and board					1		2	1	**4**
Co-founders, CEO	4	3	4	5			1		**17**
Executives		3			1	6	2	4	**16**
Managers					1	4		1	**6**
Advisors						1	1	1	**3**
Partners						2	3		**5**
Media articles*									
Total available	40	129	56	31	79	97	86	58	**576**
Focal	17	20	14	9	1	3	3	4	**71**
Venture blogs**									
Total available	23	32	74	92	105	131	144	190	**791**
Relevant	1	9	18	3	5				**36**
Employee reviews			11	13	13	46	45	12	**140**
Diplomat									
Total interviews	6	5	4	4	3	13	14	15	**64**
Source									
Archival	6	5	4	4	3				**22**
First-hand						13	14	15	**42**
Type of informant									
Investors and board						2		1	**3**
Co-founders, CEO	6	2	3	2	1			2	**16**
Executives		1	1	1	1	2	5	4	**18**
Managers						5	5	2	**12**
Advisors							1	1	**2**
Partners		2		1	1	4	3	2	**13**
Media articles									
Total available	90	282	136	125	133	141	155	118	**1,180**
Focal	18	10	10	5	1	3	4	10	**61**
Venture blogs									
Total available	9	53	58	26	27	139	116	162	**590**
Focal	4	4	3	5	5	3	2		**24**
Employee reviews		1	4	14	25	23	42	11	**120**
MOOC Market									
Primary interviews w/ experts						7	3	1	**11**

* Total available articles that mentioned venture, identified via Factiva. Focal articles featured the venture (and perhaps another organization)

** Total relevant venture blog posts, identified via venture web archives. Relevant blogs covered themes related to our research, as determined by those with related titles and/or retrieved from key word searches.

Table A2. Data sources relevant to the year in venture history.

Venture, *Data source*	2012	2013	2014	2015	2016	2017	2018	2019	Total
Maverick									
Total interviews	9	8	8	11	7	4	4		**51**
By source									
Archival	4	6	4	7	5		3		**29**
First-hand	5	2	4	4	2	4	1		**22**
By type of informant									
Investors and board	1				1		2		**4**
Co-founders, CEO	5	3	4	4		1			**17**
Executives	1	4	3	4	3		1		**16**
Managers				1	3	2			**6**
Advisors	1		1	1					**3**
Partners	1	1		1		1	1		**5**
News articles*									
Total available	40	129	56	31	79	97	86	58	**576**
Focal	17	20	14	9	1	3	3	4	**71**
Venture blogs**									
Total available	23	32	74	92	105	131	144	190	**791**
Relevant	1	9	18	3	5				**36**
Employee reviews			11	13	13	46	45	12	**140**
Diplomat									
Total interviews	15	19	13	8	7	1	1		**64**
Source									
Archival	6	5	4	4	3				**22**
Semi-structured	9	14	9	4	4	1	1		**42**
Type of informant									
Investors and board	1		1	1					**3**
Co-founders, CEO	6	3	3	2	1		1		**16**
Executives	2	6	4	2	4				**18**
Managers	1	5	3	1	1	1			**12**
Advisors	1			1					**2**
Partners	4	5	2	1	1				**13**
News articles									
Total available	90	282	136	125	133	141	155	118	**1,180**
Focal	18	10	10	5	1	3	4	10	**61**
Venture blogs									
Total available	9	53	58	26	27	139	116	162	**590**
Relevant	4	4	3	5	5	3	2		**24**
Employee reviews		1	4	14	25	23	42	11	**120**
MOOC Market									
Semi-structured interviews with experts	4	1	2	2	1	1			**11**

* Total available articles that mentioned venture, identified via Factiva. Focal articles featured the venture (or perhaps another venture) at least twice.

** Total relevant blog posts, identified via venture web archives. Relevant blogs covered themes related to our research, as determined by reading ones with related titles or retrieved from key word and target searches.