

**MAVERICKS AND DIPLOMATS:
BRIDGING COMMERCIAL AND INSTITUTIONAL ENTREPRENEURSHIP**

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Abstract: Many of society's most critical challenges like better access to education (Christensen et al. 2015), improving public health (Gao & McDonald 2022), and building smart infrastructure (Zuzul & Edmondson 2017) occur in established fields, especially ones where non-commercial logics matter. Grounded in a theory-building study of two EdTech ventures in the nascent MOOC (massive open online course) market that emerged within the U.S. higher education field, we unpack their strategy formation processes. These ventures face a dual problem: Forming a successful 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. Although other effective processes may exist, these share the same hybrid problem-solving structure that fits complex, novel problems like strategy formation in these settings. More broadly, we contribute to institutional entrepreneurship by introducing the diplomacy lens and its tactics, and focusing on performance. We contribute to the learning and entrepreneurship literature by identifying the limits to rapid experimentation and the value of collaborative learning to change established fields. Overall, we begin to bridge the gap between institutional and commercial entrepreneurship.

Keywords: strategy, strategy formation, entrepreneurship, nascent markets, institutional entrepreneurship, learning

INTRODUCTION

Many of society's most critical challenges such as increasing access to education (Christensen et al. 2015), improving public health (Gao & McDonald 2022), building smart infrastructure (Zuzul & Edmondson 2017), and enhancing national security (Wang et al. 2020) occur in established fields, often where the commercial logic of for-profit firms is not dominant. The nascent markets that emerge in these fields (our focus) can offer attractive opportunities for ventures to address critical societal challenges. Yet, it can also be difficult for ventures to effectively form strategy in these settings. That is, these settings pose the dual problem of both forming a successful strategy in a nascent market while changing an established field.

Several research streams offer insights into how ventures might effectively form strategy in the nascent markets that emerge within established fields. 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 (Porter 1996, Rivkin 2000, Ott et al. 2017). 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. 2013) by which ventures attempt to resolve the uncertainties of nascent markets. Recent work further 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 a successful strategy. Yet while valuable, it is unclear how these learning processes operate in established fields like education, national security, and healthcare where the pace is often slow, non-commercial norms and behaviors may be relevant, and mantras like “move fast, break things” may violate field values like safety, privacy and reliability.

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) such as healthcare, energy, and education. 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). Later work focuses on how ventures attempt to change a field by using tactics to influence policymakers, particularly regulators (Ansari et al. 2016, Gurses & Ozcan 2015, Lee et al. 2018, Gao & McDonald 2022). Yet while increasing legitimacy and favorable regulation are likely helpful, it is unclear how ventures resolve other uncertainties of nascent markets like product-market fit and form successful strategies.

Together, these streams indicate that ventures entering nascent markets within established fields should use 1) learning processes, particularly rapid experimentation and occasional pivots, to resolve the uncertainties of nascent markets and 2) field-changing tactics to enhance legitimacy and influence regulation 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 norms and practices may matter, and mantras like “fail fast” may violate the values of the field. While legitimacy and favorable regulation are likely useful, they are unlikely to resolve nascent market uncertainties around products, customers, and technology. Finally, since these streams rarely intersect (Battilana et al. 2009, Tolbert et al. 2011), they offer limited collective insight into how ventures resolve the dual problem of forming a successful strategy in a nascent market while changing an established field. Thus, 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?*

Given limited theoretical understanding and empirical evidence, we employ a multi-case theory-building method (Eisenhardt & Graebner 2007).¹ 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. The ventures (Maverick, Diplomat) are closely matched in

¹ Like other theory-building methods (e.g., formal models, verbal theory), multi-case theory building can address a causal research question. We discuss multi-case theory building for causal theory in Methods. We appreciate a reviewer's raising this issue.

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. Although we cannot rule out other effective processes,² our core 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, and initially emphasizes learning about the nascent market. The second process (Diplomat) is a *cooperative, diplomacy-centric* path that begins with a vision of being a complementor to incumbents, and initially emphasizes gaining legitimacy in the field. Thus, these processes diverge early on with a) different engagement with the field and nascent market, b) different ways to shift direction, and c) distinct approaches to building activities. Yet despite these differences, both processes address the dual problem of forming a successful strategy in a nascent market while changing an established field. Further, these processes unexpectedly share an underlying hybrid problem-solving structure that fits novel, complex problems like strategy formation in these settings.

Broadly, we contribute to institutional theory and the institutional entrepreneurship literature by introducing the diplomacy lens. Diplomacy expands the repertoire of field-changing tactics to include the diplomatic gambits that nations use to further their own aims when working with other nations that have their own interests. We contribute to learning theory and the entrepreneurship literature by identifying the limits of rapid experimentation and the relevance of collaborative learning with willing incumbents to change established fields. Overall, we begin to bridge the gap between commercial and institutional entrepreneurship.

THEORETICAL BACKGROUND

Our research question asks how ventures effectively form strategy in nascent markets that emerge in established fields. Two research streams are especially relevant. One stream focuses on *learning theory*

² We appreciate a reviewer's raising the possibility of other effective processes and return to it in the Discussion.

and entrepreneurship in nascent markets. By a *nascent market*, we mean a novel economic exchange characterized by uncertainties like incomplete products, uncertain technologies, unclear demand, and unstable market structure (Navis & Glynn 2010, Zuzul & Tripsas 2020). Early work often examines one or two learning processes such as trial-and-error (Bingham & Eisenhardt 2011), experimentation (Andries et al. 2013), and bricolage (Baker & Nelson 2005). For example, Rindova and Kotha (2001) show how Yahoo! entrepreneurs used trial-and-error learning to “continuously morph” 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. Collectively, this work finds that learning processes can reduce the uncertainties of nascent markets, and so help ventures to effectively form strategy.

Recent studies indicate interest in rapid experimentation, including large-scale economic experiments (Pillai et al. 2020), parallel and serial experimentation (Bremner & Eisenhardt 2022), and incremental A/B testing (Koning et al. 2022). Noteworthy are studies using 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; Eesley & Wu 2020). Pivots are substantial changes in strategic direction that typically occur in response to learned insights (Kirtley & O’Mahony 2023). Research indicates 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 power of rapid experimentation to resolve uncertainties, and so effectively form strategy in nascent markets. Yet while valuable, this stream leaves open how learning processes operate in established fields. For example, these fields often have a slow pace that may be inconsistent with rapid experimentation. They are often resistant to change, potentially making it difficult to pivot. Field actors may regard some attempts to learn

as inappropriate if they violate the field's norms like collective governance or values like privacy. Mantras like “move fast, break things” may be inappropriate in established fields like energy and healthcare where values like reliability and safety matter.

A second stream focuses on *institutional theory and institutional entrepreneurship*³. Per above, institutional entrepreneurship focuses on how actors attempt to change a focal organizational 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 within a sphere of activity like education, transportation and energy. The field is a core concept within institutional theory, and includes informal and socio-cognitive forces as well as formal and legal ones (Zietsma et al. 2017; Scott 2008). Thus, it is broader than the concept of sector in strategy, and better fits our research question and setting. By *institutional logic* (or simply logic), we mean the set of values, norms, and behaviors that are deeply embedded in how individuals interpret reality, decide what is appropriate, and act in a given field (Thornton et al. 2012). Specifically, we focus on *established fields* – i.e., fields with relatively stable membership, logics, and status hierarchy (Zietsma et al. 2017). As argued above, many of society's critical challenges occur in established fields, especially ones like healthcare, education, and national security where the commercial logic is not dominant.⁴

In the context of ventures, early work in institutional entrepreneurship examines how ventures attempt to change a field by enhancing legitimacy using symbols, stories and high-status affiliations (e.g., Hargadon & Douglas 2000, Navis & Glynn 2010, Karunakaran 2022). 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.

³Institutional theory, like institutional economics (North 1991), emphasizes that formal institutions like the state, family, and religion create forces that structure economic and social interaction (Thornton et al 2012; Scott 2008). Institutional theory, however, is broader as it includes not only formal and legal forces of institutions, but also informal and socio-cognitive ones that are relevant in our study (Battilana et al, 2009).

⁴A field can have 1 or several logics like professional, commercial, and state (Pahnke et al. 2015). By *commercial logic*, we mean the set of values like profit-making, norms like efficiency, and behaviors for producing and selling products by a firm, typically in a capitalist economy, in order to gain revenue, profit, and a positive financial returns for owners (Pache & Santos 2013). It is the primary logic of for-profit firms.

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 affiliations for satellite-radio ventures to signal their legitimacy in the broadcasting field.

More recent studies explore other field-changing (sometimes termed non-market) tactics by which ventures attempt to influence 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 tactic is collective action. Lee et al (2018), for example, 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 advantageous regulation by providing proprietary knowledge about the innovation frontier that this regulator did not have.

Overall, this stream notes the value of gaining legitimacy and influencing policymakers like regulators 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. This stream also neglects how ventures might resolve the many uncertainties of nascent markets like product-market fit. Finally, successful field-changing tactics can give ventures a false sense of accomplishment that distracts from forming a successful commercial strategy (Zuzul & Edmondson 2017).

Together, these two streams indicate that ventures in nascent markets within established fields should use 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 where the pace is often slow, non-commercial norms and practices may

matter, and mantras like “fail fast” may violate field values. Likewise, legitimacy and favorable public policy are unlikely to resolve key uncertainties in nascent markets like those around products, technology and customers. Finally, since these streams rarely connect (Tolbert et al. 2011, Ansari et al. 2016), they give limited collective insight into the dual problem 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 such as ours (Langley 1999) and causal research questions such as we ask (Eisenhardt 2021). Like other theory building methods (e.g., formal models, verbal theory), multi-case theory building can be used to develop (but not test) causal theory. It is particularly useful for building causal theory for several reasons: 1) case selection often offers some “control” over alternative explanations, 2) longitudinal data capture events over time, thus indicating temporal order and possible causal order, and 3) theoretical arguments linking constructs lessen random correlational associations in the emergent theory. Multi-case theory building has been used in numerous studies asking causal questions (e.g., Navis & Glynn 2010, Zuzul & Tripsas 2020, Ott & Eisenhardt 2020). As in other theory-building methods, the next step is empirical test.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 security, and education where some of society’s most critical challenges occur and where commercial logic does not dominate. After considering alternatives, we chose the nascent MOOC (massive online open course) market that emerged within the U.S. higher education field in 2012.

The MOOC market was triggered by the confluence of novel technologies like video distribution at scale and cloud computing (Ng & Widom 2014). This market is appropriate for our research for several

⁵ We appreciate a reviewer’s raising the appropriateness of the multi-case theory-building method with a causal research question.

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). Many believed that MOOCs had disruptive potential (e.g., Christensen et al. 2015). One media outlet exclaimed, “*Welcome to the college education revolution. Big breakthroughs happen when what is suddenly possible meets what is desperately necessary.*” A second enthused, “*Revolution hits the universities*”. A third termed 2012 “*The year of the MOOC*”. Consistent with 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.

Second, the MOOC market emerged within an established field, thus also fitting our research question. The U.S. higher education was an established field that has existed for well over 100 years (Meyer et al. 2007, Scott 2008). Specifically, we define the field as comprised of the organizations that 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 (Zeitsma et al. 2017), there are many shared norms and practices like the academic calendar, professorial ranks, tenure, four-year degrees, faculty senate, and letter grading as well as shared values like collective governance (Frank & Meyer 2020). Also consistent with an established field (Zeitsma et al. 2017), an almost unchanging 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 case design⁶

We use a matched-pair case design. 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 of theoretical interest (Bechky & O’Mahony 2015). This design is used in many studies, 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 richer presentation of each case and sometimes better “control” of alternative explanations, but also more potential for over-determined theory (Yin 2018). Similar to a “talking pig” single case (Siggelkow 2007), matched pairs are especially powerful when they are a *unique comparison* – i.e., relatively rare (e.g., only 2 satellite radio stations (Navis & Glynn 2010)) with particularly high similarity on many features *and* a specific theoretically-important difference. For example, Battilana and Dorado (2010) studied 2 microfinance banks that were very similar except for a key difference in their socialization processes that was the theoretical focus of this exemplar.

Our sample is the 2 ventures (i.e., new for-profit firms with professional investors) that began the nascent MOOC market in early 2012. These ventures were part of a larger study of the MOOC market by the first author. Early on, he unexpectedly realized these two ventures were a unique comparison – i.e., 2 unusually similar ventures that began the nascent market, and formed very different, yet successful strategies. Thus, identifying the strategy formation processes that led to this difference was the genesis of this paper. As is acceptable in multi-case theory building (Eisenhardt 2021) and grounded theorizing broadly (Glaser & Strauss 1967), we shifted our research question for this paper to study effective strategy formation using this pair. While we could have added more or different ventures, they would

⁶ We appreciate our reviewers’ suggestion to add a Methods subsection on matched-pair case design.

detract from our ability to isolate the focal theoretical difference (and to mitigate multiple alternative explanations) that we could achieve with this relatively rare pairing of unusually well-matched ventures.⁷

Our sample is attractive for several reasons. First, our two ventures offer a *unique comparison* per above. On the one hand, they had many similarities (Table 1). Both ventures sought to use MOOC technologies to democratize university education by offering inexpensive or even free courses taught by elite faculty to anyone anywhere. 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, yet successful, strategies. Our research aims to uncover their strategy formation processes.

Second, the two ventures are the *complete population* of the founding ventures. This allows us to track the ventures and the market as they began. A non-profit organization began late in 2012. It is included in our analysis as relevant, but is not in our sample because (as a non-profit) it is not a venture. Several firms existed in related markets in 2012. One entered the MOOC market in 2013 but left after a few months, and the others never entered (See Appendix).⁸

Data collection

We use several data sources: 1) archival data like media 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

⁷We appreciate a reviewer's asking why we did not study more or different ventures.

⁸In 2012, 4 incumbents existed in related markets, but not the MOOC market. All were for-profit firms using 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. Our ventures entered the same markets as some of these firms after our study ended. See Appendix.

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 reviews (Glassdoor), and a teaching case (Diplomat). 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 “partner” and “strategy”.

Our primary data source is 126 interviews (75 first-hand, 51 online) with internal and external informants (Table 2). We conducted the 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 cofounders, CEOs, executive team, and managers across functions (e.g., product, engineering, partnerships) and across time for each venture. External informants included partners, advisors, and market 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. 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 key executive hires, and recent actions. These online interviews were especially valuable for providing real-time data on the ventures to corroborate and complement 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 improve 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 1) chronological accounts of actions and events, and 2) 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., cofounders, 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 a natural

endpoint when each venture had effectively formed a strategy – i.e., end of 2015 (see measures below). We continued data collection through 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 follow-up 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 (Gehman et al. 2018). 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 can lead to over-determined theory, we used mitigating tactics.⁹ First and like machine learning (ML) which has similar over-fitting issues, we emphasized 1) simple theory that includes only the most important, well-grounded constructs – i.e., regularization in ML to limit over-fitting (Choudhury et al. 2021, Tidhar & Eisenhardt 2019). Second, we used theoretical arguments linking constructs to 2) limit random correlational associations in our theory and 3) refine the abstraction levels of the constructs (Grodal et al. 2021, Eisenhardt 2021). While these tactics lessen the likelihood of over-determined theory, they do not eliminate it.

As the theory emerged, we brought in other relevant literature like diplomacy from political science to refine the theory (Gehman et al. 2018). We continued this iterative, creative process until reaching strong correspondence among the data, constructs, and theoretical arguments (Glaser & Strauss 1967).

Our research question asks: *How do ventures effectively form strategy in nascent markets that emerge in established fields?* Consistent with others and our earlier definition of strategy formation (Porter 1996, Rivkin 2000, Ott et al. 2017), we define *strategy* as the unique set of activities including key elements (i.e., specific customers, products, revenue sources, business model, partners, and supporting activities) by which a firm attempts to create advantage and commercial success. We assessed effective strategy formation using measures that highly converged for each venture (Table 3). First, we measured effective strategy formation by whether the process led to a complete strategy – i.e., consistent with our strategy definition, one with all key elements of a strategy (i.e., specific customers, products, revenue sources, business model, partners, and supporting activities) present.¹⁰ Both ventures achieved a complete strategy at the end of 2015, creating a natural endpoint for our study, per above. There was no conflict among informants (first-hand and online) and other data sources on these assessments. Second, we measured effective strategy formation by whether the process led to a successful strategy, using *quantitative* indicators of commercial success relevant for-profit firms such as ours (e.g., revenue, market

⁹We appreciate a reviewer's raising the potential of two cases to produce over-determined theory.

¹⁰By complete, we mean a strategy that has all key elements of a strategy, not a strategy that does not change.

share) at the end of 2015 and post-study, and *qualitative* assessments from informants and media. Third, we bolstered these measures with widely-used 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) \$1B “unicorn” valuation (typically signals whether investors believe that the venture has or will have a successful strategy). Per above, these measures converge for each venture.

Both Diplomat and Maverick effectively formed strategies (Table 3). Diplomat went from about \$3M in revenue in 2014 to \$60M two years later to \$300M in 2020. It is consistently the market leader. A media outlet touted Diplomat as *“the most stable and secure EdTech”*. Another noted, *“Diplomat has the advantage of working with the most highly-regarded brands in higher ed.”* While more modest than its initial aim of democratizing education, about 90% of its millions of learners take over a thousand courses for free. Maverick grew from about \$3M in 2014 to \$30M two years later to \$90M in 2018. The media enthused, *“Maverick is by far the leader in terms of execution, they seem to have it together.”* It is also widely seen as having the most innovative strategy. While more modest than its initial aim of democratizing education, Maverick made upskilling and advanced tech careers available 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.¹¹ Their successes triggered what the media termed *“MOOC mania”*. One media outlet exclaimed, *“Welcome to the college education revolution.”* Another grandly predicted, *“Nothing has more potential to lift more people out of poverty....Nothing has more potential to unlock a billion more brains to solve the world’s biggest problems”*. Another simply proclaimed 2012 *“The Year*

¹¹ Maverick and Diplomat were the 2 ventures that began the nascent MOOC market in early 2012. See Methods and Appendix for details.

of the MOOC.” Overall, it is hard to over-state the extraordinary excitement about MOOCs in 2012.

Consistent with the exceptional promise of MOOCs, both Maverick and Diplomat sought to democratize higher education by offering very affordable or free courses taught by elite faculty using MOOC technologies to anyone anywhere. Both received similar VC funding, although neither was under immediate pressure to be profitable. Yet despite many similarities (Table 1), 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 effectively form strategy by testing assumptions about products and markets. The focus is on rapid experimentation, and pivots when product, market, or other assumptions appear incorrect (Contigiani & Levinthal 2018). Our data reveal that Maverick followed a similar process. It begins with 1) a competitive vision of the field leading to 2) broad learning, including both local and distant learning (Fig 1, 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.¹² The lead founder and CEO explained the vision, *“We’ll be just like any other university, but a university for the 21st century.”* He ambitiously claimed, *“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 quipped, *“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 broad learning about nascent MOOC market uncertainties, beginning with local learning. By *local learning*, we mean acting to add incremental knowledge near what is already known, often by small experiments. Specifically, Maverick often used rapid experimentation on course content that began right after founding. The team hypothesized that, if a specialized course could attract over

¹²A reviewer suggested this clarification: Major concepts from Figure 1 are underlined; quotes and the concept in a definition are in italics.

100,000 people, general courses would attract even more. For this 1st experiment, Maverick hired a popular professor from another university to teach introductory computer science. A cofounder noted,

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 CEO lamented, “[student adoption] by any corporate metric you might consider was not going up but going down.” A cofounder 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 cofounder 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.

Maverick continued local learning in late 2012 and 2013 using rapid experimentation with A/B testing of many small changes such as in course content and delivery. A manager elaborated,

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.

Over time, Maverick learned a lot about students. For example, a cofounder described improvements to mentoring based on this learning and insight into the value of credentials,

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 added to its broad learning with distant learning via “big bet” experiments that provided insights that were far from the team's current knowledge. By “big bet” experiment, we mean testing a set of multiple changes in a single setting, often over time. Maverick had 2 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 education. 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 motivations of university leaders for the degree were more varied. For some, this degree was an opportunity to lead a potentially transformative innovation in higher education. Others saw partnering with Maverick as an opportunity to learn about online education. A university leader 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 professors described “*significant internal disagreements.*” Another observed, “*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 (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, as the CEO noted, it was “*very slow*”. Although the partnership proceeded, Maverick was frustrated by the slow pace of academic norms like faculty debate and rigid practices like the academic calendar. An executive noted, “[*CEO*] *just got burnt out.*”

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 outlet 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 % 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?”* A media outlet 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 contentious. 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 a faculty member wrote, *“These ‘courses’ undermine shared governance, run roughshod over established curriculum development procedures.”* Still others saw Maverick's experiment as a threat, 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 co-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.

Many faculty disagreed. They saw this failure as contrary to field values around student welfare, particularly for young students at a vulnerable life stage. In a typical argument, a faculty group claimed *“There are real-world, long-term consequences when you ‘fail fast’ in higher education”*.

With the second wave of experiments, completion rates substantially improved. A 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 wrote scathing headlines like “*Maverick Debacle*” and “*MOOCs get an F*”. Faculty dissent continued. In a typical comment, a professor 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 2 “big bet” experiments. The venture had learned much about nascent market uncertainties like effective online teaching of courses for students. Yet, it had encountered substantial conflict and delay, and gained little legitimacy in the higher education field. Instead, it was hit by negative media coverage and faculty dissent. The venture ended 2013 with an incomplete strategy – i.e., its strategy lacked key elements like revenue sources and a business model (Fig 1, Table 4).

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 incumbents and then others, and 3) coalition strengthening by solidifying bilateral relationships and adding multilateral ones (Fig 1, 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 in broad coalition formation with university partners, beginning with coalition building. By *coalition building*, we mean the process of forming bilateral relationships based on shared interests (U.S. State Dept 2021, David et al 2013, Lounsbury et al 2003). In doing so, Diplomat sought to become a legitimate and valued member of the higher education field.

Diplomat began coalition building by forming bilateral relationships with 4 high-status universities (2 public, 2 private) about 6 weeks after founding. These relationships were 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 gain 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 wave 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 signal of these first bilateral relationships, Diplomat pursued more universities throughout 2012 in what executives termed a “*land grab*” to add university partners. They hoped that a large coalition would 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 senior leadership by a cofounder. A manager related, “[Cofounder] was never in the office...always on planes.” Another noted, “[Cofounder] 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” meant tailoring the pitch with nuanced value propositions. A manager explained, “*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.¹³ Diplomat added about 30 more bilateral relationships from its targeted “top 100” universities in 2012. These partners soon contributed about 200 MOOCs, from humanities to sciences. Unlike Maverick, Diplomat did not focus on learning about nascent market uncertainties like courses and students. Rather, Diplomat made it easy join its coalition by having no particular preferences for faculty or courses. An executive described,

In order to please our partners, we’ve pretty much let them [university partners] put whatever content they want on... We’re a coalition of the willing.

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 not 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 followed Diplomat in forming bilateral relationships. While aware of this

¹³ Per the Editor, Diplomat’s bilateral relationships in 2012-13 had no incentives, payments, or revenue. Universities chose faculty and courses.

organization, Diplomat focused on its own strategy formation, and continued coalition building and strengthening (next section).¹⁴ Overall, Diplomat gained many bilateral relationships, but not every one.

Diplomat bolstered its broad coalition formation by coalition strengthening via solidifying its bilateral relationships. 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 and relationship building, but not learning about the nascent market (e.g., courses, students) 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.

This executive continued, “*We’re cultivating our suppliers, not our customer*”. Central to their “envoy” 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.

In early 2013, Diplomat strengthened its coalition by adding multilateral relationships. For example, it created a multilateral Advisory Board, a body that is much like a diplomatic council (i.e., governing body among nations). It consisted of 9 very senior university leaders (e.g., presidents, provosts) who served rotating terms. The choice of these leaders was particularly astute because they were often faster to embrace change than others. An 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, for example, 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 to its coalition.

¹⁴ Per the Editor, we discuss this and later entrants in the Appendix. None appreciably influenced strategy formation at Maverick or Diplomat.

For example, Diplomat organized an Annual Partners Conference. Holding the 1st conference at an Ivy League campus in early 2013 helped to enhance 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, Diplomat strengthened the entire coalition, but again did not focus on learning about the nascent market. An 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...The other major point was to create a space for our partners to discuss what they were doing.

As 2013 ended, Diplomat had over 500 free MOOCs, about 5M global users, and over 90 university partners, all the highest in the nascent MOOC market. Diplomat had formed a broad coalition of university partners, and reached 1M users faster than Facebook. Yet, it had learned little about nascent market uncertainties like students and courses. Diplomat ended 2013 with an incomplete strategy – i.e., its strategy lacked key elements like revenue sources and a business model (Fig 1, Table 5).

Summary. Maverick’s competitive vision led to broad learning – both local and distant – about many uncertainties in the nascent MOOC market. Conversely, Diplomat’s cooperative vision led to forming a broad coalition of university partners that established Diplomat as a legitimate and valued field member. Yet, Diplomat did not learn much about the uncertainties of the nascent MOOC market, and Maverick gained little legitimacy in the higher education field. Both had incomplete strategies that lacked key elements like revenue sources and a business model.¹⁵

Why did these very similar ventures pursue very different strategy formation processes (Table 1, Fig 1)?¹⁶ We carefully reviewed our data. We found more similarities (e.g. similar resources, similar employees (recent grads of elite universities); all cofounders in the same discipline). But, we were struck by non-demographic founder differences, especially founder identity. By *founder identity*, we mean an individual’s understanding of “who I want to be as an entrepreneur” (Powell & Baker 2014). Fauchert and Gruber (2011) identify 3 founder identities that affect strategic actions like strategy formation:

¹⁵ We appreciate a reviewer comment that these incomplete strategies appeared to resemble informal “strategy as practice”.

¹⁶ We appreciate a reviewer’s asking us this question.

Darwinian (i.e., self-interest like making money), Communitarian (i.e., improve own community via innovation), and Missionary (i.e., strong ambition to advance a social cause). Further, academic founders like ours tend to be communitarians and missionaries (Clarysse et al. 2023).

Consistent with this research, Diplomat’s cofounders had different personalities (e.g., quiet v. gregarious), but they shared a communitarian identity – e.g., one was described as “*passionate about improving and spreading learning technologies*” and the other as “*inspired to improve on-campus teaching*”. This identity of helping their community (i.e., universities) improve fit with their vision of Diplomat as a complementor and the cooperative, diplomacy-centric process – i.e., working closely within their community to improve teaching via MOOCs. In contrast, Maverick’s lead cofounder seemed to have a missionary identity – e.g., he was described as “*on a mission to change the future of education*” and creating the “*university of the future*”. He dismissed traditional universities where he said “*research is the priority*”, instead claiming “*my values have always been to help students*”. This identity of pursuing an ambitious “university of the future” fit with his vision of Maverick as a substitute for universities and the competitive, learning-centric process – i.e., learn how MOOCs can create a futuristic university to advance the student-centric social cause of accessible education for all. In sum and while speculative, founder identity may be key to the choice of strategy formation process.

Change direction and add activities (2014-2015)

By 2014, MOOC mania was giving way to more realistic expectations. 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. For example, a media outlet wrote, “*MOOCs remain in the experimental category – without a compelling business model.*”

Maverick: Pivot and add optimally distinct activities

Pivots can be helpful during strategy formation when the product, market, or other assumptions appear to be incorrect (Blank 2013, Kirtley & O’Mahony 2023). By *pivot*, we mean an abrupt, significant change to add or alter one or several elements of a strategy or an incomplete strategy such as products, partners, customers, and/or business models (Blank 2013). Thus, Maverick continued its strategy

formation process by 1) a pivot toward a more promising strategy leading to 2) adding optimally distinct activities (Fig 1, 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 new actions) to integrate prior learning. For example, 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 now wanted to avoid. The team had also learned that universities, in their view, were slow, difficult to navigate given academic values and norms, and not attuned to student outcomes. In fact, the CEO stated that his “*biggest miscalculation*” was believing that Maverick could work with universities. An expert noted, “*In many ways, this was Maverick’s ah-ha moment.*” An executive described the misfit between Maverick and universities,

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 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 at Maverick, it was not obvious what to do next.

Maverick and especially its CEO took several months to integrate prior learning into a coherent understanding. An executive noted, “*This was the start of really hard introspection.*” During this pause, the CEO crystallized two key insights. First, the critical student outcome is a better job. 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 publicly announced a pivot away from university partners and courses toward a more promising strategy (i.e., one more likely to achieve commercial success). An investor

exclaimed, *"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."*

Although incomplete, the CEO saw this more promising strategy as focused on lifelong learning and calling 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 sources and activities would be developed later. 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."* Another expanded, *"We decided we're 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 changes to the organization (McDonald & Gao 2019). In mid-2014, the executive team changed. The CEO 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 the pivot toward corporate partners. The new marketing director, for example, proposed an MBA-like market segmentation that Maverick never had. 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 often no longer fit 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, while others adapted. A manager noted, *"[Employees] 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 expertise with in-demand technologies. The firms joined to signal thought leadership and gain preferred access to well-trained job candidates. For example, a firm executive called the partnership 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 to add optimally distinct activities in late 2014. By *optimally distinct*, we mean activities that are both strategically effective and legitimate in the field. That is, optimally distinct activities conform to the field, 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 at least some activities needed to fit with those of universities, but also be different - and probably better, for at least these students.

Central to Maverick's optimal distinctiveness was an innovative degree-like program that Maverick labeled the “techno-degree”. The CEO described his initial idea, “Why don't we... create a very small program for 6 to 9 months. Focus on a specific job and call it a ‘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 uniquely project-based as an executive described, “really immersive virtual learning experiences.” Finally, Maverick framed its techno-degree as a new product

category within higher-education and gave it a legitimating hybrid label (Wry et al. 2014).

Also important for optimal distinctiveness was grading. Similar to universities, Maverick saw the need for "grading", preferably by humans. Yet, scaling grading 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*" was optimally distinct – i.e., it resembled university grading, but was "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 at scale. Experiments varied time zones, content, and mentor skills. The mentoring manager touted what he termed "*very tightly-controlled experiments*". He described a typical experiment,

What if the [mentor] 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 we compared the two groups.

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 this learning,

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 of 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 social responsibility. Maverick, in turn, increased revenue and profit while attracting students. An executive noted, “*It [scholarships] propelled us onto a different playing field.*”

By the end of 2015, Maverick had a complete strategy:¹⁷ leading tech companies provide faculty, unique courses, and high-status brands (Fig 1, Table 3). 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. The strategy was successful (Table 3): Maverick grew from about \$3M in 2014 to \$30M two years later to \$90M in 2018, and continues to prosper. Consistent with changing the field, Maverick made upskilling and advanced tech careers possible for many by lowering cost and access barriers. An expert declared, “*Maverick just nailed it....Maverick is way way ahead.*” An executive elaborated,

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!

Diplomat: Segue and co-create profitable activities

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 actions with willing partners. For Diplomat, its broad coalition formation (above) established the venture as a legitimate, valued member in the field, and set the stage for a shift toward its own interests. Thus, Diplomat continued its strategy formation process by 1) a segue toward a more promising strategy leading to 2) co-creating profitable activities (Fig 1, Table 7).

First, Diplomat began a segue toward a more promising strategy (e.g., one more likely to achieve commercial success) in early 2014. By *segue*, we mean a slow, subtle change to add or alter one or several elements of a strategy or an incomplete strategy. Like diplomacy among nations, Diplomat’s segue enabled the discrete pursuit of its commercial interests with less likelihood of upsetting its university partners. Given the slow pace of established fields like higher education and the antipathy of

¹⁷ By complete, we mean a strategy that has all of the key elements of a strategy (Methods), not a strategy that will never change.

some toward profit-making, a segue (not a pivot) was wise. A cofounder 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 abrupt pivot announced in the media, Diplomat’s segue was slow and subtle.

The segue began with a new CEO in early 2014. The two academic cofounders 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 [cofounders] 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, many of whom were wary of for-profit firms. As one partner worried, “*Was Diplomat going to exploit us?*” As in diplomacy among nations, Diplomat’s choice of top leadership would be a strong signal to its partners of 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 prominent scholar and a successful president of an elite university. He could frame Diplomat’s intentions 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 legitimacy 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 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 (i.e., prominent scholar and

president of an elite university) to persuade reluctant university partners to let Diplomat make money.

Diplomat continued to segue by adding “successful strategy” to the CEO’s mandate in early 2014. He 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 wanted Diplomat to capitalize on its university relationships and their brands. Yet, the risk was *“losing partners”*. The new CEO elaborated,

One [objective] 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.

Yet 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 to segue by shifting employee focus to thinking about strategy in mid 2014. For example, the new CEO added several committees to brainstorm ideas for profitable products from the bottom-up. A manager described these committees as *“Let many flowers bloom”*. Diplomat had not previously focused on courses or students. Rather, they had left these decisions to universities. As an executive noted, *“We just let the partners put up whatever they wanted.”* Now, employees were thinking strategically about products, learners, and profit.

Second, this segue led to co-creating profitable activities via collaborative learning with willing incumbents. For some university leaders and even more faculty, profit was associated with unsavory for-profit “universities” like University of Phoenix. Indeed, it can be hard to remember the strong reluctance of universities to grant credit and monetize MOOCs with Diplomat that may seem trivial now¹⁸. Yet strong reluctance existed. One executive described, *“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 echoed, *“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*

¹⁸ As an executive told us, *“You have to understand that...persuading universities to grant credit for online courses, make money, or if they are a first tier university, associating their name with them was very very difficult then.”*

just centralization of power". A typical professor exclaimed, *"We don't want to be Netflix!"* So, like nations trying to shift their coalition by co-creating favorable actions with partners, co-creating profitable activities was key to Diplomat's shifting the coalition toward its own interest in a successful strategy.

An early co-creation was the paid credential. In mid-2014, Diplomat floated an idea among its many university partners for a paid sequence of MOOCs, but did not tightly define it. A professor noted, *"I'm not sure Diplomat had nailed down the terminology and how they were going to deliver...It was informal."* Consistent with universities' reluctance to monetize MOOCs, only 3 professors at one small university (out of about 100 partners) opted in. Diplomat and these professors collaboratively learned about the activities for a multi-course "credential" like 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. One executive called it *"an accidental home run"* while other attendees called it a *"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 regarded 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."* An executive summarized this turning point.

It was a big turning point for the company because we said, "Hey okay, we can make money!"...We went back to our partners and said, "Hey look, this is the kind of revenue [small research university] is making."

Diplomat continued with co-creation. In mid-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 a 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*”. A key point is that again the partner valued Diplomat’s collaborative learning. A university leader said, “*Diplomat was willing to have that conversation with us*”. An 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.

The degree was successful, leading Diplomat to organize a team to work with other university partners to develop online degrees.

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

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 model....The idea was, Hey, this content is what we have. We should be running it all the time, with or without professors.

University partners, however, objected. Some argued that on-demand would fail. A partner declared, “*I became a very vocal voice against 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.

Despite these objections, Diplomat pushed ahead and failed. As university critics predicted, learners actually do benefit from due dates and structure. After this setback, Diplomat collaboratively learned with a few university partners by experimenting with start dates, cohorts, and deadlines. Collaborative learning was slow, but also 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... We just have to live with that.

Finally, a critical co-creation was the paywall. In early 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*” Diplomat’s executives astutely framed the paywall as beneficial for universities: revenue for them and necessary for Diplomat’s survival. The CEO noted,

We 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 from senior leaders at select partners, Diplomat collaboratively learned with several universities (e.g., freemium details, A/B testing of price points). A product manager noted,

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.

Noting the slow pace but ultimate success, an executive observed, “*We could've done that [paywall] six months earlier. We were hesitant... about offending our partners.*”

By the end of 2015, Diplomat had a complete strategy:¹⁹ university partners provide faculty, courses, and brands (Fig 1, Table 3). Learners enroll in courses (some paying, many not), credentials, and degrees. Diplomat provides the platform and global reach. Profit-making activities like credentials, paywalls, and degree programs exist. The strategy was successful (Table 3): Diplomat grew from \$3M in revenue in 2014 to \$60M two years later to \$300M in 2020, was the consistent market leader, and continues to prosper. Consistent with changing the field, about 90% of its millions of learners took over a thousand courses for free (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 built on its earlier broad learning about the nascent market. By

¹⁹ By complete, we mean a strategy that has all of the key elements of a strategy (Methods), not a strategy that will never change.

adding optimally distinct activities, it added activities that were both strategically effective and legitimate in the field. After its segue, Diplomat built on its earlier broad coalition formation. By co-creating profitable activities via collaborative learning about the nascent market, it also added activities that were both strategically effective and legitimate in the field. Overall, each venture built on its earlier focus, changed direction, and effectively formed a strategy (Fig 1, Table 3, Methods).²⁰

Why did these ventures mostly ignore peers and other possible rivals in their strategy formation processes?²¹ One reason is that rivalry is perceptual and so not necessarily reciprocal (Thatchenkery & Katila 2021). A firm may not see others as rivals even when it is seen as a rival. Further, prior work suggests that high-performing ventures in nascent markets are largely self-focused during strategy formation (McDonald & Eisenhardt 2020). While aware of peers, they engage in “parallel play” – i.e. focus on figuring out their own strategies, not worrying about potential rivals. Nascent markets are simply too uncertain (Moen et al. 2020), and potential rivals too insignificant. In other words, high-performing ventures are like “good golfers” – i.e., they “*play the course [i.e., nascent market], not the players [i.e., potential rivals]*” (McDonald & Eisenhardt, 2020). Consistent with parallel play, a Maverick founder said, “*I don’t worry about other ventures*” while a Diplomat investor advised, “*Focus on the quality of the product itself and gaining traction with universities and students, the rest will take care of itself.*” In contrast, rivals become more relevant as a market clarifies and is no longer nascent (Furr & Eisenhardt 2021), which occurred in the MOOC market in 2016 after our study ended (Appendix).

DISCUSSION

We began by asking how ventures effectively form strategy in nascent markets that emerge within established fields. Many of society’s most critical challenges such as improving public health (Gao & McDonald 2022), building smart public infrastructure (Zuzul & Edmondson 2017), and increasing access to education (Christensen et al. 2015) occur in these fields. By tracking two closely matched ventures, we contribute a theoretical framework of two different yet effective strategy formation

²⁰Per the Editor, Maverick’s techno-degree was not accredited. Relevant universities organized any accreditation on Diplomat’s platform.

²¹We appreciate the Editor’s advice to address this question.

processes.

More broadly, we also contribute to *institutional theory and institutional entrepreneurship* by adding the diplomacy lens that emphasizes coalitions and performance rather than regulation and field change. To *learning theory and entrepreneurship*, we identify limits to rapid experimentation, and the relevance of collaborative learning in changing established fields. Overall, we begin to bridge the gap between commercial and institutional entrepreneurship.

Strategy formation in nascent markets within established fields

Our primary contribution is a theoretical framework for how ventures can effectively form strategy in nascent markets within established fields, particularly ones where non-commercial logics matter. It consists of two distinct processes (Fig 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) broad learning to resolve at least some uncertainties of the nascent market. Yet since the venture has not yet formed an effective strategy, the process changes direction by a 3) pivot toward a more promising strategy. The pivot sets the stage for 4) adding optimally distinct activities. These activities are both familiar and expected (and thus legitimate) within the field, but also different and often better in the nascent market. Overall, the central idea is that ventures can effectively form strategy by resolving at least some uncertainties of the nascent market, and then pivoting to achieve a successful strategy and change the established field by adding optimally distinct activities (i.e., ones that are both legitimate and strategically effective).

The second process is a *cooperative, diplomacy-centric* one. It begins with a 1) cooperative vision 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) broad coalition formation in the established field, including bilateral and multilateral relationships, to become a legitimate and valued field member. Yet, since the venture has not yet formed an effective strategy, the process changes direction by a 3) segue toward a more promising strategy. This segue sets the stage for 4) co-creating profitable

activities via collaborative learning with willing incumbents. Overall, the central idea is that ventures can effectively form strategy by becoming a legitimate and valued field member, and then segueing to achieve a successful strategy and address nascent market uncertainties by co-creating profitable activities (i.e., ones that are both legitimate and strategically effective).

A key question is why are both processes effective? One reason is that they both address the *dual problem* that ventures in nascent markets within established fields face: forming a successful strategy by learning about the uncertainties of a nascent market while changing an established field by building legitimacy. But, they do so in a *different sequence*. Thus, while Maverick's process first emphasizes learning about the nascent market, it later calls for a pivot to add optimally distinct activities that build legitimacy within the field. In contrast, while Diplomat's process first emphasizes building legitimacy in the field, it later calls for a segue to co-create profitable activities that address nascent market uncertainties. Overall and despite different sequences, both processes address learning about a nascent market and building legitimacy in an established field.

A second and more theoretical reason is that both processes have the *same problem-solving structure*. That is, both begin by focusing on one task: learning in the nascent market or 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 or not previously seen like strategy formation in a specific nascent market. By *complex*, we mean a problem with interconnected parts like strategy formation that has both market and field parts. Such problems require *hybrid problem solving* (Baumann & Siggelkow 2013; Bremner & Eisenhardt 2022). That is, actors partially solve one part of the problem, shift direction, and then partially solve a second part while building on the partial solution to the first. This repeats until the entire problem is solved. Similarly, our ventures 1) partially solved either the market (Maverick) or the field (Diplomat), 2) changed direction, and then 3) solved both by building on the first.

In contrast, modular problem solving (i.e., trying to solve the field and the market in parallel) risks loss of fit (Baumann & Siggelkow 2013). Trying to solve them together simultaneously (integrative

problem solving) is too difficult because too much is changing at once (Bremner & Eisenhardt 2022), especially with tasks that require very different skills and time – e.g., experimentation to learn v. forming relationships with universities. Finally, oscillating between the two is inefficient – i.e., increases completion times, lowers effectiveness, and increases forgetting (Monsell 2003, Rubinstein et al. 2001).

Overall, the insight that both processes use a hybrid problem-solving structure that fits the strategy formation problem of ventures in nascent markets within established fields is potentially significant. Although speculative, this insight implies that other problem-solving structures (e.g., modular, integrative, oscillating) are unlikely to be effective in these settings. Thus, while we cannot rule out that other effective processes exist, this insight (albeit speculative) suggests that any other effective process will also have a hybrid problem-solving structure.

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 entrepreneurship examines how actors influence public policymakers, especially regulators (Ansari et al. 2016, Gurses & Ozcan 2015, Lee et al. 2018). These regulators are often conceptualized as single actors serving the public good (e.g., Gao & McDonald 2022). In contrast, Diplomat faced circumstances for which the diplomacy lens is better-suited. That is, diplomacy adopts the perspective of a nation and how that nation can pursue its own interests in an interconnected world of other nations with their own interests (Freeman 1997). Similarly, a venture is a standalone entity like a nation and is pursuing its own interests, but also doing so in the context of other organizations with their own interests.

By adding a diplomacy lens, we contribute its tactics to institutional entrepreneurship. Diplomatic tactics for forming bilateral relationships (e.g., “multi-vocality”), solidifying these bilateral relationships at multiple hierarchical levels, and adding multilateral relationships (Nye 2008) expand the repertoire of institutional entrepreneurs beyond influencing policymakers like regulators (e.g., Gurses & Ozcan 2015, Gao & McDonald 2022). Similarly, tactics like partnership teams, annual meetings, and advisory boards have corollaries in diplomacy, as noted earlier. Finally, diplomatic tactics like segues and collaborative

learning create cumulative changes that shift the field toward the institutional entrepreneur's interests.

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 entrepreneurship 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. Indeed, ventures that focus on legitimacy within the field but neglect an effective strategy rarely survive (Zuzul & Edmondson 2017).

Finally, it is important to ask whether our ventures changed the higher education field. Online learning proved difficult, and universities remain largely as they were. Yet, the ventures did modestly change the field. Diplomat offers global access to over a thousand courses by millions of learners, about 90% of whom do not pay. Maverick offers low-cost, global access to techno-degrees that made upskilling and advanced tech careers available to many by lowering cost and access barriers. While modest, these changes nonetheless increased access to higher education and altered the field.

Contributions to learning theory and entrepreneurship

By extending to the important context of established fields like healthcare, education, and national security, we make several contributions to the literature on learning theory and entrepreneurship in nascent markets. First, we examine *limits to rapid experimentation*. A key research strand emphasizes this practice to address uncertainties in nascent markets (Andries et al. 2013, Hannah & Eisenhardt 2018, Camuffo et al. 2022, Van Angeren & Karunakaran 2023). Yet, as we saw with Maverick's rapid experimentation in a university system and Diplomat's on-demand platform, rapid experimentation can be a misfit with the measured pace of established fields. Mantras like "move fast, break things" can be out of step with field values like protecting students and norms like collective governance. This suggests care when using rapid experimentation in settings such as we studied. More speculatively, pivots may also have limits. They may be too abrupt in established fields, as Diplomat feared. Or, pivots may change so much that they take ventures away from the "hard problems" of the field (e.g., remedial education for disadvantaged students) that have high societal value, as we saw at Maverick. These observations suggest

the relevance of more research as a critical next step.

Second, we add *collaborative learning* to the repertoire of learning processes in nascent markets. Collaborative learning with incumbents can be effective for introducing change in established fields, as we saw at Diplomat. These incumbents have field knowledge and legitimacy - both of which are useful for avoiding blind alleys (e.g., Diplomat's on-demand platform) and for creating profitable yet legitimate activities in the field (e.g., Diplomat's paid credentials). Incumbent partners can also be a role model that encourages change by other incumbents that is favorable to the venture.

Boundary conditions, limitations and future directions²²

As in all theory-building studies, it is essential to address potential boundary conditions. One is whether our theoretical framework generalizes to *mature firms* entering 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 problem that our theoretical framework addresses. So our framework is likely to generalize. On the other hand, if the mature firm is already in the field or has existing relationships with field incumbents, then our framework might only modestly apply at best.

Another potential boundary condition is whether our theoretical framework generalizes to *other fields*. On the one hand, if the field is an established one (especially ones where non-commercial logics matter), then our framework likely generalizes. If the field also involves regulation, then prior work on regulatory actors is also likely to be relevant (e.g., Gurses & Ozcan 2015). 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 broad coalitions might be 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 is likely more critical (Wry et al. 2014; Navis & Glynn 2010). In sum, while our theoretical framework likely has some generalizability, testing it and probing its boundary conditions are key avenues for future research.

Like all research, ours has limitations. One limitation is the potential for over-determined theory,

²² We appreciate reviewer advice to consider boundary conditions, related generalizability, and limitations of our research.

especially given two cases. As described in Methods, we took mitigating steps like 1) regularization from machine learning (i.e., simple theory with only important, well-grounded constructs) and 2) theoretical arguments (i.e., limits random correlations and imprecise construct abstraction). Nonetheless, our theory may be over-determined. A second limitation is the possible existence of other effective processes. Per above, our two processes share the same hybrid problem-solving structure— one that fits complex, novel problems like strategy formation in our setting (Baumann & Siggelkow 2013). While this insight may limit the range of problem-solving structures, we cannot rule out that other effective processes exist. Another limitation is studying successful ventures. Unlike theory-testing studies using random sampling, our theory-building study uses theoretical sampling such that our unique comparison of successful ventures is acceptable (Methods). Also, both ventures made mistakes that offer counterfactuals that sharpen theory-building like Diplomat’s unilateral creation of on-demand. That said, unsuccessful ventures likely enhance our theory. Finally, our sample design mitigates alternative explanations (Methods), but others likely remain. In sum, these limitations suggest future research to test our theory with larger, more diverse samples.

CONCLUSION

We began by describing the dual problem of strategy formation faced by ventures in nascent markets within established fields where many societal challenges often occur. By tracking two well-matched ventures in the nascent MOOC market that emerged in the U.S. higher education field, we ask how ventures effectively form strategy in these settings. While we cannot rule out other effective processes, our core contribution is a theoretical framework that describes two different yet effective strategy formation processes. Broadly, we begin to bridge between institutional and commercial entrepreneurship. The next step is empirical test.

REFERENCES

- Andries P, Debackere K, Looy B Van (2013) Simultaneous experimentation as a Learning Strategy: Business Model Development Under Uncertainty. *Strateg. Entrep. J.* 7(4):288–310.
- Ansari SS, Garud R, Kumaraswamy A (2016) The Disruptor’s Dilemma: TiVo and the U.S. Television Ecosystem. *Strateg. Manag. J.* 37(9):1829–1853.

- Baker T, Nelson RE (2005) Creating Something from Nothing: Resource Construction through Entrepreneurial Bricolage. *Administrative Sci. Q.* 50(3):329–366.
- Battilana J, Dorado S (2010) Building Sustainable Hybrid Organizations: the Case of Commercial Microfinance Organizations. *Acad. Manag. J.* 53(6):1419–1440.
- Battilana J, Leca B, Boxenbaum E (2009) How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship. *Acad. Manag. Ann.* 3(1):65–107.
- Baumann O, Siggelkow N (2013) Dealing with Complexity: Integrated vs. Chunky Search Processes. *Organ. Sci.* 24(1):116–132.
- Bechky BA, O’Mahony S (2015) Leveraging Comparative Field Data for Theory Generation. *Handb. Qual. Organ. Res. Innov. pathways methods.*
- Bingham CB, Davis JP (2012) Learning Sequences: Their Existence, Effect, and Evolution. *Acad. Manag. J.* 55(3):611–641.
- Bingham CB, Eisenhardt KM (2011) Rational Heuristics: The “Simple Rules” that Strategists Learn from Process Experience. *Strateg. Manag. J.* 32(1):1437–1464.
- Blank S (2013) Why the Lean Start-up Changes Everything. *Harv. Bus. Rev.* (May):1–10.
- Bremner RP, Eisenhardt KM (2022) Organizing form, experimentation, and performance: Innovation in the nascent civilian drone industry. *Organ. Sci.* 33(4):1645–1674.
- Camuffo A, Cordova A, Gambardella A., & Spina C (2020). A Scientific Approach to Entrepreneurial Decision Making: Evidence from a Randomized Control Trial. *Management Science*, 66(2): 564–586.
- Choudhury P, Allen RT, Endres MG (2021) Machine learning for pattern discovery in management research. *Strateg. Manag. J.* 42(1):30–57.
- Christensen CM, Raynor ME, McDonald R (2015) What is disruptive innovation. *Harv. Bus. Rev.* 93(12):44–53.
- Clarysse B, Andries P, Boone S, Roelandt J (2023) Institutional logics and founders’ identity orientation: Why academic entrepreneurs aspire lower venture growth. *Res. Policy* 52(3):104713.
- Contigiani A, Levinthal DA (2019) Situating the construct of lean start-up: Adjacent conversations and possible future directions. *Ind. Corp. Chang.* 28(3):551–564.
- David RJ, Sine WD, Haveman HA (2013) Seizing Opportunity in Emerging Fields: How Institutional Entrepreneurs Legitimated the Professional Form of Management Consulting. *Organ. Sci.* 24(2):356–377.
- DiBenigno J, Kellogg KC (2014) Beyond occupational differences: The importance of cross-cutting demographics and dyadic toolkits for collaboration in a U.S. hospital. *Admin. Sci. Qtrly* 59(3).
- Eesley C, Li JB, Yang D, (2016) Does institutional change in universities influence high-tech entrepreneurship? Evidence from China's Project 985. *Organ. Sci.* 27(2): 446-461.
- Eesley C, Wu L (2020) For startups, adaptability and mentor network diversity can be pivotal: Evidence from a randomized experiment on a MOOC platform. *MIS Qtrly.* 44(2): 661-697.
- Eisenhardt KM (1989) Building Theories from Case Study Research. *Acad. Manag. Rev.* 14(4):532–550.
- Eisenhardt KM (2021) What is the Eisenhardt Method, really? *Strateg. Organ.* 19(1):147–160.
- Eisenhardt KM, Graebner ME (2007) Theory Building from Cases: Opportunities and Challenges. *Acad. Manag. J.* 50(1):25–32.

- Fauchart E, Gruber M (2011) Darwinians, Communitarians, and Missionaries: The Role of Founder Identity in Entrepreneurship. *Acad. Manag. J.* 54(5):935–957.
- Frank DJ, Meyer JW (2020) *The university and the global knowledge society* (Princeton University Press).
- Freeman CW (1997) *Arts of Power: Statecraft and Diplomacy* (United States Institute of Peace Press Washington, DC).
- Furr NR, Eisenhardt KM (2021) Strategy and Uncertainty: Resource-Based View, Strategy-Creation View, and the Hybrid between Them. *J. Manage.*
- Gao C, McDonald R (2022) Shaping Nascent Industries: Innovation Strategy and Regulatory Uncertainty in Personal Genomics. *Adm. Sci. Q.* 67(4):915–967.
- Glaser BG, Strauss AL (1967) *The discovery of grounded theory: strategies for qualitative theory* (Aldine Publishing Co, Chicago, IL).
- Grimes MG (2018) The pivot: How founders respond to feedback through idea and identity work. *Acad. Manag. J.* 61(5):1692–1717.
- Grodal S (2018) Field expansion and contraction: How communities shape social and symbolic boundaries. *Adm. Sci. Q.* 63(4):783–818.
- Grodal S, Anteby M, Holm AL (2021) Achieving rigor in qualitative analysis: The role of active categorization in theory building. *Acad. Manag. Rev.* 46(3):591–612.
- Gurses K, Ozcan P (2015) Entrepreneurship in Regulated Markets: Framing Contests and Collective Action to Introduce Pay TV in the U.S. *Acad. Manag. J.* 58(6):1709–1739.
- Hannah DP, Eisenhardt KM (2018)
- Hargadon AB, Douglas Y (2001) When Innovations Meet Institutions: Edison and the Design of the Electric Light. *Adm. Sci. Q.* 46(3):476.
- Hiatt SR, Park S (2013) Lords of the harvest: Third-party influence and regulatory approval of genetically modified organisms. *Acad. Manag. J.* 56(4):923–944.
- Huber GP, Power DJ (1985) Retrospective reports of strategic-level managers: Guidelines for increasing their accuracy. *Strateg. Manag. J.* 6(2):171–180.
- Karunakaran A, (2022) In cloud we trust? Co-opting occupational gatekeepers to produce normalized trust in platform-mediated interorganizational relationships. *Organ. Sci.* 33(3): 1188-1211.
- Kirtley J, O'Mahony S (2023) What is a pivot? Explaining when and how entrepreneurial firms decide to make strategic change and pivot. *Strateg. Manag. J.* 44(1):197–230.
- Kissinger HA (1994) *Diplomacy* (Simon & Schuster, New York).
- Koning R, Hasan S, Chatterji A (2022) Experimentation and start-up performance: Evidence from A/B testing. *Manage. Sci.* 68(9):6434–6453.
- Kumar A, Ow PS, Prietula MJ (1993) Organizational simulation and information systems design: An operations level example. *Manage. Sci.* 39(2):218–240.
- Langley A (1999) Strategies for Theorizing from Process Data. *Acad. Manag. Rev.* 24(4):691–710.
- Langley A, Meziani N (2020) Making interviews meaningful. *J. Appl. Behav. Sci.* 56(3):370–391.
- Leatherbee M, Katila R (2020) The lean startup method : Early-stage teams and hypothesis-based probing of business ideas. *Strateg. Entrep. J.* 14(4):1–24.

- Lee BH, Struben J, Bingham CB (2018) Collective action and market formation: An integrative framework. *Strateg. Manag. J.* 39(1):242–266.
- Lounsbury M, Ventresca M, Hirsch PM (2003) Social movements, field frames and industry emergence: a cultural-political perspective on US recycling. *Socio-Economic Rev.* 1(1):71–104.
- McDonald R, Gao C (2019) Pivoting Isn't Enough? Managing Strategic Reorientation in New Ventures. *Organ. Sci.* 30(6):1289–1318.
- McDonald RM, Eisenhardt KM (2020) Parallel Play: Startups, Nascent Markets, and the Search for a Viable Business Model. *Administrative Sci. Q.* 65(2):483–523.
- Meyer JW, Ramirez FO, Frank DJ, Schofer E (2007) Higher education as an institution. *Sociol. High. Educ. Contrib. their Context.* 187.
- Moen M, Agarwal R, Shah SK (2020) Building industries by building knowledge: Uncertainty reduction over industry milestones. *Strategy Science* 5(3): 218-244.
- Monsell S (2003) Task switching. *Trends Cogn. Sci.* 7(3):134–140.
- Musselin C (2021) University governance in meso and macro perspectives. *Annu. Rev. Sociol.* 47:305–325.
- Navis C, Glynn MA (2010) How New Market Categories Emerge: Temporal Dynamics of Legitimacy, Identity, and Entrepreneurship in Satellite Radio, 1990-2005. *Adm. Sci. Q.* 55(3):439–471.
- Ng A, Widom J (2014) Origins of the modern MOOC (xMOOC). *Hrsg. Fiona M. Hollands, Devayani Tirthali MOOCs Expect. Real. Full Rep.*:34–47.
- Nye J (2008) Public Diplomacy and Soft Power. *Ann. Am. Acad. Pol. Soc. Sci.* 616(1):94–109.
- Osterwalder A, Pigneur Y (2013) Designing Business Models and Similar Strategic Objects: The Contribution of IS. *J. Assoc. Inf. Syst.* 14(May 2013):237–244.
- Ott TE, Eisenhardt KM (2020) Decision Weaving: Forming Novel, Complex Strategy in Entrepreneurial Settings. *Strateg. Manag. J.* 11(3):306–325.
- Ott TE, Eisenhardt KM, Bingham CB (2017) Strategy Formation in Entrepreneurial Settings: Past Insights and Future Directions. *Strateg. Entrep. J.* 11(3):306–325.
- Pacheco DF, York JG, Dean TJ, Sarasvathy SD (2010) The coevolution of institutional entrepreneurship: A tale of two theories. *J. Manage.* 36(4):974–1010.
- Padgett JF, Ansell CK (1993) Robust Action and the Rise of the Medici, 1400-1434. *Am. J. Sociol.* 98(6):1259–1319.
- Pahnke EC, Katila R, Eisenhardt KM (2015) Who Takes You to the Dance? How Partners' Institutional Logics Influence Innovation in Young Firms. *Adm. Sci. Q.* 60(4):596–633.
- Pappano L (2012) The year of the MOOC. *New York Times* Nov 2.
- Pillai SD, Goldfarb B, Kirsch DA (2020) The origins of firm strategy: Learning by economic experimentation and strategic pivots in the early automobile industry. *Strateg. Manag. J.* 41(3):369–399.
- Porter ME (1996) What is Strategy? *Harv. Bus. Rev.* (December):1–20.
- Powell EE, Baker T (2014) It's what you make of it: Founder identity and enacting strategic responses to adversity. *Acad. Manag. J.* 57(5):1406–1433.
- Ries E (2011) *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses* (Crown Books).

- Rindova VP, Kotha S (2001) Continuous “Morphing”: Competing through Dynamic Capabilities, Form, and Function. *Acad. Manag. J.* 44(6):1263–1280.
- Rivkin JW (2000) Imitation of complex strategies. *Manage. Sci.* 46(6):824–844.
- Rubinstein JS, Meyer DE, Evans JE (2001) Executive Control of Cognitive Processes in Task Switching. *J. Exp. Psychol. Hum. Percept. Perform.* 27(4):763–797.
- Santos FM, Eisenhardt KM (2009) Constructing Markets and Shaping Boundaries: Entrepreneurial Power in Nascent Fields. *Acad. Manag. J.* 52(4):643–671.
- Scott WR (2008) *Institutions and organizations: Ideas and interests* (Sage).
- Scott WR, Biag M (2016) The Changing Ecology of US Higher Education: An Organization Field Perspective. Berman, EP and Paradeise C, ed. *Univ. Under Press*. Research in the Sociology of Organizations. 25–51.
- Siggelkow N (2007) Persuasion with Case Studies. *Acad. Manag. J.* 50(1):20–24.
- Thatchenkery S, Katila R (2021) Seeing What Others Miss: A Competition Network Lens on Product Innovation. *Organ. Sci.* 32 (5).
- Thornton PH, Ocasio W, Lounsbury M (2012) *The Institutional Logics Perspective: A New Approach to Culture, Structure, and Process* (Oxford University Press).
- Tidhar R, Eisenhardt KM (2019) Get Rich or Die Trying... Unpacking Revenue Model Choice Using Machine Learning and Multiple Cases. *Acad. Manag. Proc.* 2019(1):12218.
- Tolbert PS, David RJ, Sine WD (2011) Studying Choice and Change: The Intersection of Institutional Theory and Entrepreneurship Research. *Organ. Sci.* 22(5):1332–1344.
- U.S. State Department (2021) Diplomatic Dictionary. Retrieved <https://diplomacy.state.gov/discover-diplomacy/diplomatic-dictionary/>.
- Van Angeren J, Karunakaran A (2023) Anchored inferential learning: Platform-specific uncertainty, venture capital investments by the platform owner, and the impact on complementors. *Organ. Sci.* 34(3): 1027-1050.
- Wang T, Aggarwal VA, Wu B (2020) Capability interactions and adaptation to demand-side change. *Strateg. Manag. J.* 41(9):1595–1627.
- Wry T, Lounsbury M, Jennings PD (2014) Hybrid Vigor: Securing Venture Capital By Spanning Categories in Nanotechnology. *Acad. Manag. J.* 57(5):1309–1333.
- Yin RK (2018) *Case study research and applications* (Sage Thousand Oaks, CA).
- York JG, Hargrave TJ, Pacheco DF (2016) Converging Winds: Logic Hybridization in the Colorado Wind Energy Field. *Acad. Manag. J.* 59(2):579–610.
- Yue LQ, Wang J (2023) Policy Learning in Nascent Industries’ Venue Shifting: A Study of the U.S. Small Unmanned Aircraft Systems (UAS) Industry. *Bus. Soc.*
- Zietsma C, Groenewegen P, Logue DM, Hinings CR (2017) Field or Fields? Building the Scaffolding for Cumulation of Research on Institutional Fields. *Acad. Manag. Ann.* 11(1):391–450.
- Zuzul T, Edmondson AC (2017) The advocacy trap: When legitimacy building inhibits organizational learning. *Acad. Manag. Discov.* 3(3):302–321.

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

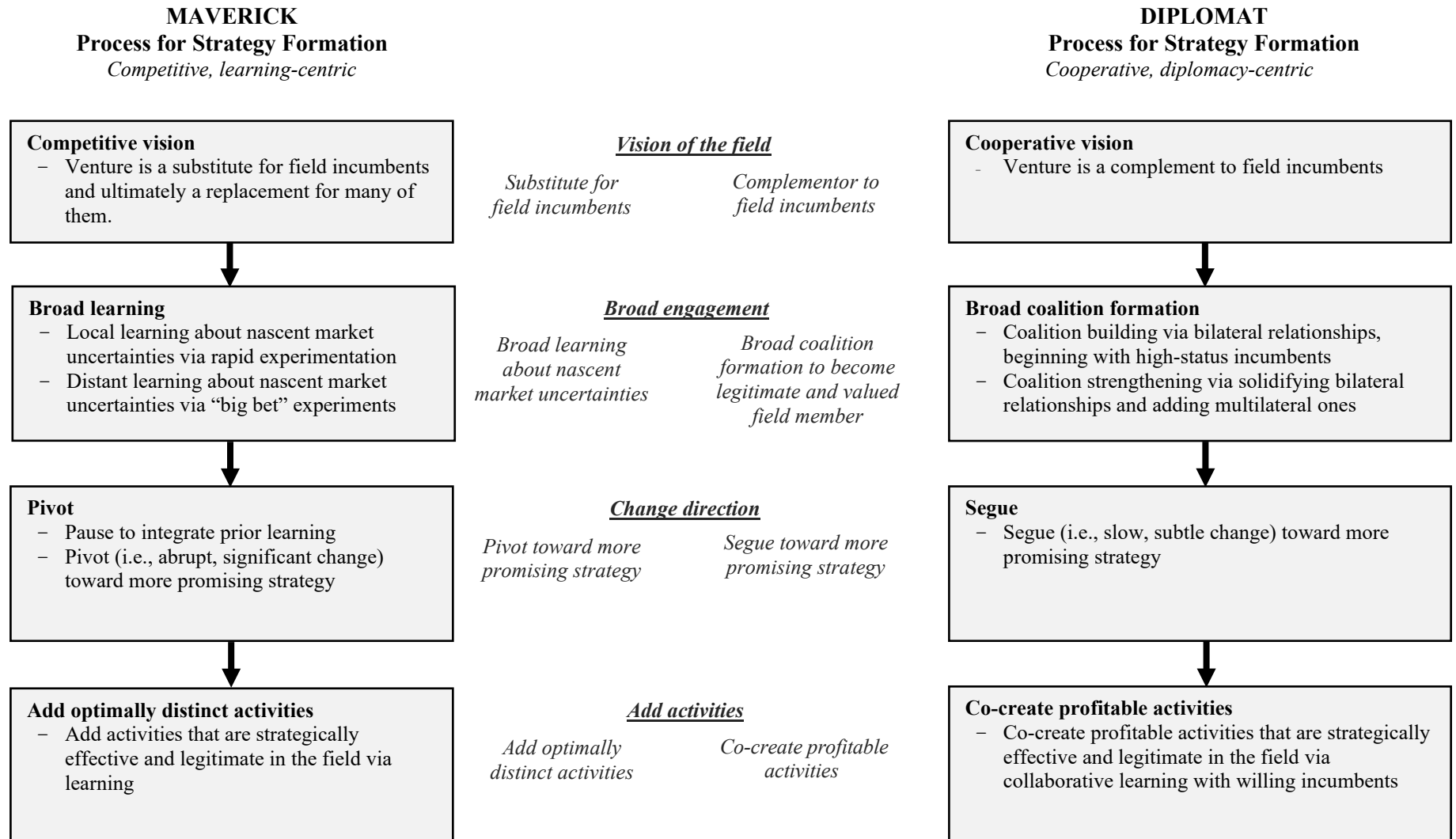


Table 1. Sample ventures.

	Maverick	Diplomat
Founding conditions		
<i>Location</i>	United States, metro area	United States, metro area
<i>Origin</i>	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)
<i>Founding date</i>	Early 2012	Early 2012
<i>Aim</i>	Democratize education by making elite university courses accessible to anyone anywhere	Democratize education by making elite university courses accessible to anyone anywhere
<i>First-year funding</i>	About \$20M venture capital from premier VCs and angels	About \$20M venture capital from premier VCs and angels
Founding team		
<i>Co-founder</i>	Prominent professor at elite university	Prominent professor at elite university
<i>Age</i>	Early 40s	Mid 30s
<i>Industry experience</i>	Co-founder of a corporate research lab	Co-founder of a corporate research lab
<i>Venture experience</i>	None	None
<i>Highest degree</i>	PhD	PhD
<i>Co-founder</i>	University researcher	Prominent professor at elite university
<i>Age</i>	Late 20s	Early 40s
<i>Industry experience</i>	Scientific research organization	None
<i>Venture experience</i>	Engineer in 2 technology ventures	None
<i>Highest degree</i>	PhD	PhD
<i>Co-founder</i>	University researcher	
<i>Age</i>	Late 20s	
<i>Industry experience</i>	None	
<i>Venture experience</i>	None	
<i>Highest degree</i>	BS	

Table 2. Overview of data sources.

Source	Primary purposes	Maverick		Diplomat	
		Count	Total (first-hand)	Count	Total (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-fdrs, 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 (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	<i>New York Times, Wall Street Journal, Wired, Chronicle of Higher Education, Tech Crunch</i> , 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 titles and key word searches)	24	Relevant ones from over 700 (selected by 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. Venture history including key events and actions of focal venture. Overviews of the MOOC market and the U.S. higher education field.

Table 3. Effective strategy formation.

Effective strategy formation	Maverick	Diplomat
<i>Complete strategy (End of 2015 when study concluded)</i>	<p><u>Learners</u>: Technical professionals who want a better job.</p> <p><u>Products</u>: Courses that comprise a “techno-degree” for advanced tech jobs.</p> <p><u>Partners</u>: Experts from corporate partners design & teach courses. Corporate partners & others hire graduates.</p> <p><u>Business model</u>: A marketplace that connects courses and techno-degrees w/learners and a marketplace that connects employers w/learners.</p> <p><u>Revenue model</u>: Learner pays subscription fee, some have corporate scholarships</p>	<p><u>Learners</u>: Wide variety of traditional students, professionals looking to upgrade skills & lifelong learners.</p> <p><u>Products</u>: Wide variety of university courses plus focused credentials and degrees.</p> <p><u>Partners</u>: Faculty of university partners design & teach courses.</p> <p><u>Business model</u>: A marketplace that connects courses, credentials and degrees with learners.</p> <p><u>Revenue model</u>: Freemium courses, paid credentials and paid degrees. Revenue split w/universities. Otherwise free.</p>
<i>Successful strategy</i>		
<i>Revenue 2014</i>	About \$3M	About \$3M
<i>2015</i>	\$20M	About \$10M
<i>2016</i>	\$30Ma	\$60M
<i>2018</i>	\$90M	\$140M
<i>2020</i>	Revenue growth	\$300M
<i>Market share</i>	Consistent #2/3 in US, top 5 global	Consistent #1 in US and global
<i>Profitability (positive unit economics)</i>	Yes (2019)	Yes (2019)
<i>Successful Strategy</i>		
<i>Indirect indicators</i>		
<i>Series D</i>	Yes (2015)	Yes (early 2017)
<i>Unicorn</i>	Yes (2019)	Yes (early 2017)
<i>Employees 2015,2016</i>	130, 220	220, 300
<i>Partners 2015,2016</i>	19, 20 corporations & 1 university	135,150 universities (& corporations 2016)
<i>Learners 2015,2016</i>	4,5 million	17,23 million
<i>Courses 2015, 2016</i>	123,170	1545, 2303
<i>Successful strategy representative quotes</i>	<p><i>Maverick is by far the leader in terms of execution, they seem to have it together ... They're solving an actual employee problem. (Media)</i></p> <p><i>Maverick just nailed it ... Careers are aspirational and everybody tries to do that but Maverick is way, way ahead. (Market expert)</i></p> <p><i>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)</i></p>	<p><i>Diplomat is the most stable and secure EdTech. (Media)</i></p> <p><i>Diplomat has the advantage of working with most highly regarded brands in higher ed. (Media)</i></p> <p><i>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. (Board member)</i></p>

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

Process steps	Actions	Representative illustrations	Results	Representative illustrations
<i>Competitive vision</i>	<ul style="list-style-type: none"> Substitute for and ultimately replace many universities <ul style="list-style-type: none"> - 3/3 founders and all investors agreed (early 2012 – late 2013) 	<p><i>We're really trying to disrupt higher education.</i> (Cofounder)</p> <p><i>We'll be just like any other university, but a university for the 21st Century.</i> (CEO)</p> <p><i>I don't think they had a business model other than disrupt Harvard.</i> (Investor)</p>	<ul style="list-style-type: none"> Major media attention (e.g., 17 focal articles in outlets like <i>New York Times</i>, <i>Tech Crunch</i>, <i>Chronicle of Higher Education</i>) 	<p><i>Big-name universities are understandably loath to alter long-held procedures...So be it, Maverick says.</i> (Media)</p> <p><i>Maverick is the gorilla of MOOCs.</i> (Media)</p>
<i>Local learning via rapid experimentation</i>	<ul style="list-style-type: none"> Rapid experimentation to learn about nascent MOOC market e.g., <ul style="list-style-type: none"> - Course content - Mentoring - Faculty - Quiz features (early 2012 – mid 2013) 	<p><i>We often do A/B testing where we test two different ways of conveying something and observe the effect.</i> (Cofounder)</p> <p><i>We call the people who drop out, and find out what's going on.</i> (Cofounder)</p> <p><i>We've experimented with different versions of what works and what doesn't, what scales.</i> (Manager)</p>	<ul style="list-style-type: none"> Improved course design and student retention Identified needed activities, e.g., <ul style="list-style-type: none"> - Mentoring - Credentials - Placement 	<p><i>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!</i> (Cofounder)</p> <p><i>Later. We now actually staff those [MOOCs] with mentors and online hotline 24/7.</i> (Cofounder)</p>
<i>Distant learning via "big bet" experiments</i>	<ul style="list-style-type: none"> 1st MOOC online MS degree <ul style="list-style-type: none"> - Elite public university partner - \$7000 price - MS degree for outstanding grad students (mid 2012 - late 2013) 1st low-cost MOOC courses for credit <ul style="list-style-type: none"> - Large public university system partner - \$150 price - Remedial courses for freshmen (mid 2012 - late 2013) 	<p><i>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.</i> (CEO)</p> <p><i>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.</i> (Univ. leader)</p> <p><i>The Governor...approached Maverick to come up with a technological solution for what has become a vexing challenge...more than 50% of entering students cannot meet basic requirements.</i> (Media)</p> <p><i>You have the ability to change the entire system. It's great! It's innovative! Why wouldn't you do it, right?</i> (Executive)</p>	<ul style="list-style-type: none"> 1 of 2 university relationships Fast for university but slow for Maverick Several years later. High demand and successful degree 	<p><i>At first. We found the right match in our partnership.</i> (Executive)</p> <p><i>Later. "Very slow."</i> (CEO)</p> <p><i>Several years later. [University was] able to not only serve a lot more students than on campus. They were serving categorically different students.</i> (Market expert)</p> <p><i>At first. We have to be honest about the fact that we're experimenting... We're not perfect yet.</i> (Cofounder)</p> <p><i>Later. Completion rates in the pilots we've been running have been 85%, as opposed to 5% or 4% which is common in MOOC-land!</i> (Manager)</p> <p><i>The move to MOOCs comes at great peril to our university.</i> (Typical faculty member)</p>

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

Process steps	Actions	Representative illustration	Results	Representative illustration
<i>Cooperative vision</i>	<ul style="list-style-type: none"> • Complement universities by expanding their teaching & global impact - 2/2 co-founders and all investors agreed (early 2012 and beyond) 	<p><i>I don't think we saw ourselves as disrupting education. (Cofounder)</i></p> <p><i>We see a future...where elite universities serve millions, not thousands. (Diplomat press release)</i></p>	<ul style="list-style-type: none"> • Attracted media attention (e.g., 18 focal articles in <i>New York Times</i>, <i>Tech Crunch</i>, <i>Chronicle of Higher Education</i>) • Interest from elite universities 	<p><i>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. (Media)</i></p>
<i>Coalition building</i>	<ul style="list-style-type: none"> • Form bilateral relationships w/4 very high-status universities - Affirm cooperative vision (early 2012) 	<p><i>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...there would be a few top-tier institutions that were going to engage in the MOOC space. (University leader)</i></p>	<ul style="list-style-type: none"> • Increased legitimacy w/ very high-status partners - 4 top-20 universities - Leveraged these relationships to build coalition 	<p><i>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. (Cofounder)</i></p>
	<ul style="list-style-type: none"> • Add bilateral relationships w/ other top universities - Senior executive leads - Speak the language” of different universities - Easy to join (no content requirements, no fees) <p>(mid-2012 – late 2013)</p>	<p><i>[Cofounder] was never in the office...always on planes. (Manager)</i></p> <p><i>The value proposition varied depending on the university....You had to adjust your talk or speak slightly different languages. (Partnerships manager)</i></p> <p><i>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)</i></p>	<ul style="list-style-type: none"> • Attracted many partners - Public & private - Research & teaching universities - On 4 continents • Expanded coalition - 2012: 30 more universities (mostly top 100 global) - 2013: 60 more universities (mostly top 200) • By far, MOOC market leader for # course 	<p><i>[Cofounder] flew around those first two years and secured an unbelievable number of universities. (Manager)</i></p> <p><i>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)</i></p> <p><i>The earliest classes were random. 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)</i></p>
<i>Coalition strengthening</i>	<ul style="list-style-type: none"> • Solidify bilateral relationships - Partner-management teams as envoys to specific university partners <p>(late 2012 and beyond)</p>	<p><i>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...Their role keeps the relations with the university strong. (Executive)</i></p>	<ul style="list-style-type: none"> • Direct communication channels w/ partners - Administrators, faculty, and staff - Specialize with region-specific needs 	<p><i>Academic institutions care about their partnership managers. Do they share their value system?...Do I feel like they get me? (Executive)</i></p>
	<ul style="list-style-type: none"> • Add multilateral relationships 	<p><i>The Advisory Board was basically to get high-level buy in from some of our key</i></p>	<ul style="list-style-type: none"> • Aligned interests and improved buy-in 	<p><i>The Advisory Board, has been core to any of Diplomat's activities. (Executive)</i></p>

<p>- Advisory Board as diplomatic council (9 rotating senior university leaders) (early 2013 and beyond)</p>	<p><i>partners as we thought about rolling out new policies. (Executive)</i></p> <p><i>The Advisory Board is made up of presidents, provosts, and chancellors from different partners that represent different interests in the partner community. (Manager)</i></p>	<ul style="list-style-type: none"> • Gained greater legitimacy in higher education field 	<p><i>The university advisory board plays a role here in anchoring us a little more academic than the company otherwise would have. (Executive)</i></p>
<p>- Annual Partners Conference as diplomatic summit conference for university partners (early 2013 and beyond)</p>	<p><i>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)</i></p>	<ul style="list-style-type: none"> • Improved communication <ul style="list-style-type: none"> - Better sharing among partners & Diplomat - Better partner feedback - Learn about partners • Gained greater legitimacy in higher education field 	<p><i>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)</i></p>

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

Process steps	Actions	Representative illustration	Results	Representative illustration
<i>Pause to integrate prior learning</i>	<ul style="list-style-type: none"> • Pause to integrate learning since founding <ul style="list-style-type: none"> - Withdrew from university system partnership - Several month pause - Stopped new activities (early 2014) 	<p><i>This was the start of 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? (Executive)</i></p> <p><i>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. (CEO)</i></p>	<ul style="list-style-type: none"> • Updated mental model <ul style="list-style-type: none"> - Value of education is employment - Corporate experts know what students need to learn • Decision to pivot away from universities to lifelong learning 	<p><i>This was Maverick's ah-ha moment. (Expert)</i></p> <p><i>We decided we're not focusing on replacing colleges. We're focusing on lifelong learning. (Executive)</i></p> <p><i>"It was an hour on the phone with the CEO. And I said, "This is a huge insight...This is how pivots happen – integrate and change the mental model." (Investor)</i></p>
<i>Pivot toward more promising strategy</i>	<ul style="list-style-type: none"> • Promising, but incomplete strategy <ul style="list-style-type: none"> - Graduate-level technical education - Students are working professionals - Faculty are experts at leading tech partners - Tech partners and others hire students (mid 2014) 	<p><i>We had a very hard pivot. (Executive)</i></p> <p><i>We just decided as a company...to build the core competency of really great partnerships with industry. (Executive)</i></p> <p><i>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." (Executive)</i></p>	<ul style="list-style-type: none"> • Organization change <ul style="list-style-type: none"> - 2 cofounders (plus others) disagreed and left - Added TMT members w/business experience - Added 9 leading tech firm partners to provide faculty and hire students 	<p><i>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. (Investor)</i></p> <p><i>[Employees] 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. (Manager)</i></p>
<i>Add optimally distinct activities</i>	<ul style="list-style-type: none"> • Learned about and added optimally distinct activities e.g. <ul style="list-style-type: none"> - Course content - Grading - Mentoring - Placement - Scholarships (late 2014 - 2015) 	<p><i>We spent hours scouring job descriptions and interviewing hiring managers to identify key skills they look for in iOS developers. (Content manager)</i></p> <p><i>We ran three different versions of this [program]... very tightly-controlled experiments. (Mentoring manager)</i></p>	<ul style="list-style-type: none"> • Added activities e.g., <ul style="list-style-type: none"> - 4 techno-degrees - "Uber grading" platform - About 40 mentors - Corporate-paid scholarships • Improved student outcomes and enrollments <ul style="list-style-type: none"> - 60% completion rates (v. 3-5% for most MOOCs) 	<p><i>"Why don't we... create a very small program for 6 to 9 months. Focus on a specific job and call it a 'techno-degree'." (CEO)</i></p> <p><i>They [graders] give students back a very insightful and detailed, human-level, expert-level review of their work, typically within two hours. (Executive)</i></p> <p><i>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. (Corporate partner)</i></p>

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

Process steps	Actions	Representative illustration	Results	Representative illustration
<i>Segue toward more promising strategy</i>	<ul style="list-style-type: none"> Hired CEO w/field legitimacy and business acumen Prominent scholar and elite university president named CEO <p>(early 2014)</p>	<p><i>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."</i></p> <p>(Executive)</p>	<ul style="list-style-type: none"> Understood the university as a business Reaffirmed cooperative vision High legitimacy and connections w/global university leaders 	<p><i>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.</i> (Executive)</p> <p><i>We're very mindful that we <u>don't</u> want to be a university. We want to be a facilitator.</i> (CEO)</p>
	<ul style="list-style-type: none"> New CEO mandate for successful strategy Monetization Capitalize on university brands Strengthen university relationships <p>(early 2014)</p>	<p><i>There were several [board objectives]. 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.</i> (CEO)</p>	<ul style="list-style-type: none"> More focus on Diplomat as a business by senior executives Strategic thinking about products, learners, and profit by employees 	<p><i>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.</i> (CEO)</p>
	<ul style="list-style-type: none"> Shift employee focus to successful strategy Committees for profitable product ideas, bottom-up <p>(early 2014)</p>	<p><i>Diplomat added committees to brainstorm product ideas to make money. It was bottom-up. Let many flowers bloom.</i> (Manager)</p>	<ul style="list-style-type: none"> Several potentially profitable new product ideas emerged 	<p><i>Diplomat <u>never</u> had a content strategy before. We just let partners put up whatever they wanted.</i> (Executive)</p>
<i>Co-create profitable activities</i>	<ul style="list-style-type: none"> Floated ill-defined idea for MOOCs sequence Opt-in opportunity for university partners Collaborative learning w/3 professors at small research university partner to co-create credential <p>(mid 2014)</p>	<p><i>I'm not sure Diplomat had nailed down the terminology ...It was informal.</i> (Professor)</p> <p><i>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.</i> (Professor)</p>	<ul style="list-style-type: none"> Successful paid credential 1st "blockbuster" product (800,000 students in 6 months) Exemplar for successful paid credential Universities finally see how MOOCs can make money and still do good 	<p><i>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.</i> (Manager)</p> <p><i>This was the first time universities started to see, "Whoa, I could make some real money from this thing".</i> (Partnership manager)</p>

<ul style="list-style-type: none"> • Large public university partner suggests MOOC-based MBA <ul style="list-style-type: none"> - Diplomat agrees • Collaborative learning w/university partner to co-create degree (mid 2014 - early 2015) 	<p><i>One of the things I really liked about Diplomat was their willingness to listen to our ideas and actually implement them...Diplomat was willing to have that conversation with us and willing to innovate with us.</i> (University administrator)</p>	<ul style="list-style-type: none"> • Successful MOOC-based MBA <ul style="list-style-type: none"> - Low-cost, novel degree - Fit public university mandate • Diplomat spreads successful exemplar for MOOC-based degrees 	<p><i>You can charge \$20,000 and it's still much cheaper than a normal MBA.</i> (Executive)</p> <p><i>We now started to build a team of people to go out to our partners and talk seriously about degrees.</i> (CEO)</p>
<ul style="list-style-type: none"> • Unilateral creation of on-demand platform (mid - late 2014) 	<p><i>One of the big pushes was to move our content to an on-demand model. We didn't quite know whether that means no deadlines or some auto-generated ones. The idea was, "Hey, this content is what we have. We should be running it all the time.</i> (Manager)</p>	<ul style="list-style-type: none"> • At first. <u>Unsuccessful</u> on-demand platform • Later. Co-create successful on-demand platform and courses <ul style="list-style-type: none"> - Courses every 4 weeks w/soft deadlines and cohorts 	<p><i>At first. I became a very vocal voice <u>against</u> on demand just because of learner behavior.</i> (University partner)</p> <p><i>It [on-demand platform] definitely scaled up too quickly.</i> (Manager)</p>
<ul style="list-style-type: none"> • Brought freemium revenue idea to select senior university leaders • After their agreement, collaborative learning w/university partners to co-create paywall (2015) 	<p><i>We 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."</i> (CEO)</p>	<ul style="list-style-type: none"> • Successful paywall for extras like grading, but also free and open access • Revenue for Diplomat and universities 	<p><i>We landed on a model where you could watch all the videos in any course...but you can't take or submit assessments, and get feedback on them unless you're a paid student.</i> (Product manager)</p>

APPENDIX: 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									
<i>Online</i>	4	6	4	5	3	1	1	5	29
<i>First-hand</i>						12	8	2	22
By type of informant									
<i>Investors and board</i>					1		2	1	4
<i>Co-founders, CEO</i>	4	3	4	5			1		17
<i>Executives</i>		3			1	6	2	4	16
<i>Managers</i>					1	4		1	6
<i>Advisors</i>						1	1	1	3
<i>Partners</i>						2	3		5
Media articles*									
<i>Total available</i>	40	129	56	31	79	97	86	58	576
<i>Focal</i>	17	20	14	9	1	3	3	4	71
Venture blogs**									
<i>Total available</i>	23	32	74	92	105	131	144	190	791
<i>Relevant</i>	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									
<i>Online</i>	6	5	4	4	3				22
<i>First-hand</i>						13	14	15	42
Type of informant									
<i>Investors and board</i>						2		1	3
<i>Co-founders, CEO</i>	6	2	3	2	1			2	16
<i>Executives</i>		1	1	1	1	2	5	4	18
<i>Managers</i>						5	5	2	12
<i>Advisors</i>							1	1	2
<i>Partners</i>		2		1	1	4	3	2	13
Media articles									
<i>Total available</i>	90	282	136	125	133	141	155	118	1,180
<i>Focal</i>	18	10	10	5	1	3	4	10	61
Venture blogs									
<i>Total available</i>	9	53	58	26	27	139	116	162	590
<i>Focal</i>	4	4	3	5	5	3	2		24
Employee reviews		1	4	14	25	23	42	11	120
MOOC market experts									
<i>Total interviews w/ experts, all first-hand</i>						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.

APPENDIX: 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									
<i>Online</i>	4	6	4	7	5		3		29
<i>First-hand</i>	5	2	4	4	2	4	1		22
By type of informant									
<i>Investors and board</i>	1				1		2		4
<i>Co-founders, CEO</i>	5	3	4	4		1			17
<i>Executives</i>	1	4	3	4	3		1		16
<i>Managers</i>				1	3	2			6
<i>Advisors</i>	1		1	1					3
<i>Partners</i>	1	1		1		1	1		5
News articles*									
<i>Total available</i>	40	129	56	31	79	97	86	58	576
<i>Focal</i>	17	20	14	9	1	3	3	4	71
Venture blogs**									
<i>Total available</i>	23	32	74	92	105	131	144	190	791
<i>Relevant</i>	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									
<i>Online</i>	6	5	4	4	3				22
<i>First-hand</i>	9	14	9	4	4	1	1		42
Type of informant									
<i>Investors and board</i>	1		1	1					3
<i>Co-founders, CEO</i>	6	3	3	2	1		1		16
<i>Executives</i>	2	6	4	2	4				18
<i>Managers</i>	1	5	3	1	1	1			12
<i>Advisors</i>	1			1					2
<i>Partners</i>	4	5	2	1	1				13
News articles									
<i>Total available</i>	90	282	136	125	133	141	155	118	1,180
<i>Focal</i>	18	10	10	5	1	3	4	10	61
Venture blogs									
<i>Total available</i>	9	53	58	26	27	139	116	162	590
<i>Relevant</i>	4	4	3	5	5	3	2		24
Employee reviews		1	4	14	25	23	42	11	120
MOOC market experts									
<i>Total interviews with experts, all first-hand</i>	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.

APPENDIX: MOOC market within US higher education (2008-2020).²³

2008-2011 Incubation of the MOOC market

In 2008, Canadians Stephen Downes and George Siemens taught an online course that has been labeled the first MOOC (massive open online course). Over the next several years, other faculty also began teaching online in novel ways (e.g., flipped classroom, short-format videos, videos with embedded testing). This exploration occurred against the backdrop of challenges in the U.S. higher education field such as rising tuition costs and increased student debt.

The confluence of novel technologies like video distribution at scale, cloud computing, social networking, and gamification triggered the emergence of what became known as MOOCs (Ng & Widom, 2014). Video-based education had existed for decades with universities offering online courses to small, select audiences. In contrast, 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). An inflection point occurred in late 2011 when 3 courses enrolled over 100,000 students, each.

2012 MOOC market begins amid “MOOC mania”

In 2012, the success of these 100,000-student MOOCs triggered extraordinary excitement (and in retrospect, hype) about the nascent MOOC market that is hard to over-state. One media outlet exclaimed, *“Welcome to the college education revolution. Big breakthroughs happen when what is suddenly possible meets what is desperately necessary”*.²³ Another predicted, *“Nothing has more potential to lift more people out of poverty....Nothing has more potential to unlock a billion more brains to solve the world’s biggest problems”*. Another enthused, *“Revolution hits the universities”* while another proclaimed 2012 *“The Year of the MOOC.”*

Several professors, who had taught these 100,000-student MOOCs, started their own ventures,

²³ We appreciate the Editor’s advice to add an Appendix that covers the history of the MOOC market in order to provide more details for readers than we can provide in the main text. We use the data from this paper, plus about interviews w/internal and external informants at “Org” and internal interviews at “Mktplc” using the data collection protocol in Methods, to develop this history.

Maverick and Diplomat, in early 2012. They quickly added new MOOCs. Thus, Maverick and Diplomat pioneered the nascent MOOC market within the U.S. higher education field. Diplomat had a vision to become the MOOC platform that works with existing universities as a complementor while Maverick wanted to be a substitute for universities and ultimately replace many of them by building the “university of the future”. About 8 months later, a non-profit, Org (disguised for confidentiality), with two prestigious university backers, also entered the nascent market with its own MOOC platform and course in late 2012. All three entrants sought to democratize university-level education by offering affordable or even free courses taught by elite faculty to anyone anywhere.

Despite the intense excitement, the MOOC market was nascent (Navis & Glynn 2010, Zuzul & Tripsas 2020). It was not clear 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 an effective 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.”* For universities and their faculty, MOOCs were also highly uncertain. MOOCs were an opportunity for universities to be at the start of a potentially significant revolution and to extend their global influence. MOOCs were also a threat. Many university leaders feared a repeat of the digital disruption that happened in the newspaper industry. Many faculty wondered whether some or even most would be replaced by a few superstar-professors teaching thousands of students. The firing of the president of the University of Virginia, in part because of slow action in pursuing MOOCs, stunned the U.S. higher education field in mid-2012. As a Diplomat executive told us, *“Theresa Sullivan [President] at the University of Virginia got fired. That sent shock waves and the phone started ringing off the hook. It [nascent MOOC market] now basically blew up.”*

There were four incumbent firms in related markets in 2012. These firms, however, were not entrants into the nascent MOOC market. All used traditional video technologies, not the new MOOC-related ones. Two were well-established publishers of videos that offered lifelong learning and professional training online. One offered videos, particularly on the creative arts like drawing and music. The other focused on IT skills. A third, Mktplc (disguised for confidentiality), was newer and began in

2009 as a marketplace. Here, anyone could offer a course on any topic to anyone. In 2012, Mktplc executives viewed themselves as primarily a substitute for books by experts, and not for universities in the higher education field. A top executive told us, *“Books. Believe it or not books represented the most viable alternative for people. YouTube as well. We were competing with the traditional ways that people get information on demand. Hobbyists, lifelong learning, and job seekers.”* A fourth incumbent was also relatively new, and offered a video platform on which universities could offer traditional expensive, limited-access degrees.

2013 Entry of new players

In 2013, approximately 20 ventures entered the nascent MOOC market, both in the US and globally. For example, one offered a novel learning platform that made group work easier. Another focused on the creative arts. Among the four incumbent firms in related markets (above), only the marketplace firm, Mktplc, entered the MOOC market. These executives had struggled to raise VC money, but recently had succeeded. They were now looking to kick-start their marketplace by adding course content from universities to their existing content. An executive described, *“The challenge, of course, is that it’s difficult to start a marketplace. [We had] the perennial marketplace problem.”* But the entry was brief, only a few months. As one executive noted, *“We flirted with university courses, but went back to our marketplace.”* Another expanded, *“We dabbled a bit with working with universities which frankly it didn’t take. The company didn’t have the DNA to get it done...we didn’t have the academic experience like Maverick and Diplomat.”* The 3 other incumbent firms in related markets (above) upgraded their technologies, but did not enter the MOOC market.

During 2013, Maverick and Diplomat continued to pursue different strategy formation processes (main text). That is, Maverick continued to follow a competitive, learning centric process to form strategy, and so learned a lot about the uncertainties of the nascent market, particularly about students and courses. They did so using both rapid experimentation with many small changes to their MOOCs, and two “big bet” experiments with 2 university partners. In contrast, Diplomat continued to follow its cooperative, diplomacy-centric process, and formed a broad coalition of university partners. Although

they were aware of each other, they were self-focused and on different process paths. For example, while Diplomat aggressively sought to form bilateral relationships with universities in what they termed a “*land grab*,” Maverick did not. A key point is that these ventures focused on their own strategy formation in this very uncertain nascent market.

Also during 2013, Org (non-profit that entered at the end of 2012) mostly copied Diplomat by trying to form bilateral relationships with universities, particularly elite ones. But, Org started later and acted more slowly. One reason for Org’s slow pace was substantial concern about its reputation, and by extension, the reputations of its elite university backers. One market expert noted, “*Especially initially, Org was very risk averse. That’s where they would take a long time. Reputation risk – that was the biggest thing they were afraid of.*” Another reason was a cumbersome governance structure that slowed decision making. A second market expert said, “*[Elite university backer #1] put a lot of committee structure around Org, which really slowed down Org.*” Org also added friction to forming bilateral relationships with universities such as by charging a high fee for many universities to join.

Despite Org’s and others’ entry, Diplomat stayed focused on its strategy formation process and did not deviate. As per the main text, it continued building and strengthening bilateral relationships with universities at multiple hierarchy levels, supporting the addition of new courses by universities on its MOOC platform, and adding multilateral relationships that created a broad, interconnected coalition of partners. The venture was particularly attentive (compared with others) to solidifying its bilateral relationships and adding multi-lateral ones such as with an “envoy” to every partner, an Annual Partners Conference, and an Advisory Council. So while Diplomat was aware of Org and others, its executives focused on their own strategy formation. They continued to pitch the advantages of their MOOC platform (e.g., its technology) to potential university partners using multi-vocal arguments tailored to the interests of the focal university.

Org’s copying of Diplomat primarily encouraged Diplomat to continue acting quickly in its strategy formation process. Like parallel play by high-performing ventures in nascent markets (McDonald & Eisenhardt 2020), Diplomat focused on forming its own strategy without much regard for others. By

the end of 2013, Diplomat ended its aggressive “land grab” of university partners because it now had formed a broad coalition of university partners (about 100), including many elite universities. The CEO remarked “*The marginal value of an additional partner – once you have all the premier ones is relatively smaller.*” In contrast, others like Org continued to add partners. Consistent with non-reciprocal rivalry (Thatchenkery & Katila 2021), Org regarded Diplomat as a rival and tracked themselves against Diplomat (e.g., # courses, # university relationships). While Diplomat was aware of Org, it followed its own strategy formation process.

2014 MOOC mania wanes, reality arrives

In 2014, the “MOOC mania” of 2012 waned. It had become apparent that higher education was not going to be changed forever and that the hype of reaching anyone anywhere with high-quality elite education was not going to happen. As one media outlet reported, “*MOOCs have fallen from their “peak of inflated expectations” in 2012.*” Given this more realistic view of the market’s potential, there were few, if any, new entrants this year.

The incumbents, like Maverick and Diplomat, had incomplete strategies (perhaps best characterized as informal “strategies as practice”) that, for example, lacked revenue sources and a business model (main text). Maverick pivoted to a more promising strategy around its innovative “techno-degree”. Maverick would offer these techno-degrees to individuals who wanted new careers (or upskilling) in advanced technology jobs. Courses within these degrees would be taught by experts from leading corporations. These and other corporations would then hire the techno-degree graduates. Maverick spent much of 2014 assembling optimally distinct activities like mentoring. Diplomat’s board installed a new CEO with a mandate to form a successful strategy. With this new CEO, the venture segued toward co-creating profitable activities with willing incumbent partners, beginning with paid certificates. Org’s board was also now pressuring the non-profit to produce revenue. A major backer described, “*We always said that we’re not in this to make money, particularly. We’re not in this to lose money perennially either.*” Org executives, however, primarily continued to focus on adding university partners, MOOCs, and students, but not revenue.

2015 Effective strategy formation

During 2015, there were many small entrants from around the world, often delivering non-English language content. In the US higher education field, 2015 was marked by the major incumbents effectively forming their strategies. By year-end, Maverick had added a portfolio of optimally distinct activities (e.g., mentoring, grading, scholarships, career placement) to support its unique techno-degree, and effectively formed its strategy (main text, Methods, Table 3). Diplomat had added profitable activities (e.g., paid credentials, online degrees, paywall) and effectively formed its strategy (main text, Methods, Table 3). Both began to achieve higher growth. While Org had a few of its own initiatives, it primarily continued to copy Diplomat by, for example, offering its own version of paid certificates. An Org executive noted, *“If Diplomat offers something, then we have to offer it.”*

2016 Transition from a nascent to a growth market

In 2016, the MOOC market and its largest incumbents took off as the market transitioned from a nascent to a growth market. Unlike a nascent market, the MOOC market now had clear products, customers, and technologies. Diplomat, in particular, achieved significant growth. As one article said, *“Diplomat is still by far the largest MOOC provider in the world with over 23M learners.”* With this increasing clarity, there was now more attention to rivals. The top 5 global MOOC platforms included Diplomat, Maverick and Org as well as the UK’s Future Learn and China’s Xuetang. Diplomat, Maverick and Org led the MOOC market in the US.

Small, regional MOOC firms in many countries were also expanding. One media outlet headlined, *“Regional MOOC providers pick up steam.”* With courses ranging from cooking to IT to art, Mktplc (i.e., marketplace venture that briefly entered the MOOC market in 2013), now took off as it connected a growing number of instructors of myriad topics to many learners. As one executive told us, *“[Mktplc] as a pure play platform didn’t really jell til 2016.”* Another executive described, *“[Mktplc] is an open platform for instructors around the world to teach people the things they didn’t get to learn in their formal education.”* A manager asked tongue-in-cheek, *“Where else can you take a class on Pokemon Go?”*

2017 Expansion and strategic positioning

In 2017, while there was continued growth in the MOOC market, the MOOC incumbents also expanded to new “sweet spots” like corporate training and lifelong learning where other incumbents like Mktplc operated. For example, Diplomat formalized 3 lines of business. Its CEO expansively described, *“We want Diplomat to be the place people go to learn for their careers and throughout their lives.”* Similarly, an observer wrote, *“Training for the tech economy is where the digital-learning money lies.”* The overall news was bright. For example, Diplomat jumped to \$95M in revenue while Maverick hit \$70M. A pundit writing for *Inside Higher Ed* summarized,

For underneath and behind the scenes, much progress continues to be made. In fact, I would suggest that it is only now – after ... frustrating years where expectations were raised way too high and subsequently plummeted way too low – that we are starting to see the real opportunities.

2018-2020 Continued growth

In 2018-19, the major incumbents (Diplomat, Maverick, Org, and now Mktplc) continued growing, although Maverick had a slight dip before recovering. In 2020, The New York Times published an article titled: *“Remember the MOOCs? After Near-Death, They are Booming.”* Diplomat continued to be the largest MOOC platform with degrees, courses, and credentials from leading universities and organizations around the world. It achieved \$300M in 2020 and continued to grow. But it also retained (albeit modestly) its original aim of democratizing education as about 90% of its millions of learners do not pay. One media outlet described, *“Diplomat is a hybrid, retaining much of the character of the original MOOCs while striving to build a sizable business.”* Maverick was and is widely considered to have the most innovative MOOC strategy. A media outlet observed, *“Maverick remains tightly focused on its training business, for both individual skills and for corporations that pay Maverick to upgrade the skills of their employees.”* Maverick also retained (albeit modestly) its original aim with its technology degrees and related courses that opened the door for many to upskill and attain advanced tech careers with its easy access and relatively low cost. A post from a founder of one of the original 2012 entrants summarized, *“We’ve come a long way from the hype that MOOCs generated in 2012 as 2020 becomes known as the time of online learning’s second coming.”*