Breaking the Mold:

Business Model Innovation in Entrepreneurship Education

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Abstract

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Entrepreneurship education within community colleges is at a critical juncture, as technological disruption, shifting demographics, and alternative credential providers challenge established academic paradigms. The research informing this dissertation sought to answer an urgent, broad corollary question: "How do community colleges maintain relevance and competitive advantage in a rapidly evolving landscape of entrepreneurship education?" It probed this question by investigating how three San Francisco Bay Area community colleges can harness business model innovation to strengthen their entrepreneurship programs, enhance student success, and maintain competitiveness in an evolving market. Grounded in the Resource-Based View (RBV) and Strategic Leverage Through Learning (SLL) framework, the study highlighted the interplay of tangible resources (e.g., location, funding, facilities) and intangible capabilities (e.g., faculty expertise, industry partnerships) as engines of sustained advantage.

Drawing on a qualitative multiple-case study methodology, the research illuminated how each college strategically aligned curricular design, co-curricular offerings, and external collaborations to amplify practical entrepreneurship training. Semi-structured interviews, surveys, and field observations exposed the organizational silos and regulatory hurdles that often limit innovation while also revealing the rich potential for interdepartmental synergy and bold partnerships with local incubators, tech companies, and community stakeholders. By tracing how faculty, administrators, and industry partners co-create experiential learning opportunities—from

industry and student-led workshop series, skills-based projects, rapid prototyping, pitch and demo competitions, and pop-up markets to startup accelerators—the dissertation provides a nuanced view of how an entrepreneurial ecosystem can meaningfully bridge theory and practice.

The findings underscored the crucial role of organizational learning in fostering innovation. SLL provides a powerful mechanism by which colleges can align learning processes with institutional goals, allowing them to adapt quickly, share knowledge effectively, and co-create value with stakeholders. This learning model transforms isolated initiatives into system-level innovations, enabling institutions to respond proactively to disruption. Key enablers of success include cross-disciplinary collaboration, inclusive skill-building, robust technological infrastructure, and ongoing faculty development.

This dissertation proposes an open innovation platform grounded in strategic organizational learning, supported by a viable business model for the future of community college entrepreneurship education. By embedding SLL at the core of the open innovation platform, colleges can foster boundary-spanning collaborations for resource sharing; leverage knowledge flows between organizations, academia, students, and other stakeholders; and support experiential learning practices. In doing so, entrepreneurship education is repositioned not merely as an academic offering but as a necessary life skill for socioeconomic mobility and institutional strategy for advancing equity, relevance, and student success. The dissertation calls on policymakers, administrators, and scholars to reimagine community college entrepreneurship education as a dynamic, network-oriented enterprise equipped for the complexities of the 21st century.

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Acknowledgments

This dissertation was born not from certainty, but from quiet moments marked by doubt, curiosity, and discovery. It was shaped by conversations that challenged my thinking, late nights fueled by purpose (and coffee), and the quiet, persistent pulse of hope that—just maybe—this work could matter.

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V. F.-P.

Dedication

For my brother,

whose life ended far too soon.

For the plans we never realized,

the conversations left unfinished,

and the presence I still reach for in quiet moments.

You are missed beyond words.

Always.

Chapter 1: INTRODUCTION

Background and Context

California Community Colleges (CCCs) represent the largest higher education system in the United States, comprising 116 institutions that serve approximately 1.8 million students annually (California Community Colleges Chancellor's Office [CCCCO], 2022). These colleges are vital for providing access to postsecondary education and facilitating social mobility for students from diverse cultural, economic, and educational backgrounds. However, CCCs face a series of interrelated challenges that affect institutional effectiveness and student success, including financial instability, enrollment fluctuations, competitive pressures, demographic shifts, and public perceptions. These challenges complicate the mission of CCCs to promote equitable student outcomes and academic advancement.

The following factors are some of the challenges California Community Colleges are facing, which compels the researcher to focus on community colleges from among the different types of institutions of higher education. *Declining enrollment* is a significant issue facing CCCs, with a 9% decrease between 2011 and 2019, which worsened during the COVID-19 pandemic (CCCCO, 2021b). The decline is attributed to several factors, including a strong labor market before 2020, increased competition from online education providers, and the high cost of living in California, which compels potential students to work more and delay their education. For most colleges, this enrollment decline negatively impacts funding under the Student-Centered Funding Formula (SCFF), which ties financial support to enrollment and student success metrics, forcing colleges to make difficult decisions about resource allocation and program viability. *Financial stability* is another pressing concern for CCCs, largely due to funding volatility linked to state budgets and property tax revenues. Community colleges are particularly vulnerable to economic

downturns compared to 4-year institutions, as recessions often lead to enrollment spikes among unemployed or underemployed individuals while state funding simultaneously declines (CCCCO, 2021b). This paradox places pressure on CCCs to maintain essential student services like counseling and tutoring amid budget constraints. Additionally, escalating operational costs, including technological infrastructure, student support programs, and facility maintenance, have outpaced budget growth, creating a financial imbalance for many districts (College Futures Foundation, 2020). Although the SCFF was designed to align funding with student success outcomes, its emphasis on metrics can incentivize short-term gains at the expense of long-term strategies for holistic student development (Legislative Analyst's Office, 2020).

Governance complexities further challenge CCCs, characterized by a decentralized model involving local boards of trustees, district systems, and oversight by the Board of Governors (CCCCO, 2021). This structure allows localized decision-making but also leads to disparities in policy implementation and resource distribution. As a result, inconsistencies emerge in class offerings, student services, and infrastructure quality across different districts, hindering institutional efficiency and effectiveness. *Competition and public perception* significantly impact CCCs, as they face growing competition from expanding online programs at 4-year universities, for-profit institutions, and alternative credential providers such as industry-based bootcamps. Additionally, public perceptions of community colleges as less prestigious or less academically rigorous compared to 4-year institutions affect student enrollment choices (Foundation for California Community Colleges, 2021). These competitive pressures complicate the traditional role of CCCs as gateways to transfer education and workforce training, necessitating more strategic outreach and marketing to attract and retain students.

Changing demographics of community college students present another layer of complexity. CCCs are experiencing a shift towards a more diverse student population, including a growing number of first-generation students, working adults, and individuals from historically marginalized[1] communities (CCCCO, 2022). This demographic transformation requires robust support systems, including bilingual counseling, culturally responsive teaching, and flexible scheduling to accommodate nontraditional students (CCCCO, 2021). Failing to adapt to these demographic changes risks exacerbating enrollment declines and achievement gaps, potentially leaving significant segments of the student population underserved. *Faculty union dynamics* also influence the operational landscape of CCCs. Faculty unions play a pivotal role in negotiating salaries, workloads, and working conditions, which safeguard faculty interests but can also create tensions over resource allocation and curriculum changes (Cain, 2010). These tensions may delay program reforms and disrupt instructional continuity. Moreover, tenure-based layoff policies disproportionately affect less senior or adjunct faculty, who are often more connected to industry trends and possess valuable professional networks.

Ideological and political pressures further complicate decision-making within CCCs. These institutions are increasingly influenced by broader ideological debates about curriculum content and the role of higher education in shaping social values (Kezar & Eckel, 2016). Political pressures affect decisions on course requirements, especially in areas such as ethnic studies, diversity, equity, and inclusion initiatives, and influence funding allocations for programs perceived as controversial by policymakers or community stakeholders.

[1] Individuals who face systemic barriers to educational access and success due to factors such as race, socioeconomic status, immigration status, gender identity, sexual orientation, or involvement with the justice or foster care systems (California Community Colleges, 2025).

Implications for community college education are profound, as the cumulative effect of these challenges influences institutional sustainability and educational outcomes. These macro-environmental challenges particularly affect entrepreneurship programs, which are often marginalized within community colleges as allocation of funds often prioritizes traditional academic programs over entrepreneurial initiatives, leading to insufficient support for EE. (Barnard et al., 2018). Additionally, entrepreneurship education faces ideological opposition due to its association with capitalist values, which can be perceived as conflicting with social equity goals. As a result, the sustainability and growth of entrepreneurship programs require robust institutional support and strategic integration into the broader educational framework. *Strategic partnerships and entrepreneurial ecosystem development* offer a potential pathway to address these challenges. Collaborating with industry partners could alleviate funding constraints and enhance CCCs' public image by associating them with reputable brands. Additionally, partnerships with companies offering micro-credentials and badges could support the Credit for Prior Learning program, enabling students to gain practical knowledge, social capital, and experiential learning opportunities. This collaborative model offers a mutually beneficial scenario for both industry and educational institutions.

Entrepreneurship Education in Flux

Entrepreneurship education (EE) is at an inflection point. It has seen explosive growth over the past 30 years, characterized as breathtaking (Morris & Liguori, 2016) and "making glorious waves" in higher education (Winkel, 2013, as cited in Neck & Corbett, 2018, p. 9). The growth in entrepreneurship theories that define the field has echoed this rising interest. The rapid development in the study and delivery of innovative entrepreneurship education appears to be a

function of its impact on broader economic growth. For example, according to the report of the World Economic Forum's Future of Jobs 2023

> between now and 2027, businesses predict that 44% of workers' core skills will be disrupted, because technology is moving faster than companies can design and scale up their training programs. More so, six in 10 workers require training before 2027, but only half of the workers are seen to have access to adequate training opportunities. (p. 5)

Additionally, the 2008 Great Recession and COVID-19 have shaped and influenced today's students to rethink their career prospects (Hashim et al., 2022). These technological and economic shocks have significantly impacted business and employment.

The move towards self-employment is and will continue to become an increasingly important element of economic growth and development. Notably, the incidence of self-employment in the United States has increased during the COVID-19 pandemic. In July 2021, "the percentage of the self-employed workforce reached its highest level since August 2008. As the gig economy grows, self-employed workers are on track to become even more relevant drivers of labor market dynamics" (Federal Reserve Bank of St. Louis, 2022, Conclusion section).

Few dispute the importance of entrepreneurship and how it offers a path to economic transformation. Entrepreneurship is a viable path to socio-economic mobility. As Home Depot co-founder Bernie Marcus (2023) articulated in the *Wall Street Journal*:

> Entrepreneurship offers all Americans, no matter their background, a way to achieve financial independence and the American Dream. Entrepreneurship rewards goods and services that the market values independent of financial resources and SAT scores or personal pedigrees of the people selling them. (para. 2)

Globally, small, medium, and micro enterprises (SMMEs) employ 60-70% of the working population and form about 95% of enterprises (Nyamunda & Westhuizen, 2020, p. 2), showing the importance of entrepreneurship in economic growth and development. In support of these

developments, there is a growing body of academic research examining the effectiveness of entrepreneurship education in raising students' awareness of self-employment as a career option and creating an enterprising culture among them (Barba-Sánchez & Atienza-Sahuquillo, 2018).

In Europe, regulators have underscored the integration of entrepreneurship education into primary, secondary, and higher education. Yemeni and Haddad (2010) presented the importance of this inclusive process in higher education in the 21st century as a vital engine of technological development and economic growth. In addition, entrepreneurship education challenges students to identify opportunities and emerging trends that equip them to take advantage of new technologies in volatile economic environments—skills highly valued in the workplace that benefit students beyond starting a venture.

These trends have led to a growing demand for entrepreneurship education. People across a range of demographic groups, employed or not, are now thinking of how to remain relevant, given the dramatic changes in the global business environment, while others are pursuing their passions in life. Thus, the demand for entrepreneurship education has increased in line with its impact; however, the optimal mode of entrepreneurship education has struggled to keep pace with the underlying need. For example, COVID-19 caused an abrupt transition to remote or online teaching and learning. At the same time, higher education was being disrupted by nontraditional players, such as Coursera, Udemy, Masterclass, Facebook's Digital Marketing program, HP Life, and Intuit Education, among many others. Amidst the rise of new "competitors," community colleges were already faced with a deficit in funding that was exacerbated by the continuing decline in enrollment. Currently, postsecondary enrollment continues to decline at both undergraduate and graduate levels. According to the National Center for Education Studies (2023), total undergraduate enrollment in degree-granting postsecondary

institutions decreased by 15% (from 18.1 million to 15.4 million students) between fall 2010 and fall 2021. Public institutions suffered the brunt of enrollment declines, with community colleges accounting for more than half of these losses (NSC Research, 2022). Universities and colleges reacted with hiring freezes, furloughs, layoffs, deferral of capital projects, and replacement of antiquated technology. Funding is a perennial issue becoming more salient as community colleges lose enrollment.

Since the founding of Western universities in the middle of the 11th century, the lecture has been the traditional means of passing on knowledge (Bradbury, 2016); hence, its curriculum is focused on lectures. However, no one can dispute that EE requires representation and simulation of the real-world environment, which many studies have found is missing. Instead, studies have shown that it uses more static approaches (Greene et al., 2004). Edelman et al. (2008) claimed a "sizeable discrepancy between the activities typically presented in entrepreneurship textbooks and the activities practiced by nascent entrepreneurs" (p. 63), which underscored the argument that traditional teaching methods such as lectures are less potent in Entrepreneurship programs. For an EE program to be effective, scholars have long advocated emphasizing actions in entrepreneurial activities and detaching from traditional assignments such as writing a business plan (Honig, 2004). Kassean et al. (2015) invoked that "an entrepreneurial approach should educate "for" entrepreneurship using action learning and experiential learning" (p. 691) such as building students' ideas from scratch, presenting prototypes, and using simulations to close the gap between academic experiences and real-world requirements (e.g., Kuratko, 2005; Revans, 1978).

Given these scenarios, learners and educators have begun reevaluating the relevance, sustainability, and competitiveness of existing entrepreneurship courses and programs. From this

broader perspective, the focus of this study was on the relevance of business model innovation in delivering entrepreneurship education. However, embracing change requires a strong buy-in and commitment from leaders and administrators not only at the local college level but also at the state level. Community colleges have been historically slow to react to changing industry demands as they face challenges for courses and programs from development to approval. The same is true with the modification of existing courses and programs. Training faculty to deliver and facilitate trailblazing technology-driven programs and courses is another challenge given the bureaucratic systems from the local curriculum committee to the state-level bureaucracy, and this challenge is exacerbated by issues such as the personal interest of instructors to learn new technologies and the operational "silos" that hinder collaboration and cooperation between and among academic disciplines. The discussion of "ownership" becomes a rallying point. Academic institutions are still stuck with the old paradigm of protectionism—operating in silos (Inside Higher Ed, 2021). There is also the fear that opening educational institutions to outside providers might dilute its brand or the program's prestige (Vellamo et al., 2019).

Meanwhile, because most universities and colleges are based on traditional middle-class values, administrators have often fallen short of their ability to meet the needs of community college learners, who are overwhelming minority students, older and from lower socioeconomic class (Kasworm, 2010). These students are highly sensitive to the cost of higher education (i.e., student loans in relation to potential income) and susceptible to the lure of technical certification and badging offered by industry leaders for quick access to gainful employment.

Opportunities from Technological Innovation

Significant changes have taken place in the last decade of the 20th century in American higher education, primarily in the undergraduate curriculum. By and large, it can be said that the

undergraduate curriculum has evolved in significant ways, providing momentum to take advantage of the technological resources available. Today, most academic institutions employ in varying degrees programs or software that complement academic programs such as credentialing technologies, digital research infrastructure, virtual labs and simulations, AI and adaptive learning systems, to name a few. However, it is debatable whether these adoptions are truly transformative for institutions to gain sustainable advantage or merely limited to small-scale programmatic innovations (Dezure, 2023).

Higher education needs to do a better job of tapping into the opportunities offered by ongoing technological innovation. Online programs provide the opportunity to reach a broader set of students. COVID-19 primed learners for remote modality, and as the pandemic entered its third year, even those who were slow to embrace remote study have shown resilience in adapting to this new learning environment (Inside Higher Ed, 2021). This transition from an in-person to a remote learning structure allowed nontraditional students to experience online or remote instruction and appreciated the benefits it offers, especially for older learners caring for kids or family members and those who travel for work.

Another opportunity that technological platforms offer is the integration of actual practice in learning entrepreneurship. Although current literature has argued that it can be taught—entrepreneurs are made and not born—there is still an argument that it should be experienced. As award-winning professor of Entrepreneurship Heidi Neck (as interviewed by Atwater, 2017) articulated:

> Entrepreneurship education is incredibly important, but the current mainstream approaches to teaching entrepreneurship are dated. It is most often taught as a process, but a process is predictable, and often, entrepreneurship is not predictable. It is complex, iterative, and not linear.
>
> It requires creative and nimble thinking leading to a heightened level of experimentation where numerous iterations represent stages of learning rather than a

> series of starts and stops or even successes and failures. So, we need an approach to teaching entrepreneurship that is based on action and practice, that goes beyond understanding, knowing, and talking, and that requires using, applying, and acting. (para. 2)

Technological platforms offer a solution to encourage experiential learning that provides the hands-on learning component in real-time with instructors and other students (or co-founders) with the use of applications such as G-Suite, Mural, Miro, and many others. With the onset of generative AI, quizzes and other forms of written exams are becoming all the more obsolete, rendering tangible outputs born from students' hands-on learning experiences such as user experience reports, product prototypes, and the like as more reliable predictors and measures of learning.

More importantly, online learning environment presents opportunities for strategic collaboration with community and industry partners, leveraging technology as a major enabler. Universities and community colleges already have various forms of collaborations and alliances going on pre-pandemic, such as partnerships with the Small Business Administration, membership with relevant organizations such as the National Association of Colleges for Entrepreneurship Education (NACCE), the National Federation for Teaching Entrepreneurship (NFTE), and many others to support their business and entrepreneurship programs. Notably, these collaborations were heightened when everything moved online due to the pandemic. This phenomenon is shaping up an entrepreneurial ecosystem that would benefit students, colleges, and industry, with technology as the key enabler. While scholars have been interested in internet-enabled marketplaces since the late 1990s (Bakos, 1998; Brunn et al., 2002; Ordanini & Pol, 2001; Vesa & van Heck, 2005, as cited in Tauscher, 2018, p. 2), existing literature has focused primarily on business-to-business marketplaces as institutions for efficient procurement and

sourcing within established industry settings (Dai & Kauffman, 2001). Lastly, existing research on the use of Platforms in higher education is limited to the context of online education.

Business Models in Higher Education

Similar to businesses, 2- or 4-year colleges and universities are characterized by ownership: public, private, or for-profit institutions. These structures have significant differences in how these institutions are funded. Community colleges serve a greater proportion of disadvantaged students who are underrepresented in higher education and need additional programs and support, but community colleges receive much less funding per student than public four-year institutions (Community College Research Center, 2022). With limited resources, academic programs must rethink this business model. First, there is a need to improve financial stability by managing costs effectively without sacrificing student outcomes. To address this, some colleges or schools have launched online programs to widen their reach and create new revenue streams, formed international partnerships, set up campuses abroad, and partnered with industry providers to augment academic programming through intensive internships and immersion programs—activities that were all technology-driven. The emphasis on business models has risen steeply as the job search process becomes more dynamic and less linear (Lee et al., 2020). The sustainability of the U.S. higher education business model is the subject of much argument today.

> The cost of higher education continues to rise while financial support from states and the federal government continues to decline, students and parents become more price sensitive, and market volatility hurts gift giving and endowments. What's more, the value of a college degree is being questioned given high levels of student debt and generally poor employment prospects. (Lapovsky, 2013, p.2)

The industry is evolving, and changes are happening gradually and mainly in a fragmented fashion at the margins, which might eventually result in a transformation of American higher education.

Innovations in Curriculum and Instructional Design

The term *curriculum*, broadly described, includes instructional goals and content, program delivery methods, learning resources, sequencing, and assessments to improve learning (DeZure, 2000). In an undergraduate setting, an undergraduate curriculum is a formal academic plan detailing students' learning program, i.e., academic coursework and activities or experiences in pursuit of a college degree or a certificate. Over the years, reforms were made to address the growing critiques of American higher education, underscoring the need for reform, citing a lack of accessibility and inadequate skills of graduates as business and industry leaders complained (Davidson, 2017). Alongside, the emphasis shifted from what teachers *do* to what students *learn* and from content to competencies. This revolutionized

> the goals for learning–from an emphasis on knowledge of disciplinary facts and concepts (what students know) to broadly defined competencies (what students can do with what they know) to ensure that graduates have the skills needed by citizens in the twenty-first century." (DeZure, 2000, p. 3)

Notably, some innovations carried out during the last two decades included interdisciplinarity, internationalization, diversity learning, and the introduction of learning communities. There was a strong focus on innovative instructional methods supported by research on how students learn, emphasizing active and experiential learning (i.e., learning by doing), collaborative and cooperative learning in groups, problem-based learning, and instructional technology.

Concurrent with these changes in instructional methods were extensive efforts to assess student learning. New evaluation methods appeared like "self-assessments, student portfolios, student journals, case studies, simulations, poster sessions, group projects, and technology-based

innovations, among others—all of which reflect the shifts from content to competencies, from fragmentation to integration, and from passive to active modes of learning" (Higher Education Curriculum, undated). Although there is a significant interest among community colleges in adopting these innovative curriculum designs, the system is experiencing challenges in seamlessly executing, scaling, and replicating its best practices across programs and institutions.

In the business world, an effective business model is the core enabler of a company's performance. Academia can learn from the business playbook. The delivery modality of the courses and programs, curriculum development, and design constitute a system that defines the school's business model. For example, the products are the in-house courses and programs offered to various types of degree and certificate-seeking students (customers), delivered through in-person or online mode by academic faculty (distribution or sales channel) at a predetermined set of matriculation and other enrollment fees (price). For centuries, the business model of education has been the same. The college owns the products and services (courses and programs) it offers to the market (students) using its own channels (classrooms and online sites) and typically operates vertically across its value chain process. Given the technological changes in the global macro environment, this model is no longer sustainable. The *Chronicle of Higher Education* (2017) stated, "Universities are respected for their traditions and commitment to academic standards but often challenged to respond to dynamic changes and modern expectations of students and employers" ("Planning for Growth" section). Community colleges are still using the conventional model in higher education where educators are front and center as gatekeepers of knowledge; classes are mostly delivered in person, contents are solely provided by the instructor, degree evaluation is based on predefined academic courses within the program, and student success is assessed by degree and certificate completion. For this study, the

researcher refers to the abovementioned approach as a traditional pipeline model, defined as linear buyer-supplier relationships (Zhao et al., 2020) where buyers are students and suppliers are curriculum/course developers for academic disciplines.

Business model innovation is increasingly more important to entrepreneurship education, which requires more agile programming to keep track of the fast-changing degree of obsolescence in the marketplace and a robust ecosystem to augment its academic content. Although many leaders and administrators are open to change and can articulate their desired strategy, many have a limited appetite for risks associated with radical change, especially around the complex issue of a business model that entails organizational support and policy changes (Peric et al., 2027).

Problem Statement

Entrepreneurship education (EE) is undergoing significant transformation due to rapid technological advancements and shifts in the competitive landscape. The traditional model of EE in community colleges faces increasing pressure from nontraditional competitors, including industry-led credentialing programs, corporate in-house training initiatives, shrinking funding, and changing demographics of learners, which threaten the conventional academic delivery of entrepreneurial learning. The accelerating pace of technological innovation, coupled with evolving learner expectations, has contributed to declining student engagement, reduced attention spans (Bradbury, 2016), and growing barriers to access, particularly among underrepresented populations. Furthermore, entrepreneurship education necessitates experiential learning and ecosystem engagement—elements that are often inadequately integrated into conventional pedagogical structures. The traditional teaching model, coupled with restrictive funding for community colleges, fails to accommodate the dynamic and iterative nature of

entrepreneurship, which requires hands-on experience, adaptability, and engagement with real-world market conditions. As a result, a more holistic and adaptive approach to EE is needed to better align educational practices with the realities of entrepreneurial practice.

In response to these challenges, many community colleges have sought to innovate their entrepreneurship curricula by implementing fragmented approaches that leverage industry collaborations, experiential learning opportunities, and novel pedagogical frameworks. However, these efforts remain largely uncoordinated, and there is a lack of comprehensive theoretical grounding to explain or systematize the impact of these innovations on EE outcomes. Moreover, the traditional academic structure, characterized by departmental silos and competition for institutional resources, has contributed to inefficiencies and the underutilization of strategic assets. The prevailing institutional mindset, which often prioritizes competition over collaboration, further restricts the development of integrated and student-centered approaches to entrepreneurship education. Without a cohesive framework to guide resource allocation and interdisciplinary cooperation, these challenges persist, limiting the effectiveness of EE programs in preparing students for entrepreneurial success.

Despite the growing body of literature on the platformization of online education, there remains a critical gap in research specifically examining the business models of entrepreneurship education. Existing studies on business models within higher education primarily address broader institutional contexts rather than the unique dynamics of entrepreneurship education. Furthermore, prior research in EE has not applied the Resource-Based View (RBV)—a strategic management framework emphasizing internal resources and capabilities as primary sources of competitive advantage (Barney, 1991)—to evaluate entrepreneurship education programs or guide strategic decisions. Likewise, Strategic Leverage Through Learning (SLL), a framework

addressing system-level capabilities essential for adaptability in rapidly changing environments (Gephart & Marsick, 2016), has rarely been utilized to shape strategic planning in community college entrepreneurship education. Given the unique challenges and opportunities these institutions encounter, borrowing from the business playbook allows for a new lens in examining these institutions' capabilities in fostering innovation, adaptability, and sustained performance.

Research Purpose and Questions

This study explored how community colleges can harness the power of business model innovation within their entrepreneurship education (EE) programs to enhance their relevance and sustain a competitive advantage in an increasingly dynamic business and educational environment. By utilizing RBV as a strategic management tool in higher education, this study contributes to the existing literature about the platform business model in higher education.

The overarching research question that guided this study was, **"How do community colleges maintain relevance and competitive advantage in a rapidly evolving landscape of entrepreneurship education?"** The study is organized around three research questions:

1. **Resources and Capabilities.** *What strategic resources and capabilities do community colleges possess to meet the demands of disruptive innovation and evolving student needs in entrepreneurship education?*
2. **Mindsets and Skill Sets.** *What mindsets and skill sets—encompassing knowledge, skills, and attitudes—do administrators, instructional designers, and faculty require to adapt successfully to a rapidly changing environment?*
3. **Program Structures and Business Models.** *What is the structure or business model of the program, particularly in terms of its collaboration with industry and community partners?*

By clarifying the strategic opportunities and constraints facing community colleges, this research sought to inform actionable recommendations that enhance EE delivery, strengthen institutional competitiveness, and promote equitable student outcomes.

Research Design Overview

This study used the case study method to examine the evolving nature of EE. Specifically, an exploratory multiple-case analysis of three colleges in the San Francisco Bay Area was conducted to assess, review, and gather new insights about their entrepreneurship curriculum and programming. The study was exploratory in nature and utilized qualitative data. The main advantage of the case study method was that it allowed the researcher to explore any emergent phenomena (the incidental adoption of new activities, partnerships, etc.) that could potentially contribute to a sustainable and competitive entrepreneurship program and additionally allowed an in-depth exploration of how uncoordinated but potentially effective innovations—such as industry and community partnerships, mentorships and experiential pedagogies—can mature into robust EE frameworks (Eisenhardt, 1989).

The researcher adopted a constructivist paradigm to explore the processes through which individuals or groups construct meaning, interpret phenomena, and create their own realities. It involved examining subjective experiences, personal narratives, social interactions, and cultural influences (Maxwell, 2013). In this study, the researcher was an active participant who acknowledged her own subjectivity and the influence she may have had on the research process. To mitigate this condition, it was necessary to reflect on and recognize assumptions, biases, and interpretations that may have shaped the research. The researcher aimed for detached objectivity and assumed a neutral stance, focusing on maintaining distance and minimizing the researcher's influence on the research process.

Overall, the case study method can be a powerful tool for generating new insights (Eisenhardt, 1989) and understanding complex phenomena in a real-world context. The study commenced with a review of the relevant existing literature to explore what is already known and to outline and inform the construct of this study while leveraging the researcher's academic training and corporate background in business and economics.

After completing the Institutional Review Board[2] (IRB) training and securing approval, the researcher collected data using various methods: one-on-one interviews, surveys, site observations, and archival data. For primary data collection through one-on-one interviews, participants included administrators, curriculum designers, instructors, and industry partners. The survey was administered to current business and entrepreneurship students, with at least 96 participants from the three colleges, but mostly from Hogwarts Community College (HCC). These segments comprised the critical stakeholders in every EE program. It was ideal to interview individuals holding various positions and functions to gain a more nuanced understanding of users and providers performing different roles within these college's entrepreneurial ecosystems. Major industry partners, who were key collaborators, provided valuable insights into the nature of collaborations they have with the college and the benefits they bring to their organization.

The selection of participants was based on purposive sampling, where the researcher intentionally selected participants based on their roles, knowledge, experiences, and other criteria, as defined in Chapter 3. Demographic data were collected from each participant's category. In contrast, existing reports from these colleges and secondary data were utilized to get

[2] An administrative committee responsible for protecting the rights and welfare of human subjects participating in research.

information about the college, such as student enrollment, matriculation fees, course or degree completion, EE curriculum, course offerings, and other relevant information to describe and situate the institution effectively.

Methods of Analysis

This study employed a hybrid approach to data analysis, integrating deductive coding using Barney's (1990) Resource-Based View (RBV) framework, ensuring alignment with established theoretical constructs and inductive coding that allowed for the identification of critical themes emerging directly from the data (Eisenhardt, 1989). Simultaneously, Maxwell's (2013) emphasis on emergent meaning and contextual understanding informed the inductive process, allowing unanticipated patterns and nuanced factors to surface. This dual approach facilitated a comprehensive analysis, capturing both predefined constructs and critical emergent insights, thus strengthening the study's validity and depth in examining sustainability-driven competitive strategies. To capture key dimensions, comparative analysis was employed to identify trends, similarities, differences, and contradictions. Visual representations such as diagrams, tables, and other graphical elements were utilized to illustrate findings effectively. The researcher periodically replayed video recordings to examine outliers and unexpected insights, ensuring a deeper contextual understanding. This iterative approach refined the themes and provided a more cohesive explanation of the phenomena. Findings from this triangulated analysis were reviewed and discussed with the researcher's sponsor and second reader of the dissertation committee, enhancing the study's rigor and validity.

Researcher Assumptions

Several assumptions based on the researcher's observations, initial research, and experience exist regarding the various delivery and modalities of how EE is designed and taught.

- **Entrepreneurship Education (EE) as Seen Through a Small Business Lens:** The researcher assumes that community college entrepreneurship education programs primarily adopt a small business perspective. Typically, certificate programs in EE are derived from existing business and management curricula housed within the Business department, with no interdisciplinary collaborations. The frameworks and concepts taught are rooted in traditional business-oriented entrepreneurship, overlooking broader applications of entrepreneurial knowledge and skills. Additionally, no formal co-curricular programs support the EE curriculum, making it a standalone offering within the Business department.
- **Existing Business Models in Program Delivery:** Some community colleges may already implement a business model aligned, to some extent, with multi-sided platforms commonly used in commercial business settings. These colleges maintain long-standing partnerships with industry and community organizations through apprenticeships and internship programs, often under initiatives such as Strong Workforce Programs, Career Education, Adult Education, Counseling, and Workforce Training and Development. While these collaborations create an ecosystem supporting traditional academic content, they remain largely underutilized and are primarily limited to internship opportunities.
- **Faculty Experience and Training in Entrepreneurship:** The assumption is that instructors teaching EE courses often lack direct entrepreneurial experience and formal training in contemporary entrepreneurship education. This limits their ability to introduce students to the language, vocabulary, and frameworks of modern startup ecosystems. Since community college faculty are not required to engage in academic research and publication, there is little incentive to stay updated on emerging entrepreneurship theories

and best practices. Effective EE instruction requires applied entrepreneurship teaching, yet without significant professional development, immersive experiences, and retooling, faculty may struggle to bridge the gap between traditional small business perspectives and contemporary entrepreneurship models. Additionally, the adoption of advanced technology tools—such as Google Drive, Mural, Miro, or Padlet—is limited due to a lack of familiarity, financial constraints, and the absence of institutional enterprise accounts.

- **Experiential Learning in Entrepreneurship:** The assumption is that entrepreneurship education must be highly experiential due to the dynamic and practice-oriented nature of the field. Current community college programs emphasize hands-on learning primarily through internships, practicums, and service learning, often in established businesses. These experiences are designed to prepare students for employment rather than entrepreneurial ventures. Unlike traditional business students who specialize in specific management functions, entrepreneurship students require exposure to various business domains and direct engagement with startup founders who have firsthand entrepreneurial experience.
- **Diverse Student Demographics and Goals:** The final assumption is that the student population in community college EE programs is predominantly nontraditional. Many students seek transfer opportunities to four-year institutions, while others aim to launch their own ventures, whether for-profit or nonprofit. Additionally, some students are engaged in upskilling or retooling, and a portion already hold college degrees but pursue EE certificates to enhance their entrepreneurial competencies.

These assumptions provide a foundational understanding of the challenges and opportunities within community college entrepreneurship education, shaping the study's investigation into business model innovation for enhancing program effectiveness.

The Researcher Perspective

The researcher has academic training in business and economics and a rich background in academia, corporate management, and entrepreneurship. She spent almost two decades in the banking industry in Asia and started her small business ventures while raising a family as a single parent. However, her passion is in teaching. Thus, she made a career shift to academia when she immigrated to the United States. This passion brought her to pursue a doctoral degree in education to align with her plan to establish an entrepreneurial program for under-resourced communities in her home country, the Philippines. Her actual industry and entrepreneurship experiences benefited and shaped her teaching style and philosophy. Her knowledge and skills in leadership and management in various multinational companies in Asia and corporate America, plus her experience running a small-scale business, were indispensable in the classroom. For her project-based and experiential teaching approach, co-led by industry and community partners, her program was a trailblazer in community colleges' entrepreneurship and innovation programs. Her 'incubator' approach to teaching and learning entrepreneurship landed her an honor as one of the three awardees in the globally respected Canvas Educator of the Year Award in 2020 and one of the top five awardees for the 2023 Triple E Awards, while the entrepreneurship program that she founded and managed was selected as NACCE's 2021 Entrepreneurial College of the Year. After several years of the continuing decrease in enrollment in her institution and the rise of online learning fast-tracked by the 2020 COVID-19 pandemic, she became interested in

investigating a new business model for business and entrepreneurship programs in a community college setting.

College education faces unprecedented challenges, such as low enrollment numbers, the rise of alternative sources of knowledge and skills traditionally offered by educational institutions, and the changing demographics of community college students, especially in the Bay Area. Community colleges are getting disrupted and becoming less relevant today as industry offerings gain more interest from the usual population that community colleges serve. Her college's enrollment reached around 100,000+ in the early 2000s (including noncredit), but it underwent a steep decline around 2012–2015 due to accreditation challenges and, more recently, further fluctuation because of the COVID-19 pandemic (CCCCO, 2022). Their 10 campuses around the District were down to five as of this writing. This drew the researcher to look deeply into business practices by industry disruptors and leaders who broke away from the traditional models to remain in business. Slowly, she noted that community colleges have resources and capabilities that could contribute to establishing a healthy pathway to entrepreneurial success. These characteristics will be evaluated using the Resource-Based View (RBV) framework to assess its effectiveness in contributing to the college's competitive advantage.

Anticipated Outcomes

From a theoretical perspective, this study, to the researcher's knowledge, is one of the first analyses of the business model in the context of entrepreneurship education. It provides a distinctive framework for evaluating competitive advantage using the RBV and SLL models in community colleges. The frameworks analyzed the relationship of an entrepreneurial ecosystem in advancing EE in the 21st century. Additionally, this study blended insights from the EE,

business models, adult learning, and educational technology literature streams—a rare combination of previous studies conducted in these areas.

The findings informed practice and theory. In practice, they shed light on the importance of the business model in building a sustainable competitive advantage in entrepreneurship education (EE) by leveraging organizational learning. This study explored challenges and offered examples of how an EE program responds to operational changes (occurring at the margins) to improve its competitive advantage and ensure relevance and sustainability. This study also presents theoretical contributions to advancing knowledge on the co-curricular ecosystem, focusing on practical implications such as co-creation, experiential learning, social capital, and their relevance as value-creating elements of the entrepreneurial ecosystem.

The study is also anticipated to benefit community colleges in general by helping them develop their institutional strategies. The revitalized business model leverages collaborations (sharing economy) across colleges and parties while staying attuned to industry demands. It aims to foster the development of strong partnerships between academia, business, and industry.

Lastly, the findings addressed the gap in the existing literature about business models in higher education outside their limited application to online education—the application of the RBV and SLL frameworks to higher education's strategic planning. Beyond discussing a wide range of innovative responses to the issues at hand, this study also presents a proposed agenda for future research.

Rationale and Significance

The macroenvironment presents both challenges and opportunities for community colleges. Economic and technological shifts necessitate curriculum adaptations to meet labor market demands. Political decisions dictate funding stability, while social factors shape

enrollment trends. The competition in entrepreneurship education is fierce. Colleges compete with non-academic institutions offering free training programs sweetened by an accompanying internship or immersion in an actual startup or a major industry player. As more students question the value of college education, community colleges are extremely vulnerable to disruption. Community colleges that remain agile, innovative, and responsive to these external influences will be better positioned to fulfill their mission of accessible, high-quality education.

The use of new and innovative business models in trade and commerce is rising and has become an essential driver for value creation and capture. Still, the phenomenon remains under-theorized in the context of higher education. This research presented new practices and empirically driven insights into how business models evolve in entrepreneurship education. It also aimed to present empirical evidence of the increasing prevalence of co-curricular[3] programs and entrepreneurial ecosystems in entrepreneurship education.

Contributions to the Literature

This study contributes to the emerging discourse on platform business models in higher education by moving beyond the prevailing literature on the "platformization" of online learning, which has largely centered on digital course delivery and virtual infrastructure. Instead, this research offers a foundational exploration of how platform logic—particularly the multi-sided nature of value co-creation—can be applied to entrepreneurship education in community colleges. It examines pre-existing institutional practices that align with platform behaviors and attributes, such as cross-sector collaboration, knowledge exchange, and dynamic resource orchestration. These findings provide a conceptual basis for future empirical studies aimed at

[3] Co-curricular programs are structured activities that complement formal classroom instruction by engaging students in learning opportunities outside the traditional academic curriculum. While *extracurricular* activities can be purely recreational or social, co-curricular programs are intentionally tied to and reinforce academic outcomes.

evaluating the efficacy of platform-based strategies in scaling and sustaining entrepreneurship programs within the higher education sector.

In addition, the study extends the Resource-Based View (RBV) framework into the domain of business model innovation in educational institutions, a context that remains underexplored in strategic management literature. While RBV has been widely applied in fields such as information systems, operations management, marketing, and entrepreneurship, its utility in assessing institutional capabilities and competitive positioning in community colleges has received limited scholarly attention. This research demonstrates how community colleges can leverage both tangible and intangible resources—such as faculty expertise, industry partnerships, and embedded ecosystems—to enhance programmatic innovation and institutional agility.

Furthermore, the study applies the Strategic Leverage Through Learning (SLL) framework to identify how organizational learning mechanisms underpin the development of new business models that embrace open innovation. SLL foregrounds learning as a core strategic function, emphasizing the iterative processes of sensemaking, knowledge creation, and capacity building. Notably, this study highlights the imperative of "unlearning"—the deliberate dismantling of outdated pedagogical and administrative practices—as a necessary condition for institutional transformation and strategic renewal. This perspective offers a novel conceptual contribution to the literature by positioning unlearning as a critical antecedent to innovation in higher education.

By integrating insights from entrepreneurship studies, strategic management, adult learning, and education technology, this research creates an interdisciplinary bridge that enriches our understanding of how adaptive, innovation-driven business models can enhance institutional competitiveness. It underscores the value of a multifaceted approach to entrepreneurship

education that not only aligns with market demands but also responds to the evolving learning needs of non-traditional and entrepreneurial students in community colleges.

Definitions of Key Terms

Given the blurring terms, concepts, and terminologies used in different contexts from various disciplines, this section serves as a quick reference to have a broad understanding of the topics. frameworks and models essential to this study.

Business Model: Defined as the rationale of how an organization creates, delivers, and captures value (Osterwalder & Pigneur, 2010). In this study, this term refers to the entrepreneurship learning infrastructure that includes co-curricular programs, pedagogy, and co-curricular and extracurricular programs that support EE.

Disruptive Innovation/Disruption: Refers to a very specific process that explains how entrants can successfully compete with incumbents (Christensen et al., 2003). It is concerned with business-model innovation that enables entrants to enter markets with cheap, easy-to-use, but low-performing products (Christensen et al., 2015).

Dynamic Capabilities: Identification of the dimensions of firm-specific capabilities that can be sources of advantage and explain how combinations of competencies and resources can be developed, deployed, and protected (Teece et al., 1997).

Entrepreneurs: Those who take advantage of knowledge and resources to identify and pursue opportunities that initiate change and create value in one's life and those of others. (Torrance, 2013, p. 9).

Entrepreneurship: "The pursuit of opportunity beyond resources controlled" (Stevenson, 1983, p. 85).

Entrepreneurship Education: "The ability to envision and chart a course for a new business venture by combining information from the functional disciplines and the external environment in the context of the extraordinary uncertainty and ambiguity facing a new business venture" (Shepherd & Douglas, 1997).

Entrepreneurship Ecosystem: A set of networked institutions, including universities, large corporations, startup support organizations, investors, and economic development agencies that form an environment supportive of the creation and growth of new ventures (Isenberg, 2010).

Experiential Learning: Learning that emerges from workplace experiences, triggered by something in that context, involving identifying and trying solutions, and enhanced by critical reflection throughout the process (Marsick & Watkins, 1990).

Inimitability: Refers to a firm's possession of relevant, valuable, and rare resources that competitors find difficult or impossible to replicate or obtain (Barney, 1991).

Multi-sided Platform: A business model that facilitates interactions between two or more distinct but interdependent customer groups. Such platforms create value by enabling direct interactions between these groups, with the platform's value increasing as more users from each group participate. Examples include credit card companies connecting cardholders and merchants, or online marketplaces linking buyers and sellers (Osterwalder & Pigneur, 2010).

Network Effects: Any situation in which the value of a product, service, or Platform depends on the number of buyers, sellers, or users who leverage it (Eisenmann et al., 2006).

Online Learning: The term is widely used but has a variety of meanings. For this research, online learning refers to learning mediated by the Internet.

Open Innovation: Strategic use of external and internal knowledge flows to enhance a firm's innovation capacity. It embraces two key dimensions: *outside-in*, where external ideas and technologies are integrated into internal processes, and *inside-out*, where internal knowledge and unused innovations are shared externally to create value beyond the organization (Chesbrough, 2003)

Organizational Capability: The ability of an organization to perform a planned set of tasks by employing resources to achieve a specific outcome (Helfat & Peteraf, 2003).

Organizational Dynamic Capability: An organization's ability to develop, integrate or reconfigure operational capabilities (Helfat & Peteraf, 2003).

Pipeline Model: A linear value chain where firms create products or services, push them out, and sell them to consumers. This model involves a step-by-step process: sourcing materials, manufacturing products, distributing them, and finally selling to consumers. The value is produced upstream and consumed downstream, resembling water flowing through a pipe (Alstyne et al., 2016).

Platform Model: One that creates value by facilitating direct interactions between two or more interdependent groups, typically producers and consumers, through an open, digital infrastructure. Unlike traditional "pipeline" models—which create and deliver value through a linear process—a platform's primary role is to enable and enhance exchanges, leveraging network effects where the overall value of the platform increases as more participants join (Alstyne et al., 2016).

Rarity: Refers to valuable resources owned by a firm that is distinctively uncommon among current and potential competitors, enabling the firm to achieve a sustainable competitive advantage (Barney, 1991).

Resource-Based View (RBV): A framework for identifying and predicting the core elements that shape organizational performance and competitive advantage. RBV emphasizes an internal perspective by concentrating on the organization's unique resources to explain success or failure in leveraging organizational capabilities. It particularly focuses on resources that competitors find difficult to imitate, which can serve as a foundation for sustained competitive advantage (Barney, 1991).

Sharing Economy: An economic model built around digital platforms that facilitate peer-to-peer sharing, exchange, or rental of underused assets, resources, or services, enabling more efficient utilization and value creation through collaborative consumption (Hamari, Sjöklint, & Ukkonen, 2016).

Strategic Leverage Through Learning: A conceptual framework emphasizing continuous learning as a mechanism for developing strategic assets, enabling organizations to adapt and innovate in changing environments. It describes how an organization gains and sustains competitive advantage by embedding learning processes into its core strategies, structures, and daily practices (Gephart & Marsick, 2016).

Substitutability: A condition whereby a firm's resource must neither be strategically valuable, rare, nor imitable to be a source of sustainable competitive advantage (Barney, 1991).

Sustained Competitive Advantage: The capability of an organization to execute predetermined tasks by utilizing resources effectively to reach a desired result (Barney, 1991).

Chapter 2: LITERATURE REVIEW

For this chapter, the researcher presents patterns and theoretical perspectives mainly from entrepreneurship, adult learning education, and business to explore the questions in this study. The discussion connects various points that might expand the existing theories presented in the current literature. The chapter combines literature with actual practices happening in the workplace and classrooms to convey an inductive design that the researcher adopted to build bridges and integrate disparate disciplines and topics (Creswell & Creswell, 2018).

Entrepreneurship Education: A Historical Overview

Entrepreneurship education started with one course at Harvard University in 1947 (Katz, 2003) for returning veterans. From there, it continued to grow, and in 1975, colleges and universities in the United States offered about 100 formal programs, from certificates to terminal degrees. In 1985, there were 250 courses in entrepreneurship; in 2008, the number reached more than 5,000. In 2013, several universities required all students to take principles of entrepreneurship classes (Kauffman Foundation, 2013). Throughout these years, the concept of entrepreneurship continued to evolve while academics could not agree on a concluding definition of entrepreneurship (Cunningham et al., 1991). But what is “entrepreneurship” or “entrepreneur”? The terms are derived from the French word “entreprendre” (“to undertake”/“to launch”), which leaves it wide open to interpretation and application. Joseph Schumpeter (1934) introduced the terms in their current meaning, and they are now widely used in English-speaking countries (Drucker, 1985). Despite many definitions of entrepreneurship today, the present researcher adopted the term offered by Professor Howard Stevenson, the godfather of entrepreneurship studies at Harvard Business School: entrepreneurship is “the pursuit of opportunity beyond resources controlled” (Eisenmann, 2013, p. 42).

The idea of suffusing entrepreneurship into education has spurred much discussion and enthusiasm in the last few decades. Several reasons why this is of the utmost importance are due to its significant impact on economic growth, job creation, and increased societal resilience, but beyond these measurable results are also individual growth, increased school engagement, and improved equality. Actualizing this idea posed significant challenges, such as limited resources and, more importantly, teachers' fear of commercialism, inhibiting educational structures, and reliable assessment challenges, which are some of the hurdles educators have encountered when trying to infuse entrepreneurship into education (Lackéus, 2015).

EE is at a tipping point. As programs flourish, research on EE is now receiving attention as a separate field of academic research—"finding its voice, responding to criticism, and heeding important calls" (Haase & Lautenschläger, 2011; Low & MacMillan, 1988; Nabi, Liñán, Fayolle, Krueger, & Walmsley, 2017, as cited in Neck & Corbett, 2018, p. 9). Morris and Liguori (2016) acknowledged that "the emergence of entrepreneurship has occurred so rapidly that it has outpaced academia's understanding of what should be taught by entrepreneurship educators (Klein & Bullock, 2006), how it should be taught, and more importantly, how outcomes should be assessed" (Neck & Corbett, 2018, p. 9). Neck and Corbett (2018) contributed to the evolving field of EE by "defining EE and the outcomes of such education such as supporting the life skills necessary to live productive lives even if one does not start a business" (p. 10).

Neck and Corbett's (2018) work defined EE as "developing the mindset, skill set, and practice necessary for starting new ventures; therefore, the context of EE should be new venture creation, which differentiates EE from other forms of progressive education" (p. 15). However, they also conceded and supported that EE outcomes are far-reaching. "The impact of EE may be the development of 'entrepreneurial' life skills and mindset, but the context of new venture

creation must remain. It is the boundary; it is what defines and differentiates it as a teaching discipline" (p. 30). As a teaching discipline, the question of whether entrepreneurship can be taught has been a subject of much research and discourse, with many scholars stating that the only way to learn to become entrepreneurial is to learn through one's own experience. Pittaway and Cope (2007) cited the works of a variety of scholars, such as Dalley and Hamilton (2000), Gibb (1993), Minniti and Bygrave (2001), and Young and Sexton (1997) when claiming that there are no shortcuts. "Entrepreneurial skills can only be acquired through learning-by-doing or direct observation" (p. 381). However, there is a need for hearty advice on what to let students do to develop their entrepreneurial competencies. Conversely, many scholars have produced impressive work that provides systematic evidence that entrepreneurship is teachable (Neck & Corbett, 2018, p. 12).

Another interesting issue has emerged in faculty training and development: "Many entrepreneurship educators are not trained educators" (p. 25). Neck and her team (2018) convened an "expert panel of 17 award-winning entrepreneurship educators and researchers to examine what EE is, what is their role as educators, what is the student's role, and how students engage in and practice entrepreneurship in higher education" (p. 10). Using the Delphi method which is widely used for achieving reliable consensus based on group opinion (Hasson et al., Hsu & Sandford, 2007, as cited in Neck, 2018, p. 19), the panel noted, "Having professionally trained educators is key here, and virtually none of our colleagues have that training" (Neck et al., 2014, p. 33). Another panelist intimated that most entrepreneurship educators are not actually educators. Their training is on research within their main disciplines, such as economics, sociology, marketing, and entrepreneurship, which poses serious challenges (p. 33). This then suggests that "heutagogical approaches are beyond our reach because most educators require

education in education that necessitates a different level of commitment that most U.S.-based schools are not willing to make" (Neck & Corbett, 2018, pp. 33-34).

The Delphi panel's concept of heutagogy, rooted in andragogy (Hase & Kenyon, 2000), emphasizes "learners that are highly autonomous and self-determined, and emphasis is placed on the development of learner capacity and capability with the goal of producing learners who are well-prepared for the complexities of today's workplace" (Blascheke, 2013, p. 11). While andragogy stresses self-directed learning (SDL)—adults identifying what they need to learn and seeking relevant resources (Knowles, 1980)—heutagogy advances the idea of self-determined learning, where reflection and praxis are intertwined so that learners not only chart their own paths but also develop the adaptability to face unfamiliar challenges.

In parallel, self-regulated learning (SRL) concentrates on *how* learners plan, monitor, and refine their study processes (Bandura, 2000), which aligned with Pilling-Cormick et al.'s (2007) focus on reflection and active engagement as catalysts for deeper transformation. By uniting SDL's goal-oriented nature with SRL's metacognitive strategies, heutagogical learners become adept at bridging theoretical concepts with their lived experiences. This synergy is especially salient in entrepreneurship education (EE), where the unpredictability of real-world environments demands both resilience and the capacity to "learn how to learn." As Bandura (2000) suggested, "heutagogy represents the most mature adult learning, whereas andragogy is adult learning but with more guidance" (p. 32). Hence, by beginning with an andragogical framework and advancing toward heutagogical self-determination, adult learners strengthen their ability to navigate ambiguity—an indispensable skill for emerging entrepreneurs in increasingly complex marketplaces.

Malcolm Knowles (1968, 1980) presented a strong argument that children and adults learn differently, which inspired stimulating debate and a new education research domain on adult education and learning. Theorists have suggested that adult learning necessitates different instructions and teaching philosophies distinct from how children learn (Knowles, 1989; Merriam, 1993, 2001). In the realm of EE, Neck and Corbett's (2018) Delphi panel arrived at a consensus around the notion of "practice" described as "experiential, active, learn-by-doing approaches that mimic entrepreneurship-based activities" (p. 20). Practice leads to the application of skills, developing muscle memory, innovation, co-creating, learning by doing, hands-on training, and undertaking tasks and activities beyond the classroom. As Pittaway and Cope (2007) found from their systematic review of 185 articles published between the years 1970 and 2004 mapping the field of EE, they established empirical support that real-life experiential learning changes student awareness and perceptions but found less evidence that such attitudinal changes lead to action (p. 490). Table 2.1 provides an overview of why EE is considered relevant and important according to the literature.

In closing, EE differs significantly from person-to-person, after all, "Through its humanistic connection, the concept of experience also has an ideological function: faith in an individual's innate capacity to grow and learn (Miettinen, 2000). Some educators and programs suggest that students should be stimulated to start up their own ventures. But this leans on a narrow definition of entrepreneurship, relating it to starting a business. Others suggest that it is not at all about starting new organizations but, instead, about making students more creative, opportunity-oriented, proactive, and innovative, adhering to a wide definition of entrepreneurship relevant to all walks of life. This researcher takes the stance, based on Lackéus (2015), that a unifying element between these differing meanings is that "all students can and

should improve their ability and willingness to create value for other people or the society at large. After all, this is at the core of entrepreneurship and is also a competence that all citizens increasingly need in today's society, regardless of career choice" (p. 34).

Table 2.1

Overview of Why Entrepreneurial Education Is Stated to Be Relevant and Important

	Individual level	Organizational level	Societal level	References
Commonly stated reasons for entrepreneurial education, but less effective in schools and for embedded approaches				
Job creation	More individuals are needed that are willing and capable to create job growth	Growing organizations create more jobs	Entrepreneurship and innovation are primary paths to growth and job creation	(Jones and Iredale, 2010, Hindle, 2007, Kuratko, 2005, Volkmann et al., 2009)
Economic success	Entrepreneurship can give individuals economic success	Organizational renewal is fundamental to every firm's long-term success	Renewal processes are fundamental to the vitality of economies	(Kuratko, 2005, O'Connor, 2008, Volkmann et al., 2009, Gorman et al., 1997)
Globalization, innovation and renewal	People need entrepreneurial skills and abilities to thrive in an ever-changing world	Entrepreneurial firms play a crucial role in changing market structures	A deregulated and flexible market requires people with higher-level general skills	(Henry et al., 2005, Jones and Iredale, 2010, Kuratko, 2005, Hytti and O'Gorman, 2004)
Rarely stated reasons for entrepreneurial education, but promising for schools and embedded approaches				
Joy, engagement, creativity	Creation / value creation / creativity is a main source of joy and pride for people	Employee creativity and joy is essential for the performance of new and existing organizations	Economic wealth of nations correlates with happiness of its citizens	(Amabile and Khaire, 2008, Amabile and Kramer, 2011, Goss, 2005, Diener and Suh, 2003)
Societal challenges	People can make a difference to society, and marginalized people can achieve economic success	Corporations can collaborate with small social entrepreneurship initiatives to create social value	Social entrepreneurship addresses problems in society that the market economy has failed to address	(Volkmann et al., 2009, Kuratko, 2005, Seelos and Mair, 2005, Austin et al., 2006, Rae, 2010)

Source: OECD, (2015). Entrepreneurship Education

Entrepreneurship

Several entrepreneurship theories with underlying empirical studies are discussed in the literature and provide diverse perspectives on the drivers of entrepreneurial activity. Among those, three prominent theories are (a) Economic entrepreneurship theory, (b) Psychological entrepreneurship theory, and (c) Sociological entrepreneurship theory. The economic entrepreneurship theory has deep roots in classical and neoclassical theories of economics. Schumpeter's notion of creative destruction suggests that entrepreneurs drive economic progress

by introducing innovations that disrupt existing markets and create new opportunities (Gibb, 2003). Psychological entrepreneurship theory focuses on the individual traits and cognitive factors influencing entrepreneurial behavior. Bandura's (1997) self-efficacy theory highlighted the role of personal belief systems in shaping entrepreneurial intentions and persistence. Sociological entrepreneurship theory, on the other hand, examines the broader social structures that facilitate or constrain entrepreneurial activity. For instance, Etzkowitz and Zhou (2008) discussed the role of institutional transformation in fostering entrepreneurship within university settings. These theories collectively underscore the multifaceted nature of entrepreneurship, integrating economic imperatives, individual agency, and social networks to explain entrepreneurial phenomena.

Simpeh (2011) reflected on the works of Ricardo (1817) and Smith (1776), who inscribed the value of free trade, specialization, and competition under the classical theory, with classical theorists articulating three modes of production: land, labor, and capital (p. 1). Under this theory, the role of the entrepreneur is discussed within the context of the production and distribution of goods in a competitive marketplace (Say, 1803, as cited in Simpeh, 2011). The 19th century ushered in the theory of innovation popularized by Schumpeter, an economist who had long been regarded for his seminal work in the theory of entrepreneurship (Goss, 2005). He argued that entrepreneurship drives a market-based system. His theory proposed that entrepreneurship involved innovations and disruptive technologies or the process whereby existing products, ideas, and businesses are replaced with better ones, which he called *creative destruction* (Goss, 2005). Today, the economic theory of entrepreneurship is widely researched and synonymous with innovation. In higher education, the concept of entrepreneurship is widely contextualized in

the realm of economics: the creation of goods and services and the innovation that drives the market economy.

Being entrepreneurial arouses different meanings in people. Following the two differing perceptions of entrepreneurship education, two dissenting views on defining entrepreneurship exist. One is the narrow definition of opportunity identification, business development, self-employment, venture creation, and growth (Fayolle & Gailly, 2008). The wide definition of entrepreneurship is creativity, taking action, risk tolerance, personal development, creativity, self-reliance, and taking initiative. Mwasalwiba (2010, as cited in Lackéus, 2015) explained, "the choice of definition and approach used by institutions deeply affects educational objectives, target audiences, course content design, teaching methods and student assessments leading to a wide diversity of approaches" (p. 9).

Gartner (1990) argued that entrepreneurship is about entrepreneurial individuals creating innovative products, ideas, and organizations that grow and create value, either for profit or not. However, entrepreneurship does not have to include creating new organizations; it can also occur in existing organizations (Shane & Venkataraman, 2007). A more common definition used by scholars today is that of Stevenson and Jarillo (1990), who defined entrepreneurship as "a process by which individuals—either on their own or inside organizations—pursue opportunities without regard to the resources they currently control" (p. 23). Interestingly, a constructivist approach proposed the definition of "incorporating not only the entrepreneur but also the new value created the environment within which it takes place, the entrepreneurial process itself and the links between these constructs over time" (Bruyat & Julien, 2001, as cited in Lackéus, 2015, p. 11).

In mainstream media, there is a common tendency to present entrepreneurs as predominantly male and daring individuals who possess special innate traits and prefer to work under adverse conditions in solitude (Hytti, 2005). This view of entrepreneurship is misleading and results in the alienation of (not only female) students (Leffler, 2005), but it also overlooks the importance of collective team-based entrepreneurial endeavors (Drnovsek et al., 2016). Research has also shown that a majority of successful companies are started by teams rather than by sole entrepreneurs (Beckman, 2006). Lastly, this notion perpetuates gender-biased, outdated, and oversimplistic images of entrepreneurship (Jones, 2012). An ideal view of entrepreneurship suitable to the educational domain is to view it as a "generic method for human action, comprising of principles and techniques that anyone can learn through basic education" (Sarasvathy & Venkataraman, 2011, p. 70).

Kuratko and Hodgetts (2004) defined entrepreneurship as

> a dynamic process of vision change and creation. It requires an application of energy and passion toward the creation and implementation of new ideas and creative solutions. Essential ingredients include the willingness to take calculated risks—in terms of time, equity, or career; the ability to formulate an effective venture team; the creative skill to marshal needed resources; and the fundamental skill of building a solid business plan; and finally, the vision to recognize opportunity where others see chaos, contradiction, and confusion. (p. 30)

Another phrase that gathered substantial interest is the entrepreneurial mindset associated with entrepreneurship. Mezirow's theory of transformative learning offers a foundational lens through which to understand the development of an entrepreneurial mindset. At its core, transformative learning involves a shift in an individual's worldview through critical reflection on assumptions, leading to more inclusive, discriminating, and integrative perspectives (Mezirow, 1991). This reflective process aligns closely with the cultivation of an entrepreneurial mindset, which demands adaptability, opportunity recognition, and a willingness to challenge

established norms. As learners critically reassess their beliefs and experiences, they develop the cognitive flexibility and self-efficacy that underpin entrepreneurial thinking. Thus, transformative learning not only supports the personal growth necessary for entrepreneurship but also nurtures the disposition to act innovatively and autonomously in uncertain environments.

As the field continues to evolve, teaching and learning entrepreneurship is also changing. Some of the important themes that characterize recent research about entrepreneurship are the need for an entrepreneurial mindset among leaders and an entrepreneurial culture in the corporate world, also known as intrapreneurship or corporate entrepreneurship (Zahra et al., 1999); entrepreneurship is a global social movement, and the entrepreneurial spirit is universal (McDougall & Oviatt, 2003), and entrepreneurship education has become one of the hottest topics at U.S. business and engineering schools (Katz, 2003).

Challenges in Entrepreneurship Education

Entrepreneurship education has evolved into a comprehensive area of research, addressing themes such as entrepreneurial intentions, competencies, skills, and activities. However, there remains a notable gap in detailed studies on pedagogical methods or frameworks specifically designed to foster entrepreneurial skill development within higher education settings. (Kujala et al., 2022). Entrepreneurship education (EE) "has positioned itself as a research discipline for almost 75 years with entrepreneurial skills as its pivotal area" (Katz, 2003, 2008, as cited in Kujala et al., 2021, p. 1). Entrepreneurial skills are often manifested as one's ability to identify opportunities, appetite, and tolerance for risk and penchant for innovation (McGee et al., 2009). Other attributes come into play, such as flexibility, creativity, and risk taking. Regardless of an agreed-upon framework on what constitutes entrepreneurial skills, it has been argued that it can be taught and improved (Jones, 2012). However, the challenge remains that it is complicated

to teach entrepreneurial skills if the student does not actively take part in the learning process (Honig, 2004; Mueller & Anderson, 2014).

The speed of technological innovation and evolving industry demands are moving faster than higher education's ability to adapt. The growth of entrepreneurship has "occurred so rapidly that it has outpaced academia's understanding of what should be taught by entrepreneurship educators, how it should be taught, and more importantly, how outcomes should be assessed" (Neck & Corbett, 2018, p. 9). Not all academics trained in the domain of business and management have the entrepreneurial experience and training to teach the practice and mindset that defines the evolving field of entrepreneurship today (Neck et al., 2019). Designing a new course or updating an existing course takes time with a public institution such as a community college. The process takes at least a year before a course is approved and ready for offering. This turnaround time is long enough for much of the course content to become obsolete, especially in the realm of entrepreneurship and innovation. Keeping tabs on the industry's fast-changing demands for knowledge and skills is a grueling task that requires countless resources.

One school of thought has also "argued that entrepreneurship is not linear but a complex process that cannot be learned through mere content: (Linton & Klinton, 2019, para 1). It assumes that entrepreneurship can only be achieved by experimenting, trying, and learning about one's own experience (Ries, 2011). In turn, these experiences help motivate students to become and/or think as entrepreneurs, and motivation cannot be created by just teaching mere content (Heinze, 2020).

Another trend that threatens EE is the value of an undergraduate degree. According to *Monthly Labor Review* (2020), the bachelor's degree may cease to be a meaningful signal of educational attainment. Is it even worth getting a certificate in entrepreneurship from a

community college? Google announced in 2020 that they are disrupting college education by offering short-term certificates for foundational skills needed by the industry. Its Senior Vice President of Global Affairs twitted, "In our own hiring, we will now treat these new career certificates as the equivalent of a four-year degree for related roles." Today, the focus is on skills and less on degrees. Regardless of their actual achievement, graduates will have difficulty establishing their worth without advantages such as personal connections, internships, or institutional prestige (Reuben, 2022). This seems true for entrepreneurship; startups will have difficulty getting their ideas to market without social capital, meaningful immersions, and a powerful network.

Uberization of Education

The concept of "Uberization" started in 2014, named after the first company that achieved commercial success in leveraging technology in its new business processes to disrupt the transportation industry, "Uber Technologies" (Khusyainov, 2022). Uberization has emerged as a Platform-based form of organizing that reshapes work and labor markets, fundamentally challenging existing thinking on organizing (Faraj & Pachidi, 2021). In the United States, "Uberization" challenges fundamental aspects of labor markets and the employment relationship in industries well beyond ride-hailing (Davis & Sinha, 2021). Cauthen (2019) defined Uberization as "a term for highly network-enabled enterprise to provide highly economical, convenient, and efficient services. With peer-to-peer transactions, uberization seeks to capture the under-utilized capacity of existing assets or human resources" (para. 2). The Uberization framework is organized around information and communication technologies (ICT) and institutions. As Cauthen (2019) claimed, it bypasses the physical barriers of bureaucratic central

planning that currently are taking place in schools, businesses, and organizations using digital engines and big data sets.

Today, the trend of developing Uber-like platforms is gaining traction around the world and is applied in almost any industry in the modern-day economy. The digital platform replaces intermediaries, acting as a channel for interaction between users and providers, making the connection between them much faster and cheaper, and becoming more tailored to users' needs and preferences (Khusyainov, 2022). But what does it mean for higher education?

The literature presents divergent views on the application of Uberization to education. Some academics support it as it provides enormous freedom and access to both creators and users. Ngo Tu Lap (2018) boldly claimed that with Uberization, the traditional university will become obsolete and now is the beginning of its demise. On the other hand, Kyrou (2015) argued that "Uberization is the weapon of mass disruption carried by a new kind of paradoxical populism, riding on the libertarian spirit of Silicon Valley, announcing a homogenized society of women and men without quality" (p. 106).

Commoditizing education is unimaginable for academics, and the term *Uberization of education* not only yields negative reactions but also threatens the future of higher education. Imagine colleges and universities being run like AirBnB and Uber! For some educators and administrators, the threat of being sidelined or eliminated in favor of industry experts is real. But the current scenario looks bleak, with teachers struggling to learn all kinds of tech tools to help students engage and be up-to-date with industry demands while grappling with funding for their institutions to get hold of those software programs and tools. Uberization creates a central body to leverage the human and digital assets that are underutilized and overly fragmented.

An interesting study by Davis et al. (2012) broke down the activities of postsecondary education into four elements: *learning*, *student support*, *community building*, and *expanding connections* (Tolmayer & Bedo, 2019). Building on these categories, three major postsecondary education process organizing elements were created (see Figure 2.1).

Figure 2.1

Higher Education Framework

Source: Faustino-Pulliam (2025)

In Figure 2.1, the Input stage sets the foundation for student success by incorporating academic readiness and essential student support services such as counseling, financial aid, and advising—reflecting Davis et al.'s (2012) emphasis on *student support*. The Education stage highlights formal and informal learning activities, where *learning* and *community building* converge as students engage in coursework, group projects, and extracurricular initiatives that foster academic growth and peer-to-peer interaction. Finally, the Output stage focuses on the tangible outcomes of higher education, including credentials, career pathways, and broader professional or civic engagement—areas in which learners can *expand connections* through alumni networks, industry partnerships, and other collaborative opportunities. By embedding these four elements—learning, student support, community building, and expanding connections—across the three-part framework (Input → Education → Output), institutions can holistically address learners' needs and promote a richer, more transformative postsecondary experience.

The three-part framework—Input, Education, and Output—can serve as a foundation for a platform business model, wherein value co-creation is central to facilitating learner engagement, resource sharing, and network expansion (Parker, Van Alstyne, & Choudary). Unlike a traditional academic model, which often follows a linear, provider-centric structure, a platform model prioritizes open ecosystems and reciprocal relationships among stakeholders.

In the conventional approach, called the Pipeline business model (see Figure 2.3 below), higher education institutions typically exert top-down control, regulating curriculum design and dissemination of knowledge. The Input stage might be limited to standardized admissions processes, while Education places students in predetermined courses, and Output measures their progression through credentialing. Although this model offers consistency and foundational rigor, it may inadvertently constrain innovation by emphasizing fixed pathways, rigid timelines, and often narrow definitions of student success.

By contrast, a platform-based model aligns with Schumpeter's vision of innovation, emphasizing dynamic interactions that spark creative recombination of ideas and resources. Here, learners move from passive recipients to active contributors, engaging in peer-to-peer learning, mentorship, and collaboration. In adult education, this resonates with Knowles's emphasis on self-directed learning and Kolb's experiential cycle, as students have greater agency in shaping their educational experiences. The framework's Input can include diverse entry points—such as corporate partnerships or community resources—allowing learners of various backgrounds to bring their own knowledge and experiences. At the Education stage, the platform leverages network effects by enabling participants to exchange real-time feedback, build shared knowledge repositories, and collaboratively develop projects. The Output stage extends beyond traditional academic credentials to broader forms of capital (e.g., professional networks, venture

collaborations), reflecting Porter's focus on competitive advantage through differentiated value creation.

Ultimately, the platform business model cultivates an environment of continual iteration and user-centric evolution. By integrating multiple sources of expertise, the model not only responds more flexibly to market and societal needs but also empowers adult learners to take ownership of their learning paths. Such responsiveness highlights the model's capacity to generate sustained innovation and competitive advantage, contrasting with the more rigid, one-directional nature of traditional higher education frameworks.

Amid these benefits, Tolmayer and Bedo (2019) identified three key problems that should be explored in further research: (a) the Platform model might not place enough importance on the pedagogical aspects of education; (b) software and solutions are not suited and evaluated sufficiently enough to meet the academic rigor and standards set by the institutions; and (c) the educational Platform model might necessitate rethinking the status of education as a public good (Van Dijck & Poell, 2018 cited in Tolmayer et al., 2019). One strong criticism penned by Goldberg (2016) stated:

> Uber U offers, to a larger or lesser extent, a platform and experience rather than the foundation for lifelong learning, conceptual and critical thinking, methodological and analytic rigor, listening and clarity, coherent argumentation, and engagement. It privileges in-time, on-demand vocational skilling for the task at hand rather than the capacity for deep thinking. (p. 33)

Despite all these challenges and pushbacks, "it is apparent that the platformization of higher education has begun; multi-sided platforms are targeting all three steps of the framework of higher education individually, with few overlaps" (Tolmayer & Bedo, 2019, p. 57).

The concept of platform-based solutions occurs in many forms, as presented in the literature. The first category is in the form *of online course platforms* like Coursera, edX, or

Udemy, which offer a wide range of free and paid online courses and programs from leading universities and institutions. These platforms provide access to high-quality educational content to learners worldwide and are deemed to democratize education, especially for those with limited access to it. Students can choose from diverse subjects and disciplines, learn at their own pace, and receive certificates and badges upon completion. These platforms expand access to education beyond traditional institutional boundaries (Carey, 2016; Castaneda et al., 2022), which challenges smaller colleges and universities. Next is the *Learning Management Systems (LMS) platforms*, such as Canvas and Blackboard, that serve as main hubs for managing and delivering educational content. They provide a digital space where students can access course materials, submit assignments, participate in discussions, and interact with other students and instructors. LMS platforms streamline the administration of courses, enable personalized learning experiences, and facilitate communication between and among students and faculty (Veluvali et al., 2022). The Canvas platform the researcher uses in her current institution now integrates with textbook publishers and other applications for social networking and team collaborations. The third category is the *Collaborative Learning Platforms* that promote collaborative learning—a type of active learning that involves several students working together "and sharing the workload equitably as they progress toward intended learning outcomes" (Barkley et al., 2014, p. 4). Some platforms commonly used now are Google Workspace (formerly G Suite), Mural, and Slack, which enable students and educators to work together, share resources, and engage in group projects. These platforms facilitate real-time communication, file sharing, and collaborative document editing. They promote teamwork and co-creation, foster creativity, and encourage active participation among students with immediate instructor feedback when needed. It can also enhance the feeling of belongingness among

students who may be feeling otherwise disengaged and disconnected. Interestingly, research has shown a positive correlation between collaborative learning experiences and students' achievement of learning outcomes (Columbia Center for Teaching and Learning, 2021).

The fourth category of platform-based solutions is the *Open Educational Resources* (OER). Platforms such as OER Commons, OpenStax, and LibreTexts provide free and openly licensed educational materials. Community college students benefit more from OER as these platforms offer textbooks, films, lecture notes, educational and instructional videos, and other resources that can be freely used, modified, and shared. By leveraging OER platforms, institutions can reduce costs for students, promote educational equity, and encourage collaboration and better customization of learning materials. OER is another phenomenon that may be seen as a part of a larger trend toward openness in higher education. The term Open Educational Resources was introduced at a conference hosted by UNESCO in 2002, where participants defined OER as "the open provision of educational resources, enabled by information and communication technologies, for consultation, use, and adaptation by a community of users for non-commercial purposes". Today, OER is commonly referred to as "digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning, and research" (p. 1).

Another platform category is *Learning Analytics* (LA), a field that has been around since 1979 when The Open University (UK) analyzed 10 years of progress of their thousands of distance students (Ferguson, 2012). Since then, it has sparked much discussion in the learning community as it offers valuable tools and processes for improving the teaching-learning process. Siemens et al. (2011) defined LA as "the measurement, collection, analysis, and reporting of data about learners and their contexts for understanding and optimizing learning and the environments

in which it occurs" (p. 34). The critical components of this platform are an input (data), a process (analysis), and an output (optimize learning). Some examples of LA Platforms are Blackboard Analytics or Moodle Learning Analytics, which collect and analyze data to gain insights into student performance, engagement, and learning patterns to administer early intervention for students who need support to ensure student success and degree completion. These platforms help institutions identify areas for improvement, personalize learning experiences, and provide timely warnings for interventions. By utilizing data-driven insights, institutions can enhance teaching strategies and optimize educational outcomes. While there were criticisms about LA, it has been proven to increase the success and retention of students, as research has shown that LA has the potential to impact student success at universities (Mah, 2016).

A more recent category in addition to the ones cited above is *Virtual Learning Environments* (VLE), defined "as a range of systems that comprise features like a designed information space, a social space being a 'place,' participants that are active and present actors." (Dillenbourg et al., 2002, p. 3). Some examples are Roblox Education, Fortnite Creative and OpenSIM offer immersive and interactive experiences for students. With the proliferation of virtual reality (VR) platforms, extending its application to creating virtual worlds or scenarios where students can explore, experiment, and collaborate seems to be an intuitive approach for edtech practitioners. VLEs can be particularly useful for disciplines that require simulations or hands-on activities, such as entrepreneurship, healthcare, or engineering. VLEs have evolved significantly with the emergence of new technology, growing into more realistic and dynamic environments for learning. Supporting this growth in the development is immersive VLEs, which integrate Virtual Reality (VR) and Augmented Reality (AR). More recently, the introduction of metaverse will likely transform education into virtual spaces because it can provide people with

3D learning experiences and create a sense of presence and immersion, allowing users to navigate and engage with various virtual worlds, socialize, conduct business, participate in events, and drive innovation in teaching methods (Brown & Foster, 2023). Integrating blended learning approaches aids the development of other skills, especially in terms of digital literacy, beyond the specific competencies of any particular subject or course (Loureiro & Bettencourt, 2014). Loureiro and Bettencourt have shown that implementing an extended classroom with virtual environments enhances learning contexts in a blended learning format for promoting and sharing knowledge. However, they also claimed that based on observations taken from their study, learners' commitment to these online tools seems to be based on their level of maturity, level of independence as learners, and intrinsic motivation.

Folding in platform-based solutions into higher education allows institutions to leverage technology to enhance pedagogy, promote co-creation and collaboration, personalize learning experiences, and expand access to education globally. However, it is vital to assess the specific capabilities, needs, and goals of the institution and learners when selecting and adopting these platform solutions.

Platform Business Model

Parker et al.'s (2016) "Platform Revolution" is a seminal work in the emerging field of Platform studies, drawing together insights from economics, business strategy, and technology management. At its core, the study illustrated how digital platforms—exemplified by companies such as Uber, Airbnb, and Alibaba—create value by fostering interactions between multiple user groups, thereby harnessing the power of network effects (Parker et al., 2016). By reducing transaction costs and facilitating novel forms of collaboration, these platforms disrupt traditional, linear business models in favor of multi-sided, networked structures.

In providing a theoretical foundation, *Platform Revolution* builds on the concept of two-sided markets advanced by economists such as Jean Tirole, who extended it into a broader framework encompassing strategic management and organizational design (Tirole, 2017, as cited in Parker, 2016). The authors emphasized the importance of technological infrastructure, robust governance mechanisms, and a clear understanding of the participant roles—producers, consumers, and "platform providers"—in cultivating sustainable platform ecosystems. Moreover, they underscored how effective governance (for instance, the setting of rules and standards for participation) is critical for managing issues related to data ownership, intellectual property, and trust among a platform's user base. Parker et al. (2016) offered both a rigorous exploration of platform theory and actionable guidance on how firms can design, scale, and operate platform ventures in a dynamic, increasingly digitized economy. Their work has substantial implications for entrepreneurship, higher education, and public policy, given the rising prevalence of platform-based business models across diverse sectors (McIntyre & Srinivasan, 2017).

A platform business model refers to a business strategy in which a company creates a digital or physical platform that connects two or more groups of users and facilitates interactions and transactions between them. The platform serves as an intermediary, enabling users to exchange goods, services, or information. Some key characteristics of a platform business model include:

- Ecosystem Development: Platforms often foster the development of an ecosystem around them, attracting third-party developers, service providers, or complementary businesses. This expands the range of offerings and services available on the

platform, creating additional value for users. This is a crucial part of EE. It is believed that academic instructions are not enough to get one's idea to market.

- Intermediation: The platform acts as an intermediary, facilitating transactions, interactions, or exchanges between users. It provides the infrastructure, tools, and rules that enable users to connect, communicate, and conduct business with each other. Most colleges and programs have healthy relationships with businesses and industries, which can be leveraged in connecting students with these partners for various benefits.
- Multi-sided Market: A platform brings together two or more distinct user groups that derive value from interacting with each other. For example, in the case of a ride-sharing platform like Uber, the platform connects drivers and passengers. For colleges and programs, this is represented by students and actors providing educational content within the institution.
- Network Effects: Platforms often benefit from network effects, where the platform's value increases as the number of users on both sides grows. More users attract more participants, leading to a positive feedback loop and reinforcing the platform's value proposition. This function is helpful for programs and colleges to recruit more students by leveraging the quality of partners it will host on its platform.
- Technology-enabled: Platforms typically leverage technology to enable seamless interactions between users. This can include web-based platforms, mobile applications, or physical infrastructure that facilitates the exchange of goods or services. Colleges are already using technology across different facets of their operations to deliver programs, courses, and other services to their students.

- Data-driven Insights: Platforms often collect and analyze user data to gain insights into user behavior, preferences, and needs. These data can be used to improve the platform's features, personalize user experiences, and offer targeted services or recommendations. Data analytics is becoming more important now to colleges to measure students' performance, attract new students, retain current students, and secure various sources of funding.
- Revenue Streams: Platform business models generate revenue through various mechanisms. These include transaction fees, commissions, subscriptions, advertising, or partnerships with third-party providers. In community colleges, revenue streams come in the form of student fees (other than enrollment fees), sales and services, grants and contracts, as well as local debt-service payments (CCCCO website).

Popular examples of platform business models include ride-sharing platforms like Uber, accommodation platforms like Airbnb, e-commerce platforms like Amazon, and social media platforms like Facebook. These platforms have revolutionized industries by connecting users innovatively, disrupting traditional business models, and creating new opportunities for value creation and exchange.

Open-source technological products and programs are classic examples that have led to trailblazing product innovation by going in this direction. Several colleges and universities have embraced a platform business model to enhance their educational offerings and provide additional value to students. Here are a few examples:

- Skillshare is a platform that allows professionals and experts to create and offer online courses on a wide range of topics. It enables individuals to learn new skills or

enhance existing ones through video-based classes taught by practitioners in their respective fields.

- Coursera partners with various educational institutions, including universities, to offer online courses and programs to a global audience. It operates as a platform that connects learners with course providers, enabling access to a wide range of subjects and disciplines.
- edX is another online learning platform that collaborates with prestigious universities to offer courses, certificates, and degree programs. It provides a platform for universities to reach a broader audience and deliver high-quality education to learners worldwide.
- 2U partners with universities to deliver online degree programs across various disciplines. It provides the technology platform, instructional design expertise, and student support services to enable universities to offer online education effectively.
- Udacity focuses on providing online courses and nanodegree programs in collaboration with industry partners. It offers courses in subjects such as programming, data science, artificial intelligence, and business, with a focus on preparing learners for specific job roles and industries.
- MasterClass offers online courses taught by renowned experts in various fields, including entertainment, arts, sports, and entrepreneurship. It operates as a platform that connects students with industry professionals who share their knowledge and insights through prerecorded video lessons.

These examples showcase how colleges and universities have adopted a platform business model to expand their reach, provide flexible learning options, and connect learners with a diverse

range of educational resources and opportunities. One classic case is the University of Illinois Urbana-Champaign partnership with Coursera to launch a MOOC-based Master of Computer Science in Data Science (MCS-DS) program. This initiative allowed the university to offer a professional master's degree to a global audience at a fraction of the traditional cost, thereby expanding its educational reach significantly.

In a "challenging new landscape of a world in which Platforms win" (Van Alstyne et al., 2016, p. 4), the previously established, traditional industries are under pressure to keep up, and often their only chance for survival is to concede to the economic and social transformation driven by multi-sided Platforms. As David S. Evans (2003) described, a multi-sided Platform needs to acquire and maintain a minimum of two codependent customer groups that interact with each other to prosper (Tolmayer & Bedo, 2019). Various industries such as retail, transportation, music, and hospitality have experienced the impact of the disruption caused by multi-sided Platforms. It will not be long before finance, healthcare, and education will succumb to the Platform revolution, but given that within such sectors, regulations, traditions, and conservativism may impose challenges and risks, that will restrict the adaption and transformation process.

Two of the business models presented in the literature are *Pipeline and Platforms* (Parker et al., 2016). A Pipeline business is a linear operation where value is produced upstream and consumed downstream. The traditional pipeline model is still being used by many businesses today, although many have been disintermediated by the rise of technology Platform models. It can be observed that traditional businesses such as brick and mortar complement their operations with eCommerce to reach online shoppers and have a presence in other marketplaces to expand their market reach. Marketplaces such as Amazon make products and services for businesses that

are not set up to sell online through their platforms. For example, an apparel company waits for buyers (wholesale or retail) or consumers to come and buy their product and strives to set up its own eCommerce or physical infrastructure, but selling through Amazon provides the opportunity for this company to have its online presence. The power of Platforms should not be underestimated to leverage the new rules of strategy.

A Platform business model creates value by connecting two or more groups of customers or stakeholders. It facilitates exchanges between two or more interdependent groups, usually consumers and producers (Moazed & Johnson, 2016). Apple uses a Platform model connecting developers to its web of products and services, providing a much stickier relationship between Apple and its users. In effect, should Apple have remained stuck with the pipeline model (selling an iPhone with its regular phone features and functionality minus the App Store), it would have never eradicated its tough competitors, namely Nokia, Motorola, and Sony Ericsson (*Harvard Business Review*, 2016). Existing Platform literature has focused on strategic, tactical, and operational decisions, including pricing, partner acquisition, and competitive strategies (Taeuscher & Laudien, 2018), but mostly on business ventures and commercial transactions. It has never been deeply studied as a novel approach in reinventing higher education. In the context of higher education, a Platform business model could be used to transform traditional models of education by providing a new way for students, educators, and institutions to connect and collaborate.

The adoption of the Platform business model is growing in the business world. More and more businesses are adopting a Platform model fueled by advancements in information technology (Taeuscher & Laudien, 2018). It has significantly reduced the need for physical infrastructure and assets and made building and scaling Platforms easier and inexpensive. It

allows nearly frictionless participation that reinforces network effects and enhances the ability to capture, analyze, and exchange large amounts of data, increasing the Platform's value to all. Platform businesses such as Uber and Airbnb abruptly overturned their industries (van Alstyne et al., 2016). The Platform business structure is more dynamic because it serves dual or multi-sided customer segments; the content providers (supply) and users (demand) are highly co-dependent. The Platform can grow exponentially through the network effect if each party provides value (Faustino, 2020, as cited in Yorks et al., 2022). Research has identified that the novelty and innovativeness of a business model are key success determinants and drivers of firm performance (Spieth et al., 2014; Spieth et al., 2016). The Platform model emphasizes agility, scalability, and adaptability to respond to changing market conditions or user needs. It also focuses on creating a network effect, where the Platform's value increases as more users join and participate.

Firms are always searching for efficient ways to cut costs and maximize profits; to do that, firms resort to outsourcing. In higher education, outsourcing of instruction at community colleges to independent firms is growing but still on a limited scope and has been largely confined to non-credit courses. "The 'contracting out' of other services, such as food services, has been a longstanding and accepted way for colleges to meet some of their ancillary needs efficiently, but outsourcing instruction is very controversial, and many factors determine its usefulness" (Bailey et al., 2004, p. 122). In the last few years, partnering and collaborating with industry giants are becoming the norm for more prominent universities. For example, University of California-Berkeley and Stanford University have co-curricular programs that complement their academic programs.

In recent years, there has been a surge of private entities offering technical tools and programs that provide recency to existing approved courses in finance, accounting, and marketing, among others such as Intuit's Design for Delight and Entrepreneurial Finance courses; Riipen's project-based mentorship, and Network for Teaching Entrepreneurship that offer engaging lessons supported by simulation models and interesting assessment tools. These companies are searching for academic partners to get their products and services in front of the students—and mostly are offering 'freemium' services without any cost to the institutions. These resources can be a major source of competitive advantage for a community college. For this present study, the researcher used the Resource Based Theory (RBT) framework to understand the EE program's sustained competitive advantage based on its value, rarity, inimitability, and non-substitutability (Barney, 1991).

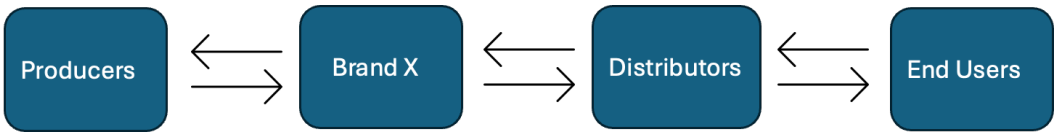
"Platform businesses bring together producers and consumers in high-value exchanges. The chief assets are information and interactions, which are also the source of value they create and their competitive advantage" (van Alstyne et al., 2016, p. 4). To illustrate, Apple created the iPhone with a unique operating system that connected individuals in two-sided markets, the application developers on one side and the application users on the other. This created value for both parties. As the number of users on both sides increased, the value also increased. This phenomenon is called the "network effects," which is vital to Platform strategy (van Alstyne et al., 2016).

Conversely, the pipeline model "is linear and flows from producers of goods/services to end-users of finished products. The production process is directly contracted by the firm through direct manufacturing or outsourcing, while distribution channels are identified to serve its target market or the end-users" (Faustino, p. 177, as cited in Yorks et al., 2022). Community colleges

still use the pipeline model today, limiting their capacity to offer cutting-edge programs and courses that their current industry partners could provide. The pipeline model also limits its ability to expand its offerings and, in the process, ends up competing with industry offerings instead of collaborating. See Figure 2.2 for a depiction of the traditional pipeline business model, a linear business where value is produced upstream and consumed downstream (SCPD, 2019)

Figure 2.2

Traditional Pipeline Business Model

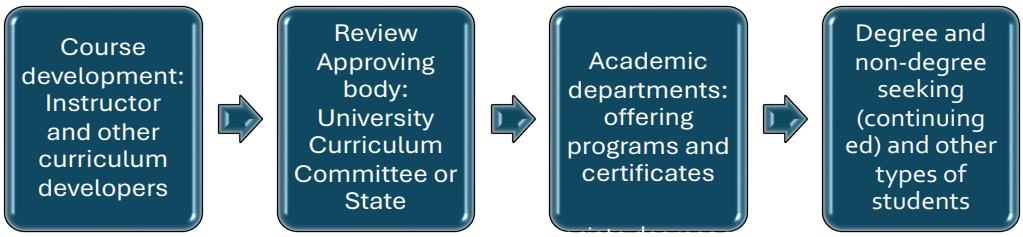


Adapted from Stanford Center for Professional Development (2019). Business Model Architecture

Following the model illustrated in Figure 2.2, the diagram shown in Figure 2.3 illustrates how the pipeline model is used in higher education.

Figure 2.3

Higher Education Pipeline Model



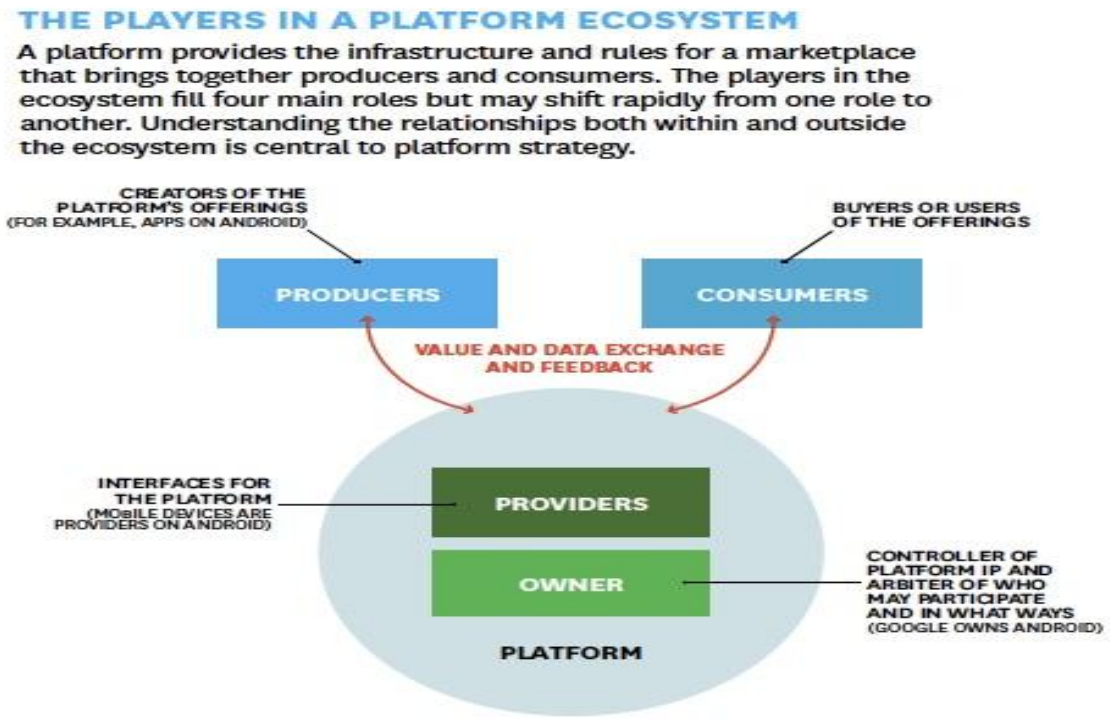
Source: Faustino-Pulliam (2020). Pipeline Business Model

Today, we see more and more businesses migrating or adopting a Platform model, primarily due to advancements in information technology (IT), which has profoundly reduced the need for all physical infrastructure and assets. IT made building and scaling up Platforms

more accessible and inexpensive. It allows nearly frictionless participation that reinforces network effects and enhances the ability to capture, analyze, and exchange large amounts of data that increase the Platform's value to all. Examples of Platform businesses range from Uber to Alibaba to Airbnb, whose evolution abruptly overturned their industries (van Alstyne et al., 2016). Therefore, the Platform business structure is more dynamic because it serves dual or multi-sided customer segments; the content providers (supply) and users (demand) are highly co-dependent. The Platform can achieve exponential growth through the network effect if each party provides value (Faustino, 2020). Figure 2.4 below illustrates this relationship.

Figure 2.4

The Platform Business Model



Reprinted with permission from "Pipelines, Platforms, and the New Rules of Strategy" by Marshall W. Van Alstyne, Geoffrey G. Parker and Sangeet Paul Choudary, April 2016 issue of *Harvard Business Review*.

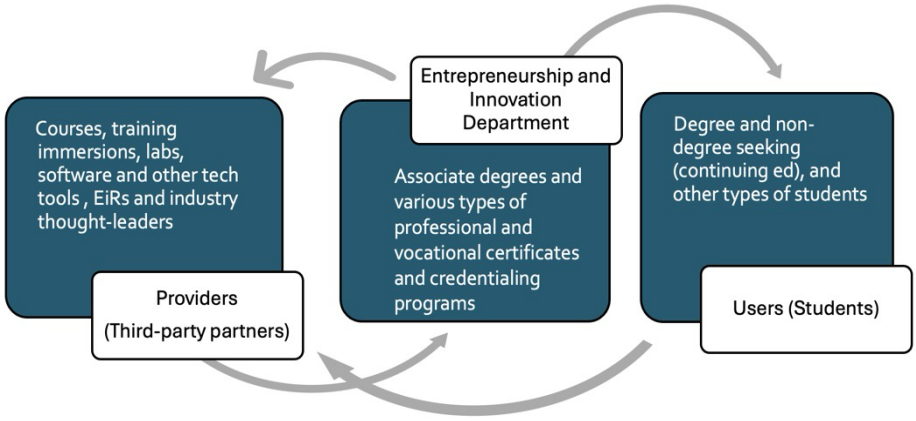
Moving from Pipeline to Platform involves three crucial shifts:

1. From resource control to resource orchestration,
2. From internal optimization to external interaction,
3. From a focus on customer value to a focus on ecosystem value.

Figure 2.5 shows the Platform approach following Alstyne et al.'s model in an academic setting. In a Platform model setting, higher education can generate value from broader and deeper collaborations with new types of partnerships. Students benefit not only from relevant and cutting-edge content and delivery but also from the partner's brand equity.

Figure 2.5

Application of the Platform Model to a Community College Entrepreneurship Program



Source: Faustino-Pulliam (2020). Higher Education Business Model

The Higher Education Platform model connects value creators (the educators) and users (the learners) without directly transferring the "control" to third-party partners. The responsibility of ensuring academic rigor and standards still rests with institutions. The courses are audited and fine-tuned to make them more proprietary and reassure they follow university policies and state regulatory bodies (Faustino, 2020).

Apple's iPhone exemplifies best how to run a Platform: "anybody can write an app, but it has to pass strict tests, and the firm keeps 30% of all sales" (*The Economist*, 2016). Apple's success in building a Platform business with a conventional product firm holds critical lessons for companies across industries. Firms that fail to create Platforms and do not learn the rules and strategies will be unable to compete for long (van Alstyne et al., 2016). Alstyne et al. (2016) identified the four major players in having a Platform model: owners of the Platform, providers, producers, and consumers. These are all present in our academic community. What is missing is the drive to embrace a new model that requires a higher appetite for risk.

Learning from Experience

Building upon the foundational insights of business and platform models in entrepreneurship education, it becomes evident that theoretical frameworks alone cannot fully capture the dynamic nature of entrepreneurial practice. This recognition underscores the importance of learning from lived experience, an approach deeply rooted in the works of Dewey, Fenwick, and Kolb. Dewey's (1938) emphasis on the reflective process reveals how critical thinking and self-awareness can transform routine activities into meaningful learning experiences. Fenwick (2003) extends this perspective by situating learning within relational and sociocultural contexts, highlighting how interaction, dialogue, and community engagement shape individual growth. Meanwhile, Kolb's (1984) experiential learning cycle provides a structured lens for understanding how concrete experiences, reflective observation, abstract conceptualization, and active experimentation intersect to foster innovation and adaptability. Collectively, these viewpoints affirm that entrepreneurship education thrives when learners are encouraged to critically analyze real-world challenges, iterate their approaches, and derive new insights from their successes and failures.

Experiential learning (EL) is one of the traditional learning theories and a foundational concept in adult education. *Experience and Education* (Dewey, 1938) serves as a introductory piece of literature when discussing experiential learning. John Dewey, a philosopher and an educator, has the most influence on the theory of experiential learning through his book, *Experience and Education*, published in 1938. Dewey saw learning as a lifelong process that entails applying and adapting previous experiences to new situations. For example, a person's knowledge and skills for a particular activity, task, or life experience at a certain point in time will inform and influence their understanding and decision-making process in the future (Merriam & Bierema, 2014).

According to Dewey (1938), "all genuine education comes about through experience" (p. 27), although not all experience is educative. However, for learning to happen, the experience must exhibit *continuity* and *interaction—two* principles that are interconnected to form the basis of experiential learning (Merriam et al., 2007). Continuity is never isolated events in time. For example, a scientist who spent decades in the biopharma field decides to start her own startup, leveraging the knowledge and skills acquired from her past professional career. Interaction should also take place between the individual and their environment. In the earlier example, this biopharma scientist spots the opportunity through actual immersion with other founders in the field. She would never have had the interest or courage to leave her corporate job had she not met other founders and learned of other startup success stories. Although it requires new learning, her previous experiences are applied to this new venture. This short example illustrates that experience is central to adult learning. Lindeman (1961, as cited in Merriam & Bierema, 2013) once famously wrote that "the whole of life is learning" and "experience is the adult learner's living textbook" (pp. 105-106). Several theorists have studied the connection between

learning and experience. Kolb and Jarvis's works are based on constructivist perspectives, while Boud and Walker, Usher, Bryant, and Johnson adopted the Situative paradigm.

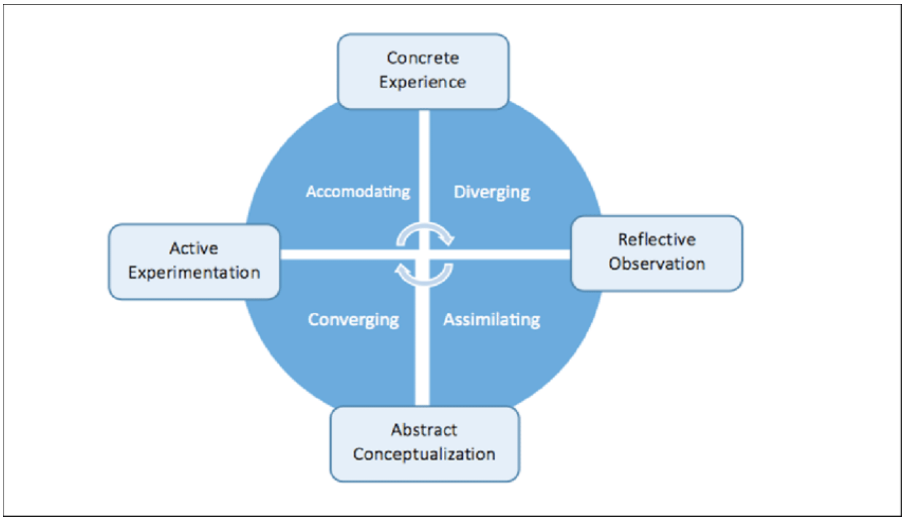
Dewey explored how people learn from life experiences. Kolb and Kolb (2005) expanded this theory and studied the works of Carl Jung, Jean Piaget, and Carl Rogers, among others, to develop six propositions of experiential learning theory: (a) "Learning is best conceived as a process, not in terms of outcomes" (p. 163); (b) "Learning is relearning" (p. 163)—students' ideas must be shared, deliberated, and cultivated; (c) Learners must move between "opposing modes of reflection, action, thinking and feeling" and "adaptation to the world" (p. 163); (d) learning is all-inclusive; (e) learning necessitates interaction between the environment and the student; and finally, (f) "learning is constructivist in nature" (p. 163). Some of these propositions are later explored by other theorists and proponents of EL.

Kolb's experiential learning cycle primarily concerns learners' internal cognitive processes. It is one of the Dewey-based models built on linear steps or stages characterized by reflection and action based on cognitive insights. Kolb, building primarily on the work of Dewey, Lewin, and Piaget, presented learning as "a process whereby knowledge is created through the transformation of experience" (1984, p. 38, as cited in Merriam & Bierema, 2014, p. 108). His learning model presented four stages that require distinct abilities: (a) *willingness and openness* to engage oneself in a new experience (concrete experience); (b) *reflective and observational skills* for these new experiences to be seen from a variety of perspectives (reflective observation); (c) *analytical abilities* to build new ideas and concepts gathered from observations (abstract conceptualization); and (d) *problem-solving and decision-making skills* to apply the new ideas and concepts (active experimentation). Briefly, this means learners should be able to move along these stages. For example, in reflective observation, action is suspended to

give way to thoughts and feelings; concrete experience engages the five senses; active experimentation involves stepping out of one's comfort zones; and lastly, abstract conceptualization occurs by looking at the gaps and questioning assumptions (Merriam & Bierema, 2014). For Kolb, effective learning is seen when a person progresses through a cycle of four stages. He then linked these stages with learning styles: diverging, assimilating, accommodating, and converging (see Figure 2.6).

Figure 2.6

Kolb's (2014) Experiential Learning Theory



Adapted from Kolb (1984). Experiential learning: Experience as the source of learning and development. Prentice-Hall. Adapted under fair use for educational purposes.

The diagram in Figure 2.6 shows the relationship of each learning style with the two adjacent learning abilities. To illustrate, a person with an accommodating style draws from Concrete Experience and Active Experimentation, which means that learning is achieved best from actual activities and prefers to 'act on gut feel' instead of engaging in logical discourse (Merriam & Bierema, 2014). Kolb explained that different people have a natural predisposition

toward a certain learning style which is influenced by factors such as social environment, educational experiences, or the basic cognitive structure of the individual.

Kolb's model presents the following strengths. It is adaptable to many real-world situations and contexts (Green & Ballard, 2010, as cited in Merriam & Bierema, 2014). In addition, the basic components of the model allow learners to use their personal experiences and learning to construct knowledge, practice, and test ideas. The theory is widely accepted and used for improving performances, especially in higher education, but the model has a few problems (Greenway, 2004). One of the major critiques is the learner's context, which is not taken into consideration. Experience and reflection seem to exist in a vacuum, and Kolb did not account for power issues (Fenwick, 2003, as cited in Merriam et al., 2007). There are also some issues with validity and reliability. Empirical support for the model is weak (Jarvis, 1987; Tennant, 1997), and the research sample is too small. The arguments for the four different learning styles are overstated (Jarvis, 1987; Tennant, 1997). As Tennant (1997) stipulated, the experiential learning model does not apply to all situations. The idea of stages or steps does not sit well with the actual reality of thinking. As Dewey (1933) has said in relation to reflection, this model is rather too simplistic: A number of processes can happen simultaneously, and one can skip a stage or two.

Lastly, Kolb's model uses reflection, which necessitates a reflective practice, defined as a deliberate pause to assume an open perspective allowing for higher-level thinking processes (Merriam et al., 2007, p. 172) that require "active and conscious processing of thoughts," which may involve analysis and synthesis (thinking about thinking), and consideration of multiple perspectives since the goal of reflection is to arrive at deeper insights to guide action. This affirms the theory as cognitive-focused and gives the appearance that E.L. is another Western

approach that privileges the intellect over other ways of knowing (Merriam & Bierema, 2014). Heron (1992) observed:

> The notion of feeling is nowhere defined or elaborated in the whole book…. The result is, of course, that the concept of concrete experience itself is nowhere properly explored.... This model is a highly intellectual account of experiential learning based entirely on the paradigm of scientific inquiry, in the tradition of Dewey, Lewin, Piaget, and Kelly. (pp. 194-195, as cited in Yorks & Kasl, 2002, p. 181)

Yorks and Kasl (2002) claimed that "in contemporary English-speaking society, there is a cultural bias towards the cognitive and conative" (p. 184), which inhibits the development of the whole person. Adult learners make meaning of their experiences—physical, cognitive, social, or spiritual (Merriam & Bierema, 2014). People may make sense of their experiences through collaboration with others in a community or through introspective experiences such as meditation or dreaming (Merriam et al., 2014). With entrepreneurship education, learning is seemingly best achieved by doing. Entrepreneurship entails collaboration with a wider community of learners outside of their own discipline, a 'gut-feel' approach that at times defies logic, project-based assessments instead of written exams, and a huge appetite to engage in new experiences, including higher tolerance for risks.

Fenwick's framework of psychoanalytic, critical, and complexity approaches have theoretical underpinnings that show how people can learn, despite well-developed models. With these different paradigms, one aspect is common to these theorists—they all agreed that EL involves connecting what they have learned in their past experiences to the present with the strong possibility that it will also apply to future situations.

Community colleges serve adult learners from underrepresented and marginalized groups. Relying on purely cognitive reflection would disadvantage some students. As Mary Stone Hanley (as cited by Tisdell et al., 2000) quipped, Anglocentric culture is characterized as

emotionally repressed and overreliance on the mind limits learning (Yorks & Kasl, 2002, p. 184). Although Kolb argued that apprehension (feeling) and comprehension (thought) are in dialectic interaction, the learning cycle he described seemed to privilege thought.

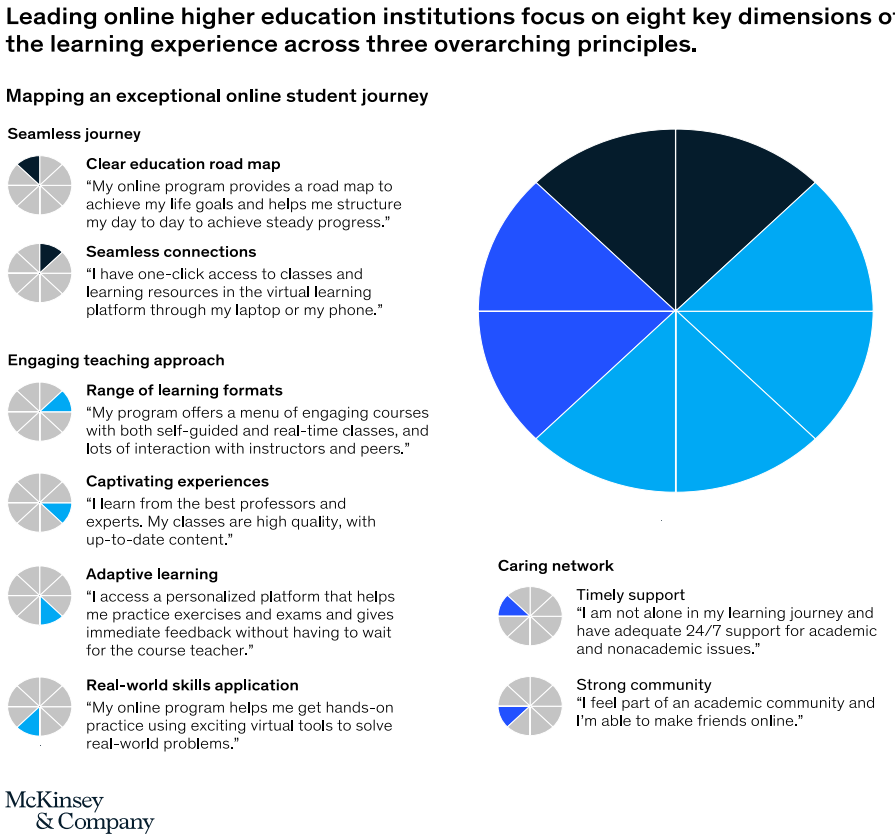
Heron's (1992) theory of personhood integrates thinking (cognitive) and feeling (affective), which was overlooked in cognitive-based knowing. Heron engaged the whole person seen as a being of feeling and emotion (affect); intuition and imagery—including perception, memory, and imagination (Imaginal); reflection and discrimination (conceptual); and intention and action (practical) (Human Inquiry, n.d.). From these modes of psyche, there are ways of knowing to develop a whole person. Yorks and Kasl (2002) presented a case framed in Heron's Presentational Knowing, which plays a pivotal role in developing empathy and fostering group learning. They found that experiential, presentational, propositional, and practical support learners as whole persons and ultimately support their capacity to reach their full potential (Yorks & Kasl, 2002).

Some forms of experiential learning include internship, practicum, community-based research, service learning, study abroad, cooperative education, clinical education, community of practice, fieldwork and fellowship, externship, and immersion programs (Moore, 2010). Today, it is noticeable that universities and colleges have established more student-centered and experiential learning environments that are an integral part of academic courses and curricula. Other co-curricular programs that support entrepreneurial learning environments are on the rise, such as demo day or pitch competitions, student clubs, entrepreneurial internships, immersive programming, networking events, and many more. Even around online education, a recent study conducted by Child et al. (2021) for McKinsey and Company showed leading online learning

institutions count on real-world skills application as one of the key dimensions of the learning experience. Figure 2.7 below supplies the other dimensions.

Figure 2.7

Eight Key Dimensions of the Learning Experience Across Three Overarching Principles



Source: Child et al. (2021)

Action Learning

Research on action learning has shown that learning is effective when students encounter real-time problems while achieving learning goals (Reynolds & Vince, 2004, as cited in Kujala et al., 2021). Learning is a transformational process, which takes place in a context and manifests in an enduring change in a person's behavior (Alexander et al., 2009, as cited in Kujala et al., 2021). Revans (1982) defined action learning as "a means of development, intellectual, emotional or physical, that requires its subjects, through responsible involvement in some real,

complex and stressful problem, to achieve intended change to improve their observable behavior henceforth in the problem field" (as cited in Marsick & O'Neil, 1999, p. 7).

This action learning framework by Revans (1982) emphasized reflection (talk, dialog, and communication) as a pivotal element of the learning process among individuals, student groups, or teams facilitated by an instructor or adviser (Kujala et al., 2021). Having accepted that learning entrepreneurship takes action, EE scholars have found active learning pedagogies to enhance entrepreneurial skills (Järvi, 2015, as cited in Mukesh et al., 2019). Today, most entrepreneurship programs use project-based learning (Doppelt, 2003), action learning (Leonard & Lang, 2010, as cited in Kujala et al., 2021), and experimental learning (Clark & White, 2010, as cited in Kujala et al., 2021). Several studies supported the claim that EE requires a context in which students learn entrepreneurially and experientially through action (Neck, 2018). Kujala et al. (2021) identified a set of compelling elements of action-based learning approach to EE—some of which are being done in some colleges today (see Figure 2.8).

Figure 2.8

The Elements of Action-Based Approach to Entrepreneurship Education

Source: Kujala et al. (2021). Licensed under CC BY 4.0.

Strategic Leverage Through Learning (SLL)

Organizations in today's volatile, uncertain, complex, and ambiguous (VUCA) environment face increasing pressure to adapt, innovate, and leverage resources effectively. One critical source of strategic advantage lies in how organizations harness learning to build capabilities and drive sustainable performance (Argyris & Schön, 1978; Senge, 1990). Scholars have explored multiple perspectives of learning at individual, team, and organizational levels (Nonaka & Takeuchi, 1995). Among these perspectives, Gephart and Marsick's (2003) scholarship stands out for its emphasis on how organizations strategically leverage learning to sustain competitive advantage. Their work highlighted the processes, frameworks, and cultural norms that enable organizations to integrate learning deeply into strategic initiatives and operations (Gephart & Marsick, 2003; Marsick & Watkins, 2003).

The purpose of this study was to provide an exhaustive literature-based examination of Gephart and Marsick's perspective on strategic leverage through learning, discussing its theoretical underpinnings, core elements, and implications for sustaining a competitive advantage. The review integrated insights from seminal works on organizational learning, knowledge management, and dynamic capabilities, with a special emphasis on how the Burke-Litwin (1992) model of organizational performance and change influenced and enriched Gephart and Marsick's (2003) framework for strategizing through learning.

Organizational Learning

Organizational learning has been defined as the process by which an organization creates, acquires, interprets, and retains knowledge, with the aim of transforming individual knowledge into collective routines, procedures, and strategies (Argyris & Schön, 1978; Crossan et al., 1999). In classical views, learning can be adaptive (single-loop) or generative (double-loop) (Argyris &

Schön, 1978). Adaptive learning focuses on improving existing processes, while generative learning questions underlying assumptions, leading to transformative change. In a strategic context, organizations that engage in continuous and generative learning can reconfigure their resources and capabilities to address emergent challenges (Teece et al., 1997).

Knowledge-Based View of the Firm and Dynamic Capabilities

The knowledge-based view (KBV) posits that knowledge is the primary strategic resource capable of driving competitive advantage (Grant, 1996). Scholars adopting the KBV asserted that the creation, integration, and application of knowledge represent core processes through which competitive advantage can be built and sustained. Teece et al. (1997) further refined this perspective by introducing *dynamic capabilities*—the ability of an organization to sense opportunities, seize them, and reconfigure resources for rapid adaptation. Central to dynamic capabilities is the organization's capacity for learning, which undergirds the identification of new opportunities and the continuous improvement of internal processes.

Influences from the Burke-Litwin Model of Organizational Performance and Change

Gephart and Marsick's (2003) conceptualization of strategic leverage through learning is also informed by broader models of organizational performance and change, particularly the Burke-Litwin model (Burke & Litwin, 1992). The Burke-Litwin model posits that an organization's performance is shaped by a complex interplay of internal and external factors, from leadership and culture to systems, work unit climate, and individual motivation. Critically, the model distinguishes between transformational and transactional factors:

- **Transformational factors** (e.g., external environment, mission and strategy, leadership, culture) create deep, system-wide change.

- **Transactional factors** (e.g., structure, management practices, systems, tasks, skills) affect more immediate day-to-day operations.

Gephart and Marsick (2016) extended this perspective by arguing that **learning**—especially continuous, reflective, and incident-driven learning—serves as a vital mechanism for enacting both transformational and transactional changes. In effect, learning becomes the "connector" that allows organizations to align or realign their culture, structures, and processes to respond more effectively to external stimuli. By incorporating elements of the Burke-Litwin framework, Gephart and Marsick emphasized that strategic leverage through learning is not limited to small, incremental improvements; rather, it can yield transformational outcomes when aligned with an organization's overarching mission, leadership, and culture.

Gephart and Marsick's (2016) focus on *strategic leverage through learning* arises from the premise that learning is not merely an operational or tactical activity but a strategic imperative. They argued that organizations with a strong "learning culture" can better align day-to-day practices with overarching strategic objectives. Their framework emphasized the integration of both formal and informal learning mechanisms, showing how organizations can mobilize learning to respond proactively to external changes, innovate, and enhance their competitive stance (Gephart et al., 1996; Marsick & Watkins, 2003). In concert with the Burke-Litwin model, their view highlighted how learning interventions can catalyze deeper cultural shifts and alignment across different organizational levels and units.

Core Elements

Learning Culture and Climate. Gephart and Marsick underscored that strategic leverage starts with a nurturing *organizational culture* conducive to continual learning (Gephart & Marsick, 2003). Culture in this context refers to shared norms, values, and assumptions that

shape how members perceive and approach learning opportunities. A "learning culture" encourages open communication, knowledge sharing, tolerance for mistakes, and the psychological safety required for critical reflection (Edmondson, 1999). Leaders play a pivotal role in setting the tone by modeling learning behaviors, rewarding knowledge sharing, and creating structures that support personal and professional growth (Marsick & Watkins, 2003). From the Burke-Litwin perspective, these are foundational, *transformational* factors that reverberate across the organizational system.

Informal and Incidental Learning. Although many organizations rely on structured training programs, Gephart and Marsick (2003) argued that *informal and incidental learning*—the unplanned, experience-driven, and context-specific insights gained through daily tasks—is often the most powerful driver of strategic change. By recognizing and legitimizing these unstructured learning experiences, organizations can harness the creativity, problem-solving skills, and tacit knowledge of employees at all levels. This bottom-up approach to learning complements top-down training initiatives and ensures that emerging market and operational insights permeate across departments (Marsick & Watkins, 2003). In Burke-Litwin terms, this integration of learning across transactional factors (e.g., structures and management practices) also primes the organization for higher-level changes.

Reflective Practice and Double-Loop Learning. Building on the work of Argyris and Schön (1978), Gephart and Marsick emphasized *reflective practice* as a vehicle for double-loop learning—when individuals and groups question and revise not just strategies but also the underlying assumptions, values, and objectives behind them. Reflective practice is encouraged through coaching, action-learning projects, and facilitated group discussions that challenge the status quo (Gephart & Marsick, 2003). Organizations that adopt reflective practices at scale can

better adapt their strategies to changing market conditions and customer needs, thus leveraging learning at the strategic level. In conjunction with the Burke-Litwin model, reflective practice can spark *transformational* shifts in leadership priorities and cultural norms.

Systems Thinking and Integration. Gephart and Marsick's (2003) approach to strategic leverage calls attention to *systems thinking*—the understanding of organizations as interconnected, dynamic systems in which changes to one part can ripple across the entire organization. By adopting a holistic view of processes, capabilities, and relationships, organizations can align their learning initiatives to broader strategic goals. Systems thinking facilitates the design of feedback loops, ensuring continuous updating of knowledge repositories and decision-making structures (Senge, 1990). This perspective mirrors the Burke-Litwin model's recognition that performance stems from interactions across multiple organizational dimensions.

Learning and Sustainable Competitive Advantage

Resource-Based Perspectives

According to the resource-based view (RBV), an organization's resources must be valuable, rare, inimitable, and non-substitutable (VRIN) to yield sustainable competitive advantage (Barney, 1991). Strategic learning capabilities are inherently complex and socially embedded, making them difficult to replicate (Kogut & Zander, 1992). Gephart and Marsick's (2003) emphasis on cultural alignment, informal learning, and reflective practice fits well with the RBV framework: the specific routines, practices, and knowledge embedded in an organization's culture of learning can be significantly difficult for competitors to imitate (Teece et al., 1997).

Strategic Flexibility and Adaptation

Organizations with robust learning cultures demonstrate *strategic flexibility*—the capacity to reconfigure operational processes, adapt to environmental changes, and quickly capitalize on novel opportunities (Volberda, 1996). This adaptability translates into improved responsiveness to external shocks (e.g., technological disruptions or shifting consumer preferences). Gephart and Marsick's (2003) perspective underscored how a culture that values continuous learning and reflective practice enables organizations to pivot strategically while minimizing internal friction. The Burke-Litwin model likewise emphasizes how both leadership and culture—key transformational factors—can spur effective adaptation.

Innovation and Knowledge Creation

Innovation is frequently cited as a key outcome of a strategic learning orientation (Nonaka & Takeuchi, 1995). Through an ongoing cycle of knowledge creation, assimilation, and application, employees can identify new ways of producing goods or delivering services. Gephart and Marsick's (2003) framework showed that fostering a learning climate where experimentation is encouraged paves the way for creative thinking and innovation-driven growth. When integrated with the Burke-Litwin model, it becomes evident that both transactional elements (e.g., processes, management practices) and transformational ones (e.g., leadership, culture) must align to sustain genuine innovation.

Employee Engagement and Retention

A strategic approach to organizational learning can improve employee engagement and reduce turnover by offering growth opportunities, meaningful work, and autonomy (Marsick & Watkins, 2003; Meyer & Allen, 1991). High engagement levels, in turn, strengthen the knowledge base of the organization and form a feedback loop in which employees become more proactive about identifying inefficiencies, proposing improvements, and driving strategic

initiatives. Over the long term, this results in knowledge continuity and a cumulative learning effect—hallmarks of sustainable competitive advantage (Senge, 1990). The Burke-Litwin model's emphasis on organizational climate and motivational factors underscores how embedding learning throughout the system can fortify employee commitment.

Practical Implications and Applications

Leadership and Governance

To operationalize Gephart and Marsick's (2003) principles—and their alignment with the Burke-Litwin model—leaders must adopt a governance model that embeds learning objectives into corporate strategy. This includes setting measurable learning and innovation goals, integrating learning metrics into performance evaluations, and ensuring that executive decision-making processes incorporate reflections on how knowledge is acquired, shared, and utilized (Gephart et al., 1996; Gephart & Marsick, 2003). Leadership behaviors, as Burke-Litwin suggested, often serve as a principal lever for wide-scale organizational change.

Structures and Mechanisms for Continuous Learning

Organizations can establish formal and informal structures—such as *communities of practice*, mentorship programs, knowledge-management systems, and action-learning teams—to facilitate the flow of tacit and explicit knowledge (Wenger, 1998). These structures, when aligned with strategic aims, help employees translate insights from local experiences into institutionalized best practices (Crossan et al., 1999). Through the Burke-Litwin lens, reconfiguring organizational structures and systems (transactional factors) can reinforce cultural and leadership-driven change (transformational factors).

Integration with Strategic Planning

A consistent gap in many organizations is the disconnection between learning initiatives and overall strategic planning (Mintzberg, 1994). Gephart and Marsick's (2003) framework highlighted the need to embed learning diagnostics into strategy formulation. By systematically analyzing internal and external feedback loops, managers can pivot strategies based on real-time learning signals (Gephart & Marsick, 2003). Burke-Litwin's emphasis on monitoring external environment factors and then adjusting leadership, culture, and systems to align with new realities supports this strategy-learning integration.

Technology Enablement

Digital platforms and knowledge management technologies can amplify and accelerate learning by capturing rich data, codifying expertise, and enabling collaboration across geographies (Alavi & Leidner, 2001). From a strategic leverage perspective, harnessing technology not only streamlines knowledge sharing but also bolsters an organization's capacity to respond to disruptions in a timely manner. Implementation must, however, be guided by a clear strategy to ensure these tools reinforce—rather than supplant—the culture of open dialogue and critical reflection (Marsick & Watkins, 2003). The Burke-Litwin model similarly recognizes how changes in systems and management practices can either support or impede transformative shifts in performance.

Critiques and Limitations

While Gephart and Marsick's (2003) perspective on strategic leverage through learning is influential, it does face critiques. One limitation is the potential overemphasis on culture as a unifying factor. Critics have argued that organizational subcultures can vary significantly across departments and regions, complicating efforts to cultivate a unified learning orientation (Martin, 2002). Another challenge is measurement—quantifying the impact of learning on strategic

outcomes remains fraught with methodological complexities (Watkins & Marsick, 1997). Furthermore, the Burke-Litwin model, though comprehensive, can be cumbersome in practice because it requires data collection across multiple layers of organizational functioning to diagnose and enact meaningful change (Burke & Litwin, 1992). Nonetheless, these critiques do not diminish the relevance of strategic learning or the Burke-Litwin approach; rather, they highlight the need for organizational leaders and researchers to adapt and refine the frameworks to suit each unique organizational setting and industry context.

Incorporating the Burke-Litwin model of organizational performance and change further illuminates how learning efforts interact with both transformational and transactional factors. Together, these perspectives underscore that learning is more than a functional initiative; it is a strategic imperative that enables deeper structural and cultural alignment, fosters adaptability, and sustains competitive advantage over time.

From a practical standpoint, leadership commitment, structured mechanisms for knowledge exchange, strategic planning integration, and supportive technologies are all essential. Although measurement challenges and cultural inconsistencies can complicate the implementation of a learning-based strategy, these issues accentuate the need for tailored approaches responsive to an organization's unique structure, goals, and market conditions. Overall, Gephart and Marsick's (2003) framework, reinforced by insights from the Burke-Litwin model, remains a foundational cornerstone in the study of how organizational learning can be leveraged for enduring strategic success.

In summary, Gephart and Marsick's (2003) theory of strategic leverage through learning offers a comprehensive perspective on how organizations can embed learning into their strategic DNA. By prioritizing a supportive culture, emphasizing informal and incidental learning,

encouraging reflective practices, and integrating systems thinking, organizations can unlock novel capabilities that drive sustainable competitive advantage. When aligned with resource-based and dynamic capabilities theories, Gephart and Marsick's work illustrates the central role of learning as a rare and inimitable resource that underpins agility, innovation, and differentiation.

Resource-Based View (RBV) Theory

Foundations and Historical Evolution of RBV

The origins of RBV can be traced back to Edith Penrose's (1959) seminal work, *The Theory of the Growth of the Firm*, which was later reissued and further discussed in 2009. Penrose (1959/2009) introduced a perspective that conceptualized the firm as a coordinated bundle of resources, offering new insights into how firms can achieve strategic goals through effective resource management. Although the term "Resource-Based View" had not yet been coined, Penrose's emphasis on internal resources and firm-specific growth patterns laid the groundwork for what would eventually become the RBV paradigm (Penrose, 1959/2009).

Building on this foundation, Wernerfelt's (1984) article, "A Resource-Based View of the Firm," propelled the conversation forward by advocating that strategic management should prioritize internal resources over external market factors. Drawing upon Penrose's earlier insights, Wernerfelt (1984) argued that firms should be viewed as collections of unique resources that can be deployed across multiple product markets. This perspective contrasted with the dominant product-market-centric approaches of the time, suggesting instead that a firm's resource base—comprising both tangible and intangible assets—could dictate product-market choices. A key contribution of Wernerfelt's work was the introduction of resource position barriers, analogous to market entry barriers, which protect firms by making it difficult for

competitors to replicate or acquire equivalent resources. Examples of strategically significant resources include brand names, customer loyalty, technological expertise, proprietary knowledge, and managerial competencies. By underscoring the importance of accumulating and strategically deploying these resources, Wernerfelt's research established a robust theoretical scaffold for understanding how firms achieve sustained competitive advantage.

Barney's Contributions to RBV and the VRIN to VRIO Framework

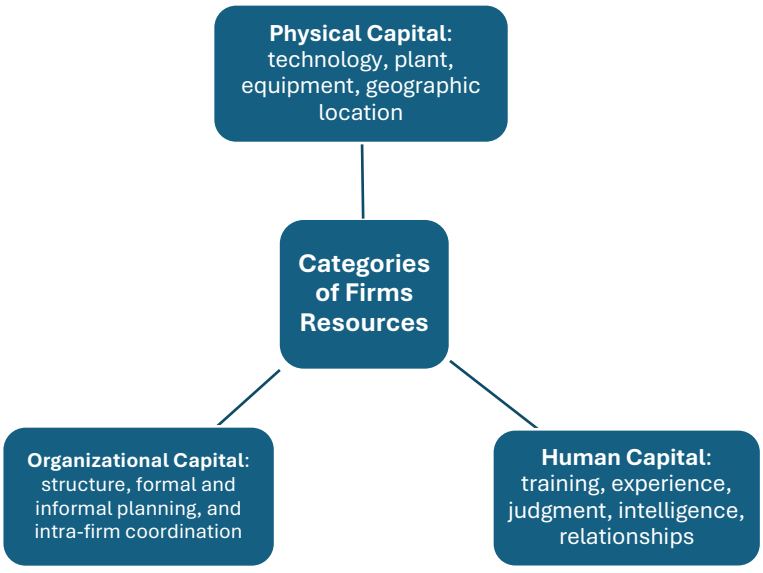
During the 1990s, Barney's work on RBV became particularly influential, offering a framework to predict and explain the fundamentals of organizational performance and competitive advantage (Barney, 1991; Utami & Alamanos, 2023). As Barney (1991) noted, RBV is an internally driven approach focusing on internal organizational resources and capabilities that could potentially become the source of sustained competitive advantage. Although earlier literature sometimes referred to this school of thought as the Research-Based Theory (RBT), the label RBV ultimately prevailed and has since become a dominant theoretical lens in strategic management (Barney, 1991). One of the central premises of the RBV is the heterogeneity of resources across firms, which leads to differential competitive advantage. This heterogeneity implies that merely possessing critical assets is insufficient; firms must also develop capabilities through learning, skill acquisition, and the accumulation of both tangible and intangible resources over time (Utami & Alamanos, 2023).

In the RBV literature, scholars have consistently differentiated between resources and capabilities. Resources refer to the assets, firm attributes, knowledge, processes, and information controlled by a firm (Barney, 1991), as summarized by Figure 2.9. These can be categorized as either tangible (e.g., buildings, land, vehicles, cash) or intangible (e.g., patents, workforce skills,

corporate culture, and brand equity). Tangible resources are relatively straightforward for competitors to acquire or mimic, whereas intangible resources, particularly those rooted in complex knowledge or organizational culture, are more difficult to replicate and thus more likely to yield sustainable competitive advantage (Keränen & Jalkala, 2013; Lyons & Brennan, 2019). Moreover, distinguishing strategic resources from ordinary resources has become crucial; a firm cannot rely solely on its tangible assets to secure long-term success. On the other hand, capabilities are the firm's capacity to deploy resources effectively to achieve a desired outcome. They are built through the coordination of people, systems, knowledge, and processes over time, often intangible and embedded in organizational routines and culture. Some examples in education are the ability to develop industry partnerships, capacity to adapt curricula rapidly to workforce needs, and strength in interdisciplinary teaching and innovation

Figure 2.9

Categories of Firm Resources

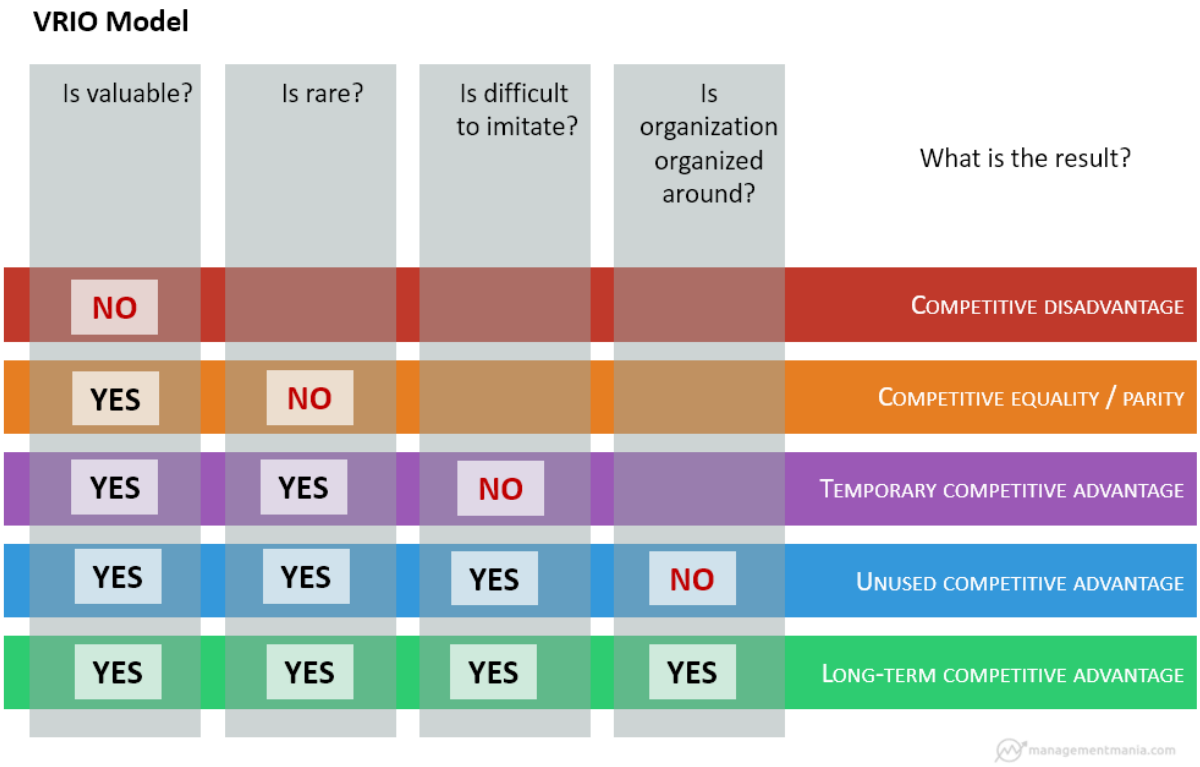


Source: Faustino-Pulliam (2025)

Barney (1991, 2007) later introduced the VRIN criteria—valuable, rare, inimitable, and non-substitutable—to identify which resources qualify as truly strategic. Over time, VRIN evolved into VRIO as shown in Figure 2.10, with the "O" emphasizing the importance of the organization's ability to exploit and manage valuable, rare, and hard-to-imitate resources (Barney, 2007). This shift underscored that possessing strategic resources is insufficient if the firm does not have the appropriate structure, processes, and culture to leverage them effectively (Kozlenkova et al., 2014; Utami & Alamanos, 2023). In other words, organizational context and capabilities are pivotal in transforming resources that meet the VRIN criteria into sources of sustained competitive advantage.

Figure 2.10

The VRIO Framework of Competitive Advantage



Source: ManagementMania (n.d.). Licensed under Creative Commons BY-NC.

Since its introduction, RBV has been widely employed in strategic management and across various business domains, including information systems, operations management, economics, marketing, and entrepreneurship. Its adaptability stems from the central premise that a firm's internal resources and capabilities, rather than external factors alone, drive competitive advantage. The RBV framework also provides valuable insights into how firms can navigate disruptive technologies, foster innovation, and respond to rapidly changing competitive environments (Barney, 1991).

Barney's (1991) "Firm Resources and Sustained Competitive Advantage" remains a seminal contribution to the field. In this article, Barney distinguished between competitive advantage—where a firm temporarily outperforms its rivals—and sustained competitive advantage, which occurs when such superior performance persists over time due to the firm's unique, durable resources. Barney categorizes firm resources to illustrate these distinctions, thus shifted the strategic management discourse from an external, industry-centric focus (e.g., Porter's Five Forces) to an internal, resource-centric perspective, influencing subsequent studies on corporate strategy, knowledge management, and dynamic capabilities.

In conclusion, the RBV, grounded in Penrose's early conceptualization of the firm's internal growth dynamics and subsequently refined by Wernerfelt, Barney, and others, provided a powerful lens for understanding and achieving sustained competitive advantage. By focusing on the interplay of resource heterogeneity, strategic asset accumulation, and organizational capabilities, the RBV continues to shape contemporary strategic management research and practice, offering insights into how firms can develop, organize, and protect their unique resources to maintain a competitive edge in volatile market environments.

When applying the VRIO framework (which is a tool within the RBV Theory; see Table 2.2) to higher education, institutions can analyze their internal resources and capabilities like faculty expertise, research facilities, alumni network, program curriculum, and brand reputation to identify which aspects provide a sustainable competitive advantage by being valuable, rare, inimitable, and properly organized within the institution. This allows them to stand out from other universities in the market and attract high-quality students and faculty.

Table 2.2

VRIO Framework in Entrepreneurship Education

VRIO Framework		
VALUE	**RARITY**	**IMITABILITY**
Does the resource or capability provide value to the student or help the college reduce costs?	Is the resource or capability controlled by a limited number of colleges/institutions in the industry?	Is it difficult for competitors to imitate or replicate the resource or capability?
ORGANIZATION		
Is the firm organized and capable of exploiting the resource or capability to its full potential?		

RBV Application in Higher Education

While initially conceived in business contexts, RBV's adaptability has allowed its meaningful application within higher education and not-for-profit sectors. Barney's insights suggest that educational institutions can analyze their internal resources—such as faculty expertise, research capacity, curriculum distinctiveness, alumni networks, institutional reputation, and organizational culture—to determine sources of sustainable competitive advantage (Barney et al., 2001, p. 631). The VRIO framework provides a structured approach for universities to assess whether their resources and capabilities truly differentiate them from

competitors, thus enhancing their ability to attract top talent, students, research funding, and community engagement (Barney, 2007).

However, some caution is necessary when applying RBV outside purely commercial contexts. Barney et al. (2001) acknowledged that not-for-profit and educational institutions may not always measure success through traditional commercial metrics like profitability, instead emphasizing mission fulfillment, social impact, and educational quality. Nonetheless, the principles of RBV remain valuable because these institutions similarly compete for scarce resources—talent, funds, reputation—and must strategically manage internal resources to achieve sustainable differentiation and organizational effectiveness (Barney et al., 2001; Keränen & Jalkala, 2013).

In higher education, strategically managing intangible resources—such as academic prestige, faculty research excellence, and institutional culture—often offers the most significant competitive leverage due to their inherent difficulty of replication by competitors. Thus, RBV's fundamental tenets offer valuable strategic insights into resource prioritization and capability development, crucial for sustained institutional success in the increasingly competitive and dynamic higher education environment (Secundo et al., 2010).

Dynamic Capabilities: Origins, Theoretical Foundations, and Implications for Competitive Advantage

Dynamic capabilities have emerged as a central concept in strategic management literature, explaining how firms adapt, innovate, and sustain competitive advantage in rapidly changing environments (Teece, 2007; Teece et al., 1997). The theory builds on the foundations laid by the RBV of the firm, which posits that resources and capabilities that are VRIO can generate sustained competitive advantage (Barney, 1991; Wernerfelt, 1984). However, unlike the

more static orientation of traditional RBV—which largely focuses on the possession of strategic assets—dynamic capabilities emphasize the processes through which firms renew, reconfigure, and deploy their resource base to respond effectively to shifting market conditions (Eisenhardt & Martin, 2000).

The earliest significant work on dynamic capabilities is often attributed to Teece et al. (1997), who proposed that dynamic capabilities are the firm's ability "to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (p. 516). Their perspective emerged in response to critiques of the RBV's relative underemphasis on how firms adapt over time (Ambrosini & Bowman, 2009). The RBV tradition itself traces back to Penrose's (1959) conceptualization of the firm as a bundle of heterogeneous resources, which Wernerfelt (1984) later elaborated by suggesting that internal resources, rather than external market forces alone, could serve as a basis for competitive advantage. Barney's (1991) articulation of the VRIN (later VRIO) framework cemented the RBV as a dominant paradigm in strategic management.

Building on these theoretical underpinnings, Teece et al. (1997) introduced dynamic capabilities as a way to account for the need for continual resource reconfiguration in fast-paced and uncertain environments. They argued that firms must possess not only valuable and rare resources but also the managerial competencies to repurpose these resources in response to technological shifts, industry disruptions, and evolving consumer demands (Teece, 2007). Eisenhardt and Martin (2000) further refined the concept by suggesting that dynamic capabilities, while idiosyncratic to each firm, often manifest as identifiable processes, routines, and "best practices." These may include processes for product development, strategic decision

making, and alliance formation that enable the firm to respond swiftly to emerging threats and opportunities (Eisenhardt & Martin, 2000).

Relationship to the Resource-Based View (RBV)

Dynamic capabilities are intrinsically linked to and extend the RBV framework by moving beyond static resource possession to explore the mechanisms of resource *transformation* (Teece, 2007). Under the RBV, long-term competitive advantage arises from owning or controlling resources that competitors cannot easily imitate or substitute (Barney, 1991). The dynamic capabilities lens posits that in volatile contexts, it is not only the *possession* but also the *reconfiguration and renewal* of resources that matter. Accordingly, dynamic capabilities serve as the "higher-order" capabilities that govern how firms adapt and orchestrate their resource portfolios (Helfat et al., 2007). These capabilities manifest in three primary activities: **sensing** (identifying new opportunities and threats), **seizing** (mobilizing resources to capture value from opportunities), and **transforming** (continuously adjusting and innovating resource configurations) (Teece, 2007).

Implications for Competitive Advantage

The dynamic capabilities framework holds significant implications for understanding and sustaining competitive advantage. First, it underscores that firms operate within complex, uncertain environments and that responsiveness and adaptability are critical to remain competitive (Eisenhardt & Martin, 2000). Firms endowed with superior dynamic capabilities can sense shifts in consumer preferences or technological frontiers more rapidly, seize the opportunities through focused investment, and reconfigure resource portfolios to maintain alignment with market needs (Teece et al., 1997). Second, dynamic capabilities highlight the centrality of managerial skills, leadership, and organizational learning processes in orchestrating

resources (Helfat et al., 2007). This places emphasis on the *microfoundations* of dynamic capabilities, such as decision-making heuristics, organizational culture, and knowledge-sharing routines, which enable continuous adaptation and innovation (Teece, 2007).

Third, the dynamic capabilities view bridges the gap between strategy formulation and strategy execution by illuminating the organizational processes required to update and reconfigure the firm's asset base (Ambrosini & Bowman, 2009). Rather than relying solely on path-dependent resource advantages, firms must actively engage in learning, experimentation, and strategic change. Consequently, the dynamic capabilities approach dovetails with emerging literatures on open innovation, entrepreneurial orientation, and agility, demonstrating the wide applicability of the framework to contemporary strategic challenges (Augier & Teece, 2009).

In sum, dynamic capabilities have evolved as a critical extension of the RBV, addressing the pressing need for ongoing resource reconfiguration in dynamic market conditions. Anchored by Teece et al.'s (1997) seminal work, the concept highlights how firms can adapt, innovate, and maintain sustainable competitive advantage by emphasizing continuous learning, managerial acumen, and strategic resource orchestration. By focusing on the microfoundations that enable sensing, seizing, and transforming, the dynamic capabilities framework provides a robust theoretical tool for understanding competitive advantage in rapidly changing industries. As markets continue to be reshaped by technological and global forces, dynamic capabilities remain at the forefront of research, offering valuable insights for both academia and practice on how firms can thrive over the long term.

Open Innovation

Open innovation, as conceptualized by Chesbrough (2003), represents a paradigm shift in innovation management, standing in clear contrast to traditional closed innovation frameworks.

Closed innovation emphasizes internally controlled research and development (R&D), stringent intellectual property protections, and vertically integrated processes as primary means for achieving competitive advantage. In contrast, open innovation advocates strategically harnessing external knowledge inflows and internal capability outflows across organizational boundaries to stimulate accelerated innovation and market expansion. When applied specifically to entrepreneurship education (EE), closed innovation aligns with traditional curricular delivery characterized by rigid, institution-bound learning and insular teaching practices. Adopting open innovation principles within EE involves cultivating partnerships with industry practitioners, leveraging external networks such as entrepreneurial ecosystems, and facilitating interactive and experiential learning platforms that integrate real-world challenges and external expertise. Such open educational frameworks foster adaptive pedagogical practices, promote responsiveness to market trends, and better equip students with practical competencies and skills necessary for navigating dynamic entrepreneurial environments (Chesbrough, 2003).

Entrepreneurial Ecosystems

An entrepreneurial ecosystem can be broadly defined as "a set of interconnected entrepreneurial actors, organizations, institutions, and processes which formally and informally coalesce to connect, mediate, and govern the performance within the local entrepreneurial environment" (Mason & Brown, 2014, p. 5). Drawing from regional innovation systems (Cooke, 2001), cluster theory (Porter, 1998), and the network perspective (Hoang & Antoncic, 2003), entrepreneurial ecosystems focus on the synergy among distinct yet interdependent components—such as policy, finance, culture, support services, human capital, and markets (Isenberg, 2010). These components operate in a complex, feedback-rich environment, where their interactions drive entrepreneurial activity and regional competitiveness.

Daniel Isenberg's (2010) *Harvard Business Review* article "How to Start an Entrepreneurial Revolution" is often credited with bringing entrepreneurial ecosystem thinking into mainstream discourse. Isenberg argued that traditional, piecemeal approaches to entrepreneurship—such as isolated training programs or standalone incubators—were insufficient to produce lasting economic dynamism. Instead, a holistic ecosystem perspective is needed to nurture and scale entrepreneurship. Isenberg's "domains of the ecosystem" framework (see Table 2.3) identifies six interlocking elements critical for entrepreneurial flourishing. This integrative approach underscored the importance of contextual factors—like social norms and public policy—that earlier models of entrepreneurship sometimes overlooked (Spigel, 2017).

Table 2.3

Isenberg's Domains of the Ecosystem Framework

1. Policy	Regulatory framework, tax incentives, and governmental programs
2. Finance	Access to venture capital, angel investment, and other funding channels.
3. Culture	Norms, attitudes, and societal support for risk-taking, innovation, and entrepreneurship.
4. Supports	Incubators, accelerators, service providers, and professional networks.
5. Human Capital	Availability of skilled labor, educational programs, and managerial talent.
6. Markets	Local, regional, and global customer bases that offer opportunities for venture growth.

Beyond Isenberg, several scholars have contributed to the conceptual and empirical advancement of entrepreneurial ecosystems. Erik Stam (2015) emphasized the role of network connectivity, suggesting that the density and quality of linkages among entrepreneurs, institutions, and markets can influence the ecosystem's overall performance. Mason and Brown (2014**)** proposed a process perspective, asserting that ecosystems evolve through stages of emergence, growth, and maturity, each requiring different strategic interventions. Lastly, Gibb

(1993)**,** while not explicitly using the term *ecosystem*, highlighted the need for an "entrepreneurial environment" that fosters entrepreneurial mindsets and behaviors—a notion that paved the way for later ecosystem models focusing on culture and institutional support.

Taken collectively, these theorists underscored that entrepreneurial success is not merely a function of an individual entrepreneur's traits but rather a product of supportive infrastructures, networks, and institutions that catalyze innovation and venture creation.

Evolution of the Entrepreneurial Ecosystem Concept

The evolution of the entrepreneurial ecosystem theory can be seen as a convergence of multiple research streams. Early work on industrial clusters (Porter, 1998) and innovation systems (Cooke, 2001) laid the foundation for understanding geographically bounded economic phenomena, particularly how collocation of firms, suppliers, and research institutions fosters innovation. However, these cluster-based models often downplay the role of cultural and institutional factors that shape entrepreneurial attitudes (Brown & Mason, 2017).

The entrepreneurial ecosystem framework emerged in response to growing evidence that regional entrepreneurial success involves not only knowledge spillovers and supply-chain integration but also elements such as mentorship cultures, venture-friendly regulatory environments, and grassroots community building (Isenberg, 2011). Over time, scholars have refined the concept through empirical studies exploring how ecosystems differ across regions and industries. For instance, ecosystems in highly regulated sectors (e.g., healthcare, finance) may prioritize policy and funding structures, while those centered on digital technologies may lean more heavily on human capital, agile networks, and global market access (Miller & Acs, 2017).

Recent research has also placed emphasis on the dynamic capabilities of an ecosystem—its ability to sense and seize new market opportunities (Teece et al., 1997) and reconfigure its resource base in response to exogenous shocks (Brown & Mason, 2017). This perspective aligns entrepreneurial ecosystem studies with broader strategic management theories, including the RBV and dynamic capabilities approaches (Barney, 1991; Eisenhardt & Martin, 2000), thereby integrating macro-level ecosystem attributes with micro-level firm strategies.

Implications for Competitive Advantage

Entrepreneurial ecosystems profoundly influence the competitive advantage of both individual firms and broader institutions. First is resource access and specialization. Firms embedded in vibrant ecosystems typically enjoy privileged access to specialized resources, including venture capital, talent pools, and mentorship networks (Isenberg, 2010). Such resources can confer valuable and rare advantages aligned with the RBV (Barney, 1991). As these ecosystems mature, however, competition for resources may also intensify, prompting firms to continuously innovate to maintain their advantages (Porter, 1998). Second is knowledge spillovers and innovation. High levels of connectivity among ecosystem actors facilitate the rapid dissemination of ideas, leading to knowledge spillovers that accelerate innovation (Audretsch & Keilbach, 2007). When firms leverage these spillovers, they may develop unique processes or technologies that bolster their competitive position. Moreover, the shared learning culture within an entrepreneurial ecosystem enhances the absorptive capacity of participant firms, enabling them to integrate external knowledge more effectively (Cohen & Levinthal, 1990). Third is institutional and cultural support. Ecosystems often benefit from institutional frameworks conducive to entrepreneurship, such as favorable legislation, university partnerships, and targeted public-private initiatives (Miller & Acs, 2017). A pro-entrepreneurship culture

further fosters risk-taking and collaboration, thereby reinforcing firms' capabilities to explore new opportunities (Spiegel, 2017). Firms that harness these supportive institutions can more swiftly adapt their strategies, develop core competencies, and sustain competitive advantage. Lastly is network externalities and collective reputation. Successful entrepreneurial ecosystems often cultivate positive reputational effects. The presence of anchor firms or successful "unicorns" can attract additional investment and talent, creating a virtuous cycle of innovation and productivity (Isenberg, 2011). Participation in these networks can enhance a firm's legitimacy, market visibility, and opportunity to forge strategic alliances, each of which can strengthen its long-term positioning (Mason & Brown, 2014).

Daniel Isenberg's entrepreneurial ecosystem concept has significantly reshaped our understanding of how entrepreneurship flourishes within interconnected environments of policy, finance, culture, support systems, human capital, and markets. While earlier research traditions on clusters and innovation systems laid the groundwork, Isenberg's holistic model underscored the importance of institutional and cultural domains for fostering venture creation and scaling. Subsequent theorists, such as Stam (2015) and Mason and Brown (2014), have refined the framework, examining ecosystem evolution and emphasizing network dynamics.

An entrepreneurial ecosystem encourages innovation and business growth by creating a supportive environment for startups and scaling enterprises. It promotes knowledge sharing and collaboration among businesses, fosters economic vitality, and attracts and retains talent by building a vibrant and resourceful community. In higher education institutions, it can help prepare students with entrepreneurial skills critical for modern careers, bridging education and workforce needs, creating opportunities for partnerships with businesses and industries to supplement limited funding, and driving local economic development. All of this aligns with the

community college mission of serving regional needs and building a pipeline of talent and innovation, reinforcing the relevance and impact of community colleges in economic ecosystems. For community colleges, Eisenberg's model offers a roadmap to leverage existing resources and foster collaboration, maximizing impact despite limited funding and capabilities.

From the vantage point of competitive advantage, entrepreneurial ecosystems confer multiple benefits on participating firms and institutions, including resource specialization, knowledge spillovers, and supportive institutional infrastructures. At the same time, the constantly shifting dynamics of such ecosystems demand ongoing adaptability, resonating with contemporary theories in strategic management that foreground dynamic capabilities and the importance of orchestrating resources in volatile markets (Teece et al., 1997). As global competition intensifies and technological disruptions reshape industries, the entrepreneurial ecosystem framework remains a vital lens to understand and foster innovation-driven growth.

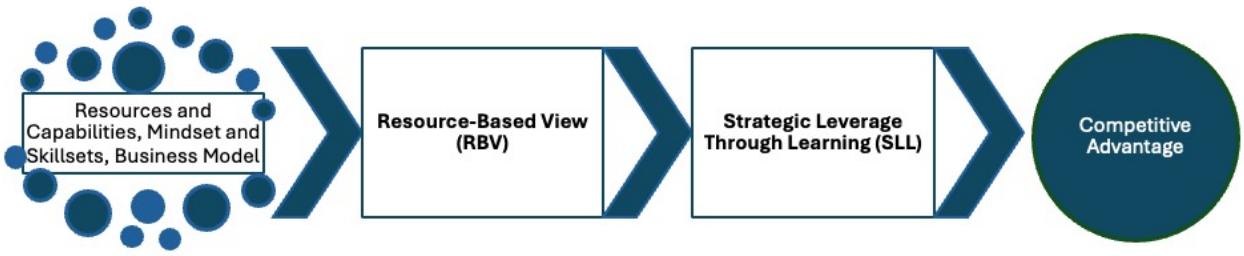
Conceptual Framework

The conceptual framework guiding this dissertation was grounded in the RBV, which emphasizes the strategic identification and deployment of resources that are valuable, rare, inimitable, and organizationally integrated (VRIO; Barney, 1991). Within community college EE, such resources may encompass faculty expertise, industry partnerships, physical infrastructure, and specialized curricular or co-curricular offerings. By applying RBV, the study highlighted those institutional capabilities that create a competitive advantage in EE. Building on RBV, the SLL model emphasizes continuous organizational learning as the mechanism for developing, refining, and sustaining these identified resources over time (Gephart & Marsick, 2003). For instance, a college that identifies its advantage in strong local business networks can employ ongoing feedback, collaborative reflection, and professional development to ensure these

partnerships remain responsive to market shifts. As shown in Figure 2.11, the integration of RBV and SLL fosters iterative improvements and the emergence of a more dynamic entrepreneurial ecosystem, one that catalyzes a new business model to support students' entrepreneurial growth and enhance overall institutional resiliency.

Figure 2.11

Conceptual Framework



Source: Faustino-Pulliam (2025)

Summary

Community colleges stand at a crossroads: with rapid technological shifts and an increasingly competitive credentialing landscape, these institutions must adapt to equip students with the entrepreneurial skills and mindsets necessary for today's economy. This research integrates two key theoretical perspectives—the Resource-Based View (RBV) and Gephart and Marsick's Strategic Leverage Through Learning (SLL) framework—to offer a novel analytical lens for examining how community colleges can transform their business models to enhance entrepreneurship education (Barney, 1991; Gephart & Marsick, 2003). Through this dual framework, the research identifies the strategic resources that confer a competitive advantage in entrepreneurship education and explores how continuous, institution-wide learning practices help sustain and evolve these resources.

The Resource-Based View (RBV) posits that sustainable competitive advantage arises from leveraging resources that are valuable, rare, inimitable, and organized (VRIO) (Barney, 1991). In the context of community college entrepreneurship education (EE), valuable resources may include faculty expertise, strategic industry partnerships, advantageous geographic location, advanced physical infrastructure, and specialized curricular or co-curricular programs.

By applying RBV, this study aimed to pinpoint which assets or capabilities provide these institutions with a competitive edge in EE delivery. For instance, faculty expertise in emerging fields such as digital media or biotechnology manufacturing could represent a valuable resource. Partnerships with local industry players may provide rare and inimitable opportunities for experiential learning and job placement, further enhancing the institution's value proposition.

Moreover, the integration of RBV into the observational analysis, as detailed in Chapter 5, allows for a deeper understanding of how co-curricular activities, such as the entrepreneurship event observed, serve as strategic resources that enhance student engagement and learning outcomes (see Observations Findings**).**

The Strategic Leverage Through Learning (SLL**)** model underscores the importance of continuous organizational learning in building adaptability and resilience (Gephart & Marsick, 2003). Once RBV identifies key resources (e.g., faculty expertise, community networks), the SLL framework explains how institutions can develop, refine, and sustain these resources over time. In the context of this study, SLL was particularly relevant for understanding how community colleges adapt to rapid changes in the educational and business landscape. For instance, the event observation revealed that experiential components, such as alumni guest speakers, provided dynamic learning opportunities that helped students connect academic concepts with real-world applications. This experiential learning environment fosters an adaptive

culture that supports the evolution of educational programs in alignment with industry needs. The model's emphasis on iterative feedback**,** shared reflection**,** and professional development aligns with the observed practices of faculty collaboration and cross-departmental engagement, as highlighted in the event's planning and execution. These practices reflect strategic learning processes that continuously enhance the institution's resources, thereby contributing to sustainable competitive advantage.

Dynamic Capabilities are the organization's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece et al., 1997). The synergy between RBV and SLL facilitates the development of dynamic capabilities by clarifying which resources are most valuable (RBV) and how to sustain them through learning and adaptation (SLL).

This dynamic capability approach is particularly relevant in entrepreneurship education, where rapid shifts in industry demands, student needs, and technology require agile responses. For example, the observed event revealed how the entrepreneurship program leveraged alumni networks as a strategic resource. This capability to adapt and reconfigure existing networks to enhance student learning and engagement demonstrated a dynamic capability that supported sustainable competitive advantage.

Moreover, the observed event's integration of co-curricular activities with academic programs illustrated how community colleges dynamically reconfigure resources to enhance student experiences, thereby maintaining relevance and competitiveness.

To further enrich the analytical framework further, this study incorporated the entrepreneurial ecosystem perspective, as conceptualized by Daniel Isenberg (2010). According to Isenberg, an entrepreneurial ecosystem is comprised of interconnected elements such as

policy, finance, culture, support, human capital, and markets that collectively foster entrepreneurship and innovation.

Applying the Entrepreneurial Ecosystem framework provided a holistic lens to examine how community colleges engage with external stakeholders—such as industry partners, alumni, and local communities—to create supportive environments for entrepreneurship education. The observed event illustrated the importance of networks and relationships, which are critical components of a thriving entrepreneurial ecosystem. By fostering collaboration between students, faculty, alumni, and industry partners, the event enhanced the institution's ecosystem, thereby facilitating resource mobilization, knowledge exchange, and entrepreneurial mindset development.

The inclusion of this framework allowed for a nuanced analysis of how institutional actions and stakeholder interactions coalesce to support entrepreneurship education. It also offered insights into how community colleges can leverage their ecosystems to enhance strategic positioning and competitive advantage.

The integration of RBV**,** SLL**,** Dynamic Capabilities**,** and Entrepreneurial Ecosystem frameworks provided a robust analytical lens for the multiple-case analysis of community colleges, which in turn provided a strong framework for the findings' validity and relevance. This comprehensive analytical approach enabled the study to reveal why certain community colleges adapt more effectively to changing educational demands. It highlighted how institutional learning mechanisms, resource reconfigurations, and ecosystem engagement contribute to maintaining relevance and competitive advantage in entrepreneurship education.

This integrated analytical framework offers a multidimensional approach to understanding how community colleges can strategically leverage resources, learning processes,

dynamic capabilities, and ecosystem networks to foster innovative and competitive entrepreneurship education programs. By examining the interplay between internal resources, strategic learning, adaptive capabilities, and ecosystem dynamics, this study contributes to the broader literature on educational innovation, strategic management, and entrepreneurship education.

Chapter 3: METHODOLOGY

This research is a multiple-case study of three community colleges in the Bay Area. It explored **how community colleges maintain relevance and a competitive advantage in a rapidly evolving business and landscape of entrepreneurship education.**

To have a deeper understanding of the emerging phenomenon of business model innovation in three community colleges in the Bay Area, the researcher used a qualitative method, specifically the bounded case study approach. Yin (2009) postulated a technical definition of case studies as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 18). The case study method is a research approach often used in the social sciences to provide a detailed, in-depth understanding of a specific individual, group, or situation. The case study method is a good choice for this research for several reasons: (a) it allowed for a thorough investigation of a specific phenomenon in depth, providing a rich and detailed understanding of the case; (b) it was useful for this complex phenomenon that cannot be easily studied through quantitative research; (c) it can provide deeper insights into the experiences and perspectives of individuals or groups involved in the case, which can be valuable for understanding how a phenomenon unfolds and the factors that influence it; and (d) it explored a novel or emerging phenomenon that was not well-understood and is in the early stages of development.

Constructivism as a Research Paradigm

People have different views of how they see the world. Realities are multiple and socially constructed (Avramidis et al., 1999. p. 28), mainly influenced by one's sociocultural, professional, and political background. This is highly observable in how people react to

circumstances, information, and situations. This theory covers several interlocking perspectives since humans can form their subjective interpretation of an objective reality. For example, a constructivist stance argues that "learning is a process of constructing meaning, and it depends on how people make sense of their own experience" (Merriam et al., 2007, p. 291). Piaget's theory of constructivism also supports the idea that learning is a process where meaning is constructed from one's own experiences. This phenomenon manifests in day-to-day discourse among learners, educators, and researchers who are reading the same piece of article but, in the end, arrive at different conclusions or interpretations. Interestingly, et Guba al. (2005) argued that constructivists are also subjectivists, which, in essence, would mean more fluidity, less structure, and openness to new constructions. However, 'trustworthiness' and 'authenticity' are paramount to this approach, and oftentimes, the result of the inquiry catalyzes action (Guba et al., 2005). The constructivist perspective search for new meanings, behaviors, and error correction is achieved via rational analysis triggered by dialogue, experience, practice, or need (Justice et al., 2019, p. 4).

Ontologically, constructivists, also called social constructionists, are relativists. They believe in a multiple-constructed reality, and there is an alternative reality where truth is constructed based on multiple inputs that present a logical conclusion or outcome. Other literature has argued that constructivism is very much like interpretivism but opposes objectivism. Epistemologically, in answering the question of "How do I know what I know?" a constructivist would argue that knowledge is *constructed*, as opposed to a positivist's approach that knowledge is *obtained*. The literature eloquently presents constructivists' paradigm as "We do not find knowledge; we construct it!" Constructivism also replaced subject-object dualism

with interactive monism (Lincoln, 1990, p. 78). Lastly, constructivism leads to reflection, which is explicitly valued in creativity and innovation (Justice et al., 2019).

Methodologically, constructivists seek consensus, dialogue, or discourse that covers differing views with the goal of arriving at a common understanding, regardless of how they view 'reality' from the onset. It also calls for the inquiry to migrate from laboratories to settings where naturally occurring situations and scenarios occur. It is ideal to have a holistic approach to gain deeper insights that laboratory-testing instruments could not present. For example, Anderson (2008) wrote for *Wired* magazine about the *end of theory* since data deluge makes the scientific method obsolete. The article argued, "Google conquered the world with nothing but applied mathematics" (para. 2). Mathematical algorithms allow us to view data and make sense of it later. However, the numbers do not tell us one single absolute truth. There are stories behind the numbers, and interpretation can distort realities that the researcher or firms are covertly trying to hide.

Constructivism relies on an inductive process, making it well-suited for qualitative research that employs open-ended questions and emphasizes the generation of meaning from collected data to form new theories or patterns. In this approach, theories emerge from the data itself as researchers strive to understand and interpret the complex, lived experiences of individuals. Constructivism "does not intend to predict or control the 'real' world nor to transform it but to r*econstruct* the 'world'. It is the mind to be transformed, not the 'real' world" (Guba, 1990, p. 27). This perspective is particularly relevant when exploring novel applications, such as reconceptualizing the term "business model" within the context of competitive advantage in entrepreneurship education.

The constructivist paradigm offers multiple perspectives that the researcher expected would be generated from the diverse stakeholders interviewed. Their insights and perspectives captured the complexity and richness of this complex phenomenon taking root in entrepreneurship education. Constructivism also offers social construction of knowledge by highlighting the role of social interactions and discourse in constructing knowledge. This can provide insights into the social processes and shared understandings that shape the phenomenon. The constructivist paradigm also emphasizes the importance of context in shaping individuals' interpretations and experiences. These characteristics very much support a qualitative research approach where it focuses on the process that tends to see the world in terms of people, situations, events, and the processes that connect these factors (Maxwell, 2013, p. 29).

In this study, the researcher explored how contextual factors, such as resources and capabilities, institutional culture, regulatory frameworks, market dynamics, and technological advancements, influence the delivery and competitiveness of entrepreneurship programs offered by these colleges. Understanding these contextual factors is crucial for a comprehensive analysis. Constructivism allows flexibility and iteration. Constructivism encourages researchers to be introspective and acknowledge the researcher's subjectivity and biases. The constructivist paradigm also recognizes that knowledge is continually constructed and evolves over time. As the researcher applied in this study, the meaning of the word *platform and business model* was used outside of its usual application in commerce but giving life to it in the context of higher education. This fluidity necessitates openness to emergent findings, unexpected patterns, and new insights that arise during data analysis, even if they challenge existing assumptions or theories.

By embracing the constructivist paradigm, this study can provide a nuanced and holistic understanding of the problem from various stakeholders' perspectives. It also allowed the establishment of relationships among different actors and platforms, the influence of social interactions and context, and the recognition of the phenomenon's dynamic nature. Ultimately, this approach can contribute to the development of more informed and contextually relevant strategies and policies for delivering sustainable and innovative entrepreneurship education in community colleges.

The Research Site and Sample

Community Colleges Profiles

The selection of the three community colleges was strategically based on their geographic location within the Bay Area, situated in close proximity to Silicon Valley, a globally recognized hub of technological innovation and entrepreneurship. These colleges were purposively chosen because they offer entrepreneurship courses, certificates, and degree programs while also demonstrating distinctive approaches to supporting their academic offerings. This diversity in program implementation allowed for a comparative analysis of varying institutional strategies in entrepreneurship education (Yin, 2018). Furthermore, the selection was facilitated by the researcher's established connections with key administrative personnel, which enabled the necessary institutional approvals to conduct the study. Participants were purposefully sampled from the Business and Entrepreneurship departments at each institution, ensuring that the data collected would be relevant to the study's focus on entrepreneurship education (Creswell & Poth, 2018).

These colleges are publicly funded two-year community colleges in California located in the Bay Area. The broad demographic patterns of their students mirror the diversity of the state,

with its student body reflecting higher concentrations of Hispanic, Asian, and students identifying as two or more races.

Sample Selection

In case study research, the credibility and depth of findings are significantly enhanced by employing a robust methodological design that includes a triangulation approach. Triangulation involves using multiple data sources, methods, and perspectives to examine a single phenomenon, thereby increasing the validity and reliability of the research outcomes (Patton, 2015; Yin, 2018). In this research, a multiple case study methodology was employed to explore the complexities of entrepreneurship education within California community colleges. The researcher utilized a triangulation strategy to capture a holistic and nuanced understanding of student experiences, institutional practices, and stakeholder interactions within this educational context.

To gain a holistic and nuanced understanding of multiple perspectives on business model innovation in entrepreneurship education, the researcher employed a multi-method approach that included one-on-one interviews with various stakeholders and industry partners, supplemented by surveys, direct observations and archival data collection. Table 3.1 summarizes the sample size and methodological approaches used in this study. To ensure a well-rounded analysis, data were collected from multiple sources, including students, faculty, administrators, industry partners, and classified staff involved in entrepreneurship programs. A purposive sampling strategy was adopted to select key informants with rich insights and experiences relevant to the research questions (Merriam & Tisdell, 2016). This approach ensured that the sample was representative of diverse perspectives, thereby enhancing the credibility of the study's findings. Table 3.1 serves as a critical reference point for understanding the research design, including

sample composition, data collection techniques, and analytical approaches. It ensured methodological transparency and provided a foundation for the replication or extension of this case study by future researchers.

Table 3.1

Participant Groups for Each Method of Data Collection

Method	Participants	Roles
One-on-one interviews	6 administrators	Academic deans, non-academic administrators
	5 instructors	Business and Entrepreneurship
	2 industry partners	Co-founders of a large incubator in the Bay Area and an innovation lab
Surveys	96 students	Business and Entrepreneurship (degrees and certificates)
Observation	1 large (3-day event)	Business and Entrepreneurship major event
Secondary and Archival Data	Government and public records, organizational data and media archives	Retrieved online for historical and statistical data supporting the analysis

Data Collection

The data collection strategy included four primary methods: one-on-one interviews, student surveys, on-campus observations, and archival and secondary data collection. This multiple-methods approach not only facilitated the cross-validation of findings but also provided a holistic view of stakeholder experiences, institutional practices, and the contextual factors influencing entrepreneurship education within the community college setting.

One-on-One Interviews

Semi-structured one-on-one interviews were conducted with key stakeholders, including three academic administrators, two non-academic administrators, five faculty members, one non-instructional faculty, and two industry partners. This qualitative method was chosen to capture

in-depth insights and rich narratives regarding the perceptions, experiences, and strategic considerations surrounding entrepreneurship education (Patton, 2015). The semi-structured format provided a flexible framework that guided the conversation while allowing participants the freedom to express their perspectives fully. Interview protocols (Appendix A) were designed with open-ended questions to encourage detailed responses, thereby uncovering underlying motivations, challenges, and contextual influences relevant to the research questions.

Participants were selected using purposive sampling, ensuring the inclusion of individuals who play a critical role in or have significant insights into the entrepreneurship programs at the community colleges under study (Merriam & Tisdell, 2016). Specifically, administrators were chosen for their strategic and direct operational oversight of the Business and Entrepreneurship program in their college, faculty members for their direct involvement in curriculum design and delivery, industry partners for their external perspective on workforce readiness and entrepreneurship skills, and non-academic administrators for their role in student support services and institutional resource allocation. This strategic selection of participants ensured a comprehensive representation of stakeholder perspectives, thereby enhancing the credibility of the study's findings.

A total of 13 interviews were conducted, with each session lasting approximately 60 minutes. Interviews were video-recorded, with participants' consent, to ensure accuracy in data collection. The recordings were then transcribed verbatim and analyzed using thematic analysis to identify recurring patterns, themes, and relationships between variables (Braun & Clarke, 2006). This method of qualitative data analysis facilitated an in-depth exploration of stakeholder experiences while preserving the contextual richness of their narratives.

Student Surveys

To complement the qualitative data from interviews, structured surveys were administered to students enrolled in entrepreneurship programs. The primary objective of the surveys was to quantify students' experiences, perceptions, and educational outcomes, thereby providing a broader perspective on the effectiveness and relevance of entrepreneurship education within the community college context (Creswell, 2014). The survey (Appendix B) was designed with open- and closed-ended and Likert-scale questions to capture self-reported perceptions on students' motivations, engagement levels, perceived learning outcomes, and challenges encountered during their entrepreneurship journey.

Convenience sampling was employed for the student survey due to logistical considerations, including accessibility and the ease of reaching a large pool of respondents within a limited timeframe. This approach enabled the collection of data from students who were readily available and willing to participate, primarily during entrepreneurship events and classroom sessions. However, a substantial proportion of the survey respondents were from one community college, and they were volunteers, which may have introduced a sampling bias. This disproportionate representation could potentially skew the findings, as the experiences, perceptions, and educational outcomes reported by these students might not fully reflect the diversity of perspectives across other community colleges involved in the study. Consequently, the generalizability of the results may be limited, necessitating cautious interpretation and acknowledgment of this sampling limitation.

Survey Instrument. A structured questionnaire was administered to capture both quantitative (e.g., Likert-scale items) and qualitative (e.g., open-ended responses) data. Students received the survey link from their instructors via their official college email and were given

approximately 2 weeks to respond. Reminders were sent to boost response rates. Key domains included:

1. Entrepreneurial Self-Efficacy – confidence in founding and managing a business.
2. Perceived Institutional Support – perceived adequacy of campus resources, including mentoring and networking opportunities (mentorship, internships, co-curricular programs).
3. Program satisfaction and perceived quality of support services.
4. Motivation and Goals – reasons for pursuing entrepreneurship, short-term and long-term aspirations.
5. Challenges and Obstacles – financial constraints, time management, external commitments, and institutional barriers.

Data collected from the surveys were analyzed using descriptive statistics to identify trends, and patterns, and add depth and context to the analysis by calculating frequencies of themes, identifying patterns across participant groups, using percentages to quantify responses within categories, and visualizing data through charts and graphs to highlight key trends; however, it is crucial to remember that statistical analysis in qualitative research should always be used to support the narrative interpretation of the data, not replace the data.

Data analyses were conducted using Qualtrics and Excel, ensuring rigorous and systematic data interpretation. The survey findings were triangulated with the qualitative data from interviews and observations, providing a comprehensive and nuanced understanding of student experiences and program outcomes.

On-Campus Observations

The on-campus observation provided a rich, naturalistic examination of real-time interactions, behaviors, and institutional practices in entrepreneurship education. This qualitative methodological approach enabled the researcher to capture the contextual dynamics of faculty-student engagement, peer networking, and co-curricular participation (Merriam & Tisdell, 2016). The data collection process was embedded within an on-campus entrepreneurship event organized by the Business and Entrepreneurship department. This three-day event featured guest speaker presentations, structured networking opportunities for students, and a market fair, offering a unique setting for observing experiential learning and community-building practices in action.

The observational method employed in this study allowed for the examination of students' behaviors and interactions in their natural environment without researcher interference. This approach facilitated the systematic identification of patterns, trends, and relationships among observed variables. However, given the non-experimental nature of the study, establishing direct causation was not feasible. The use of observation as part of a broader triangulation strategy—integrating multiple data sources—enhanced the credibility and validity of the findings by cross-referencing information from different perspectives (Creswell & Poth, 2018).

To mitigate potential researcher bias and minimize influence on participants' natural behaviors, a non-participant observer role was adopted. Throughout the event, detailed field notes were systematically recorded, documenting key aspects such as student engagement, event organization, stakeholder interactions, and the overall learning environment. The observational protocol (Appendix C) followed a semi-structured framework with predefined categories aligned

with the study's research questions, while also allowing flexibility to capture emergent themes and contextual nuances (Saldaña, 2021).

The collected observational data were analyzed using thematic analysis to identify recurring themes, key interactions, and contextual factors shaping entrepreneurship education within the community college setting. This analytical approach facilitated a deeper exploration of experiential learning practices and the social dynamics underpinning the entrepreneurial ecosystem. Furthermore, observational findings served as a valuable contextual validation mechanism, reinforcing the insights derived from interviews and survey data. Through methodological triangulation, this study strengthened its internal validity by ensuring a more comprehensive and nuanced understanding of the observed phenomena (Yin, 2018).

Archival and Secondary Data Collection

The strategic collection of archival and secondary data is paramount for developing a robust and credible theoretical and empirical framework. Archival data refers to historical records that can illuminate changes and developments over time, whereas secondary data includes existing research, datasets, and reports pertinent to the study's focal phenomenon (Bowen, 2009). Both forms of data strengthen the study's credibility by providing evidence-based insights into existing practices, pedagogical structures, and policy contexts within entrepreneurship education.

One critical venue for collecting data involves accessing databases maintained by community colleges. Community colleges often house vast repositories of educational records, program descriptions, student success metrics, and grant-funded initiatives related to entrepreneurship programs. These data points reveal patterns of curricular design, institutional priorities, and resource allocations that can guide a nuanced understanding of business model

innovation. Some of the databases accessed for this study includes California Community College Counselor's Office (CCCCO), National Association of Community College Entrepreneurship (NACCE), Community College Research Center (CCRC) at Teachers College, Columbia University, and American Association of Community Colleges (AACC), Center of Excellence for Labor Market Research among others.

Beyond community colleges, broader higher education institutions and their affiliated organizations also maintain extensive digital and physical databases relevant to entrepreneurship education. For instance, the National Center for Education Statistics (NCES) provides comprehensive data on institutional characteristics, financial structures, and student outcomes. Other educational consortia or scholarly repositories (e.g., JSTOR, ERIC) can further enrich the dissertation by offering peer-reviewed studies, policy reports, and meta-analyses on emergent trends in business model innovation. International organizations, such as the Organization for Economic Cooperation and Development (OECD), likewise disseminate global data and comparative studies, enabling a broader contextualization of local findings.

Finally, private sector research firms and nonprofit organizations dedicated to entrepreneurial advancement—such as the Kauffman Foundation or the Small Business Administration (SBA)—produce industry reports, white papers, and policy briefs that can be integrated as secondary sources to underscore market-oriented perspectives (Kauffman Foundation, 2018). Combining these various data repositories not only enriches the evidentiary base but also facilitates triangulation, allowing the researcher to cross-verify findings and draw robust conclusions about innovative practices. Ultimately, the systematic aggregation and careful analysis of archival and secondary data from these multifaceted sources provide a strong

empirical foundation for examining the evolving models of entrepreneurship education and the transformative influence of innovation on pedagogical and institutional frameworks.

Data Triangulation and Integration

To ensure the credibility and validity of the findings, the researcher employed a triangulation approach by cross-verifying data from multiple sources and methods (Denzin, 2012). The integration of interview narratives, survey results, and observational insights facilitated a comprehensive understanding of the phenomenon under investigation, thereby enhancing the robustness of the study's conclusions. By combining qualitative and quantitative data, this research captured both the depth and breadth of stakeholder experiences, institutional practices, and contextual influences on entrepreneurship education within California community colleges. This triangulated data collection strategy, shown in Table 3.2, not only strengthened the reliability of the findings but also contributed to the richness and depth of the analysis, ensuring a holistic understanding of the complex dynamics within community college entrepreneurship education.

Table 3.2

Data Collection and Analysis

Method	Duration	Location	Data Analysis
One-on-one Interviews	60 minutes	Virtual via Zoom	Video recording, transcription, coding (Delve Software)
Surveys	10 Days	Online	Qualtrics
Observations	3 hours	On-campus event	Field notes and memo
Secondary and Archival Data	Since 2022	Various scholarly journals, websites, and publications	Published surveys and reports, Economic and Labor Market Data

Overview of the Information Needed

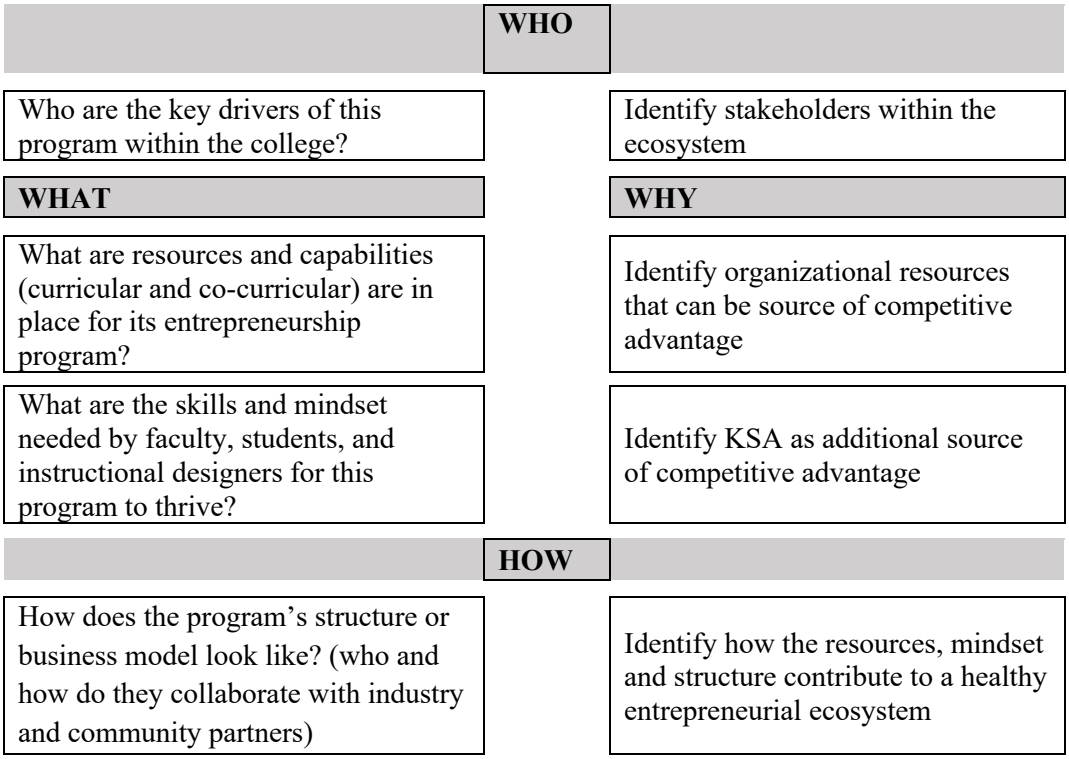
Given the nature of the research, the information needed was contextual, perceptual, demographic, and theoretical. The contextual is emphasized as essential information to collect in order to understand the culture and environment of these institutions because those elements influence behavior. This included the institution's history, mission, goals, course offerings, instructional designs, and other critical drivers. Lewin's (1935) fundamental proposition was that human behavior is a function of the interaction of the person and the environment (Bloomberg & Volpe, 2008). Perceptual information is needed to identify gaps in what is real and perceived; demographic information describes the various users and providers of content, which can be very helpful in drawing similarities and differences of populations among community colleges—hence, the need to tweak and align educational programs; and theoretical information provides a logical presentation of a system of beliefs and assumptions and other theories supporting an existing model or emerging phenomenon. Figure 3.1 presents the conceptual framework for the interview questions that guided this study.

Method of Data Analysis and Synthesis of Data

To analyze the data, the researcher started with the research questions in mind in drafting a set of descriptive codes for the first cycle coding. The transcripts were uploaded to the Delve platform, a coding software this researcher opted to use for this study. Data analysis was conducted concurrently with data collection and transcription. Deductive coding was applied using Barney's (1990) Resource-Based View (RBV) framework, ensuring alignment with established theoretical constructs. At the same time, inductive coding (Eisenhardt, 1989), allowed for the identification of critical themes emerging directly from the data. Additional codes related to sustainability and competitiveness from a business and entrepreneurship

Figure 3.1

Guide for Designing the Interview Questions



perspective were also incorporated. The first set of findings was analyzed for recurring themes framed around the research questions. From there, the codes were analyzed using two major theoretical frameworks: the Resource-Based View (RBV) and Strategic Leverage Through Learning (SLL), with a sprinkling of the Dynamic Capabilities and Entrepreneurial Ecosystem to address the study's research question: How can community colleges maintain relevance and a competitive advantage in a rapidly evolving business and entrepreneurship education? These frameworks were strategically combined as a conceptual framework to provide a comprehensive analysis of the resources, learning mechanisms, adaptive capabilities, and ecosystem dynamics that influence community college entrepreneurship education programs.

Limitations

The unique characteristics of each college create some limitations that should be considered in generalizing the findings of this study. First, every community college is unique in terms of its student population, size, focus, and funding. Location is one of the main factors that defines how one college will differ from others. For example, in metro areas such as San Francisco, Santa Clara, and San Mateo, the student demographics are different from the typical community college students in rural areas in Central Valley such as Bakersfield, Fresno, and Plumas. The political, economic, sociocultural, and technological environment shapes and influences the programs and priorities of colleges, notwithstanding the California State regulations and requirements. As detailed previously, this multiple case study was not intended to represent colleges within the entire San Francisco Bay Area, although similar actions and strategies might be present in these colleges.

This study did not seek to rank or compare the three participating colleges in terms of their relative competitive advantages. Rather, its primary objective was to elucidate the existing capabilities, resources, organizational mindset and competencies, as well as the prevailing business models of each institution. These elements were analyzed through the lens of the Resource-Based View (RBV) framework, with the aim of assessing their individual capacities for achieving and sustaining competitive advantage without drawing hierarchical or comparative judgments.

Some of the participants knew the researcher as a colleague or an acquaintance, which might have influenced their actions. Lastly, much like any surveys and interview procedures, the participants might have agreed to the interview to appease the researcher or the dean (who was helping the researcher) without thoughtfully and meaningfully answering the research questions.

Validity

Ensuring the validity of findings required the deliberate use of methodological triangulation. By triangulating these sources, the researcher strove to enhance the credibility of the findings and depict a nuanced view of how different stakeholder groups perceive and engage with EE programs. Second, by gathering information from multiple stakeholder categories—administrators, faculty, industry partners, and students—the study mitigated potential biases and amplified contrasting perspectives. Additionally, discrepant evidence was incorporated into the final analysis, affording readers the opportunity to interpret divergent data (Maxwell, 2013). This transparent portrayal of inconsistencies or contradictions fosters a deeper appreciation of the complexity inherent in evaluating community college EE. The combination of purposeful sampling, a constructivist perspective, and openness to emergent themes reinforced the study's rigor and authenticity.

Summary

Chapter Three presents a qualitative, multiple-case study methodology employed to explore how three community colleges in the San Francisco Bay Area maintain relevance and competitive advantage in entrepreneurship education. The study utilized a triangulation approach combining multiple data collection methods: semi-structured interviews with administrators, faculty, and industry partners; student surveys measuring entrepreneurial self-efficacy, institutional support, and program satisfaction; direct on-campus observations during an entrepreneurship event; and archival data to enrich contextual understanding. Participants were purposefully selected to ensure diverse stakeholder perspectives.

Analytically, the research integrated the Resource-Based View (RBV), Strategic Leverage Through Learning (SLL), Dynamic Capabilities, and Entrepreneurial Ecosystem theories, providing a comprehensive framework for examining institutional resources, adaptive

strategies, and external collaborations. Data analysis involved thematic and deductive coding methods, with particular attention to contextual influences such as institutional culture, market dynamics, and technological advancements.

The chapter concludes by addressing study limitations, including potential biases due to researcher-participant relationships, limited generalizability given institutional uniqueness, locations, and sampling biases. Methodological triangulation, diverse stakeholder input, and transparent handling of discrepant evidence were employed to enhance the validity and robustness of the findings.

Chapter 4: INSTITUTIONAL INSIGHTS:

FINDINGS FROM PARTICIPATING COLLEGES

This chapter provides an overview of the California Community Colleges (CCC) system and explains (also covered in Chapter 3) how three Bay Area colleges were selected for this study. It also presents demographic insights about the participants and summarizes key findings from each institution. The chapter concludes with a brief summary.

Background of California Community Colleges (CCC)

Introduction

The CCC system is an essential component of postsecondary education in the state, serving over 2 million students across 116 colleges (CCC, 2019). This makes CCC the largest system of higher education in the United States. It plays a pivotal role in preparing students for transfer to 4-year institutions, enhancing workforce development, and providing accessible and affordable education to Californians from diverse backgrounds.

Governance and Structure

At the helm of CCC is the Board of Governors, composed of 17 members appointed by the Governor. The Board sets policy and provides guidance for the 73 California community college districts and 116 colleges (CCC, 2019). Through this governance model, each district maintains operational autonomy while adhering to statewide regulations and standards, ensuring both consistency and flexibility in meeting local educational needs. Within the Bay Area, several community college districts—including Peralta, San Francisco, and San Mateo County—illustrate the system's decentralized structure yet also shared commitment to affordability and student success.

Funding

California community colleges are primarily funded by state appropriations; Basic Aid, which is local property taxes; student fees: tuition and other fees; grants and contracts such as Cal Grant, a California-specific financial aid award; contracts with local businesses through its professional or extension schools; and the California College Promise Grant, that waives enrollment fees for eligible California residents. The Student-Centered Funding Formula (SCFF) was signed into law in 2018 by Governor Jerry Brown, a formula that bases funding, at least in part, on how well students are doing (CCC, 2022).

Student Demographics and Access

A defining characteristic of the CCC system is its diverse student population. More than 70% of California community college students identify with diverse ethnic backgrounds (CCC, 2022), illustrating the colleges' role in providing equitable educational opportunities. This diversity is particularly notable in the San Francisco Bay Area, where global innovation hubs and multicultural communities intersect. Moreover, financial barriers are minimized, as evidenced by the fact that 40% of students did not pay fees in the 2021-2022 academic year (CCC, 2022). This underscores the system's longstanding mission to promote open access and reduce economic obstacles to higher education.

Academic Offerings and Transfer Pathways

Despite challenges posed by the COVID-19 pandemic, the number of course sections offered by CCC remained relatively stable—377,936 in 2019-2020, a 2% change from 385,642 in 2018-2019 (CCC, 2021). Many Bay Area colleges rapidly adapted to remote and hybrid modalities, preserving student access while maintaining academic rigor. These academic offerings serve as foundational pathways to 4-year universities. Notably, 29% of University of

California (UC) graduates and 51% of California State University (CSU) graduates started at a California community college (CCC, 2019). In the Bay Area, some colleges have well-established transfer agreements with UC and CSU campuses, facilitating smooth transitions for students seeking bachelor's degrees.

California's community colleges are actively tackling income inequality by providing accessible career training and workforce development programs. These initiatives, such as the Strong Workforce Program, partner with industry and labor to equip students with skills needed for high-demand fields like healthcare, technology, and manufacturing. This allows them to secure good-paying jobs and achieve social and economic mobility (CCC, 2022).

California community colleges—particularly those in the Bay Area—represent an indispensable segment of the state's higher education landscape. With a mandate to serve diverse communities, promote affordability, and foster successful transfer pathways, CCC continues to shape the educational trajectories of millions of Californians. The system's governance structure, emphasis on open access, and resilience in the face of unprecedented challenges underscore its continued relevance. As California's economy evolves, Bay Area community colleges will remain a critical institution for both regional development and individual advancement.

Selection of Colleges and Participants

The three colleges were selected based on geographic location. They are all within the Bay Area and in close proximity to Silicon Valley. They were also chosen as colleges that offer entrepreneurship courses, certificates, and degrees but have distinct ways of supporting their academic programs. In addition, the researcher has access to a few administrators who facilitated the approval to conduct this research at their institution. The participants (see Table 4.1) from each college were all selected from the Business and Entrepreneurship department.

Table 4.1

Participant Profiles

Demographics	Participants												
Age	40-45	55-60	60-65	55-60	45-50	40-45	55-60	45-50	40-45	40-45	35-40	35-40	40-45
Gender	M	M	M	M	M	M	F	F	M	F	F	M	M
Current Role	AA	AA	AA	IF	IF	IF	IF	IF	NAA	NAA	Other	IP	IP
Years in the College	~4	~22	~5	~24	~4	~4	~10	~13	~8	~2	~3	0	0

AA – Academic Administrator
IF – Instructional Faculty
NAA – Non-Academic Administrator
Other – Other Faculty (Curriculum Designer)
IP – Industry Partner

Summary of Findings

Pseudonyms were used in the three community colleges, as discussed below.

College 1: Hogwarts Community College (HCC)

Introduction. Nestled in the heart of Silicon Valley in California, Hogwarts Community College (HCC) is a leading community college known for its dedication to academic excellence, innovation, and student success. Established in the early part of the 20th century, HCC has consistently adapted to the evolving needs of its diverse student population while staying true to its mission of providing an inclusive and supportive learning environment. The college aims to empower students through equitable access to quality education, career preparation, and pathways for transfer to 4-year universities.

HCC's mission is centered on transforming lives through accessible and innovative education, fostering success in an ever-changing world. Its vision includes being a recognized leader in student-centered education, focusing on equity, excellence, and engagement with the

community. The college emphasizes preparing students not only for academic achievement but also for meaningful contributions to the workforce and society.

Located in the Silicon Valley region, HCC benefits significantly from the innovation ecosystem that defines this global technology hub. The college leverages its proximity to leading tech companies, startups, and research institutions, offering students unique opportunities for internships, industry partnerships, and exposure to cutting-edge advancements. This strategic location enables HCC to align its curriculum with market demands and tap into talents and opportunities they offer, ensuring graduates are equipped with relevant skills for today's dynamic industries.

HCC serves a richly diverse student body representing various cultural, socioeconomic, and educational backgrounds. The college is committed to fostering equity and inclusion, providing resources and support tailored to the needs of its students. With over 10,000 students annually, HCC offers a wide range of programs, including associate degrees, transfer pathways, workforce training, and certificates in high-demand fields like business, healthcare, technology, and the arts.

The college's robust transfer programs position it as a critical gateway to the UC and CSU systems, ensuring seamless transitions for students pursuing bachelor's degrees. HCC has established itself as a leader in business education within the CCC system. Its business programs emphasize practical skills, innovation, and entrepreneurship, preparing students to thrive in competitive industries. Graduates from these programs frequently advance to successful careers or prestigious universities.

HCC's dedicated faculty and staff form the backbone of its success. The college boasts a team of experienced educators and industry professionals who bring real-world expertise and a

passion for teaching. Staff members are equally committed to supporting students through a comprehensive array of services, from academic advising to career counseling and wellness resources.

Key Findings. This section examines the findings from Hogwarts Community College's (HCC) full-time faculty and administrators in the studied program. It also addresses the study's research questions by presenting findings grouped by themes, followed by an analysis and interpretation of these findings.

1. Strategic Resources and Capabilities for Meeting Disruptive Innovation Demands

The transcripts revealed a multifaceted approach to addressing the demands of disruptive innovation and evolving student needs. One of the primary strategic resources identified was the strong administrative support for faculty development and innovation, demonstrated by the encouragement to attend national conferences and the availability of funding for professional development. This support is critical as it fosters an environment conducive to the exploration of new pedagogical strategies, including the integration of technology and real-world applications into the curriculum.

Moreover, there is a notable emphasis on collaboration with industry partners and community organizations. Faculty members leverage personal networks to establish partnerships that enhance experiential learning opportunities for students. This collaboration is essential for maintaining relevance in the curriculum and ensuring students are equipped with the skills needed in the current job market through labor market reports and advisory boards. The administration also seeks to align curriculum offerings with industry demands, as reflected in the commitment to regular program reviews and partnerships with a 4-year college in the Bay Area.

2. Mindset and Skillsets Required for Adaptation

The desire to adapt to a rapidly changing educational landscape was evident among the administrators, instructional designers, and faculty. They embraced a growth mindset characterized by a willingness to embrace failure as a learning opportunity and to seek innovative solutions to educational challenges. Additionally, adaptability, resourcefulness, and strong communication skills are reported, which are essential traits that enable educators to navigate the complexities of modern teaching environments.

The transcripts also highlighted the importance of collaborative skills, as faculty members are often required to work with other faculty, administrator, and external partners to create cohesive learning experiences. There is an acknowledgment that traditional teaching methods may not suffice, necessitating a shift towards hands-on, experiential learning. This shift requires faculty to be knowledgeable about current technological tools and to integrate them effectively into their teaching practices.

3. Program Structure and Business Model

HCC is committed to reducing the financial barriers to college and provides two levels of support through (a) enrollment fee waiver and (b) other fees and assistance, which can dramatically reduce or eliminate out-of-pocket student fees. The primary activities of HCC include curriculum development, student recruitment, faculty training, and community engagement. HCC serves a highly diverse student population. However, one participant noted the increase of Latino students in his classes and Chinese students just before the pandemic and the influx of Ukrainian students at the onset of the Russia-Ukraine conflict. Interestingly, some immigrant or international students had amazing educational backgrounds and experiences in their home countries. The institution focuses on continuous improvement of its programs through

regular assessments and feedback from industry partners, ensuring that the curriculum remains relevant to workforce needs. Moreover, the college actively engages with the community to establish partnerships that provide students with experiential learning opportunities.

The program structure at HCC reflects a model that prioritizes academic rigor over practical experience. However, some faculty believe that curricula should not only fulfill academic requirements but also engage students in real-world problem solving. This approach is reinforced by partnerships with local businesses and community organizations, which serve as platforms for student internships and experiential learning. The curriculum is fairly designed to be flexible, accommodating the diverse needs of students, ranging from high schoolers, working professionals, international students, nontraditional adult learners looking to upskill and retool for a career switch, and other lifelong learners.

Furthermore, the department employs a collaborative model that involves various stakeholders, including industry representatives, to inform curriculum development and ensure alignment with workforce needs. This collaboration is crucial in providing students with relevant skills and experiences that enhance their employability upon graduation. The Business department also entered into an agreement with a local 4-year university guaranteeing admission and a certain amount of scholarship for its students.

Challenges for HCC. While HCC College possesses valuable resources, a forward-thinking mindset, and a hybrid business model, several challenges may hinder its ability to harness these fully attributes to meet the evolving educational landscape and student needs. The following challenges are identified based on the findings:

1. Balancing Tradition with Innovation

HCC faces the challenge of balancing traditional educational practices with the need for innovative approaches. While there is a recognized necessity for experiential learning and real-world applications, there may be resistance among faculty and administration to shift away from established curricula and pedagogical methods. Additionally, some faculty members may be hesitant to adopt new teaching practices or technologies, limiting the overall effectiveness of educational initiatives. This resistance can stem from discomfort with change or a lack of familiarity with new technologies and teaching strategies. The dichotomy of entrepreneurship and academia is an interesting finding. The data highlighted the inherent conflict between entrepreneurial practices and traditional academic structures. For instance, one faculty member stated, “There’s some conflicts there...it’s so much about doing. I don’t feel that it’s an academic venture.” This suggested a tension between the hands-on, practical nature of entrepreneurship and the often-theoretical approach of academia.

> There’s more of a comment than anything else. Is that I feel that entrepreneurship and academia is a conflict. There’re some conflicts there. Because they’re coming from two different extremes, I feel, and it’s just my personal take on entrepreneurship. It’s so much about doing. I don’t feel that it’s an academic venture.

Overcoming this inertia is critical to fostering an environment that embraces innovation and adapts to student needs.

2. Limited Resources and Funding Constraints

A significant challenge for HCC is the limitation in financial resources and funding. Despite the college’s commitment to innovative teaching and learning methodologies, budget constraints can impede the ability to invest in necessary technological infrastructure and faculty training. One participant stated, “Community college systems, I would say, are maybe 10 years behind a traditional 4-year university system. And how do you incorporate those systems and

align them in a way that meets the needs of the industry, which is light years ahead of where the community college system is?" Another professional development challenge is the faculty's availability to attend conferences and seminars that conflict with their teaching schedule.

The reliance on tuition and fees as primary revenue sources, combined with rising operational costs, may limit the scope of programs and initiatives that the college can effectively implement. Additionally, the competitive landscape for grants and external funding can pose challenges in securing the financial support required to sustain and expand innovative programs.

3. Mindset and Cultural Shifts

Although HCC promotes a growth mindset and adaptability among its faculty and administration, fostering this culture at all levels can be challenging. For example, one participant suggested allowing instructional faculty to counsel students in terms of career pathways in addition to academic counseling, as many adjuncts have work experience in the industry that will benefit students. The need for flexibility and adaptation requires a commitment that may not be uniformly embraced across the institution. There is a sign of disparate views between faculty and administrators. The administrators have a more optimistic view of what is going on in the program or department, while the faculty have shown dissatisfaction with some aspects of the program, as one participant quoted:

> Back in the day, I would directly go to companies through my network of the Community College Association in the Bay Area, through personal network or contacts, through literally just going and knocking on doors at startups and such. I used to get these contacts. Now, we are very admin-top-heavy. There are a thousand-one administrators, all trying to justify their existence.

Overall, participants believed that entrepreneurship is a life skill everyone needs. Entrepreneurial mindset serves everyone; it builds persistence, flexibility, and risk tolerance.

Building a cohesive culture that values experimentation, collaboration, and constant change is essential for fully leveraging the college's resources and capabilities.

4. Aligning Curriculum with Industry Needs

While HCC actively engages with industry partners to ensure curriculum relevance, the rapidly changing nature of the job market presents a challenge in maintaining this alignment. Industries evolve quickly, and the skills employers require may shift more rapidly than the college can adapt its curriculum, which follows the state-mandated cycle. This misalignment can lead to gaps in student preparedness for the workforce, ultimately affecting enrollment and student success rates. Continuous communication and collaboration with industry stakeholders are necessary to ensure that the curriculum evolves in tandem with market demands. In terms of innovative curriculum, the issue of plagiarism was raised by a participant:

> They [other programs and colleges] steal everything from me. When I start an entrepreneurship program, they copy and paste it. I started a leadership program they copied and pasted it. I started the nonprofit administration program. They copied and pasted it. They're literally shooting me in the foot every god damn time I create an innovative program. There's plagiarism in the district that undermines us.

5. Technological Integration and Infrastructure

The integration of technology into teaching and learning processes is a critical component of HCC's business model. However, challenges related to the existing technological infrastructure can impede effective implementation. Insufficient technology resources, lack of training for faculty on new tools, and potential resistance to adopting digital platforms can hinder the seamless incorporation of technology into the curriculum. Ensuring that faculty receive adequate support and training to utilize these technologies effectively is essential for maximizing their impact on student learning.

6. Assessment and Measurement of Student Success

There was a notable discussion surrounding the assessment methods used for different disciplines. One participant mentioned:

> The assessment of entrepreneurship programs has to be completely different and how to assess a biology class or chemistry class and I say that the assessment has to be completely different. And I don't know if academic institutions are comfortable assessing it differently than how they have traditionally assessed students. But then I have to ask, how many of these academic faculty, or how these academic administrators actually have done entrepreneurship?

This illustrates the need for innovative assessment strategies that align better with the unique aspects of entrepreneurship education, which may not fit traditional academic evaluation methods.

Conclusion. HCC's business model reflects a comprehensive framework that addresses the needs of its diverse student population while aligning with industry demands. By embracing experiential learning, fostering strategic partnerships, and maintaining a commitment to student success, HCC positions itself as a vital educational institution that not only equips students with necessary skills but also contributes to the economic and social development of its community. This alignment of educational objectives with market needs exemplifies a sustainable and adaptive business model in the higher education sector. However, amidst these strengths, HCC is faced with overlapping challenges that hinder program scalability and growth. HCC is the only college that shares a negative view of industry and community partnership; as one faculty member stated, some of these partners poached students from them, which might lead to a decrease in enrollment. The same participant mentioned that collaboration led to plagiarism. One instance was the program he developed, which was copied and pasted by another college within the district. In this light, intellectual property and ownership are areas that need attention to make people comfortable sharing and collaborating with other parties.

In closing, while HCC is well-positioned to harness its resources, mindset, skills, and business model, several challenges must be addressed to realize its full potential. By proactively identifying and mitigating these challenges—such as funding constraints, the need for cultural shifts, curriculum alignment with industry demands, technological integration, and institutionalizing industry partnerships as part of its co-curricular programs—the college can enhance its ability to adapt to the evolving educational landscape and effectively prepare its students for the fast-changing industry demands. Commitment to innovation leveraging dynamic capabilities will be essential in navigating these challenges and ensuring the college's long-term success.

College 2: Narnia Community College (NCC)

Introduction. Narnia Community College (NCC) is a 2-year college in Northern California, with an additional campus in another part of the county. Part of a Community College District, NCC is a public, 2-year college committed to providing educational opportunities to its diverse student body. Positioned in proximity to Silicon Valley, the global hub for technological innovation, NCC plays a critical role in fostering a vibrant educational and professional pipeline that supports the innovation ecosystem. NCC benefits from its proximity to this innovation powerhouse. This location enables the college to cultivate partnerships with tech firms, startups, and community organizations in the region, offering students access to cutting-edge resources and opportunities for career advancement in industries such as technology, business, and engineering.

As a member of the CCC system—the largest higher education system in the nation—NCC offers a comprehensive array of academic and career-focused programs. These include transfer degrees, associate degrees, and certificates in fields such as business, computer science,

healthcare, and the arts. NCC consistently ranks among the top community colleges in California for transfer rates to prestigious 4-year universities, including those in the UC and CSU systems.

NCC aims to empower and transform students' lives through academic excellence, equity, and inclusion. The college is dedicated to creating a supportive and equitable environment where all students can achieve their educational and professional goals. Its vision reflects a commitment to innovation, community engagement, and lifelong learning, preparing students to thrive in an increasingly interconnected world.

NCC serves a diverse student population, including individuals from various cultural, ethnic, and socioeconomic backgrounds. The college enrolls over 19,000 students annually, including recent high school graduates, working adults, and international students seeking quality education at an affordable cost. NCC's focus on equity ensures that students from underserved communities receive the support they need to succeed.

NCC's business programs equip students with practical skills and foundational knowledge in areas such as accounting, marketing, entrepreneurship, and management. These programs emphasize real-world applications and integrate cutting-edge technologies, enabling students to excel in a competitive job market. Many alumni have successfully transitioned to leadership roles in industries or launched their own businesses.

Its faculty and staff are dedicated educators and professionals, many of whom bring significant industry experience to the classroom. Faculty members are recognized for their expertise and commitment to student success. Its entrepreneurship program has faculty who are actual entrepreneurs. The staff fosters an inclusive campus environment, ensuring students have access to comprehensive support services, from academic advising to career counseling. Through its strategic location, robust academic offerings, and unwavering dedication to equity and

innovation, NCC continues to catalyze individual and community transformation, empowering students to achieve their goals and contribute meaningfully to the global economy.

NCC offers a variety of entrepreneurship and business management programs. NCC also has other initiatives to help students learn about entrepreneurship, including workshops, competitions, and entrepreneurship video series. NCC offers similar Business Management and Entrepreneurship programs that the other two colleges offer. What is unique about this institution is the interdisciplinary approach to entrepreneurship certificates and its partnership with a local incubator to provide co-curricular support to NCC's academic curriculum.

Key Findings. This section examines the findings from Narnia Community College's (NCC) full-time faculty/administrators in the studied program, which is composed of two faculty members and an academic dean. This section addresses the study's research questions by presenting findings grouped by themes, followed by a conclusion to close this section.

1. **Resources and Capabilities**

Narnia Community College (NCC) exhibits notable capabilities in mobilizing resources through strategic funding acquisition, particularly via Strong Workforce Grants and additional state-level resources. These funds significantly enable the expansion and diversification of entrepreneurship certificates and non-credit programs, contributing to the robustness of the college's entrepreneurship education offerings. Furthermore, NCC benefits from extensive physical infrastructure that includes workforce development facilities, makerspaces, and specialized experiential learning environments. Although these resources are not fully integrated into the entrepreneurship curriculum, they present considerable potential for fostering innovation and interdisciplinary collaboration.

The institution's strong reputation, notably as a premier transfer institution to the University of California (UC) system, further enhances its appeal and standing within the local community. This reputation is bolstered by sustained community engagement through partnerships with local industries, chambers of commerce, civic clubs, and the Small Business Development Center. NCC's external partner networks, particularly collaborations with incubators focused on equitable entrepreneurship, significantly expand the college's reach into underserved communities. These partnerships facilitate mentoring, sponsorship, and increased participation from diverse student demographics.

Additionally, the integration of entrepreneurship into diverse academic disciplines such as culinary arts, horticulture, and kinesiology demonstrates NCC's interdisciplinary capabilities. Complementing these academic efforts, robust co-curricular programs, including pitch competitions, speaker series, business clubs, and mentorship initiatives, enhance the practical application of entrepreneurship education. Faculty consistently emphasize student engagement through experiential learning, effectively preparing students for real-world entrepreneurship contexts.

2. **Mindset and Skillsets**

Faculty and administrators at NCC embody an entrepreneurial mindset emphasizing equity, social justice, and accessibility. Entrepreneurship education is explicitly viewed as a means to facilitate economic mobility and generational wealth creation, particularly among historically underserved populations. Faculty highlight the importance of risk-taking and lean startup methods, such as rapid prototyping and minimum viable products (MVPs), although they note that current instructional practices could more effectively integrate these approaches.

Faculty members leverage their industry experiences and professional networks, embedding practical relevance, mentorship, and case-based learning into their teaching methodologies. NCC's approach accommodates diverse student backgrounds, ages, experiences, and career goals, utilizing flexible and responsive instructional methods.

Students at NCC acquire entrepreneurial skills through practical engagement in pitch competitions, mentorship, and industry interactions. This engagement develops both soft skills (e.g., communication and networking) and technical skills (e.g., finance and marketing). NCC serves a diverse student body, including recent high-school graduates, veterans, career changers, and niche-market entrepreneurs.

3. **Program Structure and Business Model**

NCC's entrepreneurship programs are structured around collaborative partnerships with local businesses, community organizations, and industry leaders. This ecosystem actively supports entrepreneurial activities through engagement platforms such as pitch competitions and speaker series, fostering practical student experiences and industry connections. NCC strategically leverages sponsorships and collaborations to enhance mentorship opportunities and experiential learning.

NCC employs adaptive program delivery methods, including credit, non-credit, and community education, to cater to varied student demographics, particularly underserved groups. The institution's ecosystem development strategies, such as the NCC Valley Tech Initiative, facilitate regional engagement among municipal leaders, business stakeholders, and college administrators. Mentorship and sponsorship programs, including the NCC Pitch Competition, reinforce industry connections and bolster NCC's community presence.

NCC distinguishes itself through an equity-focused entrepreneurship strategy, collaborating with a recognized incubator and community partners to support historically marginalized populations. This targeted approach aligns with statewide diversity, equity, and inclusion objectives, enhancing NCC's educational offerings and community engagement.

Challenges for NCC. Despite commendable strategies and initiatives, several challenges remain that could hinder the institution's ability to harness its resources, mindset, skills, and current business model fully.

1. Navigating Institutional Silos

A significant challenge is the existence of institutional silos that historically impede collaboration among different programs and departments. While efforts have been made to break down these barriers, the transcripts indicated that this remains a persistent issue, as different departments often operate with distinct cultures and objectives. Such silos can limit the effectiveness of interdisciplinary approaches and hinder the integration of diverse resources and expertise, ultimately affecting the institution's ability to respond to student needs and industry demands effectively.

2. Funding Uncertainty and Sustainability

The transcripts highlighted concerns regarding the sustainability of funding sources, particularly in light of changing economic conditions and funding models. NCC's reliance on strong workforce funding, which is subject to fluctuations based on state budget situations, poses a risk to the continuity of programs and initiatives aimed at fostering innovation and entrepreneurship. This uncertainty could undermine the institution's ability to fully leverage its resources and capabilities in the long term.

4. Resistance to Change

Another challenge is the resistance to change among faculty and staff, particularly in adapting to new teaching methodologies and the incorporation of entrepreneurial principles across various disciplines. According to the administrator, some faculty members have expressed hesitance in embracing business-oriented approaches, viewing entrepreneurship through a narrow lens. This mindset may limit the potential for interdisciplinary collaboration and the development of innovative programs that align with the evolving needs of students and the job market.

4. Measuring Impact and Success

NCC faces challenges in measuring the impact and success of its programs, particularly in tracking alumni outcomes and the effectiveness of entrepreneurship initiatives. The lack of established key performance indicators (KPIs) and systematic follow-up mechanisms can hinder the institution's ability to demonstrate the value of its offerings, thereby affecting stakeholder confidence and potential funding opportunities. Without well-defined metrics, it becomes challenging to communicate the effectiveness of the programs and to make informed decisions for future improvements.

5. Adapting to Rapid Industry Changes

The fast-paced nature of industry changes, particularly in technology and entrepreneurship, presents an ongoing challenge for NCC. As noted in the transcripts, the educational curriculum must continuously evolve to keep pace with emerging trends and demands in the job market. This requires not only a commitment to curricular innovation but also the agility to adapt teaching methods and resources to meet these evolving needs. Failure to do so may result in a misalignment between educational outcomes and workforce expectations.

Conclusion. NCC's tangible and intangible resources, combined with its interdisciplinary capabilities and equity-focused entrepreneurial mindset, position it as a potential leader in community college entrepreneurship education. The institution effectively bridges academic theory with practical application through experiential learning opportunities and a collaborative business model. However, challenges related to organizational silos, funding uncertainty, resistance to change, impact measurement, and industry adaptability present ongoing complexities. Despite these challenges, NCC's attempt at a holistic approach to entrepreneurship education continues to enhance its educational ecosystem, promote student success, and contribute meaningfully to community and economic development.

College 3—South Park Community College (SPCC)

Introduction. South Park Community College (SPCC), located in the Bay Area, serves as a vital part of the CCC system, offering transformative educational opportunities to a diverse student population. Nestled just minutes from San Francisco and in proximity to the innovative ecosystem of Silicon Valley, the college is uniquely positioned to prepare students for success in a rapidly evolving global marketplace.

SPCC is committed to empowering students to achieve academic, professional, and personal goals through accessible and affordable education. Guided by its mission of "transforming and empowering a global community of learners," the college envisions a world-class learning environment that promotes equity, social justice, and excellence.

With a vibrant and diverse student body, SPCC reflects the rich cultural tapestry of California. Its students hail from varied socioeconomic backgrounds, representing communities locally and internationally. The college takes pride in serving first-generation college students,

adult learners, and career-focused professionals, creating a supportive environment for all learners.

The College offers a broad array of degree and certificate programs, ranging from business and entrepreneurship to healthcare, technology, and the arts. Known for its excellence in Career and Technical Education, the college provides specialized programs in business administration, entrepreneurship and management, and vocational programs in cosmetology, barbering, and esthetics designed to prepare students for immediate employment or transfer to 4-year institutions. Cutting-edge initiatives, such as internship partnerships and entrepreneurial labs, equip students with hands-on experience and industry-relevant skills.

As part of the CCC system, SPCC serves as a bridge for students seeking to transfer to universities, gain workforce training, or pursue lifelong learning. With its student-centered approach, SPCC has consistently been recognized for its equity-focused practices, innovation, and commitment to student success. The college's faculty and staff bring a wealth of expertise and passion to their roles. Many faculty members hold advanced degrees and have professional experience in their respective fields, fostering a practical and forward-thinking learning environment. Staff and administrators are deeply committed to student empowerment and the development of community partnerships, ensuring that they remain leaders in community college education. It continues to make significant strides in supporting its students' aspirations, contributing to regional growth, and building pathways to success in a dynamic and diverse world.

Key Findings. This section examines the findings from South Park Community College's (SPCC) full-time faculty/administrators in the studied program, which is composed of two faculty members and an academic dean. This section addresses the study's research

questions by presenting findings grouped by themes, followed by a conclusion to close this section.

1. Strategic Resources and Capabilities

The analysis revealed that SPCC possesses several strategic resources and capabilities essential for addressing disruptive innovation and the evolving needs of students. Notably, there is a focus on fostering entrepreneurial development, as evidenced by the establishment of centers, programs, and initiatives aimed at enhancing business acumen among students. For instance, its establishment of an entrepreneurship center is unique among the three colleges. Furthermore, the collaboration with local chambers of commerce and other community partners illustrates an effort to align educational offerings with real-world business demands, thereby creating a responsive educational environment.

Moreover, the capacity to adapt to changing student needs is reflected in the incorporation of practical experiences, such as the organization of pop-up markets and workshops that allow students to engage directly with the community. This hands-on approach not only enhances student learning but also cultivates a spirit of innovation and self-efficacy among participants, essential for navigating a rapidly changing job market.

2. Mindsets and Skillsets

To adapt effectively to the new educational landscape characterized by disruptive innovation, a specific set of mindsets and skill sets is required among administrators, instructional designers, and faculty. A growth mindset, emphasizing adaptability and continuous learning, is crucial. The transcripts indicated a recognition of the necessity for educators to engage in professional development actively and to embrace innovative teaching methodologies that align with industry standards.

Additionally, there is an evident need for knowledge and skills related to highly technical aspects of entrepreneurship and business practices. Faculty members integrate real-world applications into their curricula, thereby equipping students with the necessary competencies to succeed in entrepreneurial ventures. The emphasis on collaboration with industry is also highlighted, as these abilities are critical in fostering synergies between students and industry partners.

3. Program Structure and Business Model

The program's structure at SPCC reflects a collaborative model that engages multiple stakeholders, including community partners and industry representatives. This collaborative framework is essential for creating a supportive ecosystem for entrepreneurial education. The transcripts revealed that faculty and administrators actively seek partnerships with local businesses to provide students with internship opportunities and hands-on experiences.

Furthermore, the program design includes advisory boards consisting of business leaders who contribute insights into industry trends and workforce needs, ensuring that the curriculum remains relevant and responsive to market demands. The integration of both theoretical and practical elements into the curriculum illustrates a commitment to preparing students not only for academic success but also for career readiness in diverse fields.

Challenges for SPCC. Despite the promising findings regarding the strategic resources, mindsets, skillsets, and collaborative business model at SPCC, several challenges persist that may hinder the effective harnessing of these elements to fully capitalize on their potential.

1. Institutional Resistance to Change

A significant challenge identified in the transcripts was the institutional inertia that often accompanies educational environments. Faculty and administrators expressed concerns about the

slow pace of change within the curriculum and program structures, which can inhibit innovation. The lengthy processes required for curriculum approval and adaptation to current industry standards are cited as obstacles to implementing timely educational reforms that reflect evolving student needs and market demands. Oftentimes, when a program lead or product champion leaves the college, the project dies with them; hence, continuity is a big challenge.

2. Lack of Accountability and Engagement

The culture of minimal accountability within the institution, particularly in relation to professional development requirements, poses another challenge. Many educators may not feel compelled to engage in ongoing professional development or to enhance their teaching practices, which could lead to a stagnation of pedagogical innovation. Furthermore, the perception that professional development is optional rather than a necessity could limit faculty engagement in transformative practices that benefit students.

3. Disconnect Between Academic and Industry Expectations

There exists a notable disconnect between the expectations of industry stakeholders and the preparedness of students graduating from SPCC. Local businesses often seek interns who possess advanced skills that may not align with the educational experiences provided. This misalignment can lead to frustration among employers and may result in a lack of job opportunities for graduates, ultimately undermining the program's success in fostering employability.

4. Resource Limitations and Funding Constraints

While SPCC has established collaborations with community organizations and businesses, resource limitations remain a significant barrier. The transcripts indicated challenges

in securing consistent funding for entrepreneurial initiatives and professional development programs. Without adequate financial support, the institution may struggle to sustain innovative programs and effectively train faculty and staff in the necessary skills to adapt to new educational paradigms. Due to lack of funding, faculty needs to be very resourceful and appeal to their own network and connections for various support, which is not sustainable.

5. Diverse Student Needs and Backgrounds

The diverse backgrounds and varying levels of preparedness among students present a challenge in creating a one-size-fits-all approach to education. Students at SPCC come from a range of socioeconomic backgrounds and may lack the foundational knowledge or skills necessary for entrepreneurial success. Addressing these disparities requires tailored instructional strategies and support mechanisms, which can be resource-intensive and complex to implement.

6. Balancing Entrepreneurial Focus with Academic Rigor

Another challenge lies in balancing the emphasis on entrepreneurship with the need to maintain academic rigor. As institutions increasingly prioritize career readiness, there is a risk that essential academic principles may be overshadowed by a focus on practical skills. Educators must navigate the delicate balance between providing students with the entrepreneurial skills necessary for the workforce while ensuring they receive a comprehensive education that includes critical thinking and theoretical foundations.

Conclusion. In summary, while SPCC possesses a range of strategic resources and a collaborative business model conducive to fostering innovation and entrepreneurship, it faces several challenges. There are multiple systemic obstacles that limit the growth and sustainability of entrepreneurship education at SPCC. From organizational siloes**,** misaligned metrics to faculty training gaps and weak institutional structures**,** the interview also highlights the consistent

undervaluing of entrepreneurship, which is under the Career and Technical Education (CTE) within the community college framework. The findings underscore the need for intentional investment**,** long-term administrative commitment**,** and innovative funding/partnership models to prevent entrepreneurship from remaining a "third-class" program in an environment already prone to sidelining CTE.

Institutional resistance to change, underutilization of key tangible resources, disconnects between academic and industry expectations, resource limitations, diverse student needs, and balancing entrepreneurial focus with academic rigor all pose significant barriers to fully leveraging its resources and capabilities. Addressing these challenges will be crucial for SPCC to harness its potential effectively and prepare students for success in an ever-evolving job market.

SPCC's business model aligns with the definitions and components established in scholarly literature. By focusing on delivering value through accessible education and community engagement, the college positions itself as a pivotal resource for students and local businesses alike. However, the challenges identified earlier, including institutional resistance to change and resource limitations, must be addressed to ensure the long-term viability and effectiveness of its business model in meeting the evolving needs of students and the community. As the landscape of higher education continues to shift, SPCC's ability to adapt its business model will be critical in maintaining its relevance and impact.

Summary

The chapter comprehensively presents the findings and analysis of three Bay Area community colleges—Hogwarts Community College (HCC), Narnia Community College

(NCC), and South Park Community College (SPCC)—situated in proximity to Silicon Valley, exploring their strategic resources, capabilities, institutional mindsets, skillsets, and program structures aimed at addressing disruptive innovation and changing educational landscapes.

Key findings from the chapter highlight each institution's strengths and challenges: Hogwarts Community College (HCC) benefits significantly from its Silicon Valley location, leveraging industry partnerships to support it academic programs. It possesses robust administrative support and promotes faculty innovation. However, HCC struggles with balancing traditional educational methods and innovation, funding constraints, resistance to cultural change, technological integration limitations, and challenges in aligning curriculum swiftly with rapidly evolving industry needs. Narnia Community College (NCC) emphasizes interdisciplinary and equity-focused entrepreneurship education, enjoying formal and structured industry ties, diverse funding sources, and an innovative mindset. Its challenges include navigating institutional silos, maintaining funding sustainability, overcoming resistance to entrepreneurial approaches, developing robust impact measurement systems, and adapting quickly to rapid industry advancements. Lastly, South Park Community College (SPCC) is notable for its community-focused strategic entrepreneurial resources, community partnerships, and practical learning initiatives like entrepreneurship centers and pop-up markets. Nonetheless, SPCC faces institutional inertia, insufficient accountability measures, misalignment between academic outcomes and industry expectations, resource constraints, diverse student needs, and institutional silos.

In conclusion, while each college demonstrates unique strengths in entrepreneurship education and innovative program delivery, persistent challenges related to institutional culture, resource allocation, technological infrastructure, and industry alignment need to be addressed to

maximize their capabilities and ensure long-term relevance and sustainability. The cross-case analysis in Chapter Six presents an integrative analysis of the three community colleges.

Chapter 5: FINDINGS: STUDENTS, INDUSTRY PARTNERS, AND OBSERVATIONS

Chapter five comprehensively examines the findings gathered from multiple stakeholders, including industry partners, students, and observational data from one of the three community colleges involved in this study. Utilizing a triangulation approach, the chapter integrates various perspectives to enhance the validity and credibility of the research findings. This analytical summary provides a scholarly interpretation of the insights, emphasizing their implications for entrepreneurship education within community colleges.

Industry Partners

This section summarizes the findings and analysis of the interviews conducted with two major industry partners who have direct relationships with several community colleges in the Bay Area. These partners were selected based on their focus, mission, and vision, which were aligned with the three community colleges—namely, to provide entrepreneurial support to under-resourced and underrepresented communities in California.

As covered in the previous chapters, all three colleges have some degree of collaboration and partnerships with industry and community partners for mentorship, internship, and other factors that augment their academic programs. Often, for 4-year universities, these fall into the category of extracurricular or co-curricular activities, which are organized formally to complement various academic programs and degrees that require external partners' support to form a robust ecosystem. However, for community colleges, these partnerships and collaborations are typically informal, ad-hoc, and unstructured. As presented in the previous chapters, the relationships with the industry and community-based organizations (CBOs) usually

begin with instructors who tap their own network to be guest speakers or obtain a seat on their advisory boards.

For Business and Entrepreneurship, the idea of partnerships extends to seeking mentors, coaches, and immersions that could provide the experiential learning component of the program. This discussion draws from Daniel Isenberg's entrepreneurial ecosystem, a framework that emphasizes the interconnected elements required to foster entrepreneurship within a community or organization. These elements include access to talent, supportive policies, financial capital, a culture of innovation, robust networks, and mentorship opportunities (Isenberg, 2010). The ecosystem thrives on collaboration among stakeholders, such as businesses, government, and educational institutions.

Importance for Companies

Industries benefit significantly from partnerships with colleges and universities, primarily because such collaborations stimulate innovation and facilitate strategic business growth within an entrepreneurial ecosystem (Isenberg, 2011). Through engagement with academia, companies gain access to cutting-edge research, specialized expertise, and resources that foster new ideas and competitive advantage (Etzkowitz & Leydesdorff, 2000). Moreover, partnering with higher education institutions enhances industries' capacities to attract and retain high-caliber talent, creating a dynamic community conducive to sustained economic vitality and adaptability in rapidly evolving markets (Isenberg, 2011).and sustained success within a rapidly evolving marketplace.

Importance for Higher Education and Community Colleges

Partnering with industry and community organizations significantly enhances community colleges' capacity to equip students with entrepreneurial competencies essential for

contemporary careers, effectively bridging educational programs with real-world workforce requirements (Isenberg, 2011). Such collaborations provide opportunities to leverage supplemental resources from businesses, thereby offsetting the constraints of limited institutional funding (Barney, 1991). Additionally, these partnerships actively promote local economic development, aligning strategically with the community college mission to serve and fulfill regional socio-economic needs (Etzkowitz & Leydesdorff, 2000). Ultimately, engaging closely with industry and community organizations allows community colleges to develop a robust talent and innovation pipeline, solidifying their role and impact within local economic ecosystems (Isenberg, 2011). For community colleges, Isenberg's model offers a roadmap to leverage existing resources and foster collaboration, maximizing impact despite limited funding and capabilities. As one participant convincingly stated, “I really think my Aha Moment is the importance of advisors and relationships…”

Industry Partner A: Empowering Entrepreneurs and Communities

Partner A is a pioneering organization committed to fostering entrepreneurship, with a special focus on underrepresented communities, particularly people of color. By building partnerships with community colleges, Partner A bridges the gap between aspiring entrepreneurs and the resources they need to succeed, such as funding, mentorship, and an entrepreneurial ecosystem that is often inaccessible through traditional educational institutions. Partner A was founded by a team of visionary leaders with deep roots in both entrepreneurship and social impact. Their collective mission is to create an inclusive entrepreneurial ecosystem that provides people of color with the tools, networks, and capital needed to thrive in business. The founders bring a wealth of experience in business development, investment, and community building, leveraging their expertise to break down systemic barriers and foster economic equity.

A Bridge Between Education and Entrepreneurship. Recognizing that many entrepreneurship students face financial barriers to launching their businesses, Partner A collaborates with community colleges to provide access to funding that goes beyond what colleges can offer. Through these partnerships, students are equipped not only with entrepreneurial knowledge but also with tangible resources to turn their ideas into viable businesses. This approach enables community college students—often from diverse and underserved backgrounds—to break into industries where they have historically been underrepresented.

An Entrepreneurial Ecosystem for People of Color. The organization's major role lies in creating a holistic support system that includes access to micro-grants, venture capital, and accelerator programs tailored to the unique challenges faced by entrepreneurs of color. Partner A not only funds promising ideas but also nurtures them through mentorship, training, and connections to industry leaders. By doing so, they empower individuals to create businesses that generate wealth and opportunities within their communities.

Through its partnerships and programs, Partner A has become a beacon of hope and empowerment for aspiring entrepreneurs. Its work is more than just about business—it is about community transformation. By supporting entrepreneurs of color, Partner A helps create a ripple effect of economic growth and opportunity, ensuring that underrepresented voices are heard, and their innovations are realized. Partner A exemplifies the power of partnerships and the transformative potential of inclusive entrepreneurship. With its focus on breaking barriers and leveling the playing field, the organization is redefining what is possible for future business leaders from all walks of life.

Industry Partner B: Empowering the Next Generation of Entrepreneurs

Partner B is a forward-thinking organization dedicated to fostering entrepreneurship and economic growth through innovative partnerships with community colleges. Recognizing that traditional educational institutions often lack the resources to fund entrepreneurial ventures, Partner B bridges the gap by providing critical financial support and strategic resources to students pursuing entrepreneurial dreams. Partner B collaborates closely with community colleges, which serve as hubs for adult learners seeking to build new careers or grow their skills. These partnerships are rooted in a shared mission: to create equitable access to entrepreneurial opportunities. By working hand in hand with these institutions, Partner B offers funding solutions, mentorship programs, and practical tools that enable students to transition seamlessly from classroom concepts to real-world ventures. Through these initiatives, they not only support students in accessing funding not typically available within college programs but also cultivate a network of entrepreneurs prepared to thrive in a competitive marketplace. The organization's commitment to inclusivity ensures that students from diverse backgrounds—many of whom are juggling work and family responsibilities—can participate meaningfully in the entrepreneurial ecosystem.

Driving an Entrepreneurial Ecosystem. At the heart of Partner B are its visionary founders, a group of experienced entrepreneurial support organization leaders with deep roots in business development, education, and community engagement. The founders bring a wealth of expertise in creating programs that serve the unique needs of adult learners, many of whom are at various stages of their entrepreneurial journeys. The founders' collective backgrounds span industries such as technology, finance, and social enterprise, enabling them to design tailored solutions for diverse entrepreneurial challenges. They have championed initiatives that include:

- **Startup Incubation:** Guiding nascent entrepreneurs through the process of launching and scaling their ventures.
- **Access to Capital:** Partnering with local and national funders to provide grants, micro-loans, and investment opportunities.
- **Mentorship Networks:** Connecting students with seasoned business leaders who offer real-world insights and strategic advice.
- **Lifelong Learning:** Emphasizing the importance of continuous skill development, particularly in areas such as digital marketing, financial management, and product development.

An Ecosystem for Every Stage. Partner B's entrepreneurial ecosystem is intentionally designed to support adult learners at every stage of their journey, from those exploring a new business idea to established entrepreneurs seeking to scale their operations. This comprehensive approach ensures that students receive the guidance and resources they need, regardless of where they start.

By integrating financial support, mentorship, and educational resources, Partner B stands as a beacon of hope and opportunity for aspiring entrepreneurs. The organization's innovative model demonstrates the transformative power of collaboration, equipping adult learners to achieve their goals and contribute meaningfully to their communities.

From these two organizations, the researcher interviewed the co-founders who are very much involved in the negotiation and discussions with various community colleges in terms of their various involvement with these colleges. As one participant mentioned, "The learning is this, you cannot train all stages of entrepreneurs in one classroom, and that was one of the biggest learnings that we had from the first phase."

Key Findings from Industry Partners

Resources and Capabilities. Community colleges play a pivotal role in addressing the challenges of disruptive innovation, particularly in the realm of entrepreneurship education. To meet the demands of ever-evolving student needs, these institutions must leverage strategic resources and capabilities that align with both adult learning theories and business frameworks. By offering accessible, flexible, and relevant programs, community colleges can cater to adult learners who often bring diverse backgrounds and practical experiences to their education. From a business perspective, community colleges can draw on theories of competitive advantage, such as Isenberg's ecosystem framework, to position themselves as hubs for entrepreneurial education. By synthesizing adult learning theories with business strategies for competitive advantage, community colleges can effectively respond to disruptive innovation in entrepreneurship education.

The interviewees highlight several strategic resources and capabilities that can address disruptive innovation demands and evolving student needs within the context of entrepreneurship education. The following themes emerged from the transcripts.

Diversity and Inclusion in Entrepreneurship Programs. There is a strong emphasis on the diversity of participants in entrepreneurship programs. For instance, the first growth summit event highlighted a significant demographic shift, with a majority of participants being women and people of color, which was described as an "Aha Moment" for the organizers. This indicates a commitment to inclusivity in supporting underrepresented groups in entrepreneurship.

Importance of Tailored Support for Entrepreneurs. The transcripts reflect a consensus on the need for specialized support tailored to different stages of entrepreneurship. It was noted that training cannot be one-size-fits-all, and that there should be segmentation based on the

entrepreneurs' experience and revenue. This highlights the need for more personalized approaches in entrepreneurial education.

Challenges in Curriculum and Learning Outcomes*:* Several snippets discussed the complexities involved in curriculum approval processes and the necessity of establishing clear and measurable learning outcomes. The challenge of aligning curriculum with real-world entrepreneurial needs was emphasized, showing a gap between educational offerings and practical application.

Role of Community Colleges. Community colleges are positioned as vital partners in supporting entrepreneurship through their ability to connect with local communities and provide necessary resources. As one industry partner quoted, "Throughout the State of California, we say, why not just partner with them and let them handle the knowledge acquisition, part of it. We will handle the incubation and acceleration part of it." The collaboration between these partners and community colleges aims to leverage their knowledge and resources to benefit local entrepreneurs.

Continuous Support and Relationships. There is recognition of the importance of ongoing relationships and support for entrepreneurs beyond initial training. Community colleges and other partners are encouraged to maintain connections with students to foster their growth over time.

Access to Resources and Capital. Access to capital is noted as a critical need for entrepreneurs. The transcripts highlighted efforts to ensure that entrepreneurs can obtain funding and resources to support their business development. This includes initiatives like providing free access to learning materials such as QuickBooks.

Experiential Learning and Practical Application. There is a strong call for experiential learning opportunities where students can engage in real-world entrepreneurial activities. The emphasis on getting students out of the classroom and into practical environments is seen as crucial for their development.

In summary, the findings revealed a comprehensive framework that emphasizes diversity, tailored support, continuous relationships, experiential learning, and the critical role of community colleges in fostering an entrepreneurial ecosystem. These insights are vital for shaping future initiatives aimed at supporting entrepreneurs, particularly those from underrepresented backgrounds.

Mindset and Skillset. The evolving landscape of entrepreneurial education necessitates a shift in the mindset and skill sets of administrators, instructional designers, and faculty to prepare students effectively for success in dynamic, real-world business environments. Insights gathered from industry partners—based on their direct interactions with educational institutions—highlight critical areas of focus to align education with the demands of modern entrepreneurship. These findings emphasized the importance of fostering collaboration, adaptability, technological proficiency, and inclusivity, while integrating experiential learning approaches that bridge theory and practice. By addressing these areas, educators can create a supportive and innovative ecosystem that equips diverse students with the resilience, creativity, and practical skills needed to thrive as entrepreneurs.

The findings regarding the mindset and skill sets needed by administrators, instructional designers, and faculty to adapt to the new entrepreneurial education environment as viewed by the industry partners based on their direct working relationships with them summarize them into major themes.

Collaboration and Relationship Building. The importance of building relationships and creating a supportive ecosystem is stressed. Administrators and faculty are encouraged to recognize the necessity of advising and mentoring, as one respondent quoted below. This suggested a collaborative mindset is essential for fostering connections between students and the entrepreneurial ecosystem.

> It's really because it requires advisors, someone who knows your business well, your industry well, to help you move forward, and when I saw a lot of our entrepreneurs being solopreneurs are going at it by themselves, or, they're coming to us for thought partnership, but really, they need that continuity from trusted advisors. (Participant)

Development of Entrepreneurial Mindset. Fostering an entrepreneurial mindset is crucial. The transcripts discussed the importance of teaching students how to leverage their resources and navigate challenges as part of developing this mindset. Faculty are urged to embody and impart an entrepreneurial spirit that encourages resilience and innovation among students.

Adaptability to Curriculum Changes. The transcripts pointed to the need for a flexible approach to curriculum development that can adapt to the rapidly changing business landscape. For example, it is highlighted that the learning outcomes need to evolve to meet the demands of today's entrepreneurs, which requires administrators and instructional designers to be responsive and innovative in their curriculum design.

Awareness of Localized Support Systems. There is a strong emphasis on the importance of localized support for entrepreneurship. The findings indicated that small business support should be tailored to the local community, reinforcing that administrators and faculty must be aware of and engaged with their local entrepreneurial ecosystems. Another finding was the recognition of the students' varying stage in their entrepreneurial journey that requires different tools and support.

Understanding and Utilizing Technology. The need for familiarity with technology and digital tools was underscored as a crucial skill set. The increasing availability of resources and tools for entrepreneurship, such as web design and AI, indicates that educators must be adept at integrating these technologies into their teaching practices to enhance the learning experience.

Understanding of Diverse Entrepreneurial Needs. There was a recognition that education should cater to a diverse range of entrepreneurs, particularly focusing on under-resourced communities. The transcripts highlight the importance of understanding the demographic served, with specific mention that a good number of participants in the incubator were women from predominantly Black and Brown backgrounds. One administrator shared an experience meeting with a student, "I feel she helped me understand the student perspective and needs and where students are at while they're in the program. And then, how do we meet them where they're at? This underscored the need for administrators and educators to have a mindset that values diversity and inclusion in entrepreneurship education. For example, a common challenge is what and how to address the different needs of students who are being taught the same materials while being at different stages in their entrepreneurial journey. The participants argued that colleges should meet students where they are.

Integration of Experiential Learning. Finally, a significant emphasis was placed on moving away from traditional textbook learning to experiential learning. For instance, one transcript mentioned the recommendation that students engage in real-world entrepreneurial activities, such as conducting field market research and developing a web presence. This indicates the need for faculty to possess the skills to create practical, hands-on learning experiences that connect theory to real-world application.

In summary, the findings suggested that to adapt to the new environment effectively, administrators, instructional designers, and faculty need to cultivate a mindset that values diversity, embraces experiential learning, fosters collaboration, is adaptable to change, understands localized support systems, utilizes technology effectively, and promotes an entrepreneurial mindset.

Business Model. Understanding a college entrepreneurship program's structure and business model—encompassing elements such as co-curricular initiatives, curriculum and instructional designs, and industry and community partnerships—is crucial for assessing its currency and competitive advantage. These components shape the program's capacity to deliver a holistic and practical learning experience that equips students with the knowledge, skills, and networks necessary for entrepreneurial success. Co-curricular programs and innovative instructional designs can enhance engagement and foster the application of theoretical concepts to real-world challenges. Meanwhile, strategic industry and community partnerships extend the program's impact by providing mentorship, funding opportunities, and direct connections to entrepreneurial ecosystems. By examining how these elements are integrated, institutions can evaluate the program's responsiveness to market trends, alignment with stakeholder needs, and ability to distinguish itself in a crowded educational landscape. This inquiry is essential for ensuring the program's sustainability, relevance, and contribution to individual student outcomes and broader economic development.

The following themes emerged from the data when the question of how entrepreneurship programs in this college are structured, what their business model looks like, and how they can effectively leverage industry and community partnerships. It should be noted that these partners do not have deep access to institutional-wide information, as they mainly deal with the Business

and Entrepreneurship department's administrators, staff, faculty, and students. Hence, these findings are based on their lived experiences working with these stakeholders. They viewed community colleges as valuable partners due to their ability to provide access to resources and support for entrepreneurship education. They can serve as a bridge to connect students with real-world experiences and mentorship opportunities.

Focus on Early-Stage Entrepreneurs*:* Some colleges try to position themselves as accelerators. Entrepreneurship programs should prioritize supporting early-stage entrepreneurs rather than competing with established accelerators. This includes focusing on lifestyle businesses and non-tech sectors to serve the local community and economy better.

Segmentation of Entrepreneurial Support*:* There is a need for segmentation within entrepreneurship support better to address the diverse needs of entrepreneurs at different stages. As one participant stated, "You cannot train all stages of entrepreneurs in one classroom, and that was one of the biggest learnings we had from the first phase." Programs should distinguish between those with less than 2 years of experience and those with more established businesses to tailor support and training accordingly.

Professional Development. It is crucial for colleges to invest in training and supporting instructors who have real-world entrepreneurial experience. This enables them to teach effectively and relate to the challenges faced by students, thereby enriching the educational experience. For students, colleges should include professional development and certification opportunities within their entrepreneurship programs. This ensures that students gain relevant skills and credentials recognized in the industry, enhancing their employability and entrepreneurial capacity.

> I'm learning more and more about entrepreneurship. But yes, from that perspective, it is hard to teach entrepreneurship without resources to support the entrepreneur financially and to be able to support the instructor in a way where they bring real lived experience to the classroom. Those two are critical pieces that most colleges, the elites, the Ivy Leagues, the Bobsons, those colleges have figured it out, but for that to trickle down to the public institution at the 2-year level. We have not seen that happen. (Participant)

Utilization of Existing Resources. Programs should enhance their offerings by leveraging existing resources and frameworks from third-party organizations. This could include guidance on best practices for entrepreneurship, frameworks for local competitions, and access to funding resources. As one of the partners mentioned:

> Imagine if we put together a guidebook that said, Hey, you want to participate in this regional competition. Here are some frameworks for your events. Here's a framework for your pop-up. Here's a framework for this. Just follow the steps, and it would probably save a lot of headaches, right?

Commitment to Continuous Improvement. There is an emphasis on the importance of continuous feedback and improvement within the college business models. Programs should regularly assess the effectiveness of their partnerships and the outcomes for students to ensure they remain relevant and effective in meeting their needs.

These findings reflect a vision for entrepreneurship programs that emphasizes collaboration, targeted support, and the integration of practical experiences, with community colleges playing a pivotal role in delivering these initiatives.

Analysis

The analysis of industry partner transcripts reveals that community colleges must cultivate specific resources and capabilities to effectively foster entrepreneurial environments. Key among these is human capital, particularly instructors with direct entrepreneurial experience who understand contemporary business challenges and opportunities. Additionally, intentional efforts to localize curricula significantly enhance educational relevance and student engagement. Facilitating access to crucial resources—such as technology, funding, and support networks—is

integral to a robust entrepreneurial ecosystem, aligning with Etzkowitz's (2000) emphasis on the centrality of resource availability within innovation ecosystems. Moreover, creating robust support systems and networks, with advisors and mentorship opportunities, provides critical infrastructure for entrepreneurial success. Emphasizing experiential learning, where students engage directly with real-world entrepreneurial activities, further enriches their practical knowledge and marketability (Isenberg, 2011). Finally, targeted support tailored to diverse demographics, especially under-resourced and nontraditional students, ensures equitable access to entrepreneurial opportunities, reinforcing community colleges as vital hubs of innovation and economic empowerment (Barney, 1991; Etzkowitz & Leydesdorff, 2000; Isenberg, 2011).

Conclusion

Community colleges, as vital hubs for adult learners seeking to enhance their skills or pivot careers, benefit immensely from Partner B's initiatives. Through these partnerships, institutions can expand their offerings beyond academics, creating pathways for entrepreneurial students to access funding, tools, and networks unavailable within the colleges. This partnership equips colleges to better serve a diverse student body, including working adults and nontraditional learners. It positions them as catalysts for local economic growth while operating within the financial and organizational constraints many of these colleges are experiencing. Partnerships with industry leaders bring cutting-edge insights, funding opportunities, and mentorship directly to the students. These collaborations help bridge the gap between academic learning and the realities of launching a successful business. Integrating industry expertise into their model prepares students to meet real-world demands with confidence and innovation.

For students, industry partners help transform their learning experience, especially with partners who target specific populations that strengthen their ability to serve students from

diverse and underserved backgrounds. By embedding resources like micro-grants, accelerator programs, and venture capital into the college experience, these partners enable these institutions to offer robust entrepreneurial opportunities that align with their mission of equity and access. Students gain more than an education; they gain a launchpad for their entrepreneurial dreams. Partners connect them with industry leaders for mentorship, provide access to grants and microloans, and foster a supportive ecosystem where ideas can flourish. This comprehensive approach ensures that students leave not just with degrees but with businesses ready to thrive in competitive markets.

Students not only acquire entrepreneurial knowledge but also gain the resources to turn ideas into reality. Students can overcome the financial and systemic barriers that often hinder progress through tailored support systems. Partners' commitment to mentorship, training, and networking ensures that aspiring entrepreneurs receive personalized guidance at every stage of their journey. The value of partners lies in their ability to connect students with broader industry networks. From access to seasoned mentors to engagement with industry-specific accelerators, students benefit from real-world exposure and actionable insights. These connections provide a springboard for underrepresented entrepreneurs to break into industries from which they have historically been excluded.

Developing strong entrepreneurial ecosystems and engaging in co-curricular activities can lead to a competitive advantage for community colleges in several ways, such as providing relevant, hands-on entrepreneurial education and fostering diversity; colleges can build a strong reputation within their communities, attracting more students and funding. Cultivating a well-established ecosystem facilitates partnerships with local businesses and organizations, leading to collaborative programs that enhance educational offerings and create additional resources for

students. Focusing on practical experiences and support networks, colleges can significantly improve student outcomes, leading to higher graduation rates and successful entrepreneurial ventures, which, in turn, enhances the institution's prestige and attractiveness. By fostering these elements within their entrepreneurial ecosystems, community colleges position themselves not only as educational institutions but as vital contributors to local economic growth and innovation, thus achieving a sustainable competitive advantage. In summary, community colleges must leverage their unique resources—such as knowledgeable instructors, tailored curricula, access to capital, robust support networks, and experiential learning opportunities—to create an effective entrepreneurial ecosystem. By fostering these capabilities, as outlined in Barney's RBV and Isenberg's framework, colleges can enhance their role in supporting diverse entrepreneurs, ultimately contributing to economic development and innovation within their communities.

Findings from Students' Survey

Introduction

This section presents an analysis of the survey data collected from students enrolled in entrepreneurship-related programs. The survey examined their experiences, motivations, perceived challenges, and overall satisfaction with their educational environment. The following analysis highlights critical findings, identifies outliers, and underscores areas that merit further investigation.

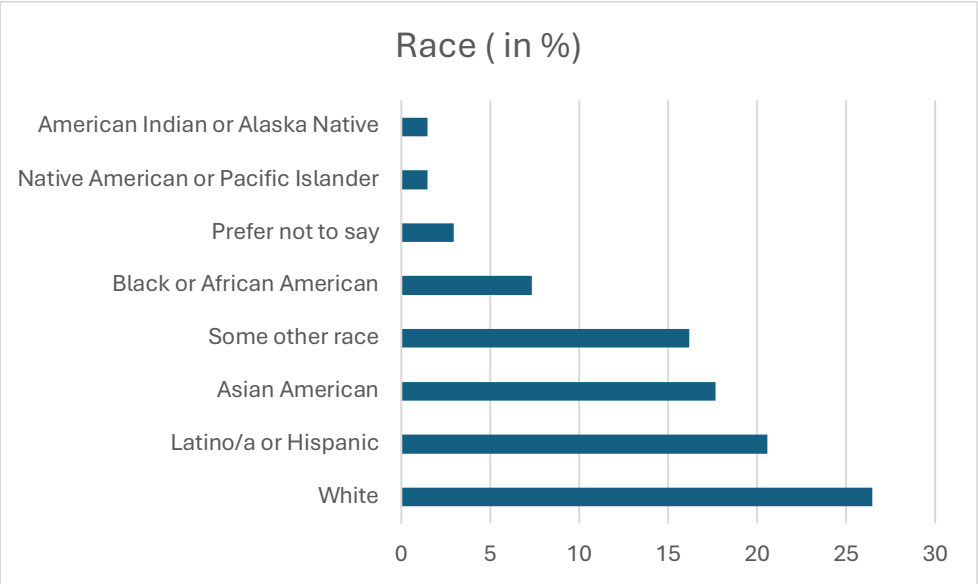
Key Findings

Demographics. The final sample of 68 participants spanned an age range of 19 to 55+ years. Racial/ethnic identities included White, Latino/a or Hispanic, Asian, and Black or African American students (see Figure 5.1). Gender distribution was nearly balanced between male and

female respondents. Participants reported diverse academic majors; however, General Business, Entrepreneurship, and other business-related fields (e.g., Accounting) were most common.

Figure 5.1

Survey Participants by Race



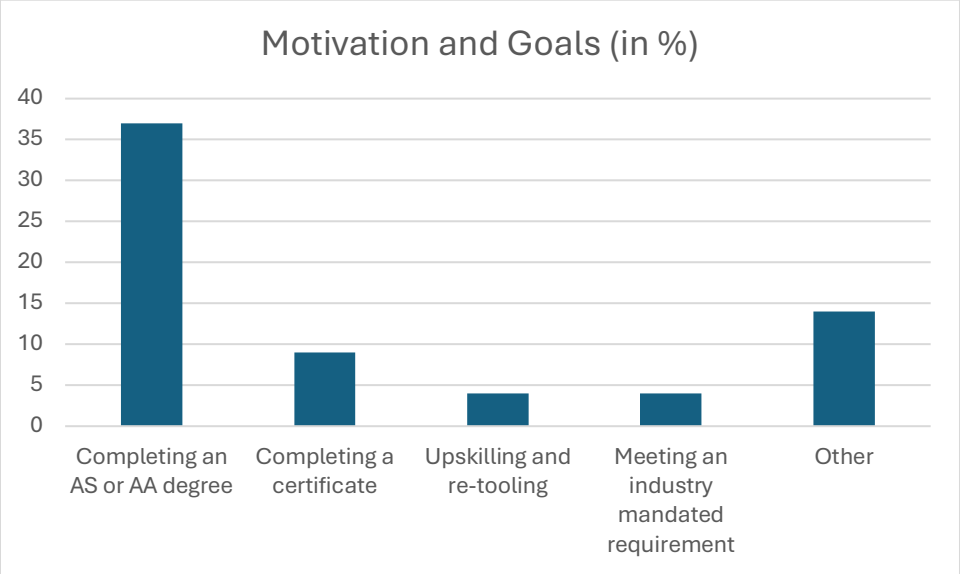
Note: N = 68

Motivations and Goals. A majority of respondents reported strong intrinsic motivations for pursuing entrepreneurship, citing factors such as *personal passion*, *desire for independence*, and *potential for social impact*. Approximately 70% indicated that they plan to start a business within 1 year of graduating. Students cited multiple reasons for enrolling in business and entrepreneurship programs (see Figure 5.2). Common goals included:

- Completing an Associate of Arts or Associate of Science (AS/AA) degree.
- Earning certificates for career advancement or industry requirements.
- Strengthening existing entrepreneurial ventures.
- Building a foundation for advanced degrees (e.g., an MBA).

Figure 5.2

Student Participants' Academic and Professional Goals



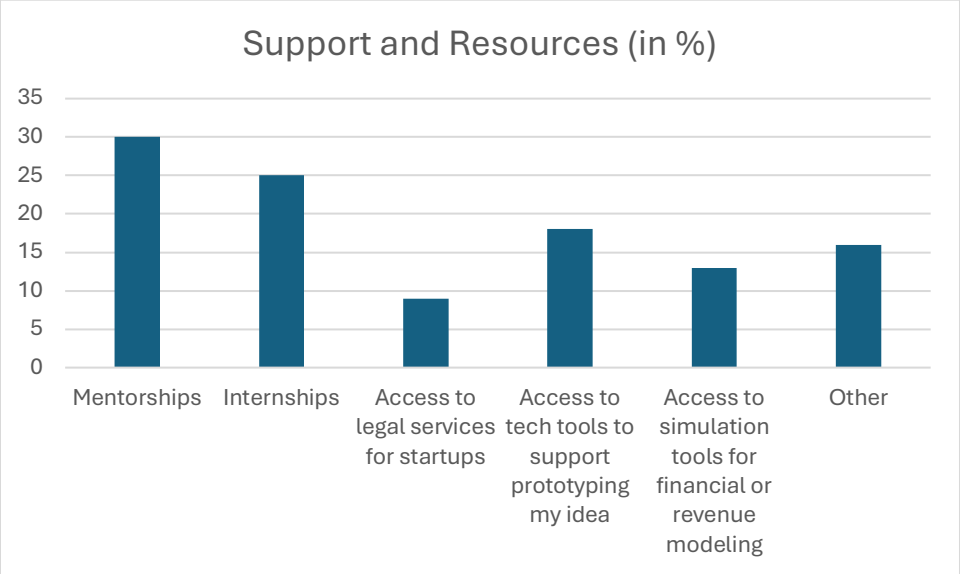
Note: N = 68

The majority of the participants at 61% are in the business and entrepreneurship program, while the remaining 30% are non-business majors such as science, architecture, psychology, construction management, economics, arts, and photography.

Perceived Institutional Support. The three colleges collectively offer a range of co-curricular support services, as shown in Figure 5.3, including mentorships, internships, legal consulting, technology tools, and experiential events (e.g., pitch competitions). Despite these offerings, a considerable proportion of respondents indicated limited awareness of available resources. Utilization rates varied: workshops, mentorship programs, and pop-up store events were frequently accessed, whereas other resources were underutilized or unfamiliar to many participants.

Figure 5.3

Support and Resources Available to Students (Ecosystem or Co-Curricular Programs)



Note: N = 68

Program Satisfaction and Support Services. When asked to rate satisfaction with the business and entrepreneurship programs, 50% of respondents reported being "somewhat satisfied." Notably, no respondents indicated outright dissatisfaction. However, a significant number of students chose not to answer the satisfaction question, which may suggest ambiguity or reluctance to provide negative feedback (see Figure 5.4).

Figure 5.4

Student Satisfaction in Business and Entrepreneurship Programs

Note: N = 68

Curriculum, Instructional Design, and Technology's Role. The curriculum featured a project-based and experiential structure supplemented by lectures. Respondents emphasized the effectiveness of hands-on learning for practical business skills, but several expressed that lecture-only formats were less beneficial. Technology emerged as an important facilitative tool, enabling remote access to class materials, financial simulations (without incurring real-world costs), and exposure to contemporary business tools (e.g., AI, data analytics). However, some students reported minimal technological support or confusion about how to access or utilize available digital resources.

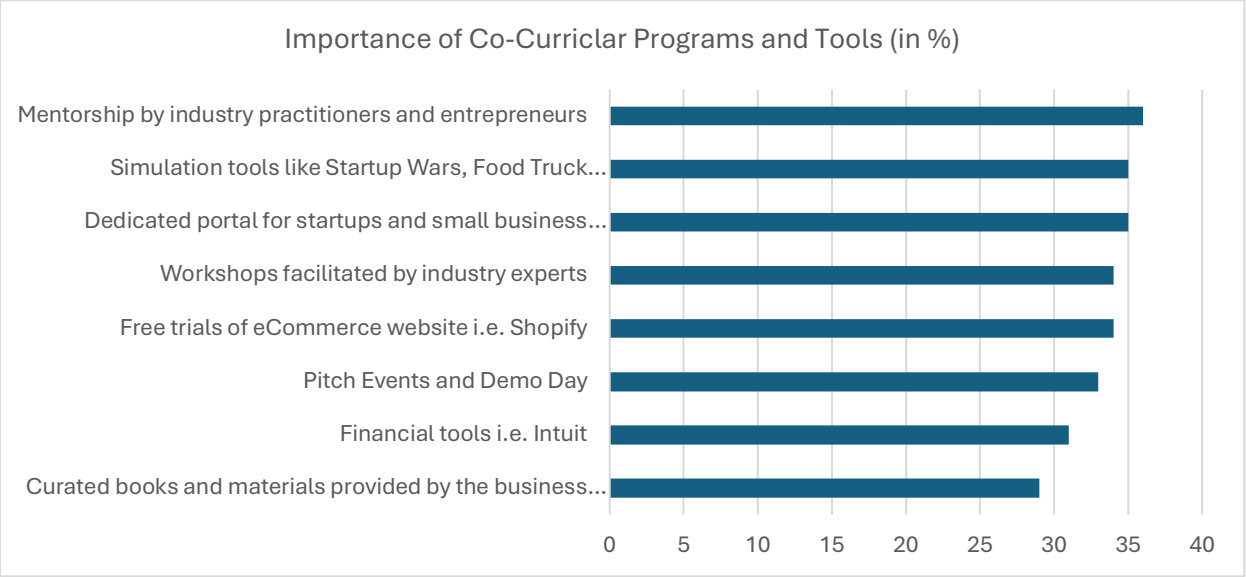
Importance of Co-Curricular Programs for Bringing Ideas to Market. Students identified a range of co-curricular programs and institutional resources as critical for developing and launching entrepreneurial ideas (see Figure 5.5). Although many of these programs are led

by instructor networks or informal partnerships with industry stakeholders, they offer substantial real-world learning experiences. Commonly cited beneficial programs included:

- Industry-facilitated workshops
- Mentorship and networking sessions
- Pitch events
- "Pop-up days" for testing business concepts

Figure 5.5

Importance of Various Events and Activities

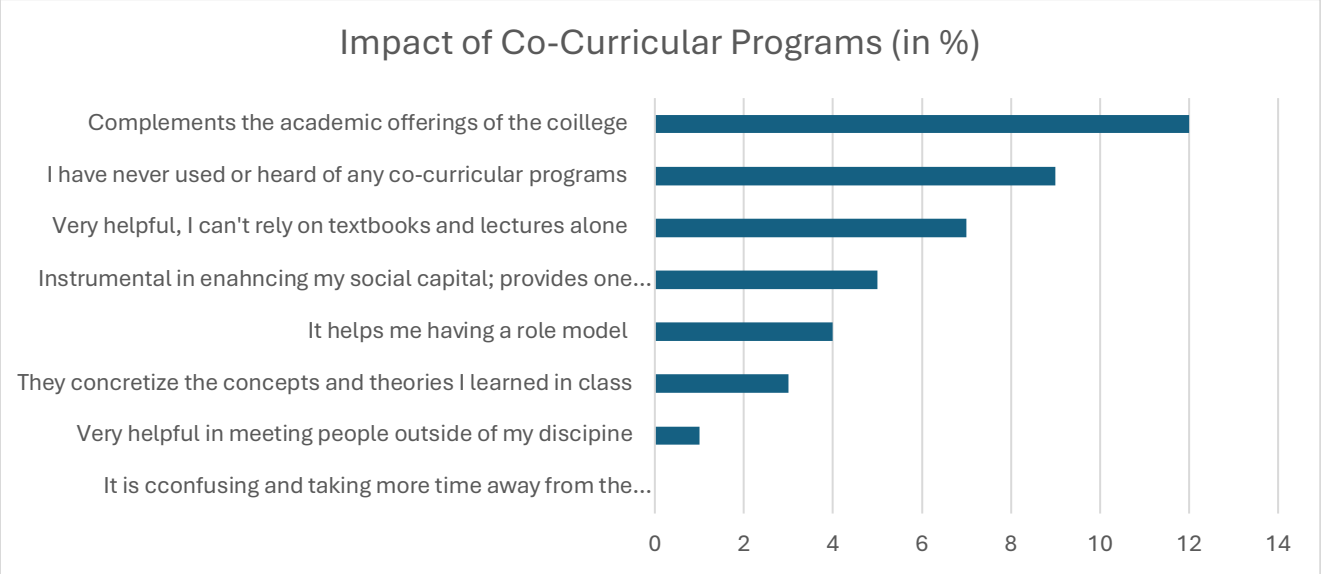


Note: N = 68

Most Significant Impact of Co-Curricular Activities. Student feedback indicated that certain co-curricular activities were especially impactful (see Figure 5.6). These activities often provided hands-on experiences that complemented in-class instruction, thus enhancing students' social capital and real-world readiness.

Figure 5.6

Importance to Students



Note: N = 68

The gap between awareness and engagement underscores the need for further investigation into potential barriers (e.g., scheduling conflicts or lack of personal relevance).

- **Resource Awareness**: Over 80% of surveyed students indicated awareness of at least one entrepreneurial resource on campus (e.g., business incubators, mentorship programs), suggesting relatively high visibility of support structures.
- **Utilization of Resources**: Despite this awareness, only about half (48%) of respondents had actively participated in extracurricular events (e.g., speaker sessions, workshops). This gap between awareness and engagement underscores the need for further investigation into potential barriers (e.g., scheduling conflicts or lack of personal relevance).

Challenges in Learning and Practicing Entrepreneurship. Over 60% of respondents cited limited access to initial capital as a primary challenge, echoing broader literature on

barriers to early-stage entrepreneurship (Robinson & Stubberfield, 2019). A significant proportion (55%) reported that balancing school, personal life, and potential side businesses posed a major challenge. Additionally, about 20% of respondents indicated facing difficulties in navigating administrative processes related to specialized entrepreneurial coursework or securing campus resources for student-led ventures.

Open-ended responses highlighted several key challenges (see Table 5.1). Students frequently cited difficulties applying theoretical knowledge to real-world contexts. Other barriers ranged from motivation and risk tolerance to legal and administrative constraints (particularly for international students with visa limitations). Gaps in resource awareness also persisted, suggesting a need for clearer information on available classes, support tools, and legal considerations.

Table 5.1

Challenges in Entrepreneurship Education

Category	Challenges
Knowledge Gaps	Insufficient foundational knowledge (accounting, legal, risk management)
Practical Application	Overreliance on lectures, limited real-world practice
Motivation and Focus	Balancing responsibilities, dealing with uncertainty, sustaining motivation
Legal and Administrative	Visa restrictions, business legality, and contract law for international students
Networking and Communication	Limited mentorship opportunities, difficulty in team communication
Resource Accessibility	Unawareness or misunderstanding of available resources
Entrepreneurial Mindset	Fear of risk-taking, uncertainty on how or when to launch a business
Business Strategy & Finance	Managing limited funds, budgeting, customer acquisition
Uncertainty and Direction	Feeling “lost,” lacking clear guidance or pathways

Note: N = 68

An open-ended question probing for "Aha Moments" revealed five recurring themes: (a) responses suggested a strong interest in business education and real-world applications of financial concepts, (b) guest speakers and industry connections were impactful for many students, (c) personal growth and self-realization showed that collaboration, leadership, and teamwork were meaningful takeaways, (d) technology and emerging topics like cryptocurrency and AI stood out to participants. A notable percentage of students did not identify an "Aha Moment"—which could suggest a need for more engaging activities or better framing of reflective experiences.

Critical Action Items and Outliers

1. **Discrepancy Between Resource Awareness and Utilization.** Although the majority of students knew about available resources, actual participation rates were notably lower. This discrepancy raises questions about whether the resources are adequately aligned with student needs, accessible at convenient times, or sufficiently tailored to diverse entrepreneurial interests.
2. **Influence of Hands-On Experiences.** Students who took part in co-curricular activities, such as organizing entrepreneurial fairs or collaborating on project-based events, reported stronger self-efficacy. This reinforces the importance of *experiential learning*—a key factor in shaping confidence and motivation in entrepreneurial settings (Neck et al., 2014).
3. **Financial Barriers as a Consistent Concern.** Financing was consistently cited as a top challenge, mirroring common obstacles in early entrepreneurial journeys. This finding emphasizes the value of financial literacy training, access to micro-grants, and networking opportunities with industry stakeholders (Smith et al., 2021).

4. **Unusually High Self-Efficacy Scores.** A small subset of respondents (approximately 5%) reported extremely high self-efficacy levels, coupled with minimal prior business experience. These responses could reflect an overestimation of entrepreneurial competencies or unmeasured variables, such as unique mentorship experiences or familial backgrounds in entrepreneurship, warranting further qualitative inquiry.
5. **Minimal Challenges Reported.** Another small group (around 3%) reported facing virtually no challenges, which conflicts with the broader pattern of moderate to significant barriers. These outliers may indicate atypical circumstances (e.g., students with established financial support or extensive entrepreneurial backgrounds) or potential response bias.

Data Requiring Further Investigation

1. **Resource Engagement Patterns.** The incongruity between high awareness and low utilization suggests that *qualitative follow-up*—through focus groups or interviews—is needed to understand the reasons behind underutilization.
2. **Impact of External Obligations.** Time management consistently emerged as a barrier. Further data collection is needed to clarify whether employment, family responsibilities, or other factors most significantly affect students' ability to engage in entrepreneurship-related activities.
3. **Longitudinal Outcomes.** The survey captured a snapshot of perceptions and intentions at one point in time. Following students over multiple semesters or post-graduation could reveal how initial ambitions, challenges, and supports evolve—offering a more nuanced understanding of entrepreneurial success trajectories.

Program Strengths and Areas for Improvement

Overall, satisfaction levels were moderate to high, with no students expressing outright dissatisfaction. However, non-responses may point to hesitancy or lack of clarity regarding the survey questions. The survey also illuminated potential barriers to resource utilization, particularly among students who were unaware of, or unable to access, available services such as mentorships or internship programs. In addition, **international students** face unique legal restrictions that may limit hands-on entrepreneurial activities or internship opportunities. Addressing these constraints could involve tailored advising sessions, specialized workshops, and closer collaboration with immigration and career services.

Conclusion

This survey underscored the heterogeneous experiences of community college students in business and entrepreneurship programs. While many participants benefit from project-based learning, industry connections, and real-world simulations, significant gaps remain in resource awareness and practical application. Challenges such as motivational hurdles, legal constraints, and uncertainty about entrepreneurial pathways point to a need for enhanced program structure, targeted support, and reflective pedagogies (Cope, 2005; Kolb, 1984; Rae, 2010).

The survey results affirmed that students in entrepreneurship programs are enthusiastic about their educational and professional futures yet face noteworthy barriers in funding, time, and institutional logistics. By investigating the outliers who defy the broader trends (e.g., extremely high self-efficacy despite limited experience and minimal challenges reported), researchers and administrators may uncover valuable best practices or unaddressed gaps in support.

Findings from On-Campus Observations

This section elucidates the findings derived from observational data collected at one of the three community colleges participating in this study. The observations highlighted real-time student interactions, institutional practices, and the interactions of different stakeholder groups in an event hosted by the Business and Entrepreneurship department on campus.

Table 5.2

Setting Description

Location and Environment	The on-campus event was held at one of the college's buildings, hovering on a cliffside overlooking the Pacific Ocean.
Participants	Over 40 students, one administrator, two faculty members, and a few classified staff were present at the event organized by a business faculty.
Time and Duration	The kickoff event was from 9:00-11:00 am. The observation lasted for 2 hours, which covered the speaker's talk and the highlights of the day's activities.

Event Overview

This 3-day event is held once a year to provide resources and services on campus to aid students in their entrepreneurship journey. Each day features different activities and ends with a market fair, which is a collaboration with the Business Department, entrepreneurship students and Career Technical Education (CTE) students. CTE programs offer certificates and associate degrees to prepare students to enter high-skill and high-wage careers. Some of these programs include Administration of Justice, Early Childhood Education, Paralegal Studies, Digital Media, Barbering, Cosmetology, Automotive Technology, Allied Health, Biotechnology Manufacturing, Network Engineering Technology, Journalism, among others.

Relevance to Research Questions

The event is an excellent example of a co-curricular support activity (resource) offered by the Business and Entrepreneurship program. At this event, the observation is focused on auditing the various elements of this type of resource, its effectiveness as a resource, identifying the knowledge and skills required to host such a big event, and how it fits into the college's business model. The observation might shed some insights that did not surface from the students' survey or interviews. It might affirm, negate, or confirm some of the earlier data collection methods findings that could precipitate further investigations.

Observer's Role

The researcher acted as a non-participant observer, focusing on the data collection without attracting attention by remaining seated at the back of the room. She did not know anyone from the college except an administrator who happened to be at the venue. The researcher did not make any comments and diligently recorded field notes while listening to the guest speaker's talk. As stated in Chapter 3, the observation was semi-structured, with the researcher as a non-participant observer, she came in with a set of items to be covered but remained open to other critical observations that could be of relevance to the study. Field notes were taken conspicuously throughout the event, especially when the speaker talked about the college program and its role in supporting his dreams and aspirations.

Key Findings

In over two hours of observing the event, the researcher noted key observations. It was notable that the energy in the room was contagious; the spacious space was well-appointed with a layout that made it easy for students (and other guests) to move around and circulate with other students, the technology support team was present, furniture and fixtures were placed fittingly,

providing an environment conducive to learning. The room was filled when the researcher arrived, she sat at the back of the room and started taking notes. She observed the students' behaviors: They initially showed eagerness for the guest speaker to start. Once the talk started, they paid undivided attention, seemingly absorbing every word that the speaker was saying. The speaker was a former student who had achieved some level of success in his career; he praised the college and the instructors; the tone was celebratory and grateful. In some instances, the crowd cheered and celebrated the speaker, despite his long, at times repetitive story that took longer than his time allotment, as illustrated by the instructor's (who acted like the event director) action, motioning the speaker his remaining time and signaling him to wrap up his talk. Throughout the event, there were several mentions that education can be fun!

It seemed that most students were there voluntarily, but others might have been invited by current business and entrepreneurship students or may have been required by their instructors to attend. Either way, the kind of topic that the speaker shared was so relatable to every student, even outside of the entrepreneurship program, as it focused on resilience, taking risks, determination, and grit.

After the talk, the researcher observed the guest speaker to be extremely pleasant and generous in sharing more about his past life with the college, post-college, and how he bagged two Forbes 100 companies accounts. The speaker brought his young family with him, which became another focal point of the observation. Some students were eager to chat with the wife and see their baby.

It was observed that an event such as this one brings about an experiential component in the program; students learned how to develop or host an event, compared notes as to how other students' start-up ideas are progressing, met other students at the college who might be an

interesting collaborator and to have a break from the classroom environment, which some students expressed to be invigorating. There were several instances in which students approached the organizer/instructor for information and guidance. The instructor seemed to be proud of her students and the outcome of this kickoff event.

What was missing was the presence of the administrator who leads the entrepreneurship center. This would have been an excellent collaborative effort to showcase the importance of bringing together academic and co-curricular programs. It would also raise awareness about the entrepreneurship center, leverage its relationships with the industry and local community, and open new pathways of community building.

Thematic Analysis of Key Findings

1. Strategic Resources and Capabilities (Research Question 1)

The event exemplified the college's strategic resources and capabilities in fostering an entrepreneurial ecosystem. Key resources identified include:

- **Co-Curricular Support Structures**: The event provided a platform for experiential learning, aligning with the institution's strategic objective to integrate academic and co-curricular activities.
- **Technological and Physical Infrastructure**: The availability of a grand venue to host a three-day event in multiple locations across campus with technology support ensured seamless execution, highlighting the institution's capability to support large-scale events.
- **Interdisciplinary Environment**: The event facilitated interactions among students from various programs, including CTE disciplines, fostering interdisciplinary collaboration among students.

2. Mindsets and Skill Sets Required (Research Question 2)

The observation revealed critical mindsets, and skill sets necessary for administrators, instructional designers, and faculty to navigate disruptive innovations:

- **Adaptability and Resilience**: Both the guest speaker's narrative and student engagement emphasized the importance of resilience and adaptability in entrepreneurial pursuits.
- **Event Management Skills**: The faculty and students demonstrated organizational prowess in managing the event, indicating the necessity of project management and coordination skills.
- **Student-Centric Attitude**: The instructor's interactions with students throughout the event reflected a supportive and motivational approach, essential for fostering a conducive learning environment.

3. Program Structure and Business Model (Research Question 3)

The program's structure, as evidenced by the event, illustrates a model of academic-industry collaboration:

- **Industry Partnerships**: The event featured an alumnus who successfully secured contracts with major corporations underscoring the program's strong industry connections.
- **Experiential Learning Opportunities**: The event provided students with practical exposure to event planning and networking, integral components of the entrepreneurial curriculum.

See Table 5.3 for a presentation of observational findings at the event in alignment with the research questions of this study.

Table 5.3

Alignment of Observational Findings with Research Questions

Research Question	Observational Findings
1. Strategic Resources and Capabilities	Co-curricular support, technological infrastructure, interdisciplinary collaboration
2. Mindsets and Skill Sets	Adaptability, event management skills, student-centric approach
3. Program Structure and Business Model	Industry partnerships, community engagement, experiential learning

Conclusion

The kickoff event went very well. It was a great example of an activity that supports classroom learning. The event also highlighted the importance of networks and relationships to keep students motivated and on track. The speaker, an alumnus who shared his humbling story, shared how education helped him rise above challenges at a young age, gain confidence, realize his passion for hip-hop, and penetrate the competitive world of music and advertising. The researcher felt that after grueling hours in the program, humanizing those anecdotal stories with a moving testimonial by one of their own was a great way to prompt students to think about the real-world applications of what they learned in the program. In summary, the event showed a resource that can be catalyzed into a dynamic capability, the mindset and skills put into action and how a simple event such as this one significantly contributes to the entrepreneurial ecosystem that students need to succeed. Finally, the absence of the entrepreneurship center's administrator was noted as a missed opportunity for further community integration, suggesting potential for enhanced collaborative efforts. These insights, triangulated with survey and interview data, informed this dissertation's concluding discussions and recommendations.

Chapter Summary

The interviews with two major industry partners underscored the critical role of entrepreneurial ecosystems in community colleges, aligning with Daniel Isenberg's (2010) framework of interconnected elements that support entrepreneurship. Both Partner A and Partner B focus on empowering underrepresented communities through mentorship, funding, and experiential learning opportunities. These partnerships serve as pivotal bridges between educational institutions and the entrepreneurial world, particularly benefiting students of color by addressing systemic barriers to economic equity.

Partner A emphasizes creating inclusive ecosystems by offering micro-grants and venture capital to aspiring student entrepreneurs, thus fostering community transformation. In contrast, Partner B targets colleges' CTE and workforce programs in providing consulting expertise with strategic project management to deliver tailored solutions that help colleges maximize their workforce potential. These partnerships reinforce Isenberg's model by enabling community colleges to leverage existing resources, build robust networks, and foster collaboration, thus maximizing their impact despite limited funding.

The tri-college student survey illuminated the heterogeneous experiences and motivations of students in business and entrepreneurship programs. The findings revealed diverse motivations for enrollment, including career advancement, entrepreneurial growth, and educational aspirations, mixed satisfaction levels, with a notable proportion of students unaware of available resources, a strong preference for experiential learning, real-world connections through guest speakers, and co-curricular programs such as mentorships and pitch competitions. Notably, challenges persist in translating theoretical knowledge into practical application, emphasizing the need for enhanced experiential learning and tailored support systems. The

survey also identified motivational hurdles, legal constraints for international students, and resource accessibility gaps, underscoring the complexity of entrepreneurial education within community colleges.

The findings resonated with experiential learning theories (Kolb, 1984) and reinforced the necessity of applied pedagogy in entrepreneurship education (Rae, 2010). They suggested that community colleges must enhance communication strategies to increase awareness of available resources, adapt curriculum designs to diverse student needs, and integrate reflective pedagogies to facilitate deeper learning experiences. Additionally, the emphasis on guest speakers and real-world connections aligned with Cope's (2005) findings on expert-led sessions enhancing engagement and entrepreneurial insight.

The observational data provided a nuanced understanding of the student experience during a 3-day entrepreneurial event hosted by the Business and Entrepreneurship department. These observations corroborated the importance of strategic resources and capabilities in fostering entrepreneurial ecosystems within community colleges. They highlighted the significance of co-curricular activities as dynamic capabilities that enhance student engagement, skill development, and networking opportunities. By leveraging experiential learning environments and interdisciplinary interactions, community colleges can cultivate entrepreneurial mindsets and skill sets, positioning themselves as vital contributors to regional economic development and innovation ecosystems.

The comprehensive analysis of Chapter 5's findings revealed the strategic importance of community colleges as hubs for entrepreneurial education and innovation ecosystems. By leveraging strategic industry partnerships, experiential learning environments, and dynamic co-

curricular programs, community colleges can significantly enhance their role in fostering entrepreneurial ecosystems and driving regional economic growth.

Chapter 6: CROSS-CASE ANALYSIS OF THE ENTREPRENEURSHIP PROGRAMS OF THREE COMMUNITY COLLEGES

This chapter provides an integrative analysis of three community colleges—Hogwarts Community College (HCC), Narnia Community College (NCC), and South Park Community College (SPCC)—through the lens of the Resource-Based View (RBV) framework (Barney, 1991). By focusing on each institution's key resources, capabilities, mindset, and business models, the study highlighted how the colleges can achieve a competitive advantage in entrepreneurship education and address challenges that may undermine these advantages.

In applying the RBV model, the study identified resources that are Valuable, Rare, Inimitable, and supported by an appropriate internal Organization (VRIO). Resources meeting all four criteria can yield a *sustained competitive advantage* (Barney, 1991). Institutions may only achieve temporary advantages or parity when resources fail one or more VRIO dimensions. Data for this analysis were drawn from administrative and faculty interviews, student surveys, on-campus observations, and secondary research.

The Resource-Based View (RBV) Model: A Review

According to the RBV model, organizations are "bundles of resources," and competitive performance depends on how effectively these resources are harnessed to create unique, value-adding offerings (Barney, 1991). While tangible resources (e.g., specialized facilities, geographic location) are important, intangible resources—such as organizational culture, relational networks, and faculty expertise—can be critical for sustained advantage if they are difficult to replicate. The VRIO framework refines this approach:

Application of the VRIO Framework in Community Colleges Entrepreneurship Education

- **Valuable (V) -** Focuses on the extent to which a resource helps an institution meet or exceed its goals. In higher education, valuable resources could include strong faculty expertise, well-designed curricula, and robust student support services (Barney, 1991). For instance, a specialized research lab that attracts industry collaboration and grant funding adds value by enhancing both academic reputation and revenue streams.
- **Rare (R) -** Examines whether a resource is unique or scarce within the competitive landscape. A community college or university with a highly specialized entrepreneurship incubator program—available at only a few institutions—has a rare resource. A unique pedagogical method, such as problem-based learning tailored for local economic development projects, could also be considered rare if few institutions apply it effectively (Hitt et al., 2017).
- **Inimitable (I) -** Assesses how easily competitors can replicate or substitute a resource. Partnerships with local industries might be harder to imitate if they involve long-standing trust, region-specific needs, and strong community support. However, standard teaching technologies (e.g., learning management systems) are typically more imitable, reducing their potential to serve as a source of sustained competitive advantage (Barney, 1991).
- **Organized (O) -** Considers whether an institution has the necessary structures, processes, and culture to leverage its resources fully. A college may have talented faculty, but if it lacks the organizational alignment—such as robust faculty development programs, cross-departmental collaboration, or supportive leadership—

it may fail to capitalize on this resource. Successful integration of entrepreneurial curricula often requires dedicated administrative support, flexible scheduling, and clear performance metrics for program evaluation (American Association of Community Colleges, 2021).

Table 6.1

VRIO Framework for Entrepreneurship Education

VRIO Framework		
VALUE	**RARITY**	**IMITABILITY**
Does the resource or capability provide value to the student or help the college reduce costs?	Is the resource or capability controlled by a limited number of colleges/institutions in the industry?	Is it difficult for competitors to imitate or replicate the resource or capability?
ORGANIZATION		
Is the firm organized and capable of exploiting the resource or capability to its full potential?		

Cross-Case Analysis of Three Colleges

Hogwarts Community College (HCC)

Location in Silicon Valley: Tangible and Intangible Leverage. One of HCC's most notable resources is its strategic location in Silicon Valley. From an RBV standpoint, a college's geographical proximity to industry clusters can be a valuable resource. For instance, community colleges near Silicon Valley benefit from direct access to major technology firms and a robust entrepreneurial ecosystem. This proximity facilitates various advantages such as industry partnerships, where local connections enable colleges to establish internships, co-op programs, and apprenticeships with leading companies, thereby increasing the employability of graduates (Porter, 1998); resource sharing and networking, as adjacent industries often collaborate with

educational institutions on research projects, grants, and talent pipelines (Audretsch & Feldman, 2007); and knowledge spillovers. Being located in an innovation hub allows colleges to tap into the latest technological trends, share ideas with thought leaders, and keep curricula updated (Malmberg & Maskell, 2002). The college's geographic advantage—coupled with relationships cultivated over time—creates a *potentially sustained competitive advantage* when consistently leveraged.

Administrative Support and Entrepreneurial Faculty Culture. HCC's administration showed commitment to ongoing *faculty development* (e.g., conference funding and continuous professional learning), which they believe fosters an entrepreneurial culture within the institution. This administrative support offers tangible and intangible benefits such as administrations that streamline approval processes and adapt organizational policies to foster innovation and responsiveness (Clark, 1998); supportive leadership that prioritizes funding for new programs, faculty initiatives, and student success measures; and administrations that coordinate interdepartmental collaborations and amplify research, teaching, and service outcomes (Etzkowitz et al., 2008).

Entrepreneurial faculty culture is also evident at HCC. It involves a mindset and set of practices where faculty members actively seek innovation in teaching, research, and engagement (Shane, 2004). This was manifested in academic spin-offs, problem-based learning initiatives, and community or industry partnerships. Faculty who embrace an entrepreneurial orientation can often drive institutional reputation and outcomes such as technology transfer and the development of marketable intellectual property (Etzkowitz & Leydesdorff, 2000). The program's **curricular innovation** incorporates cutting-edge content, project-based learning, and industry collaboration into coursework.

HCC's cohesive culture and strong administrative backing deliver a *temporary to sustained advantage*, provided that the institution continues to adapt to disruptive trends in entrepreneurship education. Two critical yet often intangible resources in this domain are *administrative support* and *an entrepreneurial faculty culture.* When effectively cultivated, these internal dynamics can be a source of differentiation and sustained advantage for colleges and universities.

Network Embeddedness. Network embeddedness, in particular, highlights how colleges can enhance their intellectual capital, resources, and reputations through their connections to industrial and community stakeholders. At HCC, faculty and administrators leverage personal and professional *networks* to secure mentorships, internships, and real-world projects. The synergy between the business department and local startups addresses market needs for *risk management*, *strategic thinking*, and *technology integration*.

Industry partnerships offer colleges tangible and intangible benefits that extend well beyond conventional academic functions, such as access to funding and expertise. Collaborations with businesses often enable co-sponsored research grants, philanthropic donations, and cutting-edge technological resources (Etzkowitz & Leydesdorff, 2000).

Curricular Relevance and Employability. Direct input from industry partners helps ensure that curricula remain current and skills-oriented, thereby improving student employability (Rothaermel et al., 2007). Lastly, industry partnerships can boost reputational enhancement. Strong alliances with leading firms elevate an institution's brand, which in turn attracts high-caliber faculty, students, and further collaborations (Porter, 1998). See Table 6.2 for a summary of HCC findings and Table 6.3 for VRIO analysis.

Table 6.2

HCC's Summary of Key Resources, Capabilities, and Business Model

Factors	Findings
1.1 Tangible and Intangible Resources	
Funding & Physical Infrastructure	- Location - geographical proximity to Silicon Valley; located in an affluent part of the county - College is Basic Aid funded; the program has partial grant support from Strong Workforce, Perkins, etc., but large-scale co-curriculars (pitch competitions, etc.) are hard without dedicated funds. "*We tried… wasn't enough bandwidth."*- Campus Facilities: Spaces exist for events, but faculty time is limited. "*It would've been half-baked… ended up pulling the plug."*
Technology & Tools	- Instructional Design Resources: Designers help integrate tech for online/hybrid formats but cover multiple divisions. "*It's hard to do the in-depth work we'd like."*- Basic Software Access: Tools (Canvas, AI writing aids, Excel, Tableau) are used sporadically, depending on individual faculty initiative.
Reputation & Local Industry Ties	- Advisory Boards & Partnerships: Annual advisory boards inform curriculum; fosters industry feedback and updates. Past Collaboration w/ SBDC: Having the SBDC on campus was key but ended due to funding issues. "[*Leadership] decided the SBDC is not inward-focused enough… so they ended it."* - Highly regarded across the county, "*...and what the reputation is at least within the county is. We're Harvard on a hill."*
Faculty Expertise	- Entrepreneurial Backgrounds: Multiple faculty started/ran businesses ("*I started four small businesses…*").- Customized Student Guidance: Informal mentoring and internship help. *"I find them internships… push them out the door towards real experience."*
2. Capabilities and Mindset	
Entrepreneurial Mindset	- Emphasis on practical skills: Entrepreneurship involves problem-solving, adaptability, and communication. *"To be a great entrepreneur… resourceful, adaptive…"* - Focus on working adults who are looking to gain skills, build, or open a small business. "*Get those skill sets and understand the basics of a business plan and such. Entrepreneurship in the grand scheme of everything."*

Table 6.2 (continued)

Factors	Findings
Faculty/Staff Skill Sets	- Industry Experience: Instructors with real ventures boost credibility. "*I have an MBA… also started multiple small ventures."*- Instructional Design Expertise: Modern education needs tech adoption, feedback loops, etc. (Canvas, design thinking). - Highly trained and seasoned administrator, "*I've been in this business for many years, and then working specifically with the 4-year university system to bring some of those best practices and ideas to the community college."*
Training outside of the usual community college environment	- Select faculty were funded to join a Design Thinking training at Stanford University
Student Skill Development	- Experiential Learning: Use of pitch decks, MVPs, real interviews, though some still prefer traditional plans. "*I encourage them to do real interviews… talk to potential customers."*- Networking & Soft Skills: Older students seek career change; younger ones explore freelancing. Collaboration & resilience are emphasized.
3. Business Model	
Multi-Modal Offerings	- Certificates, Degrees, Non-Credit: Typical community college structure. "*We do have a certificate… maybe only 10% of students pursue it."*- Limited Co-Curricular Activities: Pitch competitions & mentorship networks exist but are mostly one-off. "*We weren't able to sustain it without dedicated support."*
External Partner Ecosystem	- Internship/Partnership with Stanford University, "*…students participate in an internship opportunity to serve in administrative support positions in various offices across Stanford's campus"* - Community Employers & Advisory Boards: Help align curriculum to job market; faculty must proactively link students to mentors.
Flexible Curriculum Design	- Stackable Certificates: Certificates integrate into associate degrees. *"Our certificate programs roll up… easy to complete."*- Adaptive Course Development: Shifting from big business plans to business model canvas and AI-driven validation. "*I used to have students write business plans… now I use a BMC canvas."*
Collaboration & Advisory Support	- Partnership with a 4-year college in the Bay Area - Industry/Nonprofit Mentors: Partnerships (e.g., Renaissance Center, SBDC) helped with co-curricular mentorship; sustaining them requires stable funding/coordination.

Primary Challenge. Balancing tradition with innovation can trigger internal tensions—some faculty question the alignment between "entrepreneurial doing" and "academic theory." This tension can erode resource synergy, especially if faculty resist adopting new practices or technology-driven pedagogies.

Table 6.3

VRIO Analysis of HCC's Findings

RBV Category	Key Insights	Examples
Location in Silicon Valley	- Strategic proximity to tech hubs enhances employability and industry relevance. - Facilitates industry partnerships, knowledge spillovers, and curriculum relevance.	- Collaborations with local startups for mentorships and internships. - Access to the latest technological trends through industry engagements.
Administrative Support	- Commitment to faculty development fosters an entrepreneurial culture. - Streamlined approval processes encourage curricular innovation and program development.	- Funding for faculty to attend conferences and pursue continuous professional learning. - Support for cross-departmental collaboration.
Entrepreneurial Faculty Culture	- Faculty-driven innovation in teaching, research, and community engagement. - Promotion of academic spin-offs and curricular innovation linked to industry needs.	- Problem-based learning initiatives with industry input. - Faculty-led technology transfer and intellectual property development.
Industry Partnerships	- Access to funding, expertise, and cutting-edge technology. - Enhances curricular relevance and student employability through real-world projects and mentorship.	- Co-sponsored research grants and philanthropic donations. - Joint projects with local tech firms enhancing curricular relevance.
Network Embeddedness	- Leverages personal and professional networks to secure mentorships, internships, and community partnerships. - Enhances institutional reputation and stakeholder trust.	- Business department's synergy with local startups. - Mentorship programs involving industry experts and alumni networks.
Experiential Learning Through Events	- Engages students in hands-on learning experiences beyond the classroom. - Enhances student motivation and practical knowledge application.	- Annual entrepreneurship event featuring alumni success stories. - Real-world interactions at market fairs and community networking.

Key Findings. Using Barney's RBV perspective, HCC's entrepreneurial-minded faculty, robust business program, and administrative support for professional development constitute valuable and potentially rare resources that can bolster the college's competitive position. However, the institution's organizational challenges—balancing traditional instruction with experiential learning—prevent these resources from being fully leveraged and inimitable. Informal partnerships with industry thought leaders and community organizations, mediated through faculty networks, illustrate further unrealized resources that remain underutilized (e.g., limited to guest speakers). By refining its organizational processes to better integrate innovative pedagogies and expand strategic alliances, HCC can elevate these valuable, rare, and inimitable assets and maintain its leadership in preparing students for a rapidly changing global economy.

Narnia Community College (NCC)

Interdisciplinary Entrepreneurship Curriculum. Under Barney's (1991) RBV framework, NCC's interdisciplinary entrepreneurship curriculum represents a valuable, rare, and moderately inimitable resource. Unlike the other two colleges, which offer stand-alone entrepreneurship certificates, NCC integrates entrepreneurial competencies across multiple disciplines, including computer science, healthcare, and the arts. This approach equips students with problem-solving skills, adaptability, and collaboration experience—capabilities essential for today's workforce. While embedding entrepreneurship across fields enhances its rarity, replication remains moderately challenging due to the need for cross-departmental coordination, faculty buy-in, and external sponsorships. NCC further strengthens its position by securing workforce grants that unify siloed programs and sustain these initiatives, giving it a competitive edge (Barney, 1991).

External Incubator and Co-Curricular Engagement. In contrast to the other two colleges, NCC enhances entrepreneurship education through strategic partnerships with external incubators and robust co-curricular programming. These collaborations provide students with hands-on learning opportunities, mentorship, and exposure to real-world entrepreneurial ecosystems—key elements of Barney's (1991) concept of firm-specific capabilities. While the other two colleges offer similar networking opportunities, NCC's structured integration of incubator resources and workforce development funding enhances its long-term sustainability. By institutionalizing cross-departmental initiatives, NCC builds a resource configuration that is valuable, rare, and strategically organized for sustained impact.

Strategic Alliances and Leveraging Workforce Grants. NCC distinguishes itself through workforce grants and industry partnerships, aligning with Barney's (1991) argument that sustained competitive advantage depends on valuable, rare, and imperfectly imitable resources. Unlike the other two colleges, which rely more on tuition-based funding, NCC strategically secures external funding to develop non-credit entrepreneurship pathways for students outside traditional degree programs. These partnerships, including collaborations with "ABC Co." and "XYZ Incubator," enable access to cutting-edge curriculum, faculty development, and co-curricular initiatives designed to prepare students for immediate workforce entry.

Sustained Investment in Entrepreneurial Resources. Compared to the other two colleges, NCC directs workforce grants toward mentorship, speaker series, and dedicated entrepreneurial labs, enhancing its student success outcomes. While the other colleges also invest in industry partnerships, NCC's structured resource allocation maximizes the rarity and value of its competitive advantage (Barney, 1991). Its ability to secure sustained investment in

entrepreneurial infrastructure strengthens the institution's position as a leader in workforce-ready education.

Challenges and Sustainability. Despite its strong resource base, NCC faces internal challenges related to institutional silos and faculty resistance—factors that weaken the organization of its strategic resources. According to Barney (1991), a resource must be effectively structured to generate a sustained competitive advantage. While the other two colleges confine entrepreneurship education within single departments, NCC's interdisciplinary approach faces resistance from faculty hesitant to adopt business-oriented pedagogies. Without unified institutional commitment, NCC risks underutilizing the synergies created by workforce grants and industry partnerships.

One key vulnerability in NCC's model is its reliance on cyclical workforce grants, which pose a risk to long-term sustainability. Unlike one of the other colleges, which operates under a self-sustaining funding model, NCC's dependency on external grants creates uncertainty in resource availability. Additionally, gaps in alumni tracking and performance measurement limit NCC's ability to demonstrate program impact—an issue less prevalent at the other two colleges, where structured key performance indicators ensure more effective program evaluation. Without improved tracking mechanisms, NCC may struggle to quantify the long-term value of its entrepreneurship initiatives (Barney, 1991). Table 6.4 summarizes the key resources, capabilities, and business model that prevail at NCC, and Table 6.5 provides a RBV analysis.

From an RBV standpoint, NCC's unique resources (community standing, partnerships, and DEI-focused reputation) and dynamic capabilities (experiential curriculum, broad collaboration, and multifaceted credential offerings) hold the potential for sustained competitive advantage. However, fully realizing this advantage requires:

Table 6.4

NCC's Summary of Key Resources, Capabilities, and Business Model

Factors	Findings
1. Tangible and Intangible Resources	
Funding & Grants	- Funding and Grants: Strong Workforce and state-level resources enable entrepreneurship certificates and non-credit offerings. "*We used the funding to diversify and strengthen our entrepreneurship program."*
Physical Infrastructure	- Workforce Dev. Offices, Makerspaces: Facilities for experiential learning and prototyping, though not always centrally coordinated. Faculty note potential for cross-department collaborations.
Reputation & Community Ties	- Top Transfer Institution: Known for high transfer rates (e.g., UC Berkeley). Reputable local ties with chambers of commerce, Rotary, SBDC bolster community standing.
Network of External Partners	- Local Incubator and local businesses: Partnerships attract diverse entrepreneurs. "*We have partnered… They have been fantastic in attracting Black and Brown entrepreneurs."* These alliances expand NCC's student reach, mentor pool, and sponsorship opportunities.
Industry Experience & Networking Skills	- Real-World Application: Faculty members with entrepreneurial/corporate backgrounds incorporate case-based learning, mentorship, and networking, rather than lecture-only instruction.
2. Mindset and Competencies	
Equity & Access Orientation	- Entrepreneurship as "Equalizer": NCC focuses on generational wealth-building for underrepresented groups and embeds social justice in its definition of entrepreneurship.
Risk-Taking & Experimentation	- Lean Startup Principles: Faculty encourage MVP testing but note that some courses still favor detailed business plans over rapid prototyping.
3. Business Model	
Interdisciplinary Entrepreneurship Programs	- Cross-Department Contextualization: Entrepreneurship integrated into culinary, horticulture, kinesiology, etc. Enhances career/technical pathways and fosters interdisciplinary learning.
Co-Curricular Programming	- Pitch Competitions, Speaker Series: Emphasizes experiential learning to supplement academics. "*Students form teams, pitch their ideas… with real-world mentors."* - Soft & Hard Skills: Pitch competitions, speaker events, and mentor guidance build communication, networking, finance, and marketing skills. "They benefit by hearing from practitioners… who are out in the business world."

Table 6.4 (continued)

Factors	Findings
Adaptive Program Delivery and Pedagogy	- For-Credit, Non-Credit, Community Ed: Multiple models reach diverse learner segments, including underserved groups, while still generating apportionment. - Flexible Teaching Approach: Recognizes wide student diversity in background and goals. *"Meet students where they are"* using speakers, project-based tasks, and varied course formats.
Local Ecosystem Development	- NCC Tech Program: Business Advisory Board brings together city officials, business owners, and NCC to attract high-tech/biotech firms. "Putting the 'community' back into community college." - NCC Pitch Competition: Gains financial and in-kind backing from local organizations, boosting industry ties and student outcomes.
3.3 Key Differentiators	
Equity-Focused Entrepreneurship	- XYZ Incubator & DEI Goals: Extends entrepreneurial opportunities to underrepresented groups (Black, Brown, women). Aligns with social-impact grants and DEI state-level initiatives.
Practical Pedagogy	- Real-World Emphasis: While some curricula remain traditional (business plans), a strong focus on live mentorship, pitches, and workshops offers a distinctive experiential edge over lecture-only community college programs.

1. **Curriculum Redesign for Lean Startup Approaches.** Aligning academic curricula with rapid prototyping, pitch decks, and MVP experimentation can better meet industry demands and student needs (Ries, 2011).
2. **Strengthening Cross-Department Collaboration.** Expanding interdisciplinary projects—integrating business with computer science, design, and manufacturing—could harness a broader range of campus resources
3. **Systematic Outcome Tracking.** Developing key performance indicators (e.g., post-completion ventures, job placements, funding secured) would enhance program assessment, help secure external grants, and refine resource allocation decisions.

Table 6.5

RBV Highlights for NCC Entrepreneurship

RBV Category	Key Insights	Examples/Evidence
Valuable Resources	1. Funding from state & grants 2. Strong community reputation 3. Active advisory board and local business ties	*"We were able to use the funding to diversify our entrepreneurship program."*, "*Our advisory board has been very active."*
Rare Capabilities	1. Cross-disciplinary certificates 2. Equity-focused recruitment 3. Adaptable co-curricular approach	*"We partnered with XYZ Incubator… They attract a more diverse set of entrepreneurs."*, *"Students from culinary, horticulture, and business collaborates…"*
Imperfect Imitability	1. Deep industry networks anchored in local businesses 2. Faculty with industry experience & personal entrepreneurial background	*"We have local alumni who manage an IP law firm."*, "*Having instructors that bring real-world experience was vital*."
Organization to Capture	1. Diversified program delivery (credit, non-credit) 2. Regional strategy 3. Active and engaged advisory boards	*"Non-credit… is a win-win for everyone."*, "*The XYZ Tech Project is looking at biotech and logistics."*

Key Findings. Applying the RBV to NCC's entrepreneurship initiatives revealed that the college's distinctive resources (funding, external networks, formal partnerships with external partners, equity-driven mission) and capabilities (collaborative certificates, hands-on learning, and flexible program formats) bolster its quest for competitive advantage within higher education. While challenges remain—particularly around data tracking, curriculum design, and scale—NCC's momentum in experiential entrepreneurship education offers a strong foundation. By leveraging its intangible assets (faculty expertise, brand reputation for equity) alongside its tangible supports (grant funding, partner networks), NCC can continue to refine its entrepreneurship ecosystem, drive student success, and remain a leader in community college innovation.

South Park Community College (SPCC)

Entrepreneurship Center: An Underutilized Asset. At SPCC, the Entrepreneurship Center represents a significant tangible resource, offering space for pop-up markets, pitch events, and co-working. This is a valuable resource as it directly supports experiential learning, networking, and new venture creation. The Center is a rare resource, given that many community colleges lack dedicated entrepreneurship facilities, but it can be physically replicated, but intangible elements like the community culture and longstanding local networks are more challenging to copy. Organization-wise, there is a disconnect between the Center's leadership and faculty, hampering its *full* integration into curricula. The Center is a substantial yet underutilized resource. Although high in value and moderately difficult to replicate, its organizational impact is limited by weak faculty integration. If SPCC resolves these organizational barriers, the Center could deliver a *strong, possibly sustained advantage*. As is, suboptimal usage diminishes the resource's overall strategic impact.

The college's strategic location in a tech-adjacent hub is also a valuable resource. SPCC can tap into cultural and economic diversity, forging collaborations with a rich pool of companies (for-profits, governmental, and NGOs) to secure internships or job placements. It also reflects direct exposure to dynamic, innovation-focused ecosystems. In terms of rarity, this is a moderate resource, as other Bay Area colleges share similar geographical benefits. While SPCC does partner with local business associations, friction in faculty-administrator relationships and limited accountability hamper consistent utilization of location and Center's advantages. With improved internal structures, SPCC's location could become a *differentiating advantage*, especially if they capitalize on city-wide entrepreneurial events and maintain robust links with the local startup community and the wider Bay Area entrepreneurial ecosystem.

Community and Chamber Partnerships. SPCC embraces community connections (e.g., local chambers of commerce, pop-up markets), which expand students' social capital and provide immediate market testing for entrepreneurial ideas. This is a valuable resource, especially for experiential learning and bridging academia with real-world commerce. Although this is a strategic tool, it is moderate in rarity as many community colleges cultivate local ties, but SPCC's access to local entrepreneurs and agencies were amplified by its presence in the community through its Center's location in the downtown area of the city. Organizationally, this is a moderate resource, as it is inhibited by minimal accountability structures and no unified strategy for ensuring consistent faculty and wider student body involvement.

Primary Challenge. The lack of accountability and consistent faculty training in entrepreneurship methodology undermines synergy with the Center and local partnerships. "When a program lead or product champion leaves the college, the project dies with them," indicating issues in knowledge transfer and institutional continuity. The nature of the professional development programs the college supports barely provides the technical training that faculty need for contemporary EE. As an administrator stated, "Particularly at SPCC, we focus so much on DEI and social justice training that you get kudos here for going to NCORE way more than you would for doing a design thinking workshop." See Table 6.6 for a summary of SPCC's key resources, capabilities, and business model, and Table 6.7 for RBV analysis of SPCC.

Table 6.6

SPCC's Summary of Key Resources, Capabilities, and Business Model

Factors	Findings
1. Resources and Capabilities	
Dedicated Entrepreneurship Center	- Physical Facility: Off-campus, intended as a community hub; underutilized due to unclear strategy - Potential Integration: Hosts workshops, pop-up events, though broader campus alignment is limited.
Technical and Vocational- focused Programs	- Labs & Specialized Facilities: Automotive, Cosmetology, Barbering, Biotech, etc. integrate entrepreneurship components- Practical Foundations: Offer hands-on learning, but not yet fully aligned with the Center's initiatives.
Innovation Funds and External Funding	- Internal Grants: Support signature events (e.g., Start-up Week-pseudonym) and smaller entrepreneurship projects Sporadic Partnerships: Center director works with nonprofits (e.g., Renaissance Center) but lacks large-scale, sustained external revenues
Reputation & Community Ties	- Local Presence: Downtown site suggests community engagement, yet small businesses often expect free support or lack tech literacy- Limited Oversight: "*They love saying entrepreneurship… but they have no idea what it is"*
Faculty Expertise	- Industry Backgrounds: Faculty with finance and event-planning experience embed real-world applications- Collaborative Culture: Coordinated events, shared guest speakers, and co-sponsored expo weeks.
Experiential Pedagogy & Events	- Start-up Week: A major annual event with pitch presentations, vendor fairs, high-school outreach- Pop-Up Markets: Monthly center-run events for student product testing
Cross-Program Collaboration	- Small but Growing Integration: Center partners with Cosmetology for workshops (e.g., "rent a chair," taxes).- Limited Coherence: Disconnected leadership, "lukewarm" faculty hamper campus-wide synergy
2. Mindset and Skill Set	
2.1 Entrepreneurial Mindset	- Resilience & Adaptability: Emphasis on real-world demands; recognizing online influencers as entrepreneurs - Hands-On Orientation: Short, targeted Center workshops serve re-entry or first-time entrepreneurs.
2.2 Faculty Skill Sets	- Real-World Expertise: Many have corporate or entrepreneurial backgrounds, enabling case-based learning (SPCC Faculty Interview, 2024).- Adaptive Teaching: Project-based activities, live events, and minimal lecturing.

Table 6.6 (continued)

Factors	Findings
2.3 Student Skill Development	- Teamwork & Presentation: Group projects, pitch events, vendor fairs build communication and collaboration skills- Professional Pathways: Some CTE programs address future roles; a broader approach remains lacking
3. Business Model	
3.1 Multi-Modal Offerings	- CTE Integration: Center introduces business fundamentals to Cosmetology, Barbering, etc.- Partial Centralization: The flagship Business Expo is robust, but Center is still treated as an "add-on"
3.2 External Partnerships	- Local Chambers & Nonprofits: Co-branded workshops with Renaissance Center; however, some local businesses seek free funding or advanced interns - Guest Speakers & Alumni: Faculty-driven outreach for real-world classroom input.

From an RBV standpoint, SPCC's entrepreneurship initiatives possess several valuable assets: a dedicated downtown Center; experiential learning-based pedagogy; and committed, experienced faculty who bring industry knowledge. These resources could confer a sustained advantage if better integrated. In rare and inimitable terms, SPCC's "real markets" and annual Start-up Week (pseudonym) are distinctive yet partly reliant on the personal networks of a few key faculty. Meanwhile, the Center remains underutilized and underorganized, revealing that optimal VRIO exploitation requires consistent leadership support, deeper cross-departmental collaboration, and stronger external partnerships (Barney & Clark, 2007).

Summary. From Barney's RBV perspective, SPCC's entrepreneurship center offers a valuable and potentially rare resource by providing direct access to small businesses in the downtown area, thereby cultivating an entrepreneurial ecosystem for student support. This inimitable advantage, however, remains underleveraged due to organizational gaps, namely limited collaboration between the center's leadership and faculty. Faculty partnerships can

Table 6.7

RBV Highlights for SPCC Entrepreneurship

RBV Dimension	Description	SPCC Examples
Valuable	Addresses local workforce needs, fosters practical skill-building via real events and workshops	Start-up Week, monthly pop-up markets for student entrepreneurs; short "how-to" sessions
Rare	Entrepreneurship center is unique for a community college, with a downtown presence	"*We're in the community, but it's out of sight, out of mind."* Business department's high faculty collaboration is also atypical
Inimitable	Hands-on teaching style, robust faculty industry ties, and event-based learning are relatively difficult to replicate fully	"*We do real fairs, real marketing… not just simulations"*. Culture of "hustling" is intangible and reliant on specific faculty skill sets
Organized	Partial organization: The Center is physically separate, unclear synergy with leadership or broad campus structures	Dean acknowledges minimal coordination: "*They love the word [entrepreneurship]… but have no idea what it means. Center must self-direct."*

further augment the center's value, while the center's resources can complement traditional academic program offerings. Another organizational challenge involves balancing entrepreneurial skill-building with academic rigor, especially in fields like barbering and cosmetology. Despite these constraints, SPCC's leadership and faculty continue to refine innovative pedagogical strategies, foster strategic alliances, and seek stable funding to harness and organize these resources fully ensuring a forward-looking, student-centered environment that responds to the region's evolving workforce needs.

Cross-Case Discussion: RBV Insights

Comparative Strengths and Common Themes

- Unique, High-Value Resources

- HCC: Silicon Valley location, strong administrative support for faculty development, and industry ties with 4-year colleges and solid internship for students in one of the leading universities in business and entrepreneurship
- NCC: Interdisciplinary and non-credit certificates, heightened focus on equity populations, and fully funded structured and formal industry collaborations.
- SPCC: Dedicated entrepreneurship center, adjacency to local community movers and shakers, start-up networks, and focus on integrating business and entrepreneurship in technical and vocational programs.

- Inimitability and Social Complexity
  - Each college's advantage partly hinges on intangible relationships and historical reputation. These social complexities pose barriers to direct imitation, suggesting the potential for *sustained* advantages if well-organized.
- Organizational Integration
  - All three face internal challenges—faculty resistance, siloed structures, limited accountability and informal structures—that can diminish how well they exploit valuable, rare, and partially inimitable resources. *Organization (O)* emerges as the most vulnerable VRIO dimension across cases.

Common Challenges in Achieving Sustained Advantage

1. Balancing Tradition and Entrepreneurship: Some faculty struggle to reconcile entrepreneurship's "hands-on" ethos with academic norms. This tension can erode the *value* dimension if new curricula or teaching methods are stalled.
2. Silos and Resistance to Change: HCC's administrative support, NCC's partnership with a startup incubator, and SPCC's entrepreneurship center all require cross-

departmental collaboration. Where silos persist, the resource's organizational leverage declines.

3. Faculty Training Deficits: The need to train instructors *on how to teach* entrepreneurship differently from small business programs—rather than solely focusing on content knowledge—resonates across all three cases. Insufficient investment dilutes intangible resources related to teaching quality, innovation, and program outcomes.
4. Resource Utilization and Accountability: SPCC's underutilized Center underscores how resources must be properly organized and championed. Without robust processes for continuity, even high-value, rare resources remain underexploited.

Table 6.8 synthesizes how each college's resources and capabilities either enable or constrain its achievement of sustainable competitive advantage, viewed through the VRIO dimensions: Valuable, Rare, Inimitable, and Organized.

Implications for Entrepreneurship Ecosystem

According to Isenberg (2010), a thriving entrepreneurship ecosystem rests upon six key domains—policy, finance, culture, supports, human capital, and markets. Community colleges play a pivotal role in shaping at least four of these domains at the local level:

1. **Culture.** A culture that normalizes innovation, risk-taking, and resiliency is essential for nurturing student entrepreneurs. HCC benefits from its proximity to Silicon Valley's vibrant start-up ethos, whereas NCC purposefully embeds diversity, equity, and inclusion (DEI) in entrepreneurship education, creating a culture in which underrepresented students feel welcome to innovate (Porter, 1998). SPCC's downtown entrepreneurship center is similarly poised to influence local cultural

Table 6.8

Comparative Analysis

Theme/ Resource	Hogwarts CC (HCC)	Narnia CC (NCC)	South Park CC (SPCC)	Implications for Sustainable Advantage
Valuable (Location, industry ties, brand, unique offerings)	- Prime Silicon Valley location grants valuable tech-industry links. -Well-established business programs with transfer pipelines	- Strong Workforce Grants enable expansion of entrepreneurship education and certificates. - Embedded "equity lens" broadens market reach (targeting underserved entrepreneurs) - Noncredit programs for non-degree-seeking adult learners	- Administrator's strong support for technical/vocational programs - Entrepreneurship center fosters real-world skills (pop-up events, local chamber partnerships)	Each college has valuable resources (location, programs, funding, partnerships). NCC's equity-focused approach and multi-modal offerings particularly stand out as valuable for attracting nontraditional entrepreneurs—reinforcing local workforce needs and social justice goals. Noncredit offerings tapped underserved and untapped demographics in the Bay Area.
Rare (Differen-tiation, specialized partnerships, etc.)	- Partnership with a 4-year college - Strong support for professional development and diverse training outside of the usual community college's' conferences - Paid internship for students at Stanford University	- Interdisciplinary approach, weaving entrepreneurship into horticulture, culinary, kinesiology, etc. - Partnerships with local incubators focusing on Black/Brown entrepreneurs.	- SPCC's entrepreneurship center is comparatively uncommon in many community colleges. - Strong local-chamber ties generating consistent student-business interactions. -Entrepreneurship student ambassador program	Rare resources include specialized domain strengths and unique local networks. NCC's cross-department integration plus equity-driven incubators is distinct in the 2-year college space. SPCC's dedicated entrepreneurial lab and active advisory boards also provide unusual synergy.

Table 6.8 (continued)

Theme/ Resource	Hogwarts CC (HCC)	Narnia CC (NCC)	South Park CC (SPCC)	Implications for Sustainable Advantage
Inimitable (Tacit knowledge, deep networks, faculty expertise)	- Some faculty have strong industry ties, but there is friction between "traditional" and "entrepreneurial" mindsets. - Cultural knowledge built over decades in Silicon Valley	- "Local ecosystem development" with pitch competitions and external sponsorship is built on relationships not easily replicated. -Instructors who are practicing entrepreneurs and well-connected faculty bring practical expertise and connections.	- Long-standing relationships with local businesses, chambers, and community mentors have built trust. - Culture of "hands-on" labs further enhances intangible know-how. - Administrators desire to train instructors *how to teach* business and entrepreneurship.	Inimitability arises when embedded networks or specialized knowledge cannot be quickly duplicated by competitors. NCC's dense local and equity-focused partner ecosystem is potentially inimitable. HCC's and SPCC's intangible networks remain strong if faculty are deeply invested—though continuity can falter with turnover or internal resistance.
Organized (Structures, leadership, strategic alignment)	- Conflicts over new teaching methods hamper cohesive strategy - Some faculty feel unprotected from IP infringement or resource "poaching"	- Still dealing with institutional silos across departments - Lacks robust KPI * tracking to show program impact, which may deter some funders.	- Potential misalignment between the entrepreneurship center and certain faculty; no strong accountability. - Institutional inertia slows integration of new programs.	Effective organization is critical to harnessing VRIO resources. Each college has structure-related challenges (inertia, silos, or friction) limiting full conversion of their distinctive assets into competitive advantage. Improving cross-department collaborations, accountability, and data-driven program iteration is essential for sustaining gains.

*KPI – Key Performance Indicator

attitudes if leadership further integrates Center offerings with campus-wide curricula and events.

2. **Supports.** Technical support, mentorship, and physical infrastructure—such as SPCC's entrepreneurship center and NCC's incubator partnerships—enhance program impact by giving students real-world exposure. Yet, these supports require coordinated faculty engagement, funding continuity, and systematic performance indicators to ensure they remain central rather than peripheral to educational outcomes.
3. **Human Capital.** Faculty industry experience, professional development, and collaborative mindsets are decisive in delivering relevant entrepreneurship instruction. The observational data show that hands-on, instructor-led events can spark powerful learning moments, but building lasting capabilities demands consistent institutional investment in faculty training and cross-departmental dialogues (Observations Findings, 2025).
4. **Markets.** Each college leverages local market opportunities—Silicon Valley tech firms, incubators that serve minority communities, or chambers of commerce for vendor fairs. Aligning these external relationships with strategic curricula and targeted learner support can produce pathways that bolster both institutional reputation and student career outcomes (Etzkowitz & Leydesdorff, 2000).

Across Hogwarts Community College, Narnia Community College, and South Park Community College, the varying resources and organizational practices—ranging from HCC's proximity to Silicon Valley's innovation culture to NCC's equity-driven partnerships and SPCC's downtown entrepreneurship center—illustrate the integral role community colleges play

in Isenberg's (2010) entrepreneurship ecosystem framework. By bolstering an entrepreneurial culture, providing critical supports such as incubators and mentorship, cultivating faculty expertise (human capital and collective IP), and leveraging locations, these institutions demonstrate how strategic alignment with Isenberg's domains can spur student engagement, foster resilient communities, and strengthen their overall competitive advantage in entrepreneurship education.

Conclusion

Drawing on the Resource-Based View (RBV) analysis presented across three community colleges—Hogwarts Community College (HCC), Narnia Community College (NCC), and South Park Community College (SPCC)—the findings underscore that entrepreneurship education in these settings is shaped by unique resource configurations, organizational structures, and cultural dynamics. Each college possesses valuable and at times rare resources—ranging from geographic location and dedicated entrepreneurship centers to interdisciplinary curricula and equity-focused partnerships—that support experiential learning and foster an entrepreneurial mindset (Barney, 1991; Barney & Clark, 2007). However, all three institutions confront challenges in achieving sustained competitive advantage, primarily due to organizational constraints such as faculty silos, inconsistent institutional support, or limited accountability mechanisms. These constraints impede the full exploitation of the valuable, rare, and sometimes inimitable resources identified in the cross-case analysis.

Furthermore, the observational findings reveal that co-curricular activities, alumni testimonials, and speaker events positively shape students' sense of belonging and enthusiasm for entrepreneurial ventures. The successful incorporation of interactive elements—such as pitch competitions, pop-up markets, and guest speaker series—points to the importance of creating

dynamic learning environments that marry theory with application. While these events offer an immediate catalyst for engagement, sustaining momentum and deepening learning outcomes require intentional organizational support, professional development for faculty, and structured alignment of activities with broader entrepreneurship program goals (Observations Findings, 2025). In short, the potential for robust entrepreneurship education is present but remains unevenly realized across the colleges, highlighting the need for more cohesive strategy and cross-departmental cooperation.

Initially, the researcher intended to apply only the Resource-Based View (RBV) framework to analyze the findings, without incorporating the Strategic Leverage Through Learning (SLL) framework. However, during the study, the results revealed that organizational variables were the primary weakness across all three colleges' entrepreneurship education initiatives. Within the VRIO framework, **Organization** emerged as the most critical yet deficient factor requiring attention. More of this is discussed in the next chapter. This unexpected finding prompted the researcher to integrate the SLL framework into the analysis, allowing for a deeper examination of organizational learning and adaptation. Consequently, the SLL framework informed the development of policy recommendations and practical implications, enhancing the study's contributions to both research and practice in entrepreneurship education.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the conclusion and recommendations based on the key findings from the three community colleges—Hogwarts Community College (HCC), Narnia Community College (NCC), and South Park Community College (SPCC)—as well as the perspectives of industry partners, student surveys, and on-campus observational insights. Grounded in Barney's (1991) Resource-Based View (RBV) framework and the Strategic Leverage Through Learning (SLL) model (Gephart & Marsick, 2003), this chapter addresses the overarching research question:

> *How can business model innovation in entrepreneurship education in community colleges remain relevant and competitive in today's fast-changing business and learning environment?*

To answer this question, three subquestions were investigated to answer this broad inquiry:

1. **Strategic Resources and Capabilities:** What strategic resources and capabilities do community colleges possess to meet the demands of disruptive innovation and evolving student needs?
2. **Mindsets and Skill Sets:** What mindsets and skill sets (i.e., knowledge, skills, and attitudes) are required by administrators, instructional designers, and faculty to adapt to this new environment?
3. **Program Structures and Business Models:** How do community college entrepreneurship education (EE) program structures and business models facilitate collaboration with industry and community partners, thereby influencing student success and institutional sustainability?

A considerable amount of literature has developed on the relationships linking the growth and profitability of a firm to its organizational structure, capabilities, and behavior (Nelson & Winter, 1982). Applying Barney's (1991) Resource-Based View (RBV) model through the VRIO framework revealed that Organization is the most significant weakness that community colleges must address to achieve sustained competitiveness in entrepreneurship education. While the findings indicate that these institutions possess both tangible and intangible resources with the potential to create competitive advantages, their ability to effectively harness and integrate these resources remains a challenge. To bridge this gap, Gephart and Marsick's (2016) Strategic Leverage Through Learning (SLL) model offers a critical lens for organizational transformation. The SLL framework emphasizes how leadership, culture, and systemic structures interact with iterative learning processes to drive sustained performance improvements. By aligning the principles of organizational learning with the VRIO framework, the SLL model provides a pathway for strengthening the Organizational component—ensuring that valuable, rare, and inimitable resources are effectively leveraged for strategic advantage. Figure 7.3 visually represents the elements of this change process, illustrating how organizational learning facilitates the full utilization of existing resources to establish and sustain a competitive edge in community college entrepreneurship education.

Discussion: Key Findings

Strategic Resources and Capabilities

The findings reveal a complex and uneven landscape of resources and institutional capacities across the three community colleges, marked by promising assets and systemic constraints. On one hand, each college demonstrates a foundational commitment to faculty development, student support, particularly in areas such as diversity, equity, and inclusion (DEI),

and essential learning technologies supporting online teaching. However, these strengths are tempered by persistent limitations in staffing, outdated teaching technological tools, and persistent financial constraints that impede the full realization of institutional capabilities. Challenges such as the high cost of technology subscriptions, delays in IT support, and the lack of robust systems for capturing post-graduation employment data undermine the colleges' ability to implement and assess innovation-driven programs effectively. Furthermore, an enduring focus on traditional completion and transfer metrics often eclipses entrepreneurial and non-traditional pathways, thereby narrowing the scope of institutional innovation. Faculty voices across the colleges underscore a desire for greater interdisciplinary collaboration and curriculum integration, yet such initiatives remain constrained by organizational silos and resource limitations.

Despite these systemic challenges, all three institutions possess a shared set of strategic resources—namely, geographic proximity to Silicon Valley, active industry partnerships, and tuition-free educational opportunities—which collectively position them to respond to regional workforce needs and industry shifts. Each college also demonstrates unique, institution-specific assets that could offer a significant competitive advantage if strategically leveraged. For example, HCC benefits from strong administrative advocacy for professional development, formal articulation agreements with a nearby four-year university, established internship pipelines with leading Bay Area institutions, and a faculty culture that embraces entrepreneurial learning. NCC capitalizes on Strong Workforce grants to sustain a non-credit entrepreneurship program in collaboration with a major Bay Area incubator, and its interdisciplinary certificate model integrates entrepreneurial competencies across diverse academic divisions. SPCC, on the other hand, features a centrally located Entrepreneurship Center led by a dedicated non-

instructional administrator, along with deep community ties and a suite of technical and vocational programs that reinforce experiential, workforce-aligned learning. Collectively, these assets provide a strong foundation for developing dynamic entrepreneurship ecosystems within each institution, though their potential remains contingent upon institutional capacity to overcome structural and financial barriers and to strategically align resources with broader innovation goals.

Mindsets and Skillsets

The findings across the three community colleges reveal a faculty mindset characterized by adaptability, empathy, and forward-thinking, particularly in relation to entrepreneurship education, technology integration, and instructional innovation. Faculty demonstrate a strong willingness to embrace online teaching, explore emerging technologies such as artificial intelligence, and develop inclusive approaches that respond to the diverse needs of non-traditional students. The need to navigate compliance standards and develop observable learning outcomes further underscores the growing emphasis on measurable, results-driven education. At the same time, faculty and administrators are increasingly embracing qualitative and narrative-based metrics of success in entrepreneurship, reflecting a shift toward holistic and contextualized assessments of impact. However, resource limitations remain a persistent barrier to fully actualizing these competencies, highlighting the need for systemic support to transform individual initiatives into sustained institutional capability.

The findings also showed the prevalence of resistance to change and conservative academic culture. Despite acknowledging the need for experiential, hands-on approaches, some faculty remain hesitant to adopt new pedagogies or technologies. HCC's experience underscored

the tension between traditional academic methods (e.g., theory-based instruction) and the "doing" orientation and more practical aspects of entrepreneurship.

Second, there was limited exposure to contemporary industry trends. Faculty who have not engaged in the latest entrepreneurial practice or industry-oriented professional development found it challenging to integrate up-to-date business and technology insights into the curriculum, slowing the pace of adoption.

Third, there was evidence of siloed practices, internal fragmentation, and disjointed collaboration. At NCC, interdisciplinary approaches are championed, yet long-standing institutional silos limit faculty from business, technology, or other departments from co-developing or co-teaching courses. The result is a piecemeal incorporation of entrepreneurial skill-building rather than a more holistic or integrated design.

Fourth, there was inconsistent and limited professional development. Opportunities for continuous learning, such as conference attendance or technology upskilling, were frequently hindered by scheduling conflicts and budget constraints. Most of the supported training was within the community college landscape, which limited learning from industry thought leaders. At SPCC, administrators highlighted that professional development was often "optional rather than mandatory," leading to uneven adoption of entrepreneurial practices across departments.

Fifth, there was a lack of accountability and follow-through. Absent a robust accountability mechanism, faculty may not be incentivized to update their methods. The tracking of outcomes for student support services is weak. Recent research on entrepreneurship education increasingly highlighted that measuring program success, especially for non-degree-seeking students, requires a shift away from traditional labor market metrics to include transformative

outcomes, such as the development of entrepreneurial mindsets, self-efficacy, and resilience (Nabi et al., 2017; Neck & Greene, 2011).

Sixth, there is an inadequate real-world and technological skill set. Despite recognizing the importance of emerging tools (e.g., AI-driven simulations, fintech applications, digital marketing), faculty often lack the training or confidence to embed these resources into entrepreneurship courses. This issue surfaced in both faculty interviews (HCC, NCC) and industry partner feedback, such as “Our faculty are disciplined experts in business, not necessarily the technology part in terms of that software."

Seventh is the misalignment with industry needs. SPCC faces a persistent disconnect between what local employers or incubators want in entry-level entrepreneurs and the skillsets students acquire in class. Employers seek competencies like lean prototyping, rapid iteration, and digital storytelling—skillsets not consistently covered in current curricula.

Eighth, there is an underdeveloped “Entrepreneurial Mindset,” as evidenced by the narrow conceptions of entrepreneurship. While many community college faculty see entrepreneurship as starting a small business, fewer embrace broader entrepreneurial thinking—such as intrapreneurship, social innovation, or innovation within traditional organizations. This limits the faculty’s capacity to teach creativity and risk-taking and students’ exposure to more expansive career pathways.

Ninth and finally, there is an uneven emphasis on growth mindset and resilience. Multiple participants described faculty reluctance to let students “fail forward.” Industry partners noted that “failing safely” is central to entrepreneurial learning, yet traditional grading practices and rigid assessment rubrics may undermine this critical skill.

Program Structures and Business Models

The findings related to program structures and business models across the three community colleges reveal a tension between traditional academic frameworks and the evolving demands of entrepreneurship education. While colleges demonstrate support for faculty development through online teaching initiatives and conference sponsorships, systemic challenges in resource allocation—particularly staffing and technological infrastructure—impede program innovation and responsiveness. Program models remain largely centered on degree completion and transfer metrics, which constrain the integration of entrepreneurship-focused outcomes that often require qualitative, non-traditional measures of success. Additionally, structural silos, such as separate divisions overseeing learning technologies, hinder cohesive curriculum development and agile program design. The institutions also struggle to collect meaningful data on job placement and entrepreneurial outcomes due to system limitations, reflecting a misalignment between program goals and operational capabilities. Moreover, while there is awareness of the needs of non-traditional student populations, program structures often fail to account for their unique trajectories. Overall, the current business models reflect a legacy orientation toward traditional metrics, necessitating structural transformation to support more flexible, innovation-driven, and learner-responsive entrepreneurship education.

Viewed through Isenberg's (2010) ecosystem framework, HCC, NCC, and SPCC each illustrated how community colleges can harness policy, finance, culture, support infrastructure, human capital, and local market alignment to design distinct yet effective business models for entrepreneurship education. HCC's policy-oriented and well-established alliances with 4-year academic institutions; NCC's grant-funded formal partnership with incubator, interdisciplinary certificates; and SPCC's entrepreneurship center-based experiential events collectively

demonstrated that no single formula captures the entirety of entrepreneurship education at community colleges. Instead, each institution's organizational culture, leadership priorities, partnership strategies, and resource configurations have shaped how it meets the evolving needs of students and the broader regional economy.

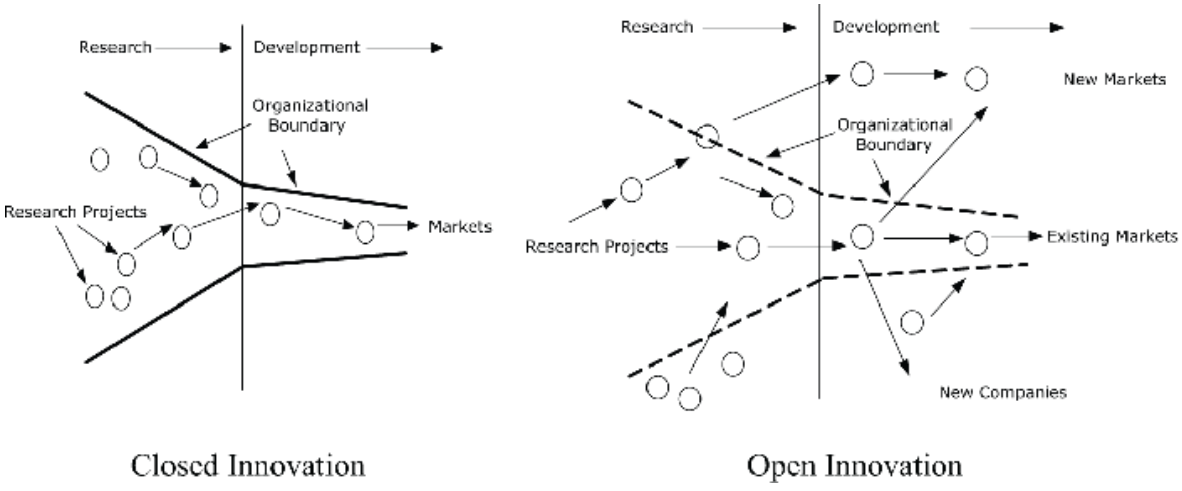
By integrating domain-specific supports—ranging from external funding to industry networks—these colleges offer compelling pathways that address diverse learner profiles and market demands. Their models underscore the versatility and adaptive potential of the community college sector, illuminating how robust entrepreneurial ecosystems can flourish when policy alignment, strategic investment, inclusive culture, and active community engagement converge. This dynamic capability of these colleges can be a strategic source of competitive advantage.

Recommendations Through the Lens of the SLL Model

The findings from the VRIO framework revealed that *Organization* is the weakest area that the three community colleges should work on to unleash the power of their existing resources and capabilities. The data showed that these colleges have tangible and intangible resources that would make them competitive when harnessed effectively. As some of these resources were external to the institution, an open innovation approach is recommended. Open innovation is a business management model that promotes collaboration with external and internal partners to accelerate innovation, share risks, and enhance the development of new products, services, or processes (Chesbrough, 2003). Open innovation contrasts with traditional, closed models of innovation (see Figure 7.1) by leveraging the collective knowledge and resources of a wider network.

Figure 7.1

Open vs. Closed Innovation

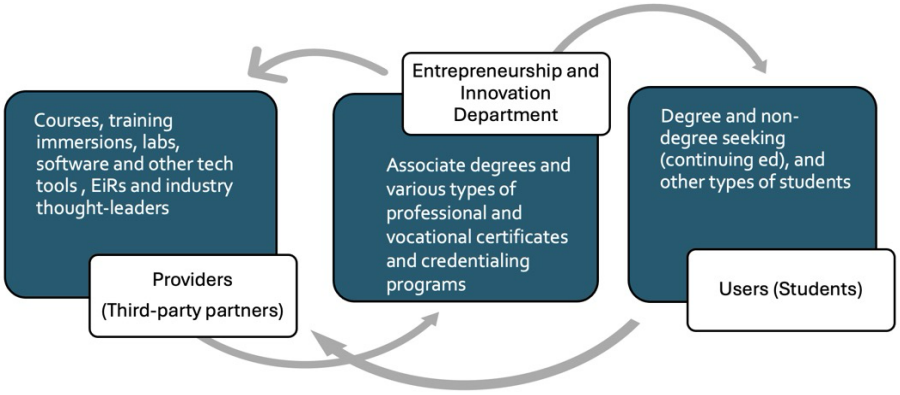


Reprinted with permission from "Open Innovation" by Henry W. Chesbrough (c) 2013 Harvard Business Publishing. Figure 1-2 (pg xxii) and Figure 1-4 (pg xxv)

Table 7.1 illustrates the application of Chesbrough's (2003) open innovation paradigm to entrepreneurship education (EE), demonstrating its alignment with and support for the platform business model (Figure 7.2) in community colleges, as extensively discussed in Chapter 2.

Figure 7.2

Higher Education Platform Business Model



Source: Faustino-Pulliam (2020)

The platform business model, characterized by leveraging external partnerships, shared resources, and collaborative networks, supports the principles of open innovation by capitalizing on existing competitive advantages identified within the three colleges studied. Additionally, this approach facilitates the development of dynamic institutional capabilities—such as adaptability, responsiveness, and continuous improvement—without requiring substantial additional investments, thus optimizing resource utilization and strategic efficiency within community college entrepreneurship programs. One example that exemplifies dynamic capabilities is to leverage industry partnerships to access technology tools needed to fulfill the experiential and applied nature of the entrepreneurship curriculum. Accessing current tech tools would be too costly for community college especially with the degree of obsolescence that comes with these tools. Recent technological advancements have significantly enhanced the delivery and impact of entrepreneurship education (EE), particularly through tools that foster experiential learning, collaboration, and ecosystem connectivity. Simulation platforms such as SimVenture, Capsim, and Marketplace Live allow students to engage in virtual business scenarios, developing critical thinking, risk assessment, and strategic decision-making skills in low-risk environments (Bell, Martin, & Mihaylov, 2018). Tools like StartupTree, Gust, and VentureWell facilitate mentorship matching, team formation, and venture tracking, thereby expanding access to entrepreneurial networks and support systems. Platforms such as Slack, Notion, and Miro promote real-time collaboration and knowledge sharing, while open educational platforms like Coursera, EDX, and OpenLearning enable learners to access global entrepreneurial content and MOOCs curated by top institutions. These technologies collectively bolster the entrepreneurial ecosystem by linking students to mentors, peers, and real-world challenges, thus reinforcing open innovation by allowing external knowledge to flow into the educational process while enabling students'

outputs (ideas, prototypes, ventures) to circulate and mature within broader innovation systems (Chesbrough, 2006). In this way, technology serves not just as a delivery mechanism but as a catalyst for adaptive, networked, and innovation-driven EE models. When integrated thoughtfully, these platforms serve as digital infrastructure for open innovation ecosystems in EE. They enable knowledge flow, mentorship, and experimentation beyond institutional silos—strengthening both individual learning and systemic transformation. Table 7.1 below outlines several strategic applications of open innovation in EE.

Table 7.1

Open Innovation in Entrepreneurship Education

Open Innovation Principle	Application in Community College Entrepreneurship Education	Expected Benefits and Outcomes
Inbound Innovation (Outside-in)	Incorporating external entrepreneurial expertise, industry practitioners, and guest speakers into curricula.	Enhanced relevance of education; market-ready graduates equipped with current knowledge and practices.
Outbound Innovation (Inside-out)	Sharing student-developed innovations and business ideas with community organizations, industry partners, and investors.	Increased commercialization opportunities, community impact, and practical validation of student innovations.
Collaborative Networks and Partnerships	Partnering with local businesses, incubators, chambers of commerce, and accelerators to foster a supportive entrepreneurial ecosystem. i.e. internships, apprenticeships, jobs	Strengthened support network for entrepreneurial students; increased resource availability and business incubation opportunities.
Knowledge Sharing and Co-Creation	Developing curricula and co-curricular activities collaboratively with industry professionals, allowing student access to industry-used technologies (e.g., QuickBooks, Tableau, Salesforce).	Improved practical skill development; increased employability; enriched student competency in industry-standard technologies.

Table 7.1 (continued)

Open Innovation Principle	Application in Community College Entrepreneurship Education	Expected Benefits and Outcomes
Interdisciplinary Integration	Creating cross-disciplinary programs combining entrepreneurship with other academic fields (e.g., STEM, design, business, technology).	Broader perspectives; enhanced innovative and problem-solving capabilities of students; holistic education fostering creativity.
Feedback and Iteration Loops	Continuous improvement through systematic feedback from industry partners and entrepreneurial alumni on program content and structure.	Curricula aligned with emerging industry trends; increased agility and responsiveness of educational programs.
Faculty-Industry Immersion	Facilitating faculty immersion opportunities, where educators gain firsthand experience through industry-led workshops, site visits, or collaborative projects.	Faculty equipped with current industry practices and trends, resulting in relevant teaching content and improved educational delivery.
Access to Industry Technology	Providing students direct access and training in industry-standard tools and software such as QuickBooks, Tableau, Startup Tree, and Slack through industry partnerships.	Enhanced practical competencies; greater readiness for immediate productivity in entrepreneurial and professional settings.

By engaging students with external stakeholders—such as industry experts, startups, and community partners—educational programs can simulate authentic entrepreneurial ecosystems. This approach not only enhances students' capacity to innovate beyond institutional boundaries but also prepares them to thrive in dynamic markets where co-creation and knowledge-sharing are essential for sustainable entrepreneurial success (Chesbrough, 2003; Du Chatenier et al., 2010).

Crucially, this educational transformation can be strategically reinforced through the application of *Strategic Leverage through Learning* (SLL), a concept that emphasizes the intentional use of learning to align people, processes, and knowledge flows toward strategic

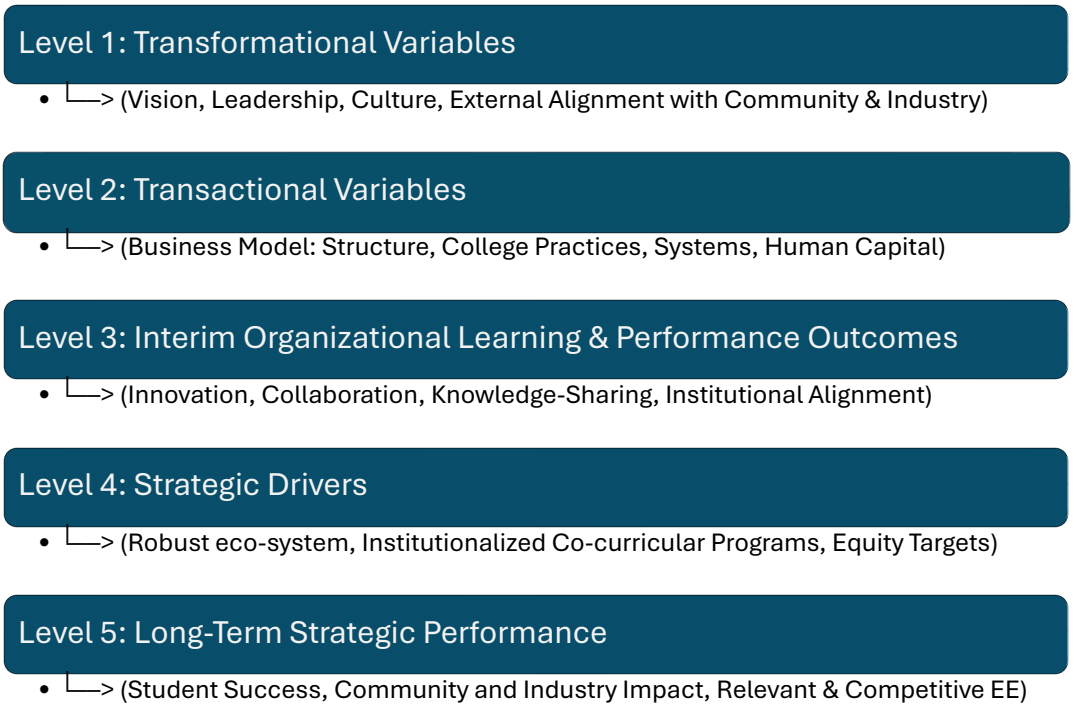
goals. In this case, SLL provides a learning architecture that ensures open innovation is not an incidental experience but a core pedagogical strategy. Unlearning is as critical as learning, particularly when viewed through the lens of SLL, which emphasizes continuous organizational adaptation and agility in rapidly changing environments (Marsick & Watkins, 2003). While learning involves acquiring and assimilating new knowledge to enhance performance, unlearning entails intentionally discarding outdated or ineffective practices and mindsets that hinder adaptation and innovation. From the SLL perspective, organizations—including academic institutions such as community colleges—must systematically challenge entrenched pedagogical methods, curriculum structures, and operational processes that no longer align with emerging market needs or industry realities. This intentional relinquishment of obsolete knowledge and practices enables organizations to dismantle cognitive rigidities, thereby fostering openness to disruptive innovation and accelerating the integration of new insights. In the context of entrepreneurship education, unlearning outdated educational approaches and assumptions—such as rigid curricular frameworks, isolated academic departments, and traditional, lecture-centric instruction—creates the space necessary for more agile, responsive, and experiential learning practices to emerge. Thus, embracing unlearning as an essential component of SLL supports ongoing organizational renewal and competitive advantage through enhanced responsiveness, adaptability, and strategic agility.

Through SLL, entrepreneurship education becomes a platform where adaptive learning, critical reflection, and system-wide knowledge sharing are cultivated as strategic assets. The recursive cycle of action, feedback, and institutional learning enables both faculty and students to continuously refine their engagement with external partners, improving innovation outcomes over time. Thus, SLL not only supports but amplifies the effectiveness of open innovation by

embedding it in a culture of strategic, ongoing learning that aligns with institutional and societal goals. The Strategic Leverage Through Learning (SLL) model (Gephart & Marsick, 2003) provides a useful framework to guide this transformation. Its five levels underscore how leadership, culture, and systems integrate with iterative learning to drive long-term performance. Figure 7.3 captures the various elements that drive the change process using organizational learning to leverage the valuable resources that confer the three colleges sustained competitive advantage.

Figure 7.3

Strategic Leverage Through Learning (SLL) Model



Note: The figure above detailed the researcher's proposed system dynamics using the SLL Model developed by Gephart and Marsick (2003)

Level 1: Transformational Variables (Vision, Leadership, Culture, and Alignment with Community and Industry)

1. **Articulate a Clear Vision for Entrepreneurship Education**
    - Ensure a shared vision about the entrepreneurship program with administrators, faculty, staff, and industry partners, explicitly linking entrepreneurship initiatives to equity, innovation, and workforce development goals and a viable alternative to gainful employment for socioeconomic mobility.
    - Communicate this vision across all channels (e.g., new faculty orientations, advisory boards, student information sessions) to foster a shared understanding of priorities and desired outcomes. A unified and consistent message will solidify the understanding and adoption of the shared vision.
2. **Strengthen Leadership and Stakeholders Buy-In**
    - Acquire dedicated innovation funds for professional development in emerging technologies, entrepreneurial pedagogy, and industry collaborations.
    - Establish "Entrepreneurship Leads" at the senior leadership level who champion continuous improvement and mitigate the impact of faculty or staff turnover on critical initiatives.
    - Offer flexible scheduling and release time for faculty to attend conferences, workshops, and corporate residencies, ensuring that the entire culture values innovation and professional growth (Gephart & Marsick, 2003).

3. **Formalize Collaboration Structures with Industry and Community Partners**
    - Institutionalize MOUs with local businesses, incubators, government agencies, and nonprofits to define and formalize ad-hoc mentorships, co-curricular and extra activities, and funding support responsibilities.
    - Encourage cross-departmental and cross-functional committees, weaving together business, technical, vocational, and liberal arts programs under a unified entrepreneurial mission.
    - Form new relationships with industry practitioners to improve course content relevance. Engaged scholarship calls for researchers to obtain advice and perspectives of key stakeholders in forming more relevant research questions and challenging basic assumptions in their discipline, which could lead to more innovative and influential research results (Cannice, 2016).

Intended Outcomes

A cohesive institutional culture that values entrepreneurship beyond lip service, invests in faculty development that breeds new ways of thinking, and fosters collaborative leadership—ensuring alignment with local industry needs, student success, and the college's strategic vision.

Level 2: Transactional Variables (Business Model/Structure, Management Practices, Systems, Human Capital)

4. **Enhance Organizational Structures for External Engagement**
    - Incentivize Industry Engagement. Create "industry fellow" or "entrepreneur-in-residence" roles for local entrepreneurs and alumni, offering them structured pathways to contribute as mentors and guest lecturers (Isenberg, 2010).

- Combine departmental resources (e.g., marketing, IT, finance offices) to streamline support for co-curricular events, ensuring consistent management practices and clear accountability.

5. **Create an Integrated Technology and Infrastructure Plan**
    - Centralize Tech Resources. Develop a unified platform where students and faculty can access AI-based tools, simulations, and digital marketing software relevant to entrepreneurship.
    - Establish a Faculty Mentorship and Externships for Tech Adoption. Pair tech-savvy faculty or instructional designers with colleagues who need additional support in adopting new digital tools (Cope, 2005). Sign a formal agreement with industry partners for faculty externships and immersions.
6. **Diversify Funding Streams and Streamline Curriculum Approval**
    - Diversify Funding Streams. Pursue private sector grants, plus crowdfunding or sponsorship campaigns, to strengthen financial sustainability for entrepreneurship education (Barney, 1991). Some sponsorships can be in-kind, e.g., free use of software tools for the faculty and students, such as QuickBooks sponsorship by Intuit.
    - Streamline Curriculum Approval: Collaborate with district leadership and state agencies to expedite processes for updating course offerings that have shorter shelf life such as marketing and entrepreneurship, enabling timely alignment with industry trends and market conditions.

Intended Outcomes

Efficient, well-organized systems that reduce administrative barriers, foster agile adaptation of programs, and deepen industry relationships—ultimately improving the college's capacity to leverage its valuable and rare resources. This will also push for skills-based and experiential learning.

Level 3: Interim Organizational Learning and Performance Outcomes (Innovation, Collaboration, Knowledge-Sharing, Institutional Alignment)

7. Invest in Professional Development and Faculty Support
    - Allocate dedicated innovation funds and flexible scheduling: Already noted under Transformational Variables, but critical here for driving day-to-day improvements in teaching and collaboration.
    - Leverage "communities of practice" that meet regularly to share experiences and best practices in experiential, disruptive and technology-driven instruction.
    - Mandate key faculty, administrators and other stakeholders to attend hands-on innovation-focused workshops and training programs during Flex Days.
8. **Strengthen Experiential and Co-Curricular Learning**
    - Introduce a Structured Experiential Pathways. Develop tiered programs (introductory to advanced) guiding students through progressively more complex entrepreneurial projects, accommodating varied backgrounds (Kolb, 1984).
    - Develop Co-Curricular Certificates or Micro-Credential Programs.
    - Promote Cross-Disciplinary Opportunities: Collaborate with other departments (e.g., Digital Media, Healthcare, Culinary Arts) to host startup weekends, hackathons, Design Thinking boot camps, pop-up markets, Ideation workshops

and industry speaker series, and demo events/competitions that mirror real-world challenges.

9. **Regular Assessments and Surveys**
    - Systematic Data Collection: Move beyond end-of-term evaluations—conduct ongoing surveys to track resource utilization, industry satisfaction, and student success.
    - Use these findings in internal retreats and advisory board meetings to adjust course design, event programming, and partnership strategies.

Intended Outcomes

A dynamic organizational environment where new ideas quickly translate into improved curricula, co-curricular events, and stronger alignment with market needs—facilitating continuous innovation and higher student engagement.

Level 4: Strategic Drivers (Robust Ecosystem, Institutionalized Co-curricular Programs, Equity Targets)

10. Bridge Alternative Credentials with Traditional Degrees

- As employers increasingly value skills-based hiring, colleges must integrate industry-recognized credentials (e.g., Facebook Digital Marketing certificates) with broader academic requirements. This blend of "hard" and "soft" skills—technical proficiency, communication, and complex problem-solving—can help reconnect disenchanted learners with traditional higher education and reinvigorate public confidence in its value. More importantly, this provides early access for students to potential employers and mentors to help them post-completion of their degrees and programs.

11. Adopt Flexible, Shorter Educational Pathways or Micro-Credentialing Programs

- Community colleges' EE must consider flexible program structures and credentials similar to stackable certificates. As AI accelerates the pace of workforce change, short-term skills training, certificates, and apprenticeships will grow significantly. To avoid obsolescence, institutions must provide rapid upskilling and reskilling opportunities so students can remain employable in the face of constant technological disruption.

12. Scale Industry Partnerships and Community Engagement

- Industry-Faculty-Student Roundtables: Host quarterly or semiannual forums to align curriculum updates, share success stories, and address emerging challenges in entrepreneurship education (Isenberg, 2010).
- Emphasize inclusive recruitment in these engagements, ensuring representation from underserved entrepreneurs, community organizations, and relevant government stakeholders.
- Leverage and build "Learn-by-doing" simulations that can provide functional, effective learning by allowing learners to practice skills in a realistic environment safely, free of real-life consequences after mistakes. (Guralnick, 2009)

13. Student Success, Equity, Access, and Transformation

- Support noncredit pathways and short-term certificates designed for working adults, non-degree-seeking, and historically marginalized populations.

- Incentivize departmental collaboration on new pilot programs to bridge equity gaps, particularly for female entrepreneurs, students of color, and immigrant communities.
- Capture students' success outside of the usual degree completion metrics, but through transformation that occurred through learning.

Intended Outcomes

Measurable improvement in student success, community impact, and local economic development through robust, equitable, and sustainable partnerships—key drivers that validate the institution's strategic advantage in transformative entrepreneurship education.

Level 5: Long-Term Strategic Performance (Student Success, Community and Industry Impact, Relevant and Competitive EE)

14. Embrace Continuous Feedback Loops and Iterative Improvement

- Integrate Industry-Faculty-Student Roundtables into annual strategic reviews, ensuring each cycle refines the college's entrepreneurship offerings.
- Deploy metrics tied to long-term indicators, such as graduates' venture creation, local job growth, and repeated engagement from industry partners (Gephart & Marsick, 2003).

15. Sustain Organizational Resilience

- Reinforce budgeting structures, leadership training, and cross-departmental teams that can adapt to fluctuations in funding or labor market disruptions.
- Regularly monitor local and global trends—digitalization, AI, sustainability demands—and incorporate emerging needs into the vision for entrepreneurship education.

Intended Outcomes

An entrepreneurship ecosystem that evolves with the external environment, anchored by robust community ties, forward-thinking leadership, and institutional agility—thereby securing the college's long-term competitive advantage (Barney, 1991).

Integrated Impact

Collectively, these recommendations ensure that community colleges can capitalize on the valuable and rare resources they already possess—faculty expertise, strategic partnerships, and co-curricular programs—while systematically building organizational capacity to adapt and institutionalize innovation. By embedding continuous learning at every level (Gephart & Marsick, 2003), colleges will be better equipped to tackle disruptive market forces, provide equitable access to entrepreneurial education, and demonstrate tangible contributions to regional economic development (Cope, 2005; Isenberg, 2010; Kolb, 1984).

Study Limitations and Implications

This research was confined to three community colleges in the Bay Area, which imposed notable constraints on the generalizability of the findings to other 2-year institutions, particularly those in rural regions with limited access to the robust business networks characteristic of urban centers such as San Francisco and Silicon Valley. Community colleges situated in more rural locales commonly face reduced opportunities to forge industry partnerships, hindering the establishment of vibrant entrepreneurial ecosystems (Isenberg, 2010). Further, institutions predominantly serving recent high school graduates may encounter distinct priorities relative to colleges in metropolitan centers, where student populations are often more demographically diverse and may have prior workforce experience (Bailey et al., 2015).

In addition to geographic considerations, the internal validity of this research was constrained by a relatively small sample size (interviews, n = 13; surveys, n = 68; observation, n = 1). This limitation was compounded by the disproportionate representation of survey respondents from one of the three colleges, introducing a potential bias in the data. With a more balanced distribution of participants across the institutions, findings might have differed in scope and emphasis. Nonetheless, the triangulated research design—incorporating surveys, interviews, and observational data—helped bolster the overall credibility of the study (Creswell & Poth, 2018). Each method yielded unique insights, thereby enriching the interpretation of stakeholder perspectives and situating the results within the broader context of entrepreneurship education in community colleges. Notably, the observation data, collected during a major on-campus event, illuminated practical dimensions of the entrepreneurial ecosystem that had not emerged as explicitly from the surveys or interviews (see Observations Findings).

Recommendations for Further Study

The findings revealed that the three urban community colleges examined possess distinct competitive advantages—particularly through industry partnerships and ecosystem-oriented business and entrepreneurship programs—that have the potential to mitigate some of the common challenges observed in entrepreneurship education (Isenberg, 2010; McClure, 2019). However, further research is warranted to examine the "platformization" of entrepreneurship education within community colleges (Parker et al., 2016), reducing transaction costs and facilitating novel forms of collaboration, further exploring how they help both parties to optimize existing relationships and partnerships. These platforms disrupt traditional, linear business models in higher education, and institutionalizing co-curricular programs as central components of the academic curriculum to strengthen the synergy between theoretical instruction and

practical experiences (Observations Findings). By reconceptualizing the business models employed by higher education in a manner that assimilates platform thinking, community colleges may create new avenues for collaboration among faculty, students, industry partners, and community stakeholders. Such an approach may not only refine platform business theory as applied to educational settings (McIntyre & Srinivasan, 2017) but also pave the way for robust empirical investigations into the efficacy of this paradigm in enhancing student outcomes and driving institutional innovation.

Moreover, the findings highlighted the necessity of a more holistic assessment of student learning that extends beyond conventional metrics such as grade point average (GPA). Given the growing prominence of artificial intelligence and digital technologies, traditional assessment tools (exams, quizzes, and essays) may no longer suffice for evaluating essential technical and soft skills (Darling-Hammond, 2006). Consequently, future inquiries might evaluate the effectiveness of incorporating co-curricular and extracurricular experiences—including industry-sponsored projects, internships, and entrepreneurial competitions—into broader assessment models. Such an investigation could inform whether community colleges can meaningfully reconfigure their curricular offerings, co-curricular programs, and external partnerships as collaborative, student-centered platforms as key drivers of student success.

Beyond its practical implications, this dissertation aims to contribute significantly to the scholarly literature surrounding the theoretical frameworks employed, particularly Entrepreneurial Ecosystem and Strategic Leverage Through Learning (SLL) model. Future research could explore the concept of "unlearning" entrenched educational practices, which may inadvertently limit the effectiveness of a new business model for entrepreneurship education (EE). Investigating the relationship between "unlearning" and the integration of disruptive

knowledge could further illuminate strategies for transforming traditional EE business models. Additionally, examining the intersection between open innovation, "unlearning," and disruptive change may extend the theoretical and practical impact of each perspective when considered in conjunction.

Conclusion

The findings underscored that community colleges are uniquely situated to democratize entrepreneurship, particularly for under-resourced community colleges serving underrepresented and non-traditional learners. The transformation of community college entrepreneurship education requires a strong commitment to change its current business models, echoing the central mission of community colleges to serve diverse learners while fostering regional economic development (California Community Colleges Chancellor's Office [CCCCO], 2022). Findings across HCC, NCC, and SPCC showed their dynamic capabilities to potentially build a robust entrepreneurship ecosystem and a dynamic business model to gain a sustainable competitive advantage.

However, sustaining relevance amid disruptive forces demands ongoing organizational learning. By operationalizing their competitive advantages (Barney, 1991) and embedding continuous learning frameworks (Gephart & Marsick, 2003), community colleges can navigate funding constraints, institutional inertia, and organizational silos. Centralizing co-curricular experiences, scaling industry linkages, and investing in professional development not only enrich student experiences but also position community colleges at the forefront of innovation ecosystems (Isenberg, 2010). These partnerships, entrepreneurial hubs, events, and pedagogical innovations strengthen the entrepreneurial ecosystem that EE needs to ensure its efficacy and sustainability. Community colleges can create powerful feedback loops between students,

faculty, and industry, elevating co-curricular experiences into transformative capabilities. Organizationally, such a culture of curiosity and innovation must be intentionally designed, encouraging experimental pilot programs and tolerating short-term "failures" as opportunities to pivot or "shoot down" underperforming initiatives—an approach common in agile start-up environments. Implementing technology solutions at scale while tracking metrics to measure growth and performance facilitates ongoing alignment with market demands and bolsters institutional responsiveness. In this way, community colleges solidify their role as critical engines of equitable economic development, cultivating entrepreneurial mindsets and harnessing strategic relationships to amplify the reach, rigor, and relevance of their business and entrepreneurship programs.

Realizing these potential outcomes demands intentional organizational design and steadfast commitment to collaborative leadership, innovation-focused pedagogy, and robust community alliances. In an era of disruptive innovation, these measures are not merely optional; they are indispensable to ensuring that community college entrepreneurship education remains current, engaging, and socially impactful for the diverse communities these institutions serve.

Community colleges striving to bolster entrepreneurship education must employ a holistic framework that systematically embeds learning into daily operations. Drawing from Gephart and Marsick's (2003) SLL model, organizations acquire a competitive edge by fostering continuous learning, reflective practice, and intentional collaboration. Applied to community colleges, this model underscores the importance of aligning structural resources, stakeholder partnerships, and faculty development with the evolving demands of industry and the entrepreneurial ecosystem. Continuous learning also nurtures adaptability and agility, which

nurtures dynamic capabilities for community colleges to shift rapidly to incorporate new technologies, pedagogies, and partnership opportunities.

Strengthening and scaling industry partnerships not only establishes valuable pipelines for mentorship, internships, and funding, but also ensures curricular alignment with real-world needs (Isenberg, 2010). Formal collaboration structures in the form of Memoranda of Understanding (MOUs) fully integrated with course outlines, programs and curricula offer clarity and consistency. Introducing incentives—such as industry fellow roles—invites local entrepreneurs to participate actively in the educational process, thereby immersing students in contemporary business practices. Investing in professional development and faculty support further cements this outward-facing strategy. Dedicated innovation funds, flexible scheduling, and regular opportunities for conferencing or specialized training outside of the usual community college sphere encourage faculty to adopt emerging technologies and pedagogies, cultivating a robust culture of learning that echoes Gephart and Marsick's (2003) emphasis on ongoing organizational adaptation.

Enhancing experiential and co-curricular learning through structured pathways and cross-disciplinary collaboration expands student competencies beyond conventional classroom boundaries (Kolb, 1984). Similarly, an integrated technology and infrastructure plan fosters greater tech adoption, agility, and scalability by creating centralized platforms and mentorship models that enable consistent faculty support (Cope, 2005). Embedding continuous feedback loops—through frequent assessments, student and employer surveys, and industry-faculty-student roundtables—ensures that evolving challenges are promptly identified and addressed. Additionally, efforts to diversify funding streams and streamline curriculum approval processes

reduce bureaucratic barriers, thus maintaining institutional responsiveness to market shifts (Barney, 1991).

In tandem with addressing mindset and skillset gaps through mandated professional development, cross-departmental teaching teams, accountability mechanisms, and expanded definitions of entrepreneurship, community colleges can effectively operationalize the SLL model. By making learning integral at every level—individual, departmental, and institutional—these colleges are better positioned to cultivate transformative entrepreneurial cultures, empower student success, and maintain relevance amid ongoing economic disruptions (Gephart & Marsick, 2016).

Finally, the entrepreneurial ecosystem perspective can also be extended to address the rise of platform-based business models exemplified by Uber, Amazon, and Airbnb, wherein value creation emerges from network effects and user-driven innovation. Network effects, broadly defined as the phenomenon in which a product or service gains additional value as more individuals use it (Katz & Shapiro, 1985; Shapiro & Varian, 1999), can serve as a powerful catalyst for community college entrepreneurship programs by expanding access to resources, collaboration opportunities, and market insights. When community colleges integrate network effect principles into their entrepreneurial curricula—such as linking students and faculty with incubators, funding institutions, local businesses, or global digital platforms—each additional participant enriches the shared ecosystem. Over time, the accumulation of varied expertise, ideas, and relationships cultivates an iterative feedback loop wherein emerging ventures and nascent entrepreneurs benefit from ever-growing connections (Isenberg, 2010). This environment aligns with Gephart and Marsick's (2003) notion of continuous organizational learning, wherein each new "node" in the network serves as both a recipient and a contributor of knowledge.

Moreover, user-driven innovation—where end users and customers actively co-create or influence product design and service delivery—allows community college students to prototype new business ideas in direct response to market signals. Because students can quickly gather feedback from both peers and industry stakeholders, they engage in a dynamic process of rapid iteration and value co-creation. This highly interactive learning model builds on adult learning theories, such as Knowles's (1978) andragogical framework, which stresses that adult learners are most motivated when they see immediate applicability of new skills. By teaching students to generate and test ideas in real or simulated marketplaces, community colleges foster resilience and adaptability—capabilities that are essential in fast-moving, platform-based economies (Ries, 2011).

Taken together, network effects and user-driven innovation reinforce each other to produce a thriving entrepreneurial climate. They lower barriers to entry for student-led startups, expand market reach, and ensure that the products or services emerging from community college programs remain relevant to current consumer and industry needs. This synergistic approach can significantly enhance the impact of community colleges, transforming them into local hubs that generate new businesses, strengthen community ties, and empower students with 21st century entrepreneurial competencies. In doing so, they not only remain responsive to shifting economic landscapes but also position themselves as focal points in fostering high-impact ventures that thrive on connectivity and shared value—a fitting embodiment of both Isenberg's (2010) ecosystem vision and Gephart and Marsick's (2003) emphasis on continuous, organization-wide learning.

REFERENCES

Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, *25*(1), 107–136. https://doi.org/10.2307/3250961

Ambrosini, V., & Bowman, C. (2009). What are dynamic capabilities and are they a useful construct in strategic management? *International Journal of Management Reviews*, *11*(1), 29–49. https://doi.org/10.1111/j.1468-2370.2008.00251.x

American Association of Community Colleges. (2021). *Community College Undergraduate Research Experience Summit: November 20–22, 2019, Washington, D.C.* https://www.aacc.nche.edu/wp-content/uploads/2020/04/AACC_URE_REPORT-FINAL.pdf

Anderson, C. (2008, June 23). *The end of theory: The data deluge makes the scientific method obsolete*. *Wired*. https://www.wired.com/2008/06/pb-theory/

Atwater, E. (2017). *Teaching entrepreneurship: An interview with Heidi Neck*. https://entrepreneurship.babson.edu/teaching-entrepreneurship-an-interview-with-heidi-neck/

Argyris, C., & Schön, D. A. (1978). *Organizational learning: A theory of action perspective*. Addison-Wesley.

Augier, M., & Teece, D. J. (2009). Dynamic capabilities and the role of managers in business strategy and economic performance. *Organization Science*, *20*(2), 410–421. https://doi.org/10.1287/orsc.1090.0424

Audretsch, D. B., & Keilbach, M. C. (2007). The theory of knowledge spillover entrepreneurship. *Journal of Management Studies, 44*(7), 1242–1254. https://doi.org/10.1111/j.1467-6486.2007.00722.x

Audretsch, D. B., & Feldman, M. P. (1996). R&D spillovers and the geography of innovation and production. *American Economic Review*, 86(3), 630–640.

Avramidis, E., & Smith, B. (1999). An introduction to the major research paradigms and their methodological implications for special needs research. *Emotional and Behavioural Difficulties*, 4(3), 27–36. https://doi.org/10.1080/1363275990040306

Bailey, T., Deaver, T., & Johnson, K. M. (2004). Outsourcing instruction: Balancing cost, quality, and control in higher education. *Journal of Higher Education*, *75*(2), 115–130.

Barba-Sánchez, V., & Atienza-Sahuquillo, A. (2018). Entrepreneurial intention among engineering students: The role of entrepreneurship education. *European Research on Management and Business Economics*, *24*(1), 53–61. https://doi.org/10.1016/j.iedeen.2017.04.001

Bandura, A. (1997). *Self-efficacy: The exercise of control.* W. H. Freeman.

Barkley, E. F., Cross, K. P., & Major, C. H. (2014). *Collaborative learning techniques: A handbook for college faculty* (2nd ed.). Jossey-Bass.

Barnard, A., Pittz, T. G., & Vanevenhoven, J. (2019). Entrepreneurship education in U.S. community colleges: A review and analysis. *Journal of Small Business and Enterprise Development*, 26(2), 190–208

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Barney, J. B. (2007). *Resource-based theory.* Oxford University Press.

Bell, R., Martin, M. J., & Mihaylov, S. (2018). Simulation-based learning in entrepreneurship education: A systematic literature review. *International Journal of Management Education*, 16(3), 489–509.

Blascheke, A. (2013). Heutagogy and lifelong learning: A review of hertagogical practice and self-determined learning. *International Review of Research in Open and Distributed Learning*, *14*(3), 1076–2087. https://www.irrodl.org/index.php/irrodl/article/view/1076/2087

Bloomberg, L. D., & Volpe, M. (2008). *Completing your qualitative dissertation: A roadmap from beginning to end*. Sage. https://doi.org/10.4135/9781452226613

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27–40.

Bradbury, N. A. (2016). Attention span during lectures: 8 seconds, 10 minutes, or more? *Advances in Physiology Education*, *40*, 509–513. https://doi.org/10.1152/advan.00109.2016

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Brown, G., & Foster, C. (2023). The use of virtual learning environments in higher education—Content, community and connectivism: Learning from student users. In H. Jahankhani, Jamal, G. Brown, E. Sainidis, R. Fong, & U. J. Butt (Eds.), *AI, blockchain and self-sovereign identity in higher education.* Springer. https://doi.org/10.1007/978-3-031-33627-0_6

Brown, R., & Mason, C. (2017). Looking inside the spiky bits: A critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics, 49*(1), 11–30. https://doi.org/10.1007/s11187-017-9865-7

Bruyat, C., & Julien, P.-A. (2001). Defining the field of research in entrepreneurship. *Journal of Business Venturing, 16*(2), 165–180. https://doi.org/10.1016/S0883-9026(99)00043-9

Burke, W. W., & Litwin, G. H. (1992). A causal model of organizational performance and change. *Journal of Management*, *18*(3), 523–545. https://doi.org/10.1177/01492063 9201800306

Cain, T. R. (2010). *Faculty unions and shared governance: Is there a balance of power?* [Doctoral dissertation, Indiana University].

California Community Colleges Chancellor's Office. (2019). *CCC briefing binder 2019.* California Community Colleges. https://www.cccco.edu/AboutUs/Chancellor/ Documents/BriefingBinder/CCC_BriefingBinder_2019.pdf

California Community Colleges Chancellor's Office. (2021). *SOS 2021 draft report.* California Community Colleges. https://www.cccco.edu/AboutUs/Chancellor/Documents/ SOS/2021-SOS-Draft-Report.pdf

California Community Colleges Chancellor's Office. (2022). *State of the system 2022 draft report.* California Community Colleges. https://www.cccco.edu/-/media/CCCCO-Website/docs/report/2023-SOS-Report.pdf

Cannice, M. V., Allen, J. P., & Tarrazo, M. (2016). What do venture capitalists think of venture capital research? *Venture Capital, 18*(1), 1–20. https://doi.org/10.1080/13691066. 2016.1102393c

Carey, K. (2016). *The end of college: Creating the future of learning and the university of everywhere.* Riverhead Books.

Castañeda, L., & Selwyn, N. (2018). More than tools? Making sense of the ongoing digitizations of higher education. *International Journal of Educational Technology in Higher Education, 15*(1), 1–10. https://doi.org/10.1186/s41239-018-0109-y

Cauthen, L. (2019). The uberization of learning. *The Learning Counsel.* https://thelearning counsel.com/articles/uberization-learning/

Chesbrough, H. (2003). *Open innovation: The new imperative for creating and profiting from technology.* Harvard Business School Press.

Child, F., Frank, M., Lef, M., & Sarakatsannis, J. (2021). *Setting a new bar for online higher education*. McKinsey & Company. https://www.mckinsey.com/industries/education/our-insights/setting-a-new-bar-for-online-higher-education

Child, F., Frank, M., Law, J., & Sarakatsannis, J. (2023, June). *What do higher education students want from online learning?* McKinsey & Company.

Christensen, C. M., & Raynor, M. E. (2003). *The innovator's solution: Creating and sustaining successful growth*. Harvard Business School Press.

Christensen, C. M., & Raynor, M. E. (2015). What is disruptive innovation? *Harvard Business Review.* https://hbr.org/2015/12/what-is-disruptive-innovation

Clark, B. R. (1998). *Creating entrepreneurial universities: Organizational pathways of transformation*. Pergamon.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly, 35*(1), 128–152.

Columbia Center for Teaching and Learning (2021). Collaborative learning. Columbia University. https://ctl.columbia.edu/resources-and-technology/teaching-with-technology/teaching-online/collaborative-learning-online/

Community College Research Center. (2022). *Public funding of community colleges.* https://ccrc.tc.columbia.edu/publications/public-funding-community-colleges.html

Cooke, P. (2001). Regional innovation systems, clusters, and the knowledge economy. *Industrial and Corporate Change, 10*(4), 945–974. https://doi.org/10.1093/icc/10.4.945

Cope, J. (2005). Toward a dynamic learning perspective of entrepreneurship. *Entrepreneurship Theory and Practice, 29*(4), 373–397. https://doi.org/10.1111/j.1540-6520.2005.00090.x

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.

Crossan, M. M., Lane, H. W., & White, R. E. (1999). An organizational learning framework: From intuition to institution. *Academy of Management Review*, *24*(3), 522–537. https://doi.org/10.2307/259140

Cunningham, J. B., & Lischeron, J. (1991). Defining entrepreneurship. *Journal of Small Business Management, 29*(1), 45–61.

Dai, Q., & Kauffman, R. J. (2002). Business models for Internet-based B2B electronic markets. *International Journal of Electronic Commerce*, *6*(4), 41–72. http://www.jstor.org/stable/27751032

Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, *57*(3), 300–314. https://doi.org/10.1177/0022487105285962 (Original work published 2006)

Davidson, C. N. (2017). *The new education: How to revolutionize the university to prepare students for a world in flux*. Basic Books.

Davis, G. F., & Sinha, A. (2021). Varieties of uberization: How technology and institutions change the organization(s) of late capitalism. *Organization Theory*, *2*(1). https://doi.org/10.1177/2631787721995198

Dewey, J. (1938). *Experience and education.* Macmillan.

Dezure, D. (2023, May). National reports on the undergraduate curriculum, traditional and contemporary perspectives. *Innovations in the undergraduate curriculum. Higher Education Curriculum.* https://education.stateuniversity.com/pages/1896/Curriculum-Higher-Education.html#ixzz84HHNHfU7

Dillenbourg, P., Schneider, D., & Pynteta, V. (2002). Virtual learning environments. In *Proceedings of the 3rd Hellenic conference on information & communication technologies in education* (pp. 3–18). Rhodes, Greece. https://telearn.archives-ouvertes.fr/file/index/docid/190701/filename/Dillernbourg-Pierre-2002a.pdf

Drucker, P. F. (1985). *Innovation and entrepreneurship: Practice and principles*. Harper & Row.

Drnovsek, M., Cardon, M. S., & Patel, P. C. (2016). Direct and indirect effects of passion on growing technology ventures. *Strategic Entrepreneurship Journal*, *10*(2), 194–213.

Du Chatenier, E., Verstegen, J. A. A. M., Biemans, H. J. A., Mulder, M., & Omta, S. W. F. (2010). Identification of competencies for professionals in open innovation teams. *R&D Management, 40*(3), 271–280. https://doi.org/10.1111/j.1467-9310.2010.00590.x

Economist, The. (2016, May 21). *The emporium strikes back*. https://www.economist.com/business/2016/05/21/the-emporium-strikes-back

Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, *44*(2), 350–383. https://doi.org/10.2307/2666999

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, *14*(4), 532–550. https://doi.org/10.2307/258557

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, *21*(10–11), 1105–1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

Eisenmann, T. (2013, January). Entrepreneurship: A working definition. *Harvard Business Review.* https://hbr.org/2013/01/what-is-entrepreneurship

Eisenmann, T., Parker, G., & Van Alstyne, M. W. (2006). Strategies for two-sided markets. *Harvard Business Review, 84*(10), 92–101.

Etzkowitz, H., & Zhou, C. (2008). The entrepreneurial university: Institutional transformation and regional economic development. *Industry and Higher Education, 22*(3), 145–157. https://www.ses.unam.mx/curso2013/pdf/Etskowitz.pdf

Etzkowitz, H. (2010). *The triple helix: University-industry-government innovation in action.* Routledge.

Fayolle, A., & Gailly, B. (2008). From craft to science: Teaching models and learning processes in entrepreneurship education. *Journal of European Industrial Training*, *32*(7), 569–593. https://doi.org/10.1108/03090590810899838

Faraj, S., & Pachidi, S. (2021). Beyond uberization: The co-constitution of technology and organizing. *Organization Theory.* https://doi.org/10.1177/2631787721995205

Fenwick, T. J. (2000). Expanding conceptions of experiential learning: A review of the five contemporary perspectives on cognition. *Adult Education Quarterly, 50*(4), 243–272. https://doi.org/10.1177/07417130022087035

Ferguson, R. (2012). Learning analytics: Drivers, developments and challenges. *International Journal of Technology Enhanced Learning, 4*(5–6), 304–317.

Gartner, W. B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing, 5*(1), 15–28. https://doi.org/10.1016/0883-9026(90)90023-M

Gephart, M. A., Marsick, V. J., Van Buren, M. E., & Spiro, M. S. (1996). Learning organizations come alive. *Training and Development*, *50*(12), 34–45.

Gephart, M. A., & Marsick, V. J. (2016). *Strategic organizational learning: Using system dynamics for innovation and sustained performance.* Springer.

Gibb, A. A. (1993). Enterprise culture and education: Understanding enterprise education and its links with small business, entrepreneurship and wider educational goals. *International Small Business Journal, 11*(3), 11–34. https://doi.org/10.1177/026624269301100301

Gibb, A. (2003). In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: Creative destruction, new values, new ways of doing, and new combinations of

knowledge. *International Journal of Management Reviews*, *4*(3), 233–269. https://doi.org/10.1111/1468-2370.00086

Goldberg, T. (2016). Coming to you soon: Uber U. *Inside Higher Ed.* https://www.insidehigher ed.com/views/2016/08/12/dangers-uberization-higher-education-essay

Goss, D. (2005). Schumpeter's legacy? Interaction and emotions in the sociology of entrepreneurship. *Entrepreneurship Theory and Practice*, *29*(2), 205–218.

Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, *33*(3), 114–135. https://doi.org/10.2307/41166664

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, *17*(S2), 109–122. https://www.jstor.org/stable/2486994

Greene, P. G., Katz, J. A., & Johannisson, B. (2004). Entrepreneurship education. *Academy of Management Learning and Education, 3*(3), 238–241.

Gregory, V., Harding, E., & Steinberg, J. (2022, July). *Self-employment grows during COVID-19 pandemic.* Federal Reserve Bank of St. Louis. https://www.stlouisfed.org/en/on-the-economy/2022/jul/self-employment-returns-growth-path-pandemic

Guba, E. G., & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 191–215). Sage.

Guralnick, D. (2009). Putting the education into educational simulations: Pedagogical structures, guidance and feedback. *International Journal of Advanced Corporate Learning (iJAC)*, *2*(1), 10-15. Kassel University Press GmbH. https://www.learntechlib. org/p/45592/.

Hamari, J., Sjöklint, M., & Ukkonen, A. (2016). The sharing economy: Why people participate in collaborative consumption. *Journal of the Association for Information Science and Technology, 67*(9), 2047–2059. https://doi.org/10.1002/asi.23552

Hashim, M. A. M., Tlemsani, I., & Matthews, R. (2022). Correction: Higher education strategy in digital transformation. *Education and Information Technologies*, *27*, 7379. https://doi.org/10.1007/s10639-022-10924-w

Heinze, A. (2020). How entrepreneurship can be learned through experiential learning formats, especially through training firms. *International Journal of Management and Applied Research*, *7*(4), 471–481. https://doi.org/10.18646/2056.74.20-033

Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, *24*(10), 997–1010. https://doi.org/10.1002/smj.332

Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. J., & Winter, S. G. (2007). *Dynamic capabilities: Understanding strategic change in organizations*. Blackwell.

Hernández-de-Menéndez, M., Morales-Menéndez, R., & Escobar, C. A. (2022). Learning analytics: State of the art. *International Journal on Interactive Design and Manufacturing*, *16*, 1209–1230. https://doi.org/10.1007/s12008-022-00930-0

Heron, J. (1992). *Feeling and personhood: Psychology in another key*. Sage.

Heron, J., & Reason, P. (2008). Extending epistemology within a co-operative inquiry. In H. Bradbury & P. Reason (Eds.), *The Sage handbook of action research: Participative inquiry and practice* (2nd ed.). Sage.

Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing, 18*(2), 165–187. https://doi.org/10.1016/S0883-9026(02)00081-2

Honig, B. (2004). Entrepreneurship education: Toward a model of contingency-based business planning. *Academy of Management Learning and Education, 3*(3), 258–273.

Hoskisson, W. J. H., Eden, R. A., & L., R. E. (2007). The resource-based view of the firm and the competitive advantage of colleges and universities. *Academy of Management Perspectives, 21*(4), 37–58.

Hylén, J. (2006). *Open educational resources: Opportunities and challenges.* OECD Centre for Educational Research and Innovation. http://www.oecd.org/edu/ceri

Hytti, U. (2005). New meanings for entrepreneurs: From risk-taking heroes to safe-seeking professionals. *Journal of Organizational Change Management*, *18*(1).

Isenberg, D. (2010). How to start an entrepreneurial revolution. *Harvard Business Review, 88*(6), 40–50.

Isenberg, D. J. (2016). Applying the ecosystem metaphor to entrepreneurship: Uses and abuses. *The Antitrust Bulletin, 61*(4), 564–573. https://doi.org/10.1177/0003603X16676162

Jarvis, P. (2012). *Adult learning in the social context*. Routledge.

Jones, S. (2012). Gendered discourses of entrepreneurship in UK higher education: The fictive entrepreneur and the fictive student. *International Small Business Journal, 32*(3), 237–258.

Justice, S. B., Bang, A., Lundgren, M., Marsick, V. J., Poell, R. F., & Yorks, L. (2019). Operationalizing reflection in experience-based workplace learning: A hybrid approach.

Human Resource Development International. https://doi.org/10.1080/13678868.2019.1621250

Kassean, H., Vanevenhoven, J., Liguori, E., & Winkel, D. E. (2015). Entrepreneurship education: A need for reflection, real-world experience and action. *International Journal of Entrepreneurial Behavior and Research, 21*(5), 690–708. https://doi.org/10.1108/IJEBR-07-2014-0123

Katz, J. A. (2003). The chronology and intellectual trajectory of American entrepreneurship education: 1876–1999. *Journal of Business Venturing*, *18*(2), 283–300. https://doi.org/10.1016/S0883-9026(02)00098-8

Katz, M. L., & Shapiro, C. (1985). Network externalities, competition, and compatibility. The *American Economic Review*, *75*(3), 424–440. https://www.jstor.org/stable/1814809

Kasworm, C. E. (2010). Adult learners in a research university: Negotiating undergraduate student identity. *Adult Education Quarterly, 60*(2), 143-160. https://doi.org/10.1177/0741713609336110

Kasworm, C. E., Rose, A. D., & Ross-Gordon, J. M. (Eds.). (2010). *Handbook of adult and continuing education*. Sage.

Keränen, J., & Jalkala, A. (2013). Towards a framework of customer value assessment in B2B markets: An exploratory study. *Industrial Marketing Management, 42*(8), 1307–1317. https://doi.org/10.1016/j.indmarman.2013.06.010

Khusyainov, T. M. (2022). Uberization of education: Critical analysis. In E. G. Popkova (Ed.), *Business 4.0 as a subject of the digital economy* (pp. 297-315). Springer. https://doi.org/10.1007/978-3-030-90324-4_18

Klein, P. G., & Bullock, J. B. (2006). Can entrepreneurship be taught? *Journal of Agricultural and Applied Economics*, *38*(2), 1–11. https://doi.org/10.1017/S107407080002246X

Knowles, M. S. (1968). *The modern practice of adult education: From pedagogy to andragogy.* Cambridge Book.

Knowles, M. S. (1978). *The adult learner: A neglected species*. Gulf Publishing.

Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy* (Revised ed.). Cambridge Books.

Knowles, M. S. (1989). *The making of an adult educator: An autobiographical journey*. Jossey-Bass.

Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, *3*(3), 383–407. https://doi.org/10.1287/orsc.2.2.383

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning and Education, 4*(2), 190–212. https://doi.org/10.5465/AMLE.2005.17268566

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development.* Prentice-Hall.

Kozlenkova, I. V., Samaha, S. A., & Palmatier, R. W. (2014). Resource-based theory in marketing. *Journal of the Academy of Marketing Science, 42*(1), 1–21. https://doi.org/10.1007/s11747-013-0336-7

Kujala, I., Nyström, A.-G., Wendelin, C., & Brännback, M. (2022). Action-based learning platform for entrepreneurship education—Case NÅA business center. *Entrepreneurship Education and Pedagogy*, *5*(4), 576–598. https://doi.org/10.1177/25151274211045913 (Original work published 2022)

Kuratko, D. F. (2005). The emergence of entrepreneurship education: Development, trends, and challenges. *Entrepreneurship Theory and Practice*, *29*(5), 577–597.

Kuratko, D. F., & Hodgetts, R. M. (2004). *Entrepreneurship: Theory, process, and practice* (6th ed.). South-Western College Publishers.

Kyrou, A. (2015). L'ubérisation est un populisme. *Multitudes*, *61*, 106–113. https://doi.org/10.3917/mult.061.0106

Lap, N. T. (2018). Trends of change in and the future of higher education. *VNU Journal of Science: Education Research*, *35*(1). https://doi.org/10.25073/2588-1159/vnuer.4196

Lackéus, M. (2015). *Entrepreneurship in education: What, why, when, how*. OECD. https://www.oecd.org/en/publications/entrepreneurship-in-education_cccac96a-en.html

Lapovsky, L. (2013). *The higher education business model: Innovation and financial sustainability*. TIAA-CREF Institute.

Lee, J., & Patel, S. (2020). Innovating business model in the higher education industry: A platform-based approach in university career services. *Industry and Higher Education*, *34*(2), 91–99. https://doi.org/10.1177/0950422219881069

Legislative Analyst's Office. (2020). *Higher education analysis*. https://lao.ca.gov/Publications/Report/4168?utm_source=chatgpt.com

Leffler, E., & Svedberg, G. (2005). Enterprise learning: A challenge to education? *European Educational Research Journal*, *4*(3), 219–227.

Lincoln, Y. S. (1990). The making of a constructivist: A remembrance of transformations past. In E. G. Guba (Ed.), *The paradigm dialog* (pp. 67–87). Sage.

Liguori, E., Winkler, C., Winkel, D., Marvel, M. R., Keels, J. K., van Gelderen, M., & Noyes, E. (2018). The entrepreneurship education imperative: Introducing EE&P. *Entrepreneurship Education and Pedagogy*, *1*(1), 5–7.

Linton, G., & Klinton, M. (2019). University entrepreneurship education: A design thinking approach to learning. *Journal of Innovation and Entrepreneurship, 8*(1), Article 3.

Loureiro, A., & Bettencourt, T. (2014). The use of virtual environments as an extended classroom: A case study with adult learners in tertiary education. *Procedia Social and Behavioral Sciences*, *13*, 97–106. https://doi.org/10.1016/j.protcy.2014.02.01

Mah, D. K. (2016). Learning analytics and digital badges: Potential impact on student retention in higher education. *Tech Know Learn*, *21*, 285–305. https://doi.org/10.1007/s10758-016-9286-8

Malmberg, A., & Maskell, P. (2002). The elusive concept of localization economies: Towards a knowledge-based theory of spatial clustering. *Environment and Planning A, 34*(3), 429–449.

Marsick, V. J. (2009). Toward a unifying framework to support informal learning theory, research and practice. *Journal of Workplace Learning*, *21*(4), 265–275. https://doi.org/10.1108/13665620910954184

Marsick, V. J., & Gephart, M. A. (2003). Action research: Building the capacity for learning and change. *Human Resource Planning*, *26*(2), 14–18.

Marsick, V. J., & O'Neil, J. (1999). The many faces of action learning. *Management Learning, 30*(2), 159–176.

Marsick, V. J., & Watkins, K. E. (1990). *Informal and incidental learning in the workplace.* Routledge.

Marsick, V. J., & Watkins, K. E. (2003). Demonstrating the value of an organization's learning culture: The dimensions of the learning organization questionnaire. *Advances in Developing Human Resources*, *5*(2), 132–151. https://doi.org/10.1177/1523422303005002002

Marsick, V. J., Watkins, K. E., Nicolaides, A., & Scully-Russ, E. (2017). Rethinking informal and incidental learning in terms of complexity and the social context. *Journal of Adult Learning, Knowledge and Innovation.* https://doi.org/10.1556/2059.01.2016.003

Martin, J. (2002). *Organizational culture: Mapping the terrain*. Sage.

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Sage.

Merriam, S. B. (1993). Adult learning: Where have we come from? Where are we headed? *New Directions for Adult and Continuing Education, 1993*(57), 5–14.

Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New Directions for Adult and Continuing Education, 2001*(89), 3–14.

Merriam, S. B., & Bierema, L. L. (2014). *Adult learning: Linking theory and practice.* Jossey-Bass.

Merriam, S. B., Caffarella, R. S., & Baumgartner, L. (2007). *Learning in adulthood: A comprehensive guide* (3rd ed.). Jossey-Bass.

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, *1*(1), 61–89. https://doi.org/10.1016/1053-4822(91)90011-Z

Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education, 1997*(74), 5–12. https://doi.org/10.1002/ace.7401

Mezirow, J. (1991). *Transformative dimensions of adult learning.* Jossey-Bass.

McDougall, P. P., & Oviatt, B. M. (2003). Some fundamental issues in international entrepreneurship. *Entrepreneurship Theory and Practice, 18*(3), 11–28.

McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial self-efficacy: Refining the measure. *Entrepreneurship Theory and Practice, 33*(4), 965–988.

McIntyre, D. P., & Srinivasan, A. (2017). Networks, platforms, and strategy: Emerging views and next steps. *Strategic Management Journal, 38*(1), 141–160.

Miettinen, R. (2000). The concept of experiential learning and John Dewey's theory of reflective thought and action. *International Journal of Lifelong Education*, *19*(1), 54–72. https://doi.org/10.1080/026013700293458

Mintzberg, H. (1994). *The rise and fall of strategic planning.* Free Press.

Moazed, A., & Johnson, N. L. (2016). *Modern monopolies: What it takes to dominate the 21st century economy.* Macmillan.

Mohamed Hashim, M., Tlemsani, I., & Matthews, R. (2022). Higher education strategy in digital transformation. *Education and Information Technologies*, *27*, 3171–3195. https://doi.org/10.1007/s10639-021-10739-1

Moore, D. T. (2010). *Forms and issues in experiential learning*. In J. C. Scott, D. A. Swanson, & J. L. Cocoran (Eds.), *Experiential education: Making the most of learning outside the classroom*. New Directions for Teaching and Learning, No. 124 (pp. 3–13). Jossey-Bass.

Morris, M. H., & Liguori, E. W. (2016). Preface: Teaching reason and the unreasonable. In M. H. Morris & E. W. Liguori (Eds.), *Annals of entrepreneurship education and pedagogy* (Vol. 2). Edward Elgar.

Mukesh, H. V., Pillai, K. R., & Mamman, J. (2019). Action-embedded pedagogy in entrepreneurship education: An experimental enquiry. *Studies in Higher Education, 44*(9), 1579–1592.

Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of Management Learning and Education, 16*(2), 277–299. https://doi.org/10.5465/amle.2015.0026

National Center for Education Statistics. (2023, June). *Undergraduate enrollment.* https://www.bu.edu/ctl/guides/experiential-learning/

National Center for Education Statistics. (2024, January 16). *Postsecondary enrollment dropped by less than 1 percent from Fall 2021 to Fall 2022*. U.S. Department of Education. https://nces.ed.gov/whatsnew/press_releases/1_16_2024.asp

National Student Clearinghouse Research Center. (2025, January 23.). *Current term enrollment estimates*. https://nscresearchcenter.org/current-term-enrollment-estimates/

Neck, H. M., & Greene, P. G. (2011). Entrepreneurship education: Known worlds and new frontiers. *Journal of Small Business Management, 49*(1), 55–70.

Neck, H. M., Greene, P. G., & Brush, C. G. (2014). *Teaching entrepreneurship: A practice-based approach.* Edward Elgar.

Neck, H. M., & Corbett, A. M. (2018). Entrepreneurship education: Known worlds and new frontiers. *Journal of Entrepreneurship Education, 21*(2), 12–28. https://doi.org/10.1108/JEE-01-2018-0003

Neck, H. M., & Corbett, A. C. (2019). The scholarship of teaching and learning entrepreneurship. *Entrepreneurship Education and Pedagogy, 1*(1), 8–41. https://doi.org/10.1177/2515127417737286

Nelson, R. R., & Winter, S. G. (1982). *An evolutionary theory of economic change.* Harvard University Press.

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation.* Oxford University Press.

Nyamunda, J., & Van der Westhuizen, T. (2020). Developing entrepreneurial self-efficacy: A transformative learning theory approach. *Journal of Contemporary Management, 17*(Special Edition), 223–242. https://doi.org/10.35683/jcm194e.76

Organisation for Economic CO-operation and Development. (2015). *Entrepreneurship in education: What, why, when, how*. OECD.

Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: A handbook for visionaries, game changers, and challengers*. John Wiley & Sons.

Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). *Platform revolution: How networked markets are transforming the economy—and how to make them work for you*. W. W. Norton.

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Sage.

Penrose, E. (1959/2009). *The theory of the growth of the firm.* Oxford University Press.

Peric, M., Durkin, J., & Vitezic, V. (2017). The constructs of a business model redefined: A half-century journey. *SAGE Open, 7*(3). https://doi.org/10.1177/2158244017733516

Peteraf, M. A. (1993)**.** The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, *14*(3), 179–191.

Pittaway, L., & Cope, J. (2007). Entrepreneurship education: A systematic review of the evidence. *International Small Business Journal, 25*(5), 479–510.

Porter, M. E. (1998). Clusters and the new economics of competition. *Harvard Business Review, 76*(6), 77–90.

Quality Assurance Agency for Higher Education. (2012). *Enterprise and entrepreneurship education: Guidance for UK higher education providers.* The Quality Assurance Agency for Higher Education.

Rae, D. (2010). Universities and enterprise education: Responding to the challenges of the new era. *Journal of Small Business and Enterprise Development, 17*(4), 591–606. https://doi.org/10.1108/14626001011088741

Reuben, J. (2022, July). Hypercompetition is harming higher education. *The Chronicle of Higher Education.* https://www.chronicle.com/article/hypercompetition-is-harming-highered

Ries, E. (2011). *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses.* Crown Business.

Robinson, S., & Stubberfield, C. (2019). Financing new ventures: An entrepreneur's guide. *Entrepreneurial Finance Journal, 12*(2), 98–110.

Rothaermel, F. T., Agung, S. D., & Jiang, L. (2007). University entrepreneurship: A taxonomy of the literature. *Industrial and Corporate Change, 16*(4), 691–791.

Sarasvathy, S. D., & Venkataraman, S. (2011). Entrepreneurship as method: Open questions for an entrepreneurial future. *Entrepreneurship Theory and Practice, 35*(1), 113–135.

Secundo, G., Margherita, A., Elia, G., & Passiante, G. (2010). Intangible assets in higher education and research: Mission, performance or both? *Journal of Intellectual Capital, 11*(2), 140–157. https://doi.org/10.1108/14691931011039651

Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle* (R. Opie, Trans.). Harvard University Press.

Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization.* Doubleday.

Shapiro, C., & Varian, H. R. (1999). *Information rules: A strategic guide to the network economy.* Harvard Business School Press.

Shepherd, D. A., & Douglas, E. J. (1997). *Is management education developing, or killing, the entrepreneurial spirit?* Proceedings of the 1997 United States Association for Small Business and Entrepreneurship (USASBE) Annual National Conference, 16, 341–357.

Siemens, G., & Long, P. (2011). Penetrating the fog: Analytics in learning and education. *EDUCAUSE Review, 46*(5), 31–40. https://www.educause.edu/ero/article/penetrating-fog-analytics-learning-and-education

Simpeh, K. N. (2011). Entrepreneurship theories and empirical research: A summary review of the literature. *European Journal of Business and Management, 3*(6), 1–9.

Smith, T., Marks, P., & Johnson, L. (2021). Microfinance and collegiate entrepreneurship: Bridging gaps through innovation. *International Journal of Entrepreneurship Studies, 8*(3), 45–61.

Spieth, P., & Schneider, S. (2016). Business model innovativeness: Designing a formative measure for business model innovation. *Journal of Business Economics, 86*(6), 671–696.

Stanford Center for Professional Development. (2019**).** *Idea to Market program.*

Stevenson, H. H. (1983). *A perspective on entrepreneurship*. Harvard Business School Working Paper, No. 9-384-131.

Stevenson, H. H., & Jarillo, J. C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal, 11*(Special Issue: Corporate Entrepreneurship), 17–27. https://doi.org/10.1002/smj.4250110504

Täuscher, K., & Laudien, S. M. (2018). Understanding platform business models: A mixed methods study of digital marketplaces. *Information Systems Journal, 28*(5), 1151–1177.

Täuscher, K. (2018). *Understanding platform business models: A mixed methods study of marketplaces* [Doctoral dissertation, University of St. Gallen].

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and micro foundations of (sustainable) enterprise performance. *Strategic Management Journal*, *28*(13), 1319–1350. https://doi.org/10.1002/smj.640

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Tennant, M. (1997). *Psychology and adult learning* (2nd ed.). Routledge.

Tolmayer, A., & Bedő, Z. (2019). *The platformization of higher education*. Faculty of Organization and Informatics Varazdin.

Torrance, W. E. F. (2013). *Entrepreneurial campuses: Action, impact, and lessons learned from the Kauffman Campus Initiative*. Ewing Marion Kauffman Foundation. https://www.kauffman.org/wp-ontent/uploads/2019/12/entrepreneurialcampuses essay.pdf

Utami, H., & Alamanos, E. (2023). Resource-based theory: A review. In S. Papagiannidis (Ed.), *Theory hub book.* http://open.ncl.ac.uk

Utami, C. W., & Alamanos, E. (2023). Strategic management: Concepts and cases. *Journal of Business Strategy, 44*(2), 123–140. https://doi.org/10.1108/JBS-09-2022-0185

Van Alstyne, M. W., Parker, G. G., & Choudary, S. P. (2016). Pipelines, platforms, and the new rules of strategy. *Harvard Business Review, 94*(4), 54–62.

Vellamo, T., Pekkola, E., & Siekkinen, T. (2019). Technical education in jeopardy? Assessing the interdisciplinary faculty structure in a university merger. In M. P. Sørensen, L. Geschwind, J. Kekäle, & R. Pinheiro (Eds.), *The responsible university.* Palgrave Macmillan. https://doi.org/10.1007/978-3-030-25646-3_8

Veluvali, P., & Surisetti, J. (2022). Learning management system for greater learner engagement in higher education—A review. *Higher Education for the Future*, *9*(1), 107–121. https://doi.org/10.1177/23476311211049855

Volberda, H. W. (1996). Toward the flexible form: How to remain vital in hypercompetitive environments. *Organization Science*, *7*(4), 359–384. https://doi.org/10.1287/orsc.7.4.359

Von Hippel, E. (2005). *Democratizing innovation.* MIT Press.

VRIO Analysis. (2025). ManagementMania.com [online]. Wilmington (DE) 2011-2025, 09/15/2020 [cit. 04/22/2025]. https://managementmania.com/en/vrio-analysis

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*(2), 171–180. https://doi.org/10.1002/smj.4250050207

Watkins, K. E., & Marsick, V. J. (1997). *Dimensions of the learning organization.* Partners for the Learning Organization.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge University Press.

World Economic Forum. (2023, May). Future of jobs 2023: These are the most in-demand skills now—and beyond. https://www.weforum.org/agenda/2023/05/future-of-jobs-2023-skills/

Yemini, M., & Haddad, J. (2010). Engineer-entrepreneur: Combining technical knowledge within entrepreneurship education—The Israeli case study. *International Journal of Engineering Education, 26*(5), 1220–1229.

Yin, R. (2009). *Case study research: Design and methods* (4th ed.). Sage.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage.

Yorks, L., & Kasl, E. (2002). Toward a theory and practice for whole person learning: Reconceptualizing experience and the role of affect. *Adult Education Quarterly*, *52*(3), 176–192. https://doi.org/10.1177/07417136020523002

Yorks, L., Abel, A.L., Rotatori, D. (2022). Case Studies of Strategic HRD Practices in the Twenty-First Century. In: *Strategic Human Resource Development in Practice. Management for Professionals.* Springer. https://doi.org/10.1007/978-3-030-95775-9_10

Zahra, S. A., Jennings, D. F., & Kuratko, D. F. (1999). Guest editorial: Corporate entrepreneurship in a global economy. *Entrepreneurship Theory and Practice, 24*(1), 5–7.

Zhao, Y., von Delft, S., Morgan-Thomas, A., & Buck, T. (2020). The evolution of platform business models: Exploring competitive battles in the world of platforms. *Long Range Planning, 53*(4), Article 101892. https://doi.org/10.1016/j.lrp.2019.101892

Appendix A: Informed Consent Form

TEACHERS COLLEGE
COLUMBIA UNIVERSITY
525 West 120th St. New York, NY 10027
212-678-3000 | www.tc.columbia.edu

INFORMED CONSENT

Protocol Title: Breaking the Mold: Business Model Innovation in Entrepreneurship Education
Subtitle: Interview, Survey, and Observation Consent Form
Principal Researcher: Vivian Faustino-Pulliam, Teachers College (415) 314-2611; vf2267@tc.columbia.edu

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INTRODUCTION

You are invited to participate in this research study called "Breaking the Mold: A Case Study of Business Model Innovation in Entrepreneurship Education." You may qualify to take part in this research study because you are over 18 years old, have been teaching in Name of College for at least a year, or an instructional designer (or have worked in curriculum development), or a college administrator or a staff who has been involved with co-curricular programming at name of college Approximately eighty people will participate in this study through various data collection methods: one-on-one interview will take 60-90 minutes; online survey for 15-25 minutes and in-person observation for 60 minutes.

No external funding was received for this study.

WHY IS THIS STUDY BEING DONE?

This study is being done to determine how community colleges structure their Entrepreneurship Education programs to remain relevant and competitive amidst the disruptions in higher education and the technology-driven business environment.

WHAT WILL I BE ASKED TO DO IF I AGREE TO TAKE PART IN THIS STUDY?

- If you decide to participate as a teaching faculty, administrator (IT, career services), industry or community partner, or instructional designer, the primary researcher will interview you individually.

  During the individual interview, you will be asked to discuss your entrepreneurship teaching (curriculum design, administrative) or partnership experience and your utilization of the various technology-based solutions and co-curricular activities in the classroom**.** This interview will be done over Zoom and will be recorded. After the audio recording is written down (transcribed), the recording will be deleted. If you do not wish to be recorded,

you cannot participate. The interview will take approximately sixty to ninety minutes. You will be given a pseudonym to keep your identity confidential.

All these procedures will be done at the participant's preferred date and time, as agreed with the researcher. Individual interviews will be conducted using an online platform, Zoom. You will be informed when the researcher starts and stops the audio recording. Likewise, you may advise the researcher to pause the recording at any given time.

If you are a student and agree to participate in the online survey administered via Qualtrics, the primary researcher will ask you to complete a survey about your learning experiences in the program- inside and outside the classroom, which will take about fifteen minutes. The information will be completely anonymous, and results might be shared with the college in aggregated results. You must be 18 years of age to participate.

If you are a student or an instructor who agreed to be observed in a classroom setting, the researcher will take some notes, but no interviews will be made, and you are not required to participate in any discussion. The observation will take about an hour.

WHAT POSSIBLE RISKS OR DISCOMFORTS CAN I EXPECT FROM TAKING PART IN THIS STUDY?

This is a minimal-risk study, meaning the harms or discomforts you may experience are not greater than you would ordinarily encounter in daily life while taking routine physical or psychological examinations or tests. However, there are some risks to consider. You might feel embarrassed to discuss problems you experienced with business and industry partners and collaborators, colleagues, or while working in your program. Participants might feel uncomfortable or self-conscious about being recorded. You do not have to answer any questions or share anything you do not want to talk about. You can stop participating in the study at any time without penalty. You might feel concerned that things you say might get back to your supervisor or instructor.

To address these concerns, additional steps will be adopted, such as data de-identification, survey results directly going to the researcher, no other person from the college will have access to this data, and finally, the reporting results will be done in the aggregate whenever possible.

Your information will be kept confidential. All audio and video recordings will be deleted once the transcription is completed. Transcriptions of interviews will be completed by a company that maintains non-disclosure agreements with their transcribers.

The researcher is taking precautions to keep your information confidential. These precautions aim to prevent anyone from discovering or guessing your identity. The study will use a pseudonym instead of your name and keep all information on a passcode-protected hard drive. All data will be stored on an encrypted, secure external hard drive requiring a passcode to access. Data may also be stored on the Teachers College Columbia University Google Drive.

For in-campus observations, the researcher will follow the college visitors and Teachers College policies for off-campus in-person data collection.

WHAT POSSIBLE BENEFITS CAN I EXPECT FROM TAKING PART IN THIS STUDY?

There will be no direct benefit to you for participating in this study. Participation may benefit the field of entrepreneurship education and community colleges to better understand how community colleges [EE program] remain relevant and competitive amidst the technological disruptions taking place in higher education and the business environment. Future students might benefit from the findings of this study.

WILL I BE PAID FOR BEING IN THIS STUDY?

You will not be paid to participate. However, participants in the one-on-one interview and surveys will receive a $10 gift card for voluntary participation upon completion of the interview/survey. Students and instructors who participate in the observation process will not receive the $10.00 gift card but will be given a box of pastries to be enjoyed by everyone in the room.

WHEN IS THE STUDY OVER? CAN I LEAVE THE STUDY BEFORE IT ENDS?

The study is over when you have completed the individual interview or the online survey. However, you can leave the study anytime, even if you have not finished. However, you will not receive the $10.00 gift card for not completing your participation.

PROTECTION OF YOUR CONFIDENTIALITY

The primary researcher will keep all written materials locked in a desk drawer in a locked office. Any electronic or digital information (including audio and video) recordings) will be stored on a computer that is password-protected. What is on the audio recording will be written down, and the audio recording will then be destroyed. There will be no record matching your real name with your pseudonym.

For quality assurance, the study team, the study sponsor (grant agency), and/or members of the Teachers College Institutional Review Board (IRB) may review the data collected from you as part of this study. Otherwise, all information obtained from your participation in this study will be held strictly confidential and will be disclosed only with your permission or as required by U.S. or State law.

HOW WILL THE RESULTS BE USED?

The results of this study will be published in a dissertation and may be presented in a graduate class, in journals, and/or at academic conferences. Your identity will be removed from any data you provide before publication or use for educational purposes. Your name or any identifying information about you will not be published. This study is being conducted as part of the dissertation of the primary researcher.

CONSENT FOR AUDIO AND OR VIDEO RECORDING.

Audio and video recording are part of this research study. You can choose whether to give permission to be recorded. If you decide that you don't wish to be recorded, you will not be able to participate in this research study.

_____I give my consent to be recorded _____
Signature

_____I **do not** consent to be recorded _____
Signature

WHO MAY VIEW MY PARTICIPATION IN THIS STUDY

___I consent to allow video and audio-recorded materials to be viewed at an educational setting or a conference outside of Teachers College, Columbia University

_____
Signature

___I **do not** consent to allow video and audio-recorded materials viewed outside of Teachers College, Columbia University

_____
Signature

OPTIONAL CONSENT FOR FUTURE CONTACT

The primary researcher may wish to contact you in the future. Please initial below to indicate whether or not you give permission for future contact.

The researcher may contact me in the future for information relating to this current study:

Yes _____ No_____
Initial Initial

WHO CAN ANSWER MY QUESTIONS ABOUT THIS STUDY?

If you have any questions about participating in this research study, contact the primary researcher, Vivian Faustino, at (415) 314-2611 or vf2267@tc.columbia.edu.
You may also contact faculty adviser, Professor Victoria Marsick, Ph.D. at vjm5@tc.columbia.edu

If you have questions or concerns about your rights as a research subject, you should contact the Institutional Review Board (IRB) (the human research ethics committee) at 212-678-4105 or email IRB@tc.edu, or you can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY 10027, Box 151. The IRB is the committee that oversees human research protection for Teachers College, Columbia University.

PARTICIPANT'S RIGHTS

- I have read the Informed Consent Form and have been offered the opportunity to discuss the form with the researcher.
- I have had ample opportunity to ask questions about the purposes, procedures, risks, and benefits of this research study.
- I understand that my participation is voluntary. I may refuse to participate or withdraw participation at any time without penalty.
- The researcher may withdraw me from the research at the researcher's professional discretion if I do not meet the criteria for participation in the study.
- If, during the course of the study, significant new information that has been developed becomes available, which may relate to my willingness to continue my participation, the researcher will provide this information to me.
- Any information derived from the research study that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- Any information derived from the research study that personally identifies me will not be voluntarily released or disclosed without my separate consent except as specifically required by law.
- Your data will not be used in further research studies.
- I should receive a copy of the Informed Consent Form document.

My signature means that I agree to participate in this study:

Print name: _____ **Date**: _____

Signature: _____

Appendix B: Interview Protocol for Administrators (Academic and Non-Academic)

SECTION I: CONTEXT

Overview of Purpose and Goals

My research aims to better understand how your college entrepreneurship program mitigates the ongoing challenges to remain relevant and competitive for your students, institutions, and community at large.

Given the ongoing disruption in higher education, I am interested in this issue. Is the current curriculum design still relevant in teaching and learning entrepreneurship? Community colleges are no longer competing with other colleges and programs; non-traditional players from the industry and CBOs offer many EE programs for free or minimal fees. This is supported by declining enrolment in CCs and the question of how relevant a CC degree is amidst the fast-changing demands for skills from the workforce.

I am ready to take any questions before we begin. Please feel free to ask questions or clarifications at any time during our conversation.

SECTION II: ADMINISTRATOR INTERVIEW GUIDE

I. Getting to Know the Administrator (rapport building)
Thank you for meeting with me today and sharing your C.V./Bio. You have an impressive background and ……

1. How would you describe the community where this college is located?
2. What is the college's value proposition? Why would students come to ____ college instead of another community college?
3. What are the changes in the business environment influence you to rethink your current academic offerings? Why do you think your EE program needs to be redesigned or revisited? (if applicable)
4. How would you characterize the degree of openness of the college's leadership team to embrace new tools and content (i.e., LMS, Collaborative Learning Platforms like Slack, OER, and VLE) as part of curriculum design?

If applicable:

a. What are your views on co-curricular programs? Have you taken some initiatives to build co-curricular programs to support academic programming?
b. What is an "a-ha" moment about your work in the new EE program? Probe: Tell me a story about how you came to this realization. How has it influenced your work?

II. Administrator's View on Co-curricular Programming and EE Ecosystem

5. How do you view entrepreneurship today?
6. How is the entrepreneurship program funded? Structure, i.e., Center, Academic Instructions only, etc.
7. How important is entrepreneurship education to your overall programming?
8. What partnerships and collaborations do you have in your entrepreneurship education (EE) program? Name the institutions, types of partnerships, relationships, collaborations, duration, tenure, paid or unpaid, etc.

If applicable:

a. What is the process for selecting, inviting, and vetting potential partners and collaborators? Who are the people involved?
b. Why did you pursue these collaborations with these companies/entities?
c. How do you leverage these relationships in your academic programming?
d. How do these partnerships influence the wider DVC community? (Equity Impact)
e. What do you find most rewarding about your work with industry and community partners? How do they impact students and the college community in general?

III. Administrator's View on Learning Outcomes/Student Success

9. How would you describe an effective or measurable learning outcome?
10. What are the successful outcomes that the EE program produced? Startups produced, etc.
11. What are the common challenges or hurdles your college must navigate to develop innovative metrics to measure student learning outcomes?

If applicable:

a. Does the non-traditional curriculum serve all students equally well, or does it benefit some students more than others?
b. Do students access the program's tech platforms, i.e., Intuit Design Thinking course, Entrepreneurial Finance course, etc.?
c. How do students use the tech platforms provided by the program, i.e., Intuit Design Thinking course, Entrepreneurial Finance course, etc.?
d. How do the co-curricular programs benefit the students? Provide some examples.
e. How would you describe the alignment of the program with industry demands?

IV. Administrator's View on Support Services to Improve Teaching and Learning

12. How are you preparing your faculty and staff, or how does the college support professional development given the fast-changing business environment?
13. How are you preparing students for the new world of work?
14. What are some of the training and education that you have completed that can be attributed to innovation, creativity, agility, and new technology adoption?

15. What challenges have you experienced in adopting the various technology-based solutions in your EE program? i.e., collaborative learning tools

V. Engaging with the Researcher
    - Do you have any questions I can address now?
    - Is there any information or insights you think would be helpful in this study?

SECTION III: THANK YOU AND CLOSING
That ends this interview; once again, thank you for your time and generous support of my request. Please feel free to reach out for any questions or follow-up about this interview.

SECTION IV: CONTACT INFORMATION
E-mail
Phone:
School Address:

Appendix C: Interview Protocol for Business and Entrepreneurship Instructors

SECTION I: CONTEXT

Overview of My Purpose and Goals

My research aims to understand how your entrepreneurship program in your college mitigates the ongoing challenges to remain relevant and competitive for your students, institutions, and community at large.

Given the ongoing disruption in higher education, I am interested in this issue. Colleges are no longer competing with other colleges and programs; many EE programs are offered for free or minimal fees by non-traditional players from the industry and CBOs. This is supported by declining enrolment in CCs and the question of how relevant a CC degree is amidst the fast-changing demands for skills from the workforce.

I am ready to take any questions before we begin. Please feel free to ask questions or clarifications at any time during our conversation. I hope you were able to review the informed consent form. I would appreciate your signature if you are comfortable participating in this study.

SECTION II: INSTRUCTOR INTERVIEW GUIDE

I. Getting to Know the Instructor and their Students

Thank you for accommodating my request for interview. How long have you been teaching? What classes do you teach currently? Did you design the course outline for the course/s you were teaching?

1. Who are the typical students that you serve? Describe demographically, psychographically, behaviorally, and geographically.
2. What do you think is the main reason why these students are in the EE program? Degree or certificate? Education and training? Network?
3. How many of your students are here to complete a degree? To learn the tools of entrepreneurship?
4. Roughly, do you know the percentage of degree completion or ventures started by your students?

II. Instructor's View on Entrepreneurship and EE

5. How did you get to teach in the EE program? How do you see EE today?
6. How would you describe your EE program?
7. Do you think entrepreneurship can be easily taught? What do you do, or what are the other programs in place to augment your academic content?
8. Do you use simulation tools? Is your course highly experiential and action-oriented? What are some examples of your project-based or hands-on assignments? (If any)

9. What is an "a-ha" moment in your work in the program?
   Probe: Tell me a story about how you came to this realization. How has it influenced your work?
10. What is most rewarding about your work with industry and community partners? How do they impact students and the college community in general?

III. Instructor's View on Co-curricular Programming and EE Ecosystem

11. What are the types of partnerships and collaborations in your entrepreneurship education (EE) program? Name the institutions, types of partnerships, relationships, collaborations, duration, tenure, paid or unpaid, etc.
12. What is the process of selecting, inviting, and vetting potential partners and collaborators? Who are the people involved?

If Applicable:

a. Why did you pursue these collaborations with these companies/entities?
b. How do you leverage these relationships in your program or class?
c. How do you see them helping your students and the program? Are students taking advantage of these opportunities?
d. Can you provide a concrete example of how students have used the services or tools provided by any of your partners or collaborators?
e. Do these partners provide internship opportunities or some form of immersion experience for the students?
f. How do these partnerships influence the wider college community? (Equity Impact)

IV. Instructor's View on Learning Outcomes/Student Success

13. How would you describe an effective EE program?
14. What are some practical ways of monitoring students' engagement and learning within the EE program?
15. How do you measure the success of the program? Can you give some milestones students achieved during and after the program?
16. What are the common challenges or hurdles that students navigate to complete the program?
17. How would you describe the alignment of the program with industry demands?

If Applicable:

a. Does the non-traditional curriculum serve all students equally well, or does it benefit some students more than others?
b. Do students access the program's tech platforms, i.e., Intuit Design Thinking course, Entrepreneurial Finance course, etc.?
c. How do students use the tech platforms provided by the program, i.e., Intuit Design Thinking course, Entrepreneurial Finance course, etc.?

d. How do the co-curricular programs benefit the students? Provide some examples.

V. Instructor's View on Support Services to Improve Teaching and Learning

18. How are you preparing yourself, or how does the college support professional development for EE faculty, given the evolving nature of the discipline and today's fast-changing digital ICT environment?
19. What are some of the training and education that you have completed that can be attributed to innovation, creativity, agility, and new technology adoption?
20. What challenges have you experienced in adopting the various technology-based solutions in your EE program? i.e., online collaborative learning tools

VI. Engaging with Researcher

- Do you have any questions I can address now?
- Is there any information or insights you think would be helpful in this study?

SECTION III: THANK YOU AND CLOSING

That ends this interview; once again, thank you for your time and generous support of my request. Please feel free to reach out for any questions or follow-up about this interview.

SECTION IV: CONTACT INFORMATION

E-mail
Phone:
School Address:

Appendix D: Interview Protocol for Industry and Community Partners

SECTION I: CONTEXT

Overview of Purpose and Goals
My research aims to better understand why your company/organization supports a collaborative partnership/work with the college and how it supports your overall organizational objectives.

I am ready to take any questions before we begin. Please feel free to ask questions or clarifications at any time during our conversation. I hope you were able to review the informed consent form. I would appreciate your signature if you are comfortable participating in this study.

SECTION II: COLLABORATOR INTERVIEW GUIDE

1. Getting to Know the Industry Partner (rapport building)

    Thank you for meeting with me today and sharing your C.V./Bio with me. You have an impressive background and ……

    1. How would you describe your relationship with ____ college?
    2. How long have you been working/collaborating with ____ college?
    3. What is the main reason for you or your company to pursue this collaboration with _____ college?
    4. How are you or your company benefiting from this collaboration?

3. Industry Partner's View on Co-curricular Programming and EE Ecosystem

    5. How do you view entrepreneurship today?
    6. What are the types of partnerships and collaborations you or your company are pursuing now? Name the institutions, types of partnerships, relationships, collaborations, duration, tenure, paid or unpaid, etc.
    7. What is the process for selecting, inviting, and vetting potential partners and collaborators? Who are the people involved?
    8. Why did you pursue these collaborations with these companies/entities?
    9. How would you characterize the degree of openness of the _____ college leadership team to embrace new technology or solutions (i.e., LMS, Collaborative Learning Platform like Slack, OER, VLE) as part of curriculum design?
    10. What do you recommend that community colleges do to prepare their students for the real world of entrepreneurship?

3. Industry Partner's View on Learning Outcomes/Student Success

11. How would you describe the students' utilization of your company's services? i.e., Intuit Design Thinking course, Entrepreneurial Finance course, etc.
12. What do you find most rewarding about your work with the students? How do they impact students and the college community in general?
13. How do you measure the success of the program?
14. What are the common challenges or hurdles your company must navigate to measure student learning?
15. How would you describe the alignment of the program with industry demands?
16. What is an "a-ha" moment about your work in the program? Probe: Tell me a story about how you came to this realization. How has it influenced your work?

5. Engaging with Researcher

- Do you have any questions I can address now?
- Is there any information or insights you think would be helpful in this study?

SECTION III: THANK YOU AND CLOSING

That ends this interview; once again, thank you for your time and generous support of my request. Please feel free to reach out for any questions or follow-up about this interview.

SECTION IV: CONTACT INFORMATION

E-mail

Phone:

School Address:

Appendix E: In-Person/On-Campus Observation Protocol

1. Site

Date	Time and Length	Place	Mode
February 2023		Diablo Valley College	In-person or Zoom
February 2023		College of San Mateo	In-person or Zoom
February 2023		Skyline College	In-person or Zoom

2. Observational Protocol

Descriptive Notes	**Reflective Notes**
What are the experiences of entrepreneurship students?	
How is the event organized? Online, in-class, Part of the curriculum or optional? Is it open to the public or only for registered students?	
Who is hosting the event? Who is the speaker? What is the topic? What is the expertise of the speaker?	
How many attendees? How many are students? Faculty? Staff? Etc.	
What transpired during the talk? Are students asking questions or have shown interest in the topic or speaker? Students are engaged or passive listeners	
How does the activity go? Workshop or lecture	
What were the students/participants talking about on the side?	

Artifact: A sketch of how the room was organized

3. Observer's Role

The researcher will start as a complete observer to focus on the data that needs to be collected The researcher observes without attracting attention. It may require sitting where she cannot be easily noticed. The researcher does not say anything but simply records field notes.

Appendix F: Student Survey—Business Model Innovation in Entrepreneurship Education

Start of Block: Default Question Block

This research aims to understand your experience with the entrepreneurship program in your college and how you utilize the various non-curricular resources and tools it offers. Before you start, please answer this qualifying question. Were you born after 2005?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Survey If This research aims to understand your experience with the entrepreneurship program in your colleg... = Yes

I am a student and voluntarily agree to participate in this online survey about my learning experience in my business and entrepreneurship program, which will take about fifteen minutes. The information will be completely anonymous, and results might be shared with the college in aggregated results. I confirm that I am 18 years of age or older to participate.

- ○ Yes, I agree to participate in this survey (1)
- ○ No, I do not agree to participate to this study (2)

Skip To: End of Survey If I am a student and voluntarily agree to participate in this online survey about my learning exper... = No, I do not agree to participate to this study

End of Block: Default Question Block

Start of Block: Thank you for participating in this survey, let's begin....

Q1 Which college are you attending?

- ○ Hogwarts Community College (1)
- ○ Narnia Community College (2)
- ○ South Park Community College (3)
- ○ Other (4) _____

Q2 What is your major?

- ○ General Business (1)
- ○ Entrepreneurship (2)
- ○ Non-Business Major (3) _____

Q3 What is the reason why you are in the business and entrepreneurship program?

- ○ Completing an AS or AA degree (1)
- ○ Completing a certificate (2)
- ○ Upskilling and re-tooling (3)
- ○ Meeting an industry mandated requirement (4)
- ○ Other (5) _____

Q4 How old are you?

- ○ 19-25 (1)
- ○ 26-35 (2)
- ○ 36-45 (3)
- ○ 46-55 (4)
- ○ Above 55 (5)

End of Block: Thank you for participating in this survey, let's begin....

Start of Block: Block 1

Q5 What is your race?

- Latino/a or Hispanic (1)
- Black or African American (2)
- Asian American (3)
- Native American or Pacific Islander (4)
- American Indian or Alaska Native (5)
- White (6)
- Some other race (7) _____
- Prefer not to say (8)

Q6 What is your gender identity?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Q7 Describe your experience in the business and entrepreneurship program.

- Extremely Satisfied (1)
- Somewhat satisfied (2)
- Neither satisfied nor dissatisfied (3)
- Somewhat dissatisfied (4)
- Extremely dissatisfied (5)

Q8 What are the support services available to you as a student in the business and entrepreneurship program? i.e., eco-system, co-curricular programming, etc. (check all that applies)

- [ ] Mentorships (1)
- [ ] Internships (2)
- [ ] Access to legal services for startups (3)
- [ ] Access to tech tools to support prototyping my idea (4)
- [ ] Access to simulation tools for financial or revenue modeling (5)
- [ ] Other (6) _____

Q9 How often do you utilize the co-curricular resources and programs (mentorships, simulation tools, immersion or internships) mentioned above?

- ○ Often (1)
- ○ Always (2)
- ○ Sometimes (3)
- ○ Rarely (4)
- ○ Never (5)

Q10 Describe the curriculum and instructional design of the business and entrepreneurship program you are completing.

- ○ Project-based (1)
- ○ Experiential and Hands-On (2)
- ○ Lecture-based (3)
- ○ Other (4) _____

Q11 What is the most significant impact of the co-curricular support (i.e. mentorship, workshops, internship., etc.) and programs on your progress as a business or entrepreneurship student? (Rank in order of importance)

_____ Complements the academic offerings of the college (1)
_____ I have never used or heard of any co-curricular programs (2)
_____ It helps me having a role model (3)
_____ It is confusing and taking more time away from the classroom (4)
_____ They concretize the theories and concepts I learned in class (5)
_____ Very helpful, I can't rely on lectures and textbooks alone (6)
_____ Very helpful in meeting people outside of my discipline (7)
_____ Instrumental in enhancing my social capital; provides one foot in the industry (8)

Page Break

Q12 What are the most important resources or co-curricular/support programs that you need to help you in getting your idea to market? (Rank in order of importance)

_____ Workshops facilitated by industry experts (1)
_____ Mentorship by industry practitioners and entrepreneurs (2)
_____ Simulation tools like Startup Wars, Food Truck Challenge, etc. (3)
_____ Pitch Events and Demo Day (4)
_____ Curated books and materials provided by the business librarian (5)
_____ Dedicated portal for startups and small business owners (6)
_____ Financial tools i.e. Intuit (7)
_____ Free trials of eCommerce website i.e. Shopify (8)

Q13 What are the most significant challenges you had and are having now to learn and practice entrepreneurship?

_____

_____

_____

_____

_____

Q14 How does technology enable your utilization of the various programs and tools (QuickBooks, Google Suite, Slack, Simulation platforms, etc.,) offered by the program. (Rank in order of importance)

_____ It allows access to campus resources remotely (1)
_____ It allows for experimentation and simulation without actual financial losses (2)
_____ It keeps me informed of cutting-edge resources outside of the college (3)
_____ It prepares me for my transition to the workforce (4)
_____ Other (5)

Q15 Can you please share your experience of an “a-ha” moment in the program?

_____

_____

_____

_____

_____

End of Block: Block 1

Thank you for your time spent taking this survey.

Your response has been recorded.

Appendix G: Survey Results List of "Aha Moments"

"Aha Moments" in Learning. An open-ended question probing for "Aha Moments" revealed five recurring themes:

1. Business and Entrepreneurship Insights

- "Learning about business monopolies and contract deals."
- "Tools used to enhance a business such as the SWOT model."
- "Learning what it means to be an entrepreneur."
- "When I learned about marketing."
- "When we connect things from the business world to the accounting world."
- "Learning about how businesses take advantage of specific perks to maintain profits. Tax, business write-offs."
- "I think it was when I realized the importance of becoming an expert in a technical field."
- "Just the different terms and businesses you can start."

Insight: These responses suggest a strong interest in business education and real-world applications of financial concepts.

2. Guest Speakers and Real-World Connections

- "Professor told us a story of his ex."
- "The speaker that came in to talk to the class about his business and how he manages everything."
- "I think when the professor brought an entrepreneur and he shared some experiences."
- "Getting spoken to from those who are in the field."
- "I feel good about this program because it connects me to the real world and my job."

3. Personal Growth and Self-Realization

- "Becoming a partner in the program that enables me to communicate, help, and enforce others to work efficiently."
- "Just working together with other people and seeing different work ethics. Realizing how to deal with different types of people in order to succeed."
- "When I started learning about different strategies and being able to understand how my mom was able to grow her business through these?"
- "I actually like accounting."
- "All about people."

4. Technology and Emerging Topics

- "When we had our lecture on Crypto."
- "Learning about Bitcoin."
- "AI."

Insight: Emerging topics like cryptocurrency and AI stood out to participants.

5. Unclear or No "Aha Moment"

- "Unsure."
- "I never heard about "Aha."
- "I haven't had an "Aha" moment in the US yet."
- "Not sure what the question is asking."
- "I'm so confused by this survey."
- "I cannot remember."
- "Don't really have one."
- "Honestly, it is pretty much what I expected."
- "Haven't experienced one."
- "No."

Note: A notable percentage of students did not identify an "Aha Moment"—which could suggest a need for more engaging activities or better framing of reflective experiences.

Appendix H: Coding Architecture

Code x Code	Generated from Delve (www.DelveTo	First Cycle (Descriptive Coding)	Code Description	Second Cycle (Patterned Coding)	Themeing the Data
Order of Code	Nested Level	Code Name		Identified codes based on the 3 RQs	Grouped findings into themes based on the 3 RQs
1	>	Curriculum Design	The current structure of how courses and programs are designed and reflected in Curricunet. Written by faculty, approved by the chair and deans.	Q1 - Resources and Capabilities	**Resources and Capabilities**
2	>>	Non-Credit Programs	Programs or classes that do not earn academic credits	Q1 - Resources and Capabilities	Curriculum Design
3	>	Instructional Design	Support with course design, student engagement, facilitation, and student feedback. Also support faculty with getting data from students and feedback from different sources and integrating that to their reflective teaching process.	Q1 - Resources and Capabilities	Non-Credit Programs
4	>	Strengths	Internal capabilities that college can leverage; factors that they do best	Q1 Resources and Capabilities and Q2- Mindset and Skillsets	Instructional Design
5	>>	Successes	Students and college's ccomplishments that are recognized	Q1 - Resources and Capabilities	Advantage to College
6	>>	Advantage to College	Benefits that accrue to the institution	Q1 - Resources and Capabilities	Advantage to Students
7	>>	Advantage to Students	Benefits that accrue to students	Q1 - Resources and Capabilities	Tech Tools
8	>	Weakness	Internal factors that limit the college/program or faculty's ability to growor move forward	Q1 Resources and Capabilities and Q2- Mindset and Skillsets	Co-curricular or support programs
9	>	Opportunities	External factors in the immediare environment waiting to be tapped	Q2- Mindset and Skillsets	Alumni & Peer Support
10	>	Challenges & Threats	External factors in the immediare environment that restraint the college to adopt certain strategies	Q2- Mindset and Skillsets	Partners and Supporters
11	>>	Funding	Monetary support from various funds allocations and grants	Q3 - Business Model & Structure	College Leadership Support
12	>	Vision for the College	Interviewees' views and perceptions of their own institution's vision for their college.	Q2- Mindset and Skillsets	Strengths
13	>	Professional Development	Training and development provided to faculty, administrators and staff	Q1 Resources and Capabilities and Q2- Mindset and Skillsets	Weaknesses
14	>	Experiential learning	Activities that constitute learning from doing i.e. projects thyat require hands-on approach and direct immersion suich as internship and mentorship programs	Q2- Mindset and Skillsets	Criteria in Selecting Partners
15	>	Aha Moment	Disorienting dilemma that interviewees encounter in the course of their work	Q2- Mindset and Skillsets	**Mindset and Skill Sets**
16	>	View of Entrepreneurship	Understading of the discipline whether from academic or practical view of the concept	Q2- Mindset and Skillsets	Strengths
17	>	Measuring outcomes	Activities and programs that capture the performance of the program, students' transfer and completion, and students' startup progress	Q2- Mindset and Skillsets and Q3 - Business Model & Structure	Weaknesses
18	>	Ecosystem	Various elements that connect and instill collaboration between the stakeholders—academia, community, industry—involved in supporting students to provide relevant & quality education	Q1 - Resources and Capabilities and Q3 - Business Model & Structure	Opportunities
19	>>	Equity	same opportunity to succeed and achieve their educational goals, by providing tai	Q2- Mindset and Skillsets	Challenges & Threats
20	>>	College leadership support	Administration direct support such as funding and prioritizing certain programs	Q1 - Resources and Capabilities	Vision for the College
21	>>	Tech Tools	Internal tools paid for by the college and those shared by the industry partners for free	Q1 - Resources and Capabilities	Professional Development
22	>>	Criteria in selecting partners	Industry performance of the partner company; professional and academic background of the partners	Q1 - Resources and Capabilities and Q3 - Business Model & Structure	Aha Moment
23	>>	Alumni & Peer Support	College alum and current students as part of the current support environment	Q1 - Resources and Capabilities	View of Entrepreneurship
24	>>	Partners and supporters	Industry partners and thought leaders; comopanies or individuals	Q1 - Resources and Capabilities	Measuring Outcomes
25	>>	Co-curricular or support programs	Specific programs and events that support the curricular programming	Q1 - Resources and Capabilities	Equity
26	>	Student Demographics		Q3 - Business Model & Structure	Experiential Learning
27	>>	Student Profile	Both demographics and psychographics of student populations	Q2- Mindset and Skillsets	Students Skills
28	>>	Diversity	involving people from a range of different social and ethnic backgrounds and of different genders, sexual orientations, etc.	Q3 - Business Model & Structure	Diversity
29	>>	Students Skills	Students' capacities and capabilities	Q3 - Business Model & Structure	**Business Model or Structure**
30	>>	Non-traditional learners	Older and non-degree seeking students	Q3 - Business Model & Structure	Funding
31	>>	Veterans	person who served in the active military, naval, air, or space service and was discharged or released under conditions other than dishonorable	Q3 - Business Model & Structure	Student Profile
32	>>	Transfer Students	Students seeking to move to a 4-year university	Q3 - Business Model & Structure	Ecosystem
33	>>	Non-degree seeking	Students seeking to learn for personal growth i.e. certificates and specific courses only	Q2- Mindset and Skillsets and Q3 - Business Model & Structure	Non-traditional Learners
					Non-degree Seeking
					Veterans
					Transfer Students