Outside Inside, Inside Around: Leveraging External Innovation Through Strategic Investment

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Submitted to the MIT Sloan School of Management
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and
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Abstract

Because continuous improvement and company growth are fundamental for future business success, companies constantly look for ways to innovate. A large company must operate to augment core business and create industry innovation to succeed. However, decades of literature and company performance reviews have demonstrated that large companies often struggle to develop innovative products or to foresee disruptive technology and capture the market quickly and nimbly.

This thesis examines how a large company can effectively leverage external innovation for internal success. In an effort to stimulate the ideation process and internalization of bold innovations, a company can implement a Corporate Venture Capital (CVC) Team to evaluate, transition, and develop external innovation for internal company growth. A successful CVC understands the needs of the parent company, captures external venture capital (VC) opportunities, and facilitates the transition of new technology to support core business growth and develop industry innovation. By investigating the pathways through which innovation ideas evolve from a concept to fully integrated products, it is apparent that each method has its own merits and challenges. However, with a sound operating strategy, a large company can leverage the strengths of strategic investments. A CVC with an established and scalable process can facilitate the exploration and implementation of external innovation. Furthermore, the revelation that a CVC is essentially an internal sales team geared towards internal stakeholders provides a new framework for CVC teams to effectively engage internal stakeholders and portfolio companies to capitalize on external innovation for mutually beneficial growth opportunities.

Thesis supervisor: Charlie Fine, Professor of Sloan School of Management
Thesis supervisor: Maria Yang, Professor of Mechanical Engineering

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This thesis would not have been possible without the incredible support and guidance from the people around me!

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To my LGO 23 family, this has been an incredible ride. I continue to be humbled by you all and your ability to synthesize information and then see how you can create something beyond it. Thank you for asking such wonderful questions and constantly causing me to think more. I have learned so much from you all and look forward to seeing everyone in their next endeavor!

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Contents

List of Figures

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List of Tables

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Terms, Acronyms, and Abbreviations

1:1 - one on one
ADIA - Acknowledgment, Dialogue, Incentivization, Activation
AEI - AE Industrial Partners
AI - Applied Innovation
AIDA - Awareness, Interest, Desire, Action or Attention, Interest, Desire, Action
B2B - Business to Business
Boeing - The Boeing Company
BU - Boeing Business Units
Coronavirus = COVID-19 = COVID = Covid = Corona
COUHES - Committee on the Use of Humans as Experimental Subjects
CRM - Customer relationship management
CVC - Corporate Venture Capital
External stakeholder - a person or group outside of the parent company
FAA - Federal Aviation Administration
HX - HorizonX
Internal Boeing Stakeholder/Internal stakeholder - another team in the same parent company, or the internal customer
IP - Intellectual Property
IPO - initial public offering
IVC - Independent Venture Capital
JV - Joint Venture
KPI - Key Performance Indicators
LP - Limited partner
M&A - Mergers and Acquisitions
Mother company = parent company = the (large) company making a CVC investment
PLG - Product Led Growth
PortCo- Portfolio Company
R&D - Research and Development
Rep - representative
SME - Subject Matter Expert
Tech - technology, service, products -
TRL - Technology Readiness Level
VC - Venture Capital

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Chapter 1

1. Introduction

The world is rapidly evolving; even successful companies must create new products, services, or technologies to secure their future. A large company must continuously augment its core business or create industry innovation to thrive. Throughout history there are stories of trade, industry revolution, and entrepreneurship. Curiosity has driven people to explore, innovate, and design incredible things that once were merely ideas. Since the 1960s companies have looked to invest in corporate venture capital (CBInsights) as a way to diversify their portfolios through external investments. Since the late 1990s there is evidence that companies also explore external ways to conduct their research and development (Narula).

The exploration of external innovation and the desire to collaborate continues to evolve. In parallel, different approaches have been developed to capitalize on it. However, despite the push for improvement, it is difficult for people, and therefore the companies they represent, to prepare for the unknown. Although the future contains endless unknowns and even more "unknown unknowns...things we do not know we don't know", as former United States Secretary Donald Rumsfeld explained, one must not wait until all of the details are obtained before acting, nor disbelieve everything because it cannot be proved. One must not succumb to epistemic paralysis, but instead, insist on continuous improvement and innovation to develop new opportunities (Ben-Haim). Even then, the moment one acts (or fails to) a new reality is created. As Albert Einstein eloquently explained, "logic will get you from A to B. Imagination will take you everywhere". It is with this wonder for the world that innovation is critical for company performance.

1.1 Problem Statement

How can a large company operate in order to evaluate, transition, and develop external innovation internally for their company?

This thesis will examine through a descriptive case study how a large company can effectively leverage external innovation for internal success to encourage continuous improvement for core business and expand industry opportunities. In an effort to stimulate the ideation process and internalization of bold innovations, a company must facilitate the exploration, development, and implementation of external innovation.

This thesis will explore *what*, *why*, and *how* a company can best leverage innovation to create value for the company at large and its internal stakeholders.

1.2 Methodology

By exploring the confluence of technology gaps, opportunities to augment existing core businesses, and the utilization of portfolio company expertise in products, services, and technologies this thesis attempts to analyze how the creation of a Corporate Venture Capital (CVC) team can harness innovation to support internal company development and stimulate investment returns.

Building off of extensive literature that attempts to answer the question of *if* a CVC creates value for a company this thesis will instead attempt to analyze *how* a CVC can leverage external innovation to create strategic value through technology investments by analyzing performance results and recognizing the distinct differences in investment strategy between independent venture capital and corporate venture capital.

This thesis systematically observes a CVC at The Boeing Company and two of its portfolio companies as use cases to understand how a CVC team can help develop innovation and create strategic value for a large company through a descriptive case study. However, while descriptive analytics examines historical data to understand past events, and predictive analytics utilizes past data to predict the future (Kaminski), there is not necessarily a correlation between future venture capital investment performance as based on past performance. Thus, it is important to develop a quantitative model to generate an empirical value for strategic investments, as well as to understand the various pathways for innovation. Once a method is selected, it is imperative to develop a best practice and series of qualitative questions to help a CVC team develop a common operational procedure to evaluate startups, develop internal opportunities by leveraging portfolio company technology, and create mutually beneficial commercial products.

To understand how a CVC can drive innovation progress, as well as understand what is required to establish a best practice for a CVC by examining their work, research for this thesis was conducted through many interviews and conversations with internal Boeing stakeholders, the portfolio companies, and the venture capital (VC) investment firm that works with Boeing,

AE Industrial Partners. Relationships, culture, and the willingness to adopt external innovation were examined to see how they drive innovation progress. By listening to internal and external stakeholder needs, data was obtained to analyze *how* the CVC team cultivates meaningful opportunities and mutual value.

1.3 Research Approach and Data Collection

This research takes a participatory approach. Data was collected by participating in the standard day to day activities at the CVC team including participating in meetings, workshops, informational interviews (Boeing one on one meetings (1:1)), and portfolio company visits. Interviews and repeated observations were conducted in a longitudinal study whereby repeated observations of the same cohort of people, aka the CVC team, portfolio company teams, and VC investment firm, were interviewed. The process can be observed in Figure 1: Data Collection. In total over 50 people were spoken too and detailed, follow up conversations occurred with over 15 people. In addition, many of the individuals in this cohort also provided weekly updates to the rest of the cohort over the course of six months through meetings, information sessions, and presentations. Cross-section observations were made by interviewing other members of the Boeing community from different Business Units, portfolio companies, Venture Capital Investment Funds, and external stakeholders.

Interviews were conducted over the course of six months during regular working hours. Some interviews were formal conversations with questions about the person's background, thoughts on a given topic, and analysis. Before each interview, the person was asked if the conversation could be included as data in this thesis in accordance with the Committee on the Use of Humans as Experimental Subjects (COUHES) guidelines. Notes were taken by hand either on paper or on the computer. While exact transcript dictation was not taken, detailed descriptions and quotes were recorded. Before the meeting concluded, a brief summary was presented for accuracy and verification of understanding.

Additional research data is synthesized from an extensive literature review, public company briefs, company websites, annual reports, journal articles, and conversations with members of other corporate ventures and VC firms.

Stakeholder engagement was conducted with their knowledge and either verbal or written consent to participate in accordance with COUHES guidelines. All one on one (1:1) and small group interviewees were informed and provided consent to have their answers included in this thesis provided it was anonymized and did not disclose proprietary information. It is important to highlight that individuals may have provided their personal views, and these may not represent all Boeing or portfolio company employees respectively. Information extracted from large meetings or webinars where individual consent was not possible to obtain is included under the premise that only information that could be shared with a larger public audience may be referenced.

In order to preserve anonymity and protect proprietary information, individuals, team names, and use case examples will be given in generalized scenarios to protect the privacy of the Portfolio Companies and their internal Boeing relationships.

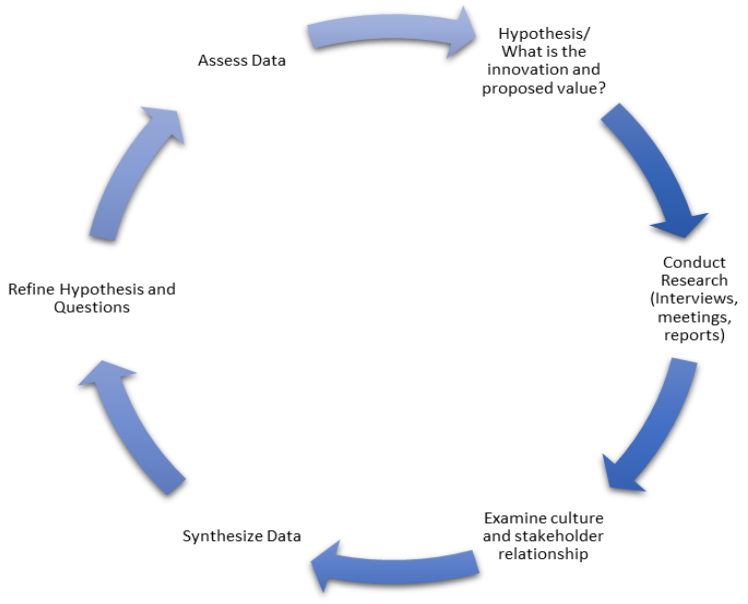

Figure 1: Data Collection

Chapter 2

2. Literature Review

2.1 Innovation

2.1.1 What is Innovation?

What: Innovation is something new or novel that looks to improve the current state of something or to generate a breakthrough to stimulate new market growth (de Jong et al.) (Satell) (McKinsey). It is essential for companies to develop future products. In the world of business, innovation is fundamental for continuous improvement and growth potential. An idea can be turned into a tangible product, a service, a process, or even a novel business model for internal or external use. Innovation can occur in small incremental steps or in a bold, disruptive manner. Each endeavor requires thoughtful ideation and careful stakeholder engagement to generate value. (Blank et al).

From a business perspective, innovation can be thought of as, "the systematic practice of developing and marketing breakthrough products and services for adoption by customers" (McKinsey). To succeed, it is not enough to simply have a creative idea. Someone must invest time and resources to fully ideate, develop, and scale their idea to truly capture the value of creative thought. At a company level, innovation is a tool to drive growth and helps answer unmet customer needs to bring to fruition a new product, service, or element of technology. Technology here will be defined as it is in Olivier De Weck's, *Technology Roadmapping and Development*, "an ensemble of deliberately created processes and objects that together accomplish some function as well as the associated knowledge and skills used in the conception, design, implementation, and operation of such technological artifacts''.

Engineers look to innovation to solve complex technology problems. A good framework for examining types of innovation is through the 2x2 Greg Satell developed in Figure 2 (Satell). There are four distinct groups of innovation correlating to how well the problem and the domain are defined. Each type of innovation is an important tool to advance technology and company growth.

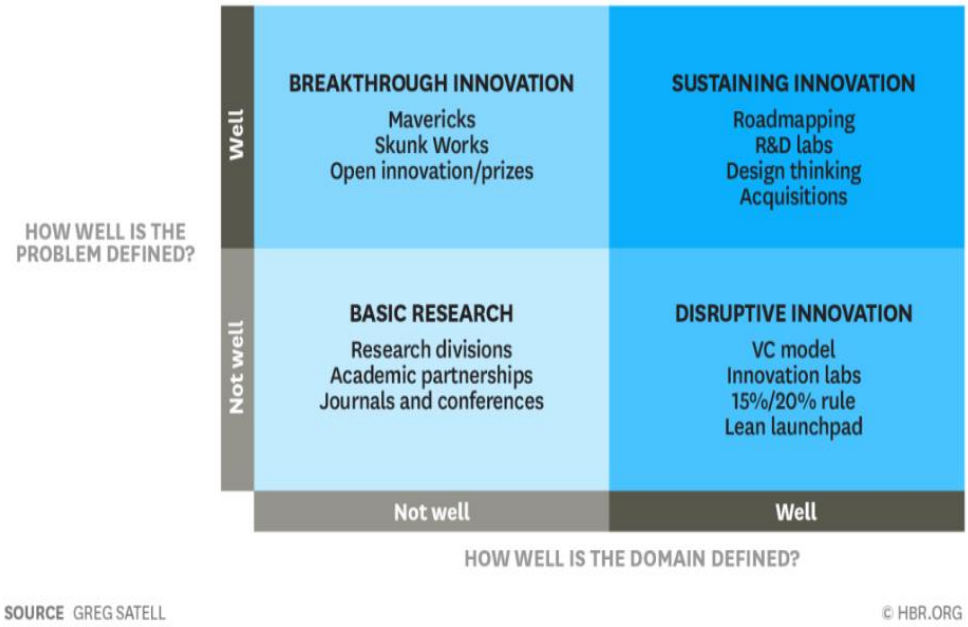

Figure 2: Four Types of Innovation

Source: https://hbr.org/2017/06/the-4-types-of-innovation-and-the-problems-they-solve

Although innovation often answers the question of *what* we can make, it is even more important to pause and ask *how* we can best develop and implement innovation for it to fully generate and capture monetary and strategic value. Furthermore, it is important to recognize that in order to successfully develop, or adopt and leverage technology into a company, a team of skilled individuals from different domains is required. As stated in "The Eight Essentials of Innovation", "...Innovation is a complex, company-wide endeavor, it requires a set of cross cutting practices and processes to structure, organize, and encourage it" (de Jong et al.).

This thesis will explore *why*, *what,* and *how* a company can best leverage innovation to create value for their company and internal stakeholders.

2.1.2 Why Is it Important for a Company to Innovate?

W hy: Because continuous improvement and company growth are fundamental for future business success, companies are constantly looking for ways to innovate.
For a company to grow, at one point an employee has to think of a good idea and have the ability to bring it to the market for customers to purchase. Someone must have the scientific knowledge, engineering skills, or artistic creativity to experiment, prototype, and produce something that created value and could be sold. Either through some level of technical innovation, corporate strategy, or the confluence of both, at one point a large company had a special spark and people capable of nurturing an idea to generate financial success and scalability.

Furthermore, a company needs to keep abreast of market trends and potentially Disruptive Innovation in its field. For example, Blockbuster did not recognize the power of a small, yet innovative startup, nor the push to streaming services, and was displaced by Netflix in a Big Bang Disruption. Kodak failed to see value in digital technology or invest in non-core products, as opposed to Fujifilm (Fuji). These companies' failure to innovate and be aware of shifting market opportunities ultimately led them to file for bankruptcy. (Downes and Nunes) (Anthony)
To succeed in future endeavors, there must be a stimulus for continuous improvement and a search for innovative products through Sustaining Innovation. Internally, some employees may feel comfortable resting on the laurels of past successes. However, the world does not stop changing, and thus, even a once-successful company needs to adapt and be willing to create new products, services, or technologies to secure its future.

In an effort to stimulate continuous improvement and growth, employees should be enabled to facilitate the exploration, development, and implementation of external innovation.

2.2 Pathways to Innovation: The Solution Space in The Governance of Value Creation

The following section will explore what structured methods exist to stimulate innovation. Whereas a small company is strapped for cash and must develop all advancements internally and a medium-sized company may have the ability to purchase items to grow, a large company that is financially sound has the ability to invest in other companies and share mutually beneficial growth and development with smaller firms. The subsequent relationship with a Portfolio Company (portfolio company, PortCo) will allow a large company to leverage the creativity and agility of a small startup while supporting them with its corporate structure and connections (Holger et al).

2.2.1 What: Internal and External Pathways for Innovation

There are numerous ways to *innovate,* ranging from *internal* divisions such as Research and Development (R&D) teams, to ideation workshops, or to more *external* approaches such as university partnerships, partial ownership in a joint venture (JV), or investments through venture capital. In addition, there can be a completely *external opportunity brought inside* such as a takeover in Mergers and Acquisition (M&A) or purchasing an off-the-shelf product (Blank et al) (Spencer) as seen in

Figure 3: Pathways for Innovation: Internal and External Opportunities.

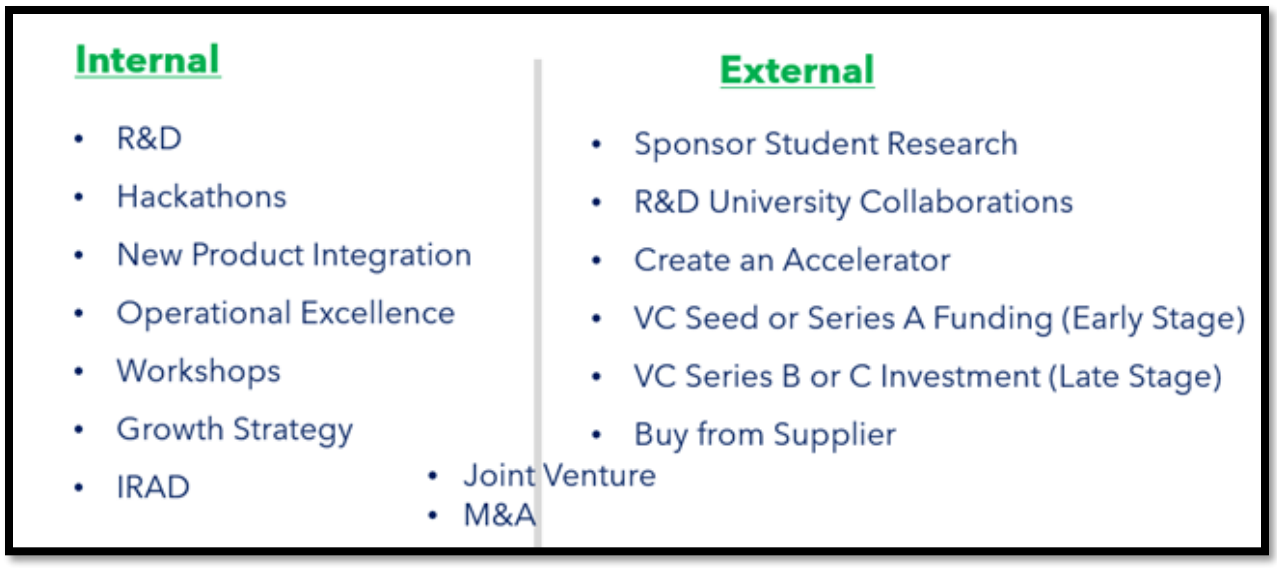

Figure 3: Pathways for Innovation: Internal and External Opportunities

2.2.2 Why: Innovation Opportunities, Challenges, and Mis-Aligned Incentives

There are opportunities and challenges associated with each pathway for innovation. For example, it is customary for companies to set up an internal R&D team to create Basic Research Innovation. The team is tasked with research in the appropriate industry field such as engineering or design. These ideas are developed and prototyped for preliminary build and manufacturing. The R&D team, however, is bound to the organizational chart and the internal company interfaces it interacts with. As a result, the team may not be exposed to shifting market trends, nor have the resources to pursue all technological developments it finds. Moreover, it is difficult to gauge the effectiveness of an R&D team. Literature shows that R&D is tracked through inputs, such as how much they invest annually into the division as a fraction of their revenues, and outputs, measured through patents or published papers (De Weck, Ch 14). If research patents are the expressed goal and incentives lead to the production of patents rather than an actual application, pure research may not produce a functional product with a

viable application. Furthermore, prototypes may be generated, but may not be designed for manufacturing or scalability. Thus, large firms may not have their incentive structure aligned to empower employees to create products that have an application or the ability to be scaled. Looking externally, companies often look to acquire innovation through Mergers and Acquisitions (M&A). The incentive here is to purchase existing technology to utilize in-house, a method often used to integrate manufacturing or expand capabilities for sustainment. However, as seen in the Harvard Business School (HBS) case, "Videojet" (Sadun et al.), when the U.S. conglomerate Danaher acquired Videojet, the absorption of the company and streamlining of managerial practices was not simple. Even with the implementation of Danaher's best practice, known as "Danaher Business System" or "DBS", it took years to establish a team that was culturally, politically, and strategically aligned with the parent company. Furthermore, even when apparent alignment is accomplished, it can sometimes ruin the target company's culture. Acquiring a company, business assets, or operating units consolidated through financial transactions between companies sometimes has been demonstrated to stifle the creative spark of the once-innovative team or company.

Another source of external Breakthrough Innovation can be cultivated through company partnerships with local universities to create meaningful relationships in the community, specifically for early-stage idea generation with minimal capital investment. Through student capstone projects, seminars, and sponsored internships, companies can utilize academic research for innovation to yield an early Technology Readiness Level (TRL).

On the other end of the spectrum, when a high TRL is needed and cash is at hand, innovation could be incorporated simply through purchasing an off-the-shelf product. Companies are comfortable purchasing a product off-the-shelf because it is a known, tangible entity. When multiple products exist, they can even compare items to best match their *known* needs. However, not all technology needs have viable solutions or products that exist yet, and not all needs are known as discussed previously in the first section. These pulling needs and desires are plotted in a 2X2 Matrix in Figure 4.

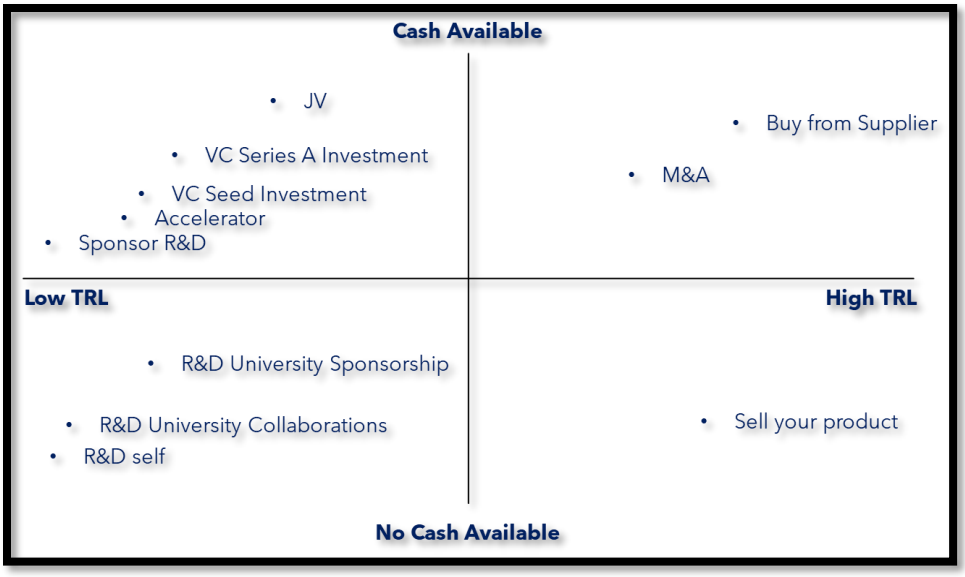

Figure 4: Pathways to Innovation- 2x2 High growth potential strategy to generate quality products.

A slightly more moderate, middle-ground approach to develop innovation can be found in the form of investments. Large companies around the world have created internal corporate venturing divisions that provide employees with organizational autonomy to fund new, internal ventures. These initiatives provide an opportunity to invest in internal innovation that is distinct from a company's core business.

For a large company with available cash and varied requirements for TRL, Venture Capital is a high-growth potential strategy that can generate quality products. A relationship with a portfolio company may allow a large company to leverage the creativity and agility of a small startup while supporting them with their corporate structure and connections. Furthermore, VC can offer market awareness for Disruptive Innovation and access or control of IP. Inside a company, Corporate Venture Capital (CVC) funds are investment funds that are owned and managed by a company that invests in startups with high potential. Unlike traditional Venture Capital (VC) funds, CVCs may not exclusively pursue direct profit, but rather may be interested in supporting new technologies or gaining exposure to an emerging market opportunity. Following an investment, a company may try to launch a new, external partnership to further develop their innovation (Burgelman).

Figure 4 compares the merits and challenges of three pathways to innovation for a large company: R&D, VC, and M&A. This analysis is performed under the assumption that cash is available and that a mid-level TRL product will be sufficient. As noted in the section 2.2 Pathways to Innovation: The Solution Space in The Governance of Value Creation, although large companies usually prefer a high-level TRL, there is merit in helping develop a product at a mid-level TRL.

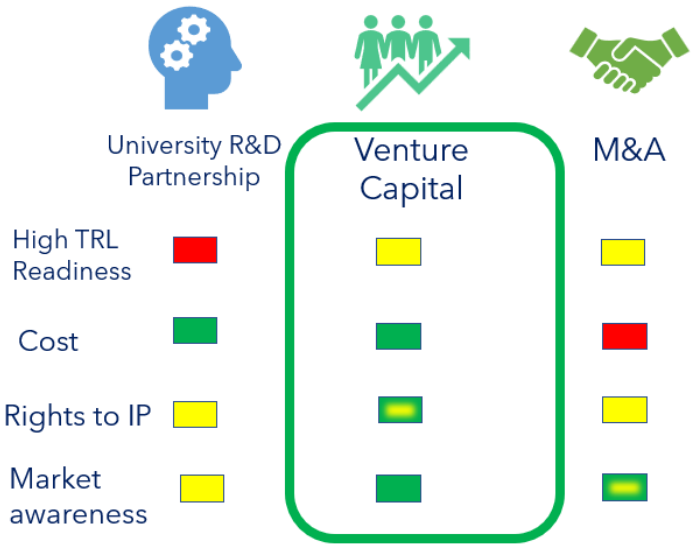

Figure 5: Venture Capital is a high-growth potential strategy to generate quality products for moderate cash, mid - TRL, access to IP, and market awareness.

2.3 What is Corporate Venture Capital?

In this thesis Venture Capital, specifically Corporate Venture Capital, will be explored as a high-growth potential strategy to generate quality products for moderate cash when a mid-TRL is sufficient, and IP is important to the company. Furthermore, Venture Capital provides market awareness for the investing company and facilitates an understanding of new technology. As discussed in the previous section, Venture Capital investments are a way for limited partners and companies to make minority investments into a different company focusing on growth opportunities. Traditional independent Venture Capital (VC) firms invest in companies that

seek appreciation through exits either in the form of acquisition or an initial public offering (IPO). VCs invest in early-stage startups as portfolio companies from preliminary seed funding through late-stage investments. In turn, the VC supports their portfolio companies with resources, personnel, facilities, or brand and strategy expertise. The VC financial investment is often accompanied by a board position in the portfolio company and equity.

When a company invests corporate funds into a startup it is known as Corporate Venture Capital (CVC). CVCs are an internal division of a company that acts similarly to an independent VC team to invest externally as a minority investor for equity and strategic technology. This form of investment began in the 1960s as a method for companies to diversify their portfolio and it has grown in popularity over time (CBInsights). Especially in the past decade, there has been a significant increase in venture capital investments as companies look for alternative methods to gain momentum in new areas and take a large innovative leap, instead of incremental improvements (Spits et al.). CVC investments help established companies develop innovative solutions through investments to address the company's core business needs and develop new industry innovations. Furthermore, a successful CVC understands how to capture external opportunities by facilitating the transition of new technology into a company and creating mutual growth opportunities internally and with a startup. The graph shown in Figure 6 demonstrates a significant volume of CVC investments, especially in the past few years.

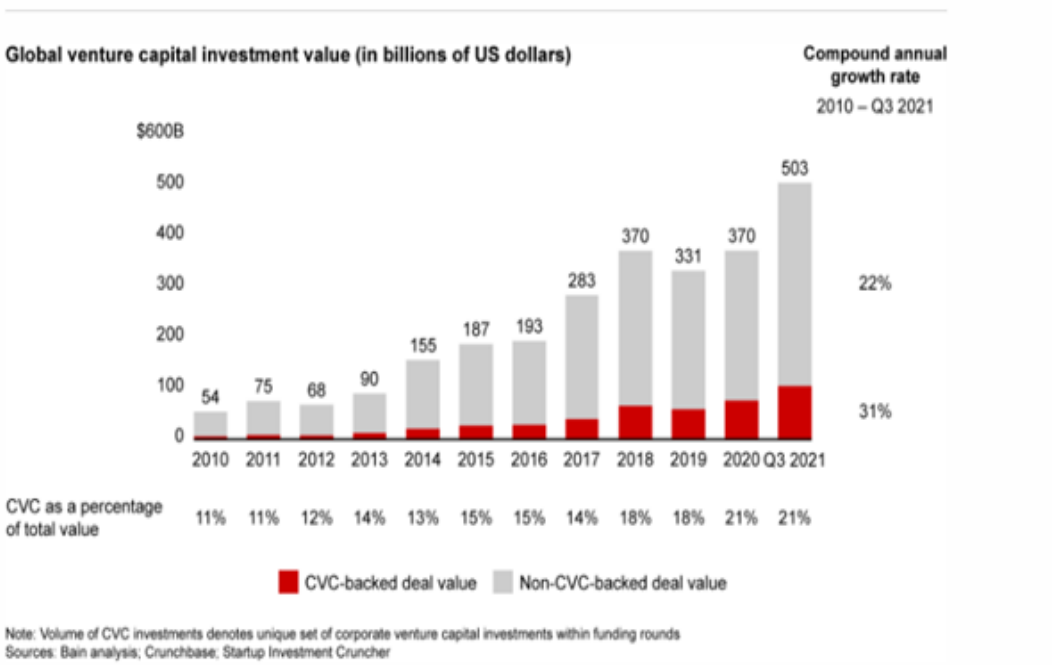

Figure 6: Corporate venture capital investments have grown to more than a fifth of total venture capital value.

(Spits et al.)

Despite the turbulence in the world, a study conducted in 2020 showed 94 of the world's S&P 500 companies had an active CVC fund as shown in Figure 7:

Basic company and financial data on the S&P500 sample, further segmented by those with and without an active CVC unit.

		Total Sample				Active CVC				No Active CVC			
	Units	N	Mean	St.Dev	Median	N	Mean	St.Dev	Median	N	Mean	St.Dev	Median
Number	N	499				94				405			
% of total sample	%	100				19				81			
Company age	Years	499	77	49	60	94	83	51	74	405	75	48	59
IPO Year	Year	481	1986	23	1991	91	1981**	27	1986	390	1987**	21	1992
Equiy market value	Bln	499	59	128	24	94	122***	210	57	405	44***	94	21
Employees	000	499	53	124	19	94	80**	112	47	405	46**	126	17
R&D ratio	%	499	2.04	4.18	0	94	3.83***	5.06	1.77	405	1.62***	3.84	0.00
CapEx ratio	%	499	3.46	3.50	2.32	94	3.08	3.11	2.21	405	3.55	3.59	2.34
Market to book ratio		499	1.98	2.14	1.30	94	2.09	2.09	1.43	405	1.96	2.17	1.29
Leverage ratio	%	499	28	22	28	94	30	18	29	405	28	23	27
% HQ in California	%	499	15	36	0	94	28***	45	0	405	12***	33	0
CEO gender (F=1)	%	499	6	25	0	94	9	28	0	405	6	24	0
CEO age as of 2021	Years	499	59	7	59	94	58	5	59	405	59	7	59
CEO tenure as of 2021	Years	499	8	8	5	94	7	8	4	405	8	8	6
Previous CEO tenure	Years	445	11	9	9	83	10**	7	9	359	12**	10	9

Figure 7: Snapshot of Active CVC Units and S&P 500 Companies (Strebulaev and Wang))

Traditionally, VC funds focus on deal flow and time their investments to capitalize strictly on a financial multiple through an exit. However, a CVC tends to focus on a more strategic application. In these situations, a company may invest in order to develop the necessary technology to fill an internal gap or enhance overall business objectives.

In a strategic CVC investment, the CVC team evaluates existing technology gaps and needs of the company and is tasked with finding startups to fill the requirements. The expertise of a CVC team can help define when and where a "make/buy" decision can be made. While supply chains are becoming increasingly complex and have global fluctuations, multi-source and creative sources for procurement are becoming increasingly valuable. A company can implement a Corporate Venture Capital Team to evaluate, transition, and develop external innovation for internal company growth.

Furthermore, CVCs allow a large company to pursue innovative ideas without needing to internalize all of the possible risks of internal research, development, or integration of an acquired company (Alena). CVCs are an effective way for companies to conduct research and development while mitigating internal risks to the company. They can leverage the work of a startup to gain market awareness and keep abreast of novel technology and techniques. Corporate management is sometimes confined to the company's method for innovation, and a CVC may offer a more entrepreneurial way of thinking. However, CVCs are subject to their internal, mother company management policy and strategy. A change in corporate management may shift company priorities and prevent a CVC from fully leveraging the agility and capabilities of the startup.

Risk mitigation helps gain stakeholder support for innovation. Internally, careful conversations should take place to make sure there is a sense of ownership as a make/buy decision is made. A company must identify who the proper internal stakeholders are and strategically approach their stakeholder engagement to address the culture of inventing in-house to ensure a smooth transition of external innovation and to best leverage external capabilities. Furthermore, it is imperative to establish a formal contract, but even more importantly – a relational contract to

map out the communication and selective intervention that could happen. (Dushnitsky) (Chemmanur)

A summary of standard independent VC and corporate VC funds can be seen below. It is important to note that there are numerous approaches to VC investments and each fund may operate slightly differently as seen in Table 1:

Table 1: Comparison of IVC and CVC

Category	Independent Venture Capital	Corporate Venture Capital
Financial Structure	At least one general partner (GP) and at least one limited partner (LP)- high net individuals, pension funds, etc. Financial investments are the strategic modus operandi	Company backed VC funds, directly investing corporate funds into external startup companies. Could be a purely financial investment like an independent VC or guided by a strategic modus operandi
Financial Objective	Exits (i.e., IPO, Acquisition)	Strategic innovation, partnerships, less likely to acquire the company
Strategic Objective	Financial growth through a solid product and market potential. Target industry growth	Technology synergy, R&D, fill technology gaps, transition technology, strengthen the supply chain, increase market awareness, access to disruptive technology
Investment Time Horizon	5-10 yrs.	10+ years
Assessment Criteria	Team, market potential, cap table composition	Technology fit, strategic innovation on a faster timeline, shifted risk
Management	Private equity investor, typically with a business, finance background, compensation linked to investment performance. Decision makers are the VCs	Mother company employees coming from a different division, salaried employees, decision process to act is subject to company policy.
Risk Mitigation	Assess market growth opportunity, assess competition	External R&D reduces internal capital investments, Internal stakeholder engagement is vital

2.4 How: How Can a Large Company Explore Innovation?

How: In an effort to stimulate continuous improvement and growth, a venture capital team could facilitate the exploration, development, and implementation of external innovation. An internal Corporate Venture Capital Team can address company needs and effectively support and augment core business growth.

Review of existing literature and company performance reviews in this chapter demonstrated that large companies often struggle to develop innovative products or to foresee disruptive technology and capture the market quickly and nimbly. This thesis identified a gap in literature to identify *how* a company can leverage external innovation to help promote efficient growth by amplifying existing and designing future products. A great deal of work has been conducted to show the current and historical landscape of CVC, explain differences between CVC and private VC, and recognize why a company may utilize these tools for investment. However, there is a whitespace in research as to *how* to develop a CVC team to best implement their skills as an internal sales team to promote *external ideas* to *internal* company *stakeholders*.

This thesis will provide an operational framework for CVC teams to create and implement a process to leverage external innovation through strategic corporate venture capital investment by building a strong CVC team to promote innovation. In short, building from extensive literature that observes the key investment strategy differences between independent venture capital and corporate venture capital and the research that attempts to answer the question of *if a CVC creates value for a company* through performance analysis results, this thesis will attempt to analyze *how* a CVC can leverage external innovation to create strategic value through technology investments.

Chapter 3

3. Use Case Study of Corporate Venture Capital

This thesis use case will examine The Boeing Company (Boeing) and the unique approach their teams are taking to leverage external innovation. This use case will be examined to help develop a best practice and framework in Chapters 4 and 5 respectively, and these insights will be tested by examining three of Boeing's Portfolio Companies in Chapter 6 as Use Cases for CVC.

3.1. Boeing Corporate Venture Capital

3.1.1. Background

Boeing has over a century of experience developing and manufacturing quality aviation and aerospace products. Through refined processes, they build and implement incredible, complex systems globally. The breadth of their portfolio encompasses commercial airplanes, defense systems, and space products for customers around the world. By leveraging a broad network of suppliers and the extensive talents of their employees, Boeing has created novel inventions that have sculpted the world and our ability to travel around it and built defense products to protect it. Employees take pride in Boeing's diverse capabilities and the commitment to innovate for the future while focusing on sustainability, safety, quality, and integrity as the company's core values state (Boeing Annual Report).

Over the past century, there have been many approaches for developing innovation at Boeing ranging from internal R&D to external acquisitions, and a multitude of initiatives in between. Boeing Corporate Ventures have taken several forms over the past 60+ years. Through several iterations, starting as early as the 1960s through today's current structure, Boeing has explored ways to create value for Boeing through external innovation venture deals (CBInsight). Over its

century-long history, Boeing focused on Mergers and Acquisitions (M&A), joint ventures (JV), and other strategic partnerships. Each iteration focused on how the company could develop its capabilities and expand its core business competencies.

This thesis will not examine the decisions made for M&A, nor go into the 1997 McDonnell Douglas Merger. Although this merger still affects the decisions made today, it is not the focus of this paper. Moreover, Joint Ventures are a prominent tool for Boeing to create and capitalize on meaningful partnerships with external companies. Their significance is apparent in the company and the contributions extend from the creation of small components through large Programs. This is a successful tool for leveraging external innovation, but will not be in the scope of this thesis analysis. Instead, this thesis will focus on Venture Capital, the pathway for innovation identified and analyzed in Section 22.2 Pathways to Innovation: The Solution Space in The Governance of Value Creation.

Although Boeing has successfully undergone M&A to enhance innovation and growth, sometimes the acquisition strategy unintentionally stifled the target company's innovation. The erroneous thought was that the target company should quickly integrate its way of work to align with the Boeing process. While the alignment of processes is important and upholding a high standard of quality and compliance is imperative, imposing Boeing's culture on some of the external target companies proved to be detrimental to their creativity and innovation (MediaRoom).

In an effort to rectify this occurrence, better understand the benefits of external innovation, and gain access to disruptive technology and insight into emerging markets, in the early 2000s Boeing began investing in companies and directly speaking with fund managers. This early iteration of venture capital treated the investment as a fund-to-fund and viewed it as a financial vehicle. Years later, this investment strategy developed into Boeing’s preliminary CVC.

3.1.2. The Birth of HorizonX and NeXt

In April 2017 Boeing HorizonX CVC was formed to further capitalize on aerospace technology. As the 2017 Boeing Corporate Annual Report states, there was a trend at Boeing to look for new methods to maintain a competitive advantage:

> *Driven in part by a global business environment that is growing more competitive by the day, we promoted a productive sense of urgency at all levels of the company to accelerate the pace of our innovation. Succeeding in rapidly changing global markets requires that we think and do things differently. It demands change, a willingness to embrace it and agility to both drive and respond to external forces…Over the Past year, we made several strategic investments to better position ourselves for future markets and growth.* (The Boeing Company AR 2017)

In this iteration of corporate venture capital, Boeing established a team to act as a fully functioning, internal Venture Capital group. This team was part of a larger Corporate Development & Strategy group plan to create Innovation Cells formulated under the chief financial officer and executive vice president of Corporate Development & Strategy at Boeing, with alignment to Boeing's chief technology officer and senior vice president of Boeing Engineering, Test & Technology (Bickers). "Our ability to identify, shape and harness game-changing innovations wherever they are developed is key to sustaining and growing our leadership in aerospace," explained Dennis Muilenburg, Boeing chairman, president and CEO at the time (Bickers). Moreover, Boeing was financially stable and in a period of growth. There was money available to invest in financial and strategic opportunities.

Boeing reported that Logan Jones, a former senior Director within the group stated, “HorizonX operated under the guise of creating technological disruption rather than being disrupted by it...People often miss the disruption because they define things in ways that experience has taught them” (Raley). This new approach required innovation to be viewed as a *proactive exploration* as opposed to a *reactive result* of experience. Muilenburg tasked the Boeing

HorizonX team to engage with early-stage companies to monitor “market trends and emerging technologies while also fostering more rapid and effective internal innovation" (Bickers).

Boeing was particularly interested in autonomous vehicles, additive manufacturing, machine learning, and wearable devices according to Steve Nordlund, the former Boeing HorizonX vice president (Raley). To accomplish this, HorizonX had three related missions to examine the aerospace industry and subsequent supporting elements. First, Boeing HorizonX Ventures was tasked with identifying startup opportunities and investing in them. Secondly, New Business Horizons worked with nontraditional partners to build different strategies. Thirdly, a division named Disruptive Horizons looked for alternative ways to approach traditional business. (Raley)

A significant R&D investment was made in 2018 and 2019 for Boeing NeXT product development (The Boeing Company 2019 pg. 22), and in 2018 Boeing NeXt was launched in order to leverage research and development expertise to create future mobility solutions. Building off of the VC investments made through the HorizonX fund, a group of engineers was brought together to create the next generation of future air mobility aircraft. A focus was placed on unmanned electric vertical-takeoff-and-landing cargo air vehicle (CAV) prototypes and the quality and safety of products in special projects.

The unique structure of the Boeing NeXt team allowed engineers to have an uninterrupted three-month design and development working environment. SMEs were brought in from around the company under the auspice of being an Innovation Cell engineering team. There was a sense of hustle and bustle amongst the team as they worked for a common goal. As Emily Schnieders, Boeing NeXt cross-program integrator exclaimed, “We were all there working for the same goal...It was really cool to see the entire team have that sort of motivation and commitment” (Raley). The result was advanced prototypes and designs that were customer ready such as the advanced air mobility CAV shown in Figure 8: Boeing NeXt CAV Prototype.

Figure 8: Boeing NeXt CAV Prototype

Source: Boeing Website, https://www.boeing.com/features/highlights/2020/cargo-air-vehicle

The unique structure of the CVC team Boeing HorizonX coupled with an engineering team to directly implement the technology proved to be an exciting success. In this Use Case, it is clear that establishing a VC team inside of a large company allowed the Boeing team to act efficiently to scout and invest in external innovation. The internal partnership with the Boeing NeXt engineering team allowed the CVC to leverage external innovation immediately into a product. Efficient communication and management buy-in was established through formal budgets and stakeholder buy-in from the top down. The formal structure of the organization chart supported the sharing of information and simplified decision-making shown in Figure 9: Simplified Org Chart of Boeing Business Units and Ventures Team Pre-COVID. Furthermore, the team did not only invest in innovation to support the core business, but now was enabled to explore future technology opportunities. However, because the VC financial investments were directly tied to the internal strategic investment strategy when the economy shifted, the Boeing CVC team was forced to restructure and iterate again. These details will be elaborated on in the next section.

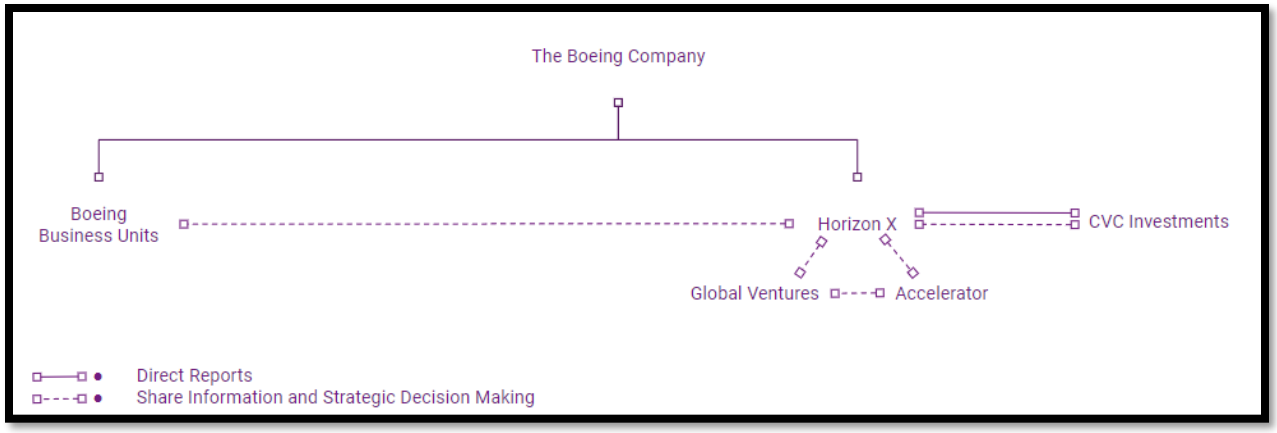

Figure 9: Simplified Org Chart of Boeing Business Units and Ventures Team Pre-COVID

3.1.3. The Impact of External Factors on Internal Governance of a CVC

Success: HorizonX and NeXt generated a lot of incredible momentum. The teams functioned with autonomy like a startup and had the ability to iterate quickly. Team members were able to ideate and follow a single goal to see a product through to prototyping and work toward certification. Partners in portfolio companies, inside Boeing, and from external companies were eager to find actual applications for the innovation both internally and externally. External innovation was harnessed by internal Boeing employees and leveraged to create internal and external technology. Customers both internally and externally were excited by the possibilities and innovative ecosystem that was being built.

Shifting Priorities: Unfortunately, the successful momentum of Boeing HorizonX and this iteration of Corporate Venture Capital at Boeing was short-lived. Despite the positive start, following a series of unprecedented company and global events, Boeing HorizonX was put on pause.

Despite the robust portfolio and capabilities of a CVC, progress was slowed and then paused due to the following factors: the 737 Max incidents, the Coronavirus (COVID-19) Global Pandemic, and the supply chain challenges that ensued.

737 Max Investigation

On October 29, 2018, Lion Air Flight 610 and again on March 10, 2019, Ethiopian Airlines Flight 302, two Boeing 737 MAX aircraft tragically crashed ultimately leading the Federal Aviation Administration (FAA) and non-U.S. civil aviation authorities to suspend commercial operations of 737 MAX aircraft. As a result of the international grounding, Boeing had reduced revenues, operating margins, and cash flows. They were aware that additional factors would impact their production plans, labor needs, and demand an "expenditure of significant resources to support our supply chain and/ or customers" (The Boeing Company 2020, pg. 30). As a result, there was a production and investment slowdown. (Department of Justice Office of Public Affairs) (Majority Staff of The Committee on Transportation and Infrastructure).

COVID-19 and the Suspension of Air Travel

The impact of the shifting production and investment constraints was further exacerbated by the global pandemic caused by Coronavirus (Covid-19). According to the 2020 Boeing Annual report (The Boeing Company pg. 24):

> *The COVID-19 pandemic has caused an unprecedented shock to demand for air travel, creating a tremendous challenge for our customers, our business and the entire commercial aerospace manufacturing and services sector. Global economic growth, a primary driver for air travel, is expected to have declined to between -4% and -5% in 2020. The latest International Air Transport Association (IATA) forecast projected full-year 2020 passenger traffic to be down more than 60% compared to 2019 as global economic activity slows due to COVID-19, and governments severely restricted travel to contain the spread of the virus.*

People around the world were asked to reduce in-person gatherings and even participate in community lockdowns in order to prevent the spread of the Coronavirus. As a result, in-person activity was restricted, and travel was limited leading to the suspension of nearly all air travel. A global phenomenon of remote, virtual work became the norm at Boeing and across nearly every industry and academic institute. As a result, many of Boeing's airline customers were forced to cancel flights and paused their purchase of new aircraft. Airline financial performance contributes significantly to the demand for new aircraft manufacturing capacity. Reduced airline spending, deferrals of advances or payments to suppliers, deferrals of deliveries or a pause in services, or in some instances, cancellation of orders, impacted Boeing as commercial travel halted.

Even as the world slowly emerged from lockdowns following the rollout of the vaccine and fluctuating infection rates, the return to air travel has been gradual. The commercial aircraft market recovery has proven to be slow, and even as this thesis is being written in 2023, the market has not fully recovered. According to IATA, "net losses in 2020 for the airline industry are expected to be approximately $118 billion, compared to net profits of $26 billion in 2019" (The Boeing Company 2020, pg. 25).

Supply Chain Challenges

Another ramification of the suspension of passenger airplane travel was the effect on the global cargo shipping industry. Cargo is often shipped in the belly of passenger airplanes, and since there were minimal flights during the first months of the COVID-19 pandemic, the supply capacity for shipping cargo was low. To further exacerbate the situation, there was an increase in personal and commercial online shopping. Increased orders created a heightened demand for cargo shipping with little supply capability. In addition, there were delays and closures in many of the world's ports due to COVID-19, labor strikes, as well as the obstruction of the Suez Canal in 2021. These events have had a significant effect on the world's supply chain. To this day, unusually long lead times are impacting production, and supply chain recovery is slow.

3.1.4. Operational Resilience: Refocused Priorities

As a result of the residual effects of the 737 MAX tragedy, the widespread, unprecedented global reality distorted by COVID-19, and the ripple effects of shaky supply chains, Boeing refocused their priorities and financial spending. In an effort to utilize a lower production rate environment, in July 2020 Boeing announced a business transformation effort to assess and strengthen their business across five key pillars - infrastructure, overhead and organization, portfolio and investments, supply chain health, and operational excellence. Specifically, on point for this Boeing Use Case is the pillar focused on portfolio development and investments. To better align Boeing's portfolio and investments to reflect a heightened focus on core business products and to reflect the evolving market conditions, the research, development, and capital expenditures were reduced by $1.3 billion in 2020 from the prior year (The Boeing Company 2020 pg. 26). As a result, the Boeing HorizonX and NeXt teams were put on hold.

Despite the initial push for exploring external innovation to keep abreast of the market and be prepared to strengthen the future of core Boeing businesses, the excitement and the momentum of the CVC Innovation Cell was paused so that finances could be reallocated to support immediate core business growth.

3.1.4.1. The Pause of 2020 and Restructured Investment Strategy in 2021

In the wake of the turbulence of 2020, HorizonX and NeXt were put on pause as Boeing reorganized to rebuild for operational resilience. However, the HorizonX investment fund simply could not be put on hold. Investments are not a stove to turn on and off, you should leave it on, even if it is on the back burner to simmer. Furthermore, it is ironic because the division was founded to strengthen core growth. Thus, the team restructured and retained minimal personnel in order to monitor the VC investments and maintain existing relationships. The creative spirit of innovation transformed as the team explored new opportunities.

As the world emerged from the worst of COVID-19, Boeing realized they pivoted too far and too fast away from their preliminary innovation goals. The forward-thinking investment momentum gained through HorizonX and NeXt to build future air mobility abruptly slowed, and the team understood the imminent need to restructure and iterate their CVC strategy again to continue.

3.1.5. The Creation of Applied Innovation

In the third quarter of 2021, Boeing announced a strategic partnership with AE Industrial Partners (AEI) to establish a dedicated aerospace venture fund as part of AEI's new VC fund ("Our Company - 2021 Annual Report"). In this partnership, the financial investment was spun off to the private equity firm AE Industrial Partners and secured through their HorizonX (HX) Venture Capital fund. Internally at Boeing, a newly developed, internal Boeing team named Applied Innovation (AI) team was created to help curate the investments and facilitate internal, strategic opportunities. In this new structure, following the investment, the new Portfolio Company (PortCo) is further introduced to internal Boeing stakeholders by the AI Portfolio Development team. This team seeks to develop the Portfolio Company's relationship through engagement with internal Boeing stakeholders. Once the idea has internal traction and success, or if an external opportunity is identified, the next part of the team explores opportunities for commercial development.

The current iteration of The Boeing Company's Corporate Venture Capital team is designed to explore emerging technologies in startups and assess the initial relevancy for Boeing to see if the company could be a strategic investment and is shown in Figure 10. Moreover, in this iteration, the VC financial investment is separate from the strategic decision-making arm of the team. This allows Boeing to invest as an LP into a VC fund with other investors and is further protected from company financial fluctuations and an opportunity for dollar multiples while also exploring pure technology.

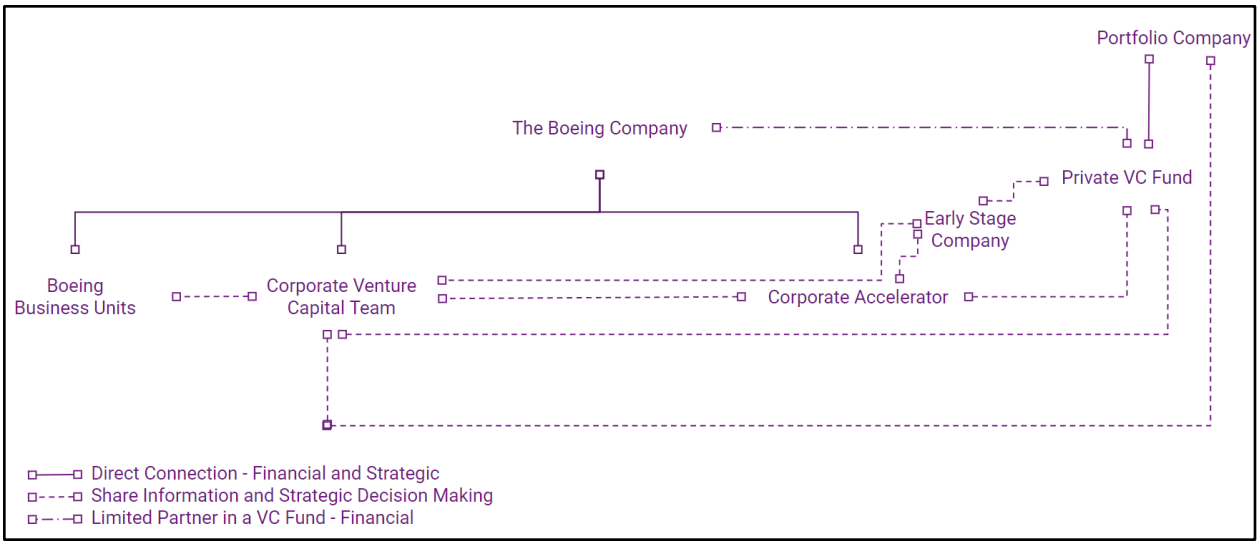

Figure 10: Simplified Org Chart of Boeing Business Units and Ventures Team Adding in the Accelerator and Portfolio Companies

The strategic objective of the Applied Innovation team is to create value for Boeing by bringing this outside innovation into the company by engaging internal stakeholders and looking for growth opportunities while simultaneously stimulating financial success for the startup.

By exploring the confluence of Boeing technology gaps, opportunities to augment existing Boeing Core Businesses, and the utilization of Portfolio Company products, services, and technologies to support their development and stimulate investment returns, Applied Innovation creates strategic value for Boeing by leveraging innovative, external technology.

Startups are young and agile with a creative nature that allows them to move faster with less overhead. A young company is forced to keep a pulse on the market in an intimate way in order to develop its technology. As a result, they naturally have a forward, future positioning awareness that a larger company may not have. However, a startup would not have the depth or breadth of experience a larger company like Boeing has. Often a young startup may have a product but lacks both the knowledge and the ability to certify it. Since certification is essential for a product to be implemented lack of knowledge and ability to certify act as a barrier to entry and implementation. By creating the strategic investment, Boeing can support the

portfolio company to certify its technology while advocating for specific features to be incorporated that will help support its internal business needs.

The current iteration of Boeing's corporate venture Capital division serves a distinct function in the strategic landscape by incorporating external technology to fill technology gaps. Furthermore, Boeing can offer its PortCos support and expertise, and help them navigate development and certification. As imaginable, merging the strength of a large cooperation and the nimbleness of a startup could revolutionize product development (Boeing).

This Use Case shows that decoupling the financial and strategic investments could create stability for a CVC. Moreover, the team is incentivized to find actual applications for the technology and transition it inside. However, the current iteration of the CVC increases the number of decision-makers involved since each investment should serve an internal technology need. Furthermore, there is no longer an engineering team partnered with the CVC that can run with the technology to quickly iterate a prototype and scale it through production. Instead, the CVC team is positioned as a go-between helping to market the portfolio company technology to additional internal Boeing stakeholders. Finally, the priority of the CVC in this iteration is to focus on current, core-business needs. Acting only through this approach does not allow the CVC to fully capitalize on the strengths of VC investment because it is difficult to explore disruptive markets and strategically prepare for novel innovation. Although a company at large may focus on current core business needs, it is helpful for a VC to explore additional types of external innovation opportunities.

3.1.6. The Impact of the Applied Innovation CVC Team

For the CVC team to succeed, it needs to identify Boeing aspirations and technology gaps across the company and facilitate the integration of Portfolio Company products, services, or technology to fill them. Until recently, the CVC team, formerly Horizon X, was structured as a traditional corporate venture fund with direct investments into PortCo venture capital funds. However, as discussed, for a myriad of reasons Boeing restructured the team and spun-off the

fiscal investment division to a Private Equity firm AE Industrial Partners, along with some of the Horizon X team and the brand name. Following the spinoff, without the dual obligation to write the check to the PortCo and please the internal Boeing Stakeholders, investments occur much faster and have a dedicated fund.

In the current iteration of the Boeing CVC, the CVC is positioned to identify where there is potential to amplify existing Boeing Core Business and has the opportunity to cultivate the necessary internal relationships needed to implement it. Despite internal stakeholder engagement, there is deep cultural trepidation at Boeing to trust and adopt external technology. Although Boeing traditionally works with well-defined processes, the CVC team is comfortable working with ambiguity, often in unprecedented situations.

Although a team may misperceive their ability to work without a process as allowing While this does allow flexibility or agility, a lack of process it may be make it difficult to determine next steps and how to best completion of tasks and projects. A repeatable, best practice could expedite the development of Boeing/Portfolio Company relationships by so that the team can develop a to minimize minimizing uncertainty, and in the steps needed to create value from ambiguity.

Chapter 4

4. Establishing a Best Practice

It has been demonstrated through interviews and the literature review conducted in Chapter 2 that a large company must operate to augment core business and create industry innovation to succeed. However, large companies often struggle to develop innovative products or foresee disruptive technology and capture the market quickly and nimbly. Furthermore, even when companies develop or obtain innovative technology, they struggle to transition new technology into their company.

This section will draw upon the literature review in Chapter 2, interviews with team members at Boeing, and discussions with Boeing Portfolio Companies to synthesize data to outline a proposed operational strategy for *how* a large company can best implement a Corporate Venture Capital team to capitalize on external innovation for core business growth industry innovation.

4.1. Define CVC Requirements and Objectives

"The critical task for management is to create an organization capable of infusing products with irresistible functionality or, better yet, creating products that customers need but have not yet even imagined." - Prahalad and Hamel

In an effort to stimulate continuous improvement and growth, a company can implement a Corporate Venture Capital Team to evaluate, transition, and develop external innovation for internal company growth. A successful CVC understands the needs of the parent company, captures external VC opportunities, and facilitates the transition of new technology by creating mutual growth opportunities internally and with a startup.

It is important to clearly define a CVCs objective and equip the team with the tools necessary to win venture capital deals and nurture VC relationships. The establishment of a best practice to promote operational success should answer the following question: *How can a large company effectively evaluate, transition, and develop external innovation in their company?*

4.2. Recognize CVC Success Even When Startups Fail

For as long as CVC has existed, there has been skepticism about its worth. Despite how successful a CVC may appear at a given moment, there is not necessarily a way to outperform the market. In fact, statistically, most startups will fail, and many CVCs have had difficulties (CBInsight). While independent VCs who invest for financial multipliers can shield themselves from the failures of startups by investing in diverse portfolios and hope that one or two portfolio companies will make a successful exit to make up for the weight of the failures, a CVC has limited scope for investments. However, a CVC believes a successful 'exit' occurs when external innovation has strategic success for the mother company. Therefore, success and failure for a CVC should be evaluated independently of a traditional VC performance.

4.2.1. Failure is an Option

Success and failure for a CVC look slightly different than the purely financial outcomes of an independent VC. Failure modes of a CVC may include a failure to gain internal support for the portfolio company's innovation or there could be a successful transition of technology, but the portfolio company fails because it cannot scale. In these situations, failure is an option, but as Albert Einstein stated, "Failure is success in progress". It is important to understand what failure modes can occur and prepare for them. This thesis will propose four categories for CVC failure modes and possible remedies or structured frameworks to evaluate them. The failure modes and their proposed evaluations discussed below are derived from the literature review analysis discussed in Chapter 2 and amplified through data collected in interviews, conversations, and observations with the Boeing CVC and other teams. The failure modes can be summarized in the following Figure 11: Failure is an Option:

1. The startup failed because the startup did not succeed independently of the CVC.
    a. A large percentage of startups do not succeed. Risk mitigation through a diversified portfolio can help shield the impact.
2. The startup's technology failed to gain traction within the large company.
    a. Even if the technology leads to financial success for the portfolio company, failure to transition the technology into the CVC mother company is considered to be a "failure". By decoupling the financial investment from the strategic worth, at least this failure mode still leads to a successful financial outcome.
3. The startup succeeded in a partnership with the CVC for strategic goals, but failed financially.
    a. Some technology can make a bold impact on innovation, yet it does not lead to financial success. It is important to implement technology to create products with a scalable application and verify the financial cost of development is not so exorbitant that it would create innovation that is so expensive it cannot be produced.
4. The startup succeeded in a Corporate Accelerator, but failed to gain traction with a CVC.
    a. Startups can succeed with innovative technology and a promising team and be a good financial investment for a traditional VC, however, they may not meet the needs of a strategic investment for a CVC.

Figure 11: Failure is an Option

4.3. Document Your Way of Work and Create a Process for Repeatability and Scalability

In an effort to embrace the agile nimbleness of a startup, a CVC may assume that creating internal processes will hinder their ability to act alongside a portfolio company. Naturally, to act more similarly to an independent VC, a CVC may want to shy away from large, corporate processes. However, it is important to create a common foundation for the CVC where everyone knows what is expected and how best to accomplish these objectives. Thus, a process, or a simple document collecting best practices and a common way of work would be helpful. Furthermore, a tool like this would help new employees or cross-functional teammates to quickly understand how to operate. As John Carroll's "Three Lenses" state:

> *In organizations that strive for innovation, the underlying principle is 'find a rule and break it.' But if we throw out all the rules, how can we work together at all? There must be processes and practices to help everyone sort out which rules can be broken, when, and by whom.*

Business is not conducted in a vacuum and thus, even if you believe you have the right ideas in place, it will only work if everyone is aware of the guiding principles. As Game Theory suggests, the game will only work if you assume every 'player' knows how to play it. There needs to be an established common language and shared culture to best understand the objective of the team. When the framework is carefully constructed, it could help others entering the game better understand the vision of the team and help everyone navigate through ambiguity.

Unlike an ideal Game Theory framework, there is no way to establish rules for every scenario. Furthermore, this notion helps explain why managerial practices are so hard to implement, even if they provide a competitive advantage, and thus why there needs to be clear communication and awareness between a CVC and other internal stakeholders. Therefore, documenting a best practice and operation procedure will help a team operate effectively as they grow and leverage external innovation.

4.4. Evaluate

"It's easy to come up with new ideas; the hard part is letting go of what worked for you two years ago but will soon be out of date." —Roger von Oech

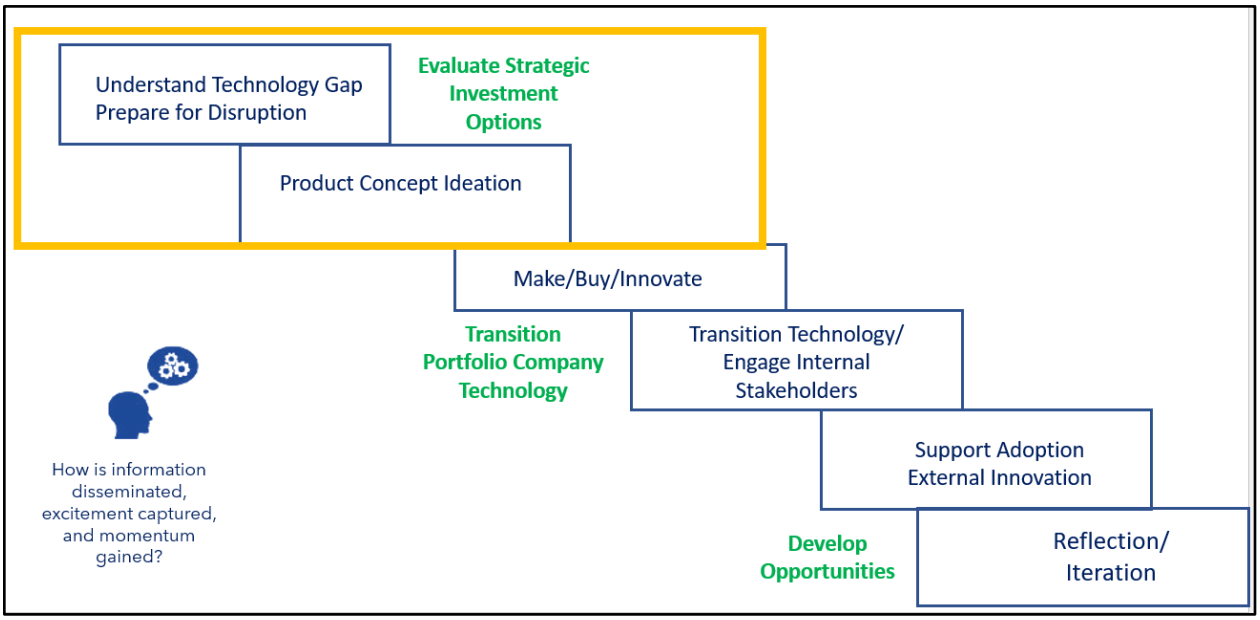

Figure 12: Event Chain and Stakeholder Engagement: Evaluate Innovation

4.4.1. Understand the Internal Problem Statement to Find a Viable Solution Externally

As a company begins to explore their opportunities, it is good to know what stage of development they are in, as is mapped in Figure 12: Event Chain and Stakeholder Engagement: Evaluate Innovation. To best understand existing technology gaps in a large company a CVC should interview company stakeholders at every level to evaluate their functional requirements. To effectively understand internal stakeholder technology needs, the CVC should utilize a rigorous rubric to objectively evaluate and record discrepancies. By asking thoughtful questions through formal interviews and casual conversations and listening carefully to the answers, the CVC team can identify the necessary capabilities required to prototype or scale a product and find a viable solution externally.

The greatest insight into technology gaps and requirements could come from the manufacturing floor, a strategic Roadmap, or an unsuspected source. Thus, every voice from the ground up should be heard. Listening to stakeholders' needs and gaining their support early on in a project is essential, especially when they may be the first to implement the new tools and technology. Afterwards, a Systems Analysis method can help examine the large and complex challenges.

Questions a CVC could ask include:

- What do you want to do/ Where are you stuck?
- What components or capabilities are missing to scale?
- Can you achieve the new tech alone? With support?
- Do you have the time/budget/scope to develop the missing technology?
- Do you know how to make the jump to this new technology level?

4.4.2. Decouple the Financial and Strategic Investment Requirements

In traditional VCs the financial returns are paramount. CVCs are structured such that the financial arm of the division could be the primary goal independent of strategic value, or it could be directly intertwined with the strategic decisions.

A different approach is to decouple the financial investment from the strategic evaluation. Examining strategic technology capabilities without the fluctuations of the economic market allows for a deeper immersion into the technology of the startup world. This allows the CVC to better evaluate the technology as pure technology first and then expand the evaluation to understand how it can fit into the current innovation market and what the potential for economic growth is. Decoupling financial and strategic investments could also help a CVC win investment opportunities in today's competitive startup market, especially for riskier, deep-tech startups. Because the VC landscape currently favors startups with the opportunity to decide who may invest in their company and in what capacity, setting a CVC up to have strategic incentives separated from a stable financial investment arm could help the CVC fund have access to better deal flow and win deals.

The CVC team should be free to systematically evaluate the creativity and feasibility of external solutions to strengthen internal project development and also dream about future endeavors. They could evaluate startup technology to meet the parent company's requirements and explore future possibilities. It is imperative for a large company not to focus only on core business products, but also explore adjacent markets and parallel innovation in order to position themselves for future growth.

4.4.3. Ensure Market Awareness for Innovative Products and Disruptive Tech

It is important to note that when a company carefully studies *current* market trends and develops iterations to augment *current core* products, it may fail to maintain a position of leadership in the market through new products. Startups, on the other hand, will only develop if they embrace change and have the flexibility to see beyond the status quo. This complementary perspective, if appreciated, can provide a large company with important insight into disruptive inventions.

Therefore, a CVC should not focus solely on current core business opportunities. A large company is prone to work within its comfort zone and maintain budgets and employee incentives to augment core business growth. However, it is imperative for a large company not only to focus on core business products, but also explore adjacent markets and parallel innovation in order to position themselves for future growth. When operated effectively, a CVC should scan the startup market not only for products to solve their stakeholder's current challenges, but also for methods to serve their future and 'future future' technology needs. The innovation being explored may be in a near adjacent market or be something as novel as a disruptor.

Large companies are often incentivized to make incremental step changes to expand current market offerings as opposed to creating new markets. Thus, the company may be unaware of novel product innovations that could fundamentally change the market landscape as discussed in section 1. Even well-managed, successful companies sometimes fail to see new industry trends. As explained in the *Innovator's Dilemma*, a company can trip over its own feet precisely for following the 'good' and established management practices that originally led to the company's success (Christensen).

By focusing too narrowly on current technology gaps as outlined in the previous section, a CVC cannot leverage external insight of disruptive technology. Thus, a company must position itself to explore non-core product markets and technology that may not augment an existing line, but rather position themselves for future growth opportunities. Appropriate incentives and management alignment must promote this way of thinking, otherwise employees may view this as an unwanted/unnecessary risk as opposed to an investment opportunity.

Table 2: Evaluate: Understand Technology Gaps and Possibilities outlines important questions to ask:

Table 2: Evaluate: Understand Technology Gaps and Possibilities

What is the Strategy to Evaluate?	How to Accomplish?	What Questions Should a CVC Ask?
Identify current internal technology gaps	• Examine necessary capabilities required to prototype and scale • Interview stakeholders to develop and evaluate requirements through thoughtful questions • Perform systems analysis to simplify large and complex problems • Establish a Roadmap with an objective and note what components are missing to accomplish this goal • Create division liaison roles to VC to enhance multifaceted communication	• What do you want to do? • What are you stuck on? • What attributes are missing to scale? • Do you have the time/personnel/budget to develop? • Do you know how to jump to this new tech level? • If you know how to develop this technology, do you have the necessary tools?
Prepare for non-core business needs	Establish a Roadmap with an objective and note what external forces may shift this trajectory.	• What are we not prepared for? • What is the craziest thing that may offset our plan? • What could happen if we lived in a science fiction book? • What are competitors doing? • Where are parallel industries heading and could that happen to us?
Evaluate external startups	• Utilize a rigorous rubric to matches or opportunities to develop markets • Examine and Partner with emerging companies for strategic investment • Explore future paths to breakthroughs by performing a systems analysis	• How strong is the founding team? • Will they achieve their tech alone? With support? • Can they scale new tech? • Do they have something to help us scale beyond our competitors?
Risk identification and mitigation	• Decouple financial investments from strategic evaluation • Engage stakeholders early to develop ownership and adoption • Recognize the value of another perspective and skill set strength	• Why are you resisting someone else's technology? • Are there partnership opportunities? • Is there a willingness to learn?

4.5. Transition

"Innovation—any new idea—by definition will not be accepted at first. It takes repeated attempts, endless demonstrations, monotonous rehearsals before innovation can be accepted and internalized by an organization. This requires courageous patience." — Warren Bennis

4.5.1. Bridge External Innovation with Internal Stakeholders

A large company moving slowly and cautiously in their comfort zone and core product market is a stark juxtaposition to a young startup developing breakthrough technology and innovation. To successfully transition innovation inside a company, it is important for high-level executives to promote an entrepreneurial spirit and encourage new thought and experimentation. Furthermore, there must be a companywide push for external innovation and a promotion of acceptance for it throughout all the organization levels. If there is ambivalence, a lack of support, or even worse - the acceptance of the notion that a product "not invented here" is seen as bad- the CVC will not be able to transition technology into the mother company, nor capitalize on the strengths VC has to offer.

One of the most difficult parts of CVC is actually transitioning the new technology into the company. People are inherently skeptical and hesitant to adopt external innovation because they are being asked to utilize someone else's design, service, or thought process. Naturally, there may be internal stakeholder resistance. Furthermore, even when people are excited by external innovation and ideas, they still may not utilize the technology for anything. In the same way that R&D technology runs the risk of remaining pure research, insightful external innovation could remain a pure investment if not leveraged for strategic internal use. Thus, a CVC team must help facilitate the smooth transition of external startup innovation into the mother company in order to glean the full benefit of the investment.

If possible, an engineering team should be developed to work in parallel with the CVC team to quickly explore and develop the external technology. Establishing a team that works exclusively to transition and implement external innovation from portfolio companies into the mother company would help the CVC demonstrate its strategic value. Furthermore, after the technology is implemented once, it is usually simpler for other teams to use it. This helps develop a network effect to leverage external innovation.

Adoption of external innovation needs to happen both from the ground up and also from the top down. However, in order to create true excitement about something, there also needs to be ownership from the middle. Whereas stakeholder engagement at every level is critical for implementing successful change, there are additional cultural and political uncertainties around innovation that was not developed in-house. Therefore, large companies need to have momentum at every level to overcome cultural trepidation and internal politics to develop a company-wide appreciation for external innovation.

A complete organizational analysis based on John S. Carroll's "Three Lenses" distills the complex reasons and motives dictated by human nature into three categories, "The Structural Design Lens, The Political Lens, and The Cultural Lens" (Carroll). For example, culturally and politically people may be nervous to stand behind someone else's ideas because they are being asked to support something they might not fully understand, or they are worried that people will question why they did not develop this idea internally. Furthermore, when a company is *structured* for employees to filter things from managers above them, far too often people decide to say "no" before they even have heard what the opportunity is. However, this erroneous thought process hinders the expansion of innovation. People need to be empowered at every level to make the decision to adopt, incorporate, and implement external innovation.

Especially where there is red tape, bureaucracy, and a large hierarchy, decision making can be pushed along to someone else because there is a minimal sense of ownership. For a CVC to transition technology into a company they should not need to build a coalition or committee to enact change such as other organizational processes require. Instead, new technology should be

able to speak for itself. Once it is examined and approved by the appropriate subject matter expert (SME) and relevant team, employees should have the autonomy to develop long term solutions with a startup and implement the external tech. Hopefully, this understanding will make the process more efficient.

Internal company bureaucracy can cause the due diligence and investment approval processes to be slower at a CVC than at an independent VC firm. However, it is important to remember that even though the process may be longer at a CVC, by leveraging external innovation a large company can expedite an even slower process than if they were instead developing an internal initiative from scratch. Although internal verification and approvals are relatively slow, the thoroughness of internal operating procedures will allow for rapid scaling after. Furthermore, when finally internalized, the external startup technology will be backed by a large company's manufacturing ecosystem and regulatory process that will hopefully expedite certification for production at scale.

Finally, it is imperative for the CVC team to promote their innovation initiatives and network similarly to an independent VC. The more you can get people excited about external technology and its potential, the more likely internal stakeholders will be to *transition* it into product design and manufacturing. Thus, employees in the mother company and in the greater public must know the CVC exists in order for them to better position themselves for promising deal flow and strategic invitations to prominent cap tables. Even when the parent company may not seek press releases, a CVC should promote its initiatives and deals through public channels the way independent VCs do. Raising awareness of the CVC internally and externally through marketing and communications is important for the health of the opportunities and successful transition and implementation of the technology or product along the way.

4.5.2. Revamp the Make/Buy Process: "Make/Buy/*Innovate*"

In the wake of increased supply chain challenges and global uncertainty, the past few years have demonstrated an increased need for supply chain resilience in such as explained in section 3.1.4 Operational Resilience: Refocused Priorities. One method for building operational resilience is to work with a CVC portfolio company to develop technology, a service, or a business model to create a robust product offering.

Currently, supply chain strategy centers around developing a network of resources, personnel, and technology to create a product from raw materials through manufacturing and delivery to the end user. Supply chain management must ask the fundamental question of whether to "make or buy" a product. The decision to *make* something internally implies they will develop the capabilities in-house through existing products and manufacturing capabilities, or look to horizontal or vertical integration. Otherwise, the supply chain teams look externally to "buy" and purchase a product that best fits the needs of the requirements, or outsource the production. Companies can outsource globally or attempt to re-shore technology and manufacturing (Reinsch et al.). Considerations ranging from expertise, inventory management, and complex supplier contracts all contribute to the decision-making process.

In an effort to transition external innovation into a company, adding "innovation" to the traditional "make/buy" options allows a CVC portfolio company to become a viable supply chain source. This step is shown in Figure 13 below. Implementing innovation as a procurement strategy tool can help normalize strategic investments and promote the notion that teaming up with a startup is an accepted pathway to develop future innovation. Furthermore, it will allow stakeholder teams from the mother company to advocate for exactly the features and capabilities they want while the external innovation is being developed. For example, a software startup portfolio company could include interfaces for the mother company's current platforms as part of their early-stage tech development. Or, a raw materials portfolio company factory could certify their processes to the appropriate standards required by the mother company so that the mother company can easily use their raw goods for production. As supply chain

sourcing becomes increasingly complex, the debate to re-shore manufacturing processes continues (Reinsch), and as other global pressures impact companies, it is imperative to develop robust strategies for operational resilience. Leveraging external innovation from a portfolio company is a useful tool.

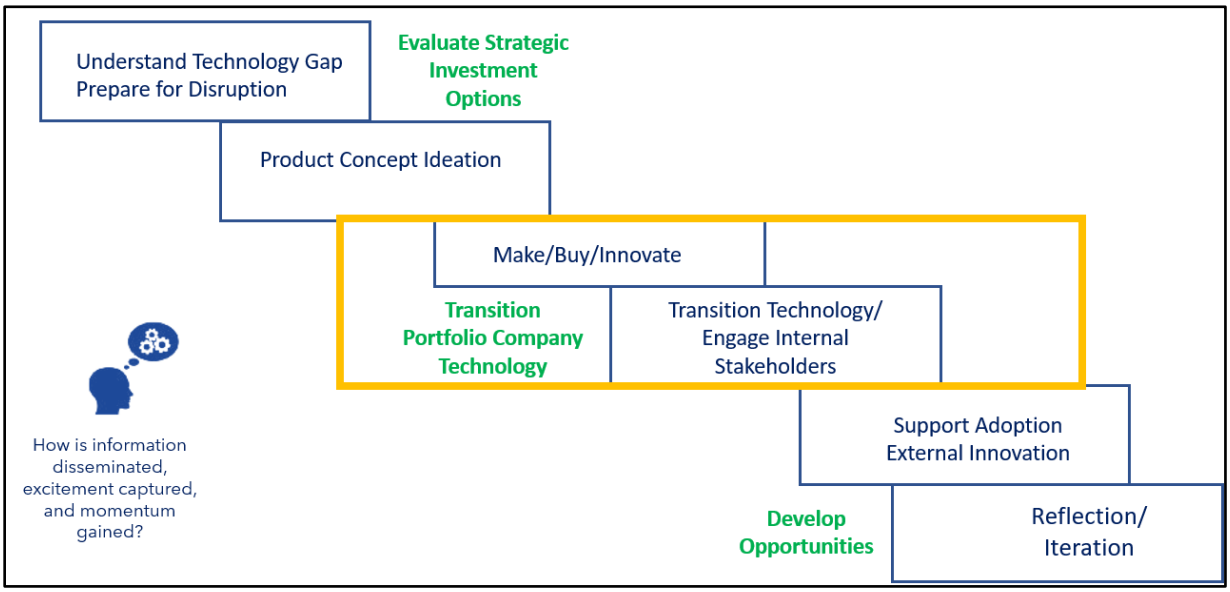

Figure 13: Event Chain and Stakeholder Engagement: Transition Technology

4.5.3. Promote Early Adoption

To successfully bridge external innovation with internal stakeholders and efficiently implement innovation as a supply chain tool, it is important to facilitate positive adoption to assuage potential challenges. Risk mitigation to promote early engagement is critical to stimulate cross-functional buy in, develop ownership, and promote adoption. It is imperative to promote early adoption of external innovation by making employees feel their input is heard throughout the process. When people are encouraged to be active participants throughout the innovation journey, cultural trepidation will subside, and they are more likely to transition it into actual use.

Early cultural support that recognizes the value of another person's perspective and skill set strength is key to generating confidence in external innovation. Programs such as mentorships

with accelerators, on-boarding workshops with portfolio companies, presentations by companies in a "Startup Week", or pitch competitions are all tools to generate excitement and awareness. Collaboration to explore adjacent or new markets should be encouraged because the more opportunities for employees to be a part of the ideation process, the better.

Finally, assurance that any external innovation or process improvement will not adversely affect the employees is vital. It is crucial to avoid the Ratchet Effect, a process improvement or an economic process that is difficult to reverse when put in place, but that has little adoption. There may be amazing innovation available, but employees may restrict their output or enthusiasm for it because they may not want management to notice they lacked this technology before. Furthermore, if there is increased output as a result, employees may fear that output requirements will be raised without further compensation. Therefore, management at all levels must promote innovation and collaboration to reinforce the strength of leveraging external innovation.

In short, technology should be transitioned by facilitating new ideas and products into a company through mutual growth opportunities internally and with a startup. Successful technology transitions are facilitated by supporting internal programs, products, and businesses. Additional questions are outlined below in Table 3.

Table 3: Transition: Facilitate successful technology transitions by supporting internal programs, products, and businesses.

What is the Process for Transitioning Technology into the company?	How to Accomplish?	What Questions Should a CVC Ask?
Invest time and mentorship beyond the LP Fund dollars	• Invest in people, time, and resources • Support new technologies	• What partnership opportunities? • Willingness to learn? • What tools do you need to understand this technology? • How can we best address cultural and political pushback?
Promote Innovation on all levels through high level champions	• Strategically approach stakeholder engagement and address the culture of inventing in house • Promote and network similar to an independent VC to access promising deal flow • Raise awareness of the CVC internally and externally through marketing and communications	• How can we help set you up to have the time/personnel/budget to develop? • How can we help you jump to this new tech level? • What tools do you need to develop the new technology? • Why are you resisting someone else's technology? • Are there partnership opportunities? • Willingness to learn?
Make/Buy/Innovate	Make innovation a procurement option along with "make" and "buy"	• Is a startup working on a similar technology or service that could be made or bought? • Is there a way to develop the technology needed with a startup to source raw material/software/components if there is a collaboration?
Run Early Adoption Programs	• Accelerator graduate successful early-stage startup • Startup onboarding joint workshop brainstorming • Explore a near adjacent market • Create a "Startup Week" to cultivate relationships between founders and internal stakeholders	• What are the best ways to promote internal marketing? • Who should be invited first to the "Startup Week" to begin cultivating relationships between founders and internal stakeholders? • What tools can we provide to promote cultural acceptance of external innovation?

4.6. Develop

"What is now proved was once only imagined." — William Blake

4.6.1. Overcome Contradictory Desires: High-Level TRL vs Early-Stage Investments

Due to the conflicting functional requirements of early-stage VC startup technology and typical large company procurement strategy, a strategic CVC investment into a portfolio company could generate confusion about the products being presented. As discussed, large companies generally operate by developing technology internally and iterating upon it until the technology reaches a high TRL (Section 2.2). If they are not developing something internally, they purchase things off-the-shelf through the appropriate procurement channels. Thus, purchased technology inherently has a high TRL in order to meet the necessary compliance and certification requirements.

However, when investing strategically into a startup the technology is inherently low since it is at a preliminary stage of development. In order to capitalize on a VC investment most effectively from a financial standpoint, it is best to invest during an early round of funding from Seed through early Series rounds. Thus, by the nature of the startup's stage, it usually implies the technology is still young. Therefore, because employees at a large company are not used to working with a low TRL, nor are they incentivized to develop a plan to mature a different company's technology, it may be difficult for employees at a large company to see the merit of working with a young startup.

In addition, a CVC investment may mistakenly be seen by management as a financial loss as opposed to a necessary cost of development. While the nature of a VC is to invest in a startup that will develop the technology over the course of many years, the structure of a large company relies on cashflow from an annual budget. This makes it difficult to justify a partnership that

will take 5 -10 years to mature. Furthermore, employees at a large company are not entrepreneurs who are directly affected by the risks they take, for better or worse. Even if a team is willing to take the risk and work with a portfolio company, the management at the mother company could change and reprioritize a budget leaving the team to fend for itself. The next section will further elaborate on the importance of management alignment to ensure the financial and strategic objectives of innovation are clear after it is brought in, developed, and then pushed externally again.

4.6.2. Create Mutually Beneficial Commercial Growth Applications

A large company should look to develop long-term partnerships to augment existing core business needs and utilize a startup's agility, products, services, and technology for future commercial growth opportunities. If there is an opportunity to expand the technology beyond their own company, a CVC can create spinoffs or external partnerships. However, a company must be careful to do this formally and in alignment with the employees developing the innovation. As demonstrated in the HBS Xerox case (Lerner) and the establishment of Xerox Technology Ventures, management had promised that internal innovation could be promoted by the employees all the way to the external market. However, management reneged on this promise when they decided to keep a certain technology internally. This broken promise caused damage not only to the one specific product, but also to the entire corporate venture division that developed it because the team lost trust in their management (Lerner). Company ownership of a ventures team confers control. If management decides to keep innovation internally and doesn't let the CVC team bring it to market as promised, this could erode the entrepreneurial spirit and trust of the division. (Angelucci).

Additional forms of development are as follows and are in the support stage as mapped in Figure 14:

- Develop mutually beneficial projects for a large company and portfolio companies from idea to execution, and through a successful closeout to create enduring businesses and strategic value.
    - Create enduring businesses and partnerships to strategically benefit the parent and portfolio company
- Develop a value chain or process for a portfolio company from investment to development and the incorporation of technology into the company, and through commercial partnerships.
    - Focus on startup investment activity to inform future investments and shape innovation ecosystems

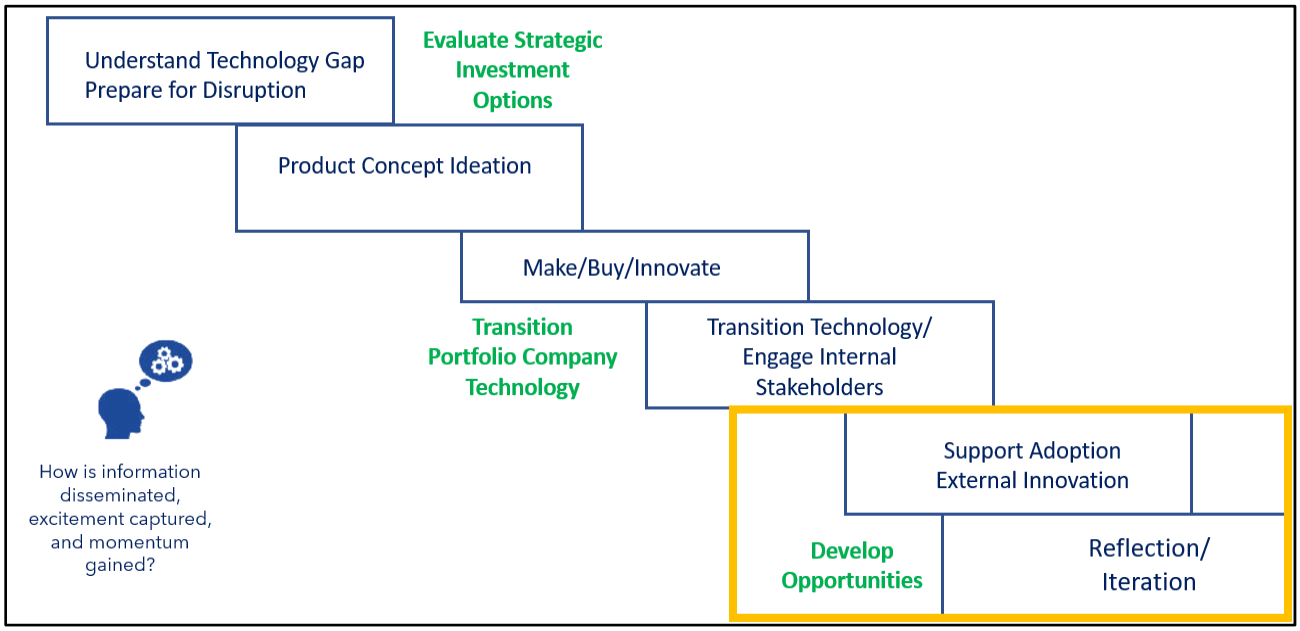

Figure 14: Event Chain and Stakeholder Engagement: Develop Opportunities

Chapter 5

5. Modeling a New Framework for Internal Stakeholder Engagement

5.1. Corporate Venture Capital = Internal Sales and Marketing

The research conducted and stakeholder engagement analysis for this thesis develops a novel approach for viewing CVC capabilities and an engagement plan. One framework that could help guide a CVC is to compare themselves to a sales team. While this at first may appear counterintuitive since a CVC is selecting external startups on the basis of *their portfolio company sales pitch*, once a CVC invests in a company, they are now tasked with 'selling' the startups' ideas internally. Therefore, the CVC team is very similar to a traditional, externally facing sales team. In this case, the CVC is *marketing and selling* internally to fellow employees at the mother company. The product the potential internal stakeholder customer can 'buy' is the opportunity to work with one of the CVC portfolio companies and use their innovation.

Until now, venture capital deal flow has been compared to traditional transactional sales teams as the sales team looks for qualified leads and converts them to customers or portfolio companies respectively. Even customer relationship management (CRM) software that tracks transactional sales from lead generation through contract closures has been utilized to track VC deal flow. However, a better metaphor would compare a CVC team with a transactional sales team who, in place of external leads, a CVC is selling to internal stakeholders. (Heider)(Skyward)

The CVC works as a marketing team to help raise awareness about their own CVC brand and to promote the portfolio companies that the CVC works with. Next, the CVC team introduces the internal stakeholders to the portfolio companies and provides product information and demos. These initiatives help move their 'customer leads' (i.e., an internal stakeholder at their mutual parent company) through the marketing funnel (section 5.1) and elevate the prospective customer interest to consideration and eventual intent to buy. This relationship should be mutually beneficial to fulfill one of the technology gaps identified or to help shape the future of the industry through disruptive technology as discussed in Section 4.

As is true in sales, the CVC has to have diverse skill sets to first work as 'the hunter' searching for internal leads to pair with a portfolio company and then must transition into a 'farmer' to cultivate the relationships. The employees need to be overly positive since, like a sales representative (rep), they may receive a lot of *nos* before they close on a *yes*.

5.2. A CVC Team is Like a Sales Team

A sales team is responsible for generating revenue for the company through the sale of goods. The group is tasked with selling a company's product, service, or technology by converting potential leads into customers. A CVC rep is essentially peddling the products of their portfolio companies to the rest of the mother company in search of excited leads who want to work with a portfolio company.

Sales teams are structured in various ways to best serve their potential customers with the clear objective of increasing revenue for their company. This is achieved through roles such as inside or field sales. Inside sales is the process of selling to a customer from afar, as opposed to being on-site with them. Typically, inside sales occur through phone calls or emails, or other digital channels where a rep interacts with a lead and answers questions remotely. Field sales, or outside sales, are in-person sales calls to the customer. The sales rep travels to visit the customers and works with them onsite. Often one rep is responsible for a certain geographic

region and will get to know many customers in an area (Blake et. at). A CVC interacts with the internal stakeholders at their mother company in a similar manner setting up virtual conversations or working together onsite in order to increase the level of innovation and other strategic opportunities inside the company. (Stank) (Tate).

Each type of sales, or form of communication for a CVC, has its own merits and challenges. For example, inside sales, or the parallel here being a CVC pitch, may generate a faster response and follow-up time for customer leads because things happen virtually, but the size of the deal may be smaller. Meanwhile, a field sales call, or an equivalent CVC workshop, may require lengthy travel time, and thus follow-up may be slow, but the rep is able to cultivate a deeper relationship because they know the territory more intimately since they are onsite interacting with the customer.

In both situations, the most important thing a sales rep or a CVC team member can do is to develop a meaningful relationship with their customers to qualify leads and close deals. Through inquisitive questions and thoughtful, tailored answers, a skillful salesperson can bring a product to life.

5.3. How to Implement: Send CVC Leads Through the Marketing Funnel

A CVC is tasked with looking for a strategic opportunity and capitalizing on it to create value for the parent company. It does so by looking inward to find an internal stakeholder *customer* who is excited by the prospect of this product. Similar to a traditional sales flow, a CVC must generate awareness of the product or technology. This process follows a marketing funnel, the visualization of the process for turning leads into customers used by companies to follow a customer's journey (Skyword).

The marketing funnel in figure 15 highlights the following stages (Skyword):

1. Awareness
2. Interest
3. Consideration
4. Intent
5. Evaluation
6. Purchase

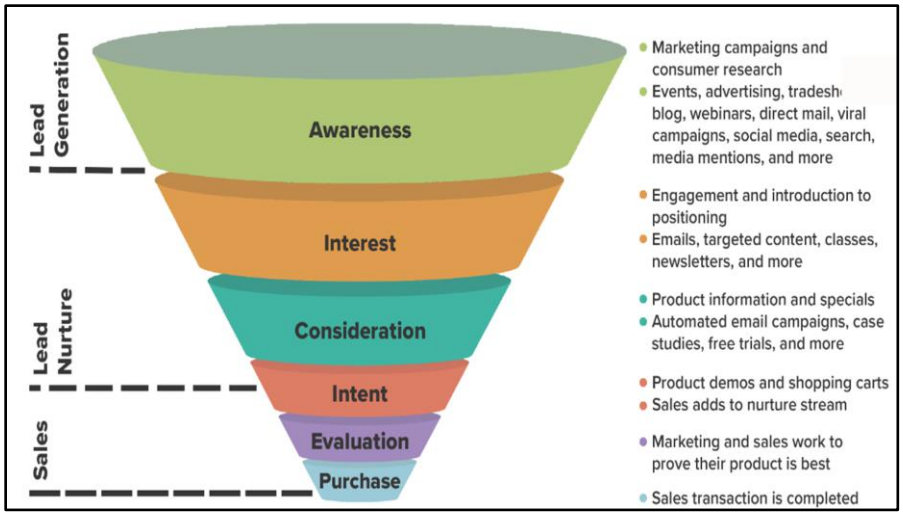

Figure 15: The Marketing Funnel

(Source: Skyword) https://www.skyword.com/contentstandard/how-the-marketing-funnel-works-from-top-to-bottom/

Awareness can come in many forms from marketing campaigns to consumer exploration. In this comparison, a CVC can promote awareness through various channels ranging from company leadership announcements to sponsored lunch and learn activities. Another idea is to hold a Startup Pitch Week for other divisions at the large company to get to know the portfolio companies and what they have to offer. Externally there are many versions of startup weeks and accelerator pitch events. In an effort to bring the external market inside the company, these exposes could promote innovation awareness. (Blake et al).

For a CVC to do alright, it is sufficient for a few internal teams to work with the portfolio companies. However, to be very successful, there needs to be company-wide awareness that the team exists. While the marketing funnel model generally refers to spreading the word about the goods being sold (Skyword), here it is going beyond one product to simply point out that a CVC can only leverage external innovation internally if the internal divisions of the company know that they are there. Because a large company may have multiple initiatives to promote innovation, it is important that people recognize the "brand" of the CVC, similar to how a sales team promotes their company's brand, and ensure there is enough internal marketing for other employees to be aware and recognize who the team is and what they do.

Successful awareness campaigns can generate a positive, reinforcing network effect loop (Sterman, 370) amongst employees to help generate excitement to work with the CVC and portfolio companies. It is important to note that if there is negative feedback around the CVC or PortCos, a negative, balancing loop could be generated as well (Sterman, 607). There needs to be an awareness that the CVC team exists and awareness that this team is here to serve the greater good of the company. This will help facilitate future, more productive conversations. Other company employees will recognize that this is not a cold call from outside, but rather an internal "sales rep" working on a warm lead to help a fellow co-worker identify and fill a latent need or technology gap. Company-wide awareness is amplified through the top down, bottom up, and middle around strategy outlined in section 4.4.1 about leadership.

Next, a CVC team needs to capitalize on the interest of internal division stakeholders who want to explore opportunities and work with portfolio companies. The customer here is still a fellow, internal company lead who is interested in being introduced to a specific portfolio company and its capabilities. Even though the CVC already went through the exercise of evaluation and helping internal stakeholders identify technology gaps and needs as explained in section 4.4.1, it is important to verify you are working with a qualified lead (Blake et. al)

Furthermore, because the CVC customer here is a stakeholder in a large company, it is important to *identify the key decision maker* and present the subsequent business case to the appropriate person. Large companies are often comprised of a bureaucratic, hierarchical organizational structure; a large hierarchy is not efficient for VC due diligence. Therefore, whenever possible, it is better to speak with the *correct decision makers* and not be forced to present to everyone as you move upward in the hierarchy.

To operate effectively the CVC should listen and ask good questions to better understand the desires of the internal company stakeholders. As is true in sales, customers like to listen to themselves speak. This provides a good opportunity to further understand the desires of a customer when you listen. To close the gap between interest and consideration, a CVC should help curate the content that portfolio companies offer to show the interested stakeholders, highlighting relevant content and product information appropriate for their needs. (Blake et al)

At this point, hopefully all internal stakeholders are excited to see what the portfolio company has to offer. Similar to sales, it is important to recognize who is a qualified lead at this point and who is better to let go. A quick "no" is better than a drawn-out goodbye, and thus proving intent is an important step. In addition, it is important to make sure there is an appropriate budget available, the timing is right, or they have the bandwidth to work on a future project. (Blake et al)

At this stage, the CVC should work like a marketing team to help set up product demos.

The product demo could be performed by the CVC, or for a better impact, by the portfolio company as they have the ability to demonstrate their product or technology most effectively. As was explained in the Chapter 3 Use Case, CVCs rely on their own, internal team to promote the portfolio company's products. While this may be efficient for having internal dialogues, you inherently miss the opportunity for the *best positioned salesperson* to pitch their work. Even a recording of the original pitch to the VC or CVC could be sufficient. If there is a live demo, a CVC should provide guidance and support for the PortCo, so they come to the demo prepared and equipped to win.

The evaluation stage in a CVC may be lengthy. Similar to enterprise sales, there are many decision makers involved and intricate contracts. Thus, it may take a longer time to perform necessary due diligence internally than with an external lead. This stage reflects a B2B sales cycle where a business buyer (aka the internal stakeholder in the same parent company as the CVC) has complex requirements, company politics, budget constraints, etc. that need to be sorted through, even when at the same company.

While it may be tempting to push for exclusivity when closing a contract, a CVC should be wary of limiting the PortCo from working with others. A temporary timeframe may be put in place to safeguard IP or other market advantages. However, in order to glean the full strategic and financial benefits of a venture capital investment, it is important to let the portfolio company achieve proper market value and not create a product that is too refined such that it limits its market worth to others. A CVC here should work like an enterprise sales rep to help smooth the interactions and provide resources to help close the deal.

Finally, unlike a traditional marketing funnel, the 'purchase' of the product is not the final step. Because *the product being sold is the opportunity to work with a portfolio company*, continuing with the sales team metaphor, a CVC should immediately transition into working as a Customer Success rep and implement a Portfolio Development team to facilitate a healthy partnership between the PortCo and the internal stakeholder.

At this point, it is imperative to support product adoption for a smooth technology transition into the company as outlined in Section 4.5. This stage is the most important for capturing the full value of the external innovation. Once there is a stable working relationship established, the CVC, internal stakeholders, and portfolio company can look outwards again for growth opportunities or potential spinoffs.

5.4. How to Leverage: Invert the Funnel

5.4.1. Engage with Internal Stakeholders to Promote External Innovation

Marketing expert Seth Godin dramatically altered the way sales and marketing teams interacted with their customers when he suggested to, "flip the [marketing] funnel and turn it into a megaphone" (Godin). This novel idea turned the traditional marketing funnel discussed in the previous section (5.3) onto its side, effectively turning it into a "megaphone" (Figure 16). This set-in motion the trend to empower your customer to advocate on your behalf and to create great products so that your customers will authentically want to talk about them. Godin seeks to,

> *"...empower the people who like you, who respect you, who have a vested interest in your success... your friends and prospects and customers ... your fan club. A new set of online tools makes this approach not just a possibility, but also an imperative for any organization hoping to grow. Give your fan club a megaphone and get out of the way."*
>
> - (Godin)

Figure 16: Flipping the Funnel [Source: (Godin)]

Similarly, a CVC should empower their internal stakeholder customers to speak to the merits of leveraging external innovation through a CVC and promote both the CVC 'brand' and the portfolio company's technology. The thought behind this reversal of roles is to leverage the people who are using your product, or in this case, the stakeholders leveraging external innovation for company growth, and let people who are excited about the product tell others about it. People are more likely to believe another person than an advertisement (Godin) (Jaffe, 184), and thus utilizing a framework that prominently amplifies customer satisfaction, or internal stakeholder feedback as a tool to excite others can be an effective tool for a CVC. Moreover, the internal stakeholders should have the freedom to voice their opinion and technology needs and gaps, as well as promote these upward and outward through the newly 'inverted' funnel.

Whereas a traditional marketing model follows the model attributed to E. St. Elmo Lewis known as A.I.D.A, short for Attention, Interest, Desire, Action (Priyanka), Jaffe proposes a "flipped funnel" with the acronym A.D.I.A to guide a marketing team. In this thesis, it will be demonstrated that a CVC can utilize this method as a framework for capturing value from internal stakeholder engagement and feedback and establish trust:

The Flipped Funnel - A.D.I.A (Jaffe 57):

- Acknowledgment
- Dialogue
- Incentivization
- Activation

Acknowledgement is a simple way to recognize that someone has made a purchase, or in this case it is the opportunity for a CVC to acknowledge that an internal stakeholder is going to work with a portfolio company. The CVC should warmly reach out to the stakeholders since they are most likely eager to run to the next steps and be reassured that they made a good decision. A CVC Portfolio Development team is critical at this stage to facilitate the interactions between the internal stakeholder team and the portfolio company. Establishing

weekly check-in sessions to follow up and provide answers can go a long way, and will acknowledge that this is an ongoing relationship that did not end with the 'sale', or the signing of a statement of work, but rather it is just the beginning of a relationship.

Dialogue

As noted in Chapter 4, listening is fundamental for understanding internal stakeholder needs. Numerous conversations must take place to engage internal stakeholders with a CVC. The following figure taken from Jaffe's *Flip the Funnel* depicts the "seemingly endless series of conversations between a multitude of constituencies (R=Brand; C=Customers; I= Influencers; P=Prospects)" (Jaffe 66). In his model, pictured in the Many-to-Many Model Figure 17, a marketing team looks to build their company brand recognition to generate traditional customer leads, but do so by utilizing influences for prospective clients. In parallel, a CVC can utilize this model framework to promote both their own internal team brand (R), as well as the external portfolio company brand. The Customers (C) in this model are the engaged, internal stakeholders. The Influences (I) are the external portfolio company teams and CVC portfolio development teams, and the Prospects (P) are unengaged, future possible internal stakeholders. A seemingly messy map can be simplified each time a customer, or a CVC internal stakeholder, helps engage a prospective customer. In this case, one internal stakeholder team can successfully leverage external innovation and influence others within their company to engage with the CVC to do the same.

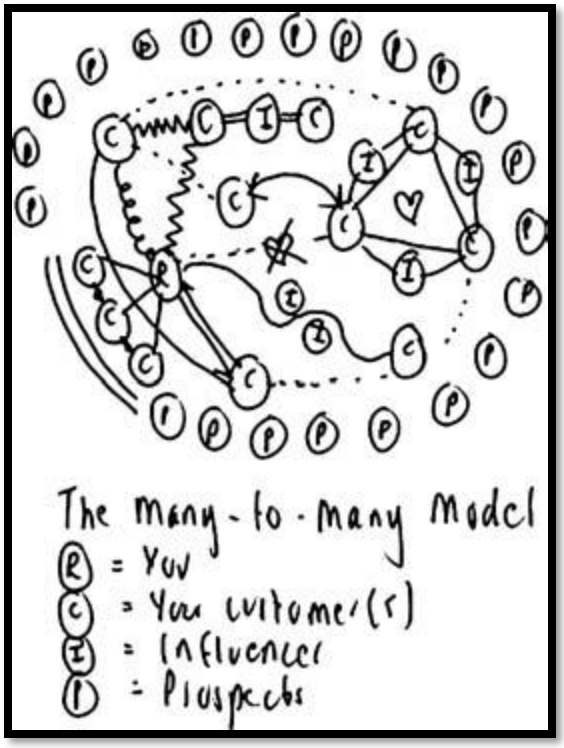

Figure 17: The Many-to-Many Model [Source: Joseph Jaffe, pg. 65]

As is true with most successful engagements, for a lasting impact, a CVC must ensure there is a proper dialogue that is a two-way conversation. This is a good opportunity for a CVC to continue to listen for what is helpful for internal stakeholders. The CVC must observe not only the positive feedback, but also be aware that pain points may remain. By listening and trying to act in real time, people will be more likely to trust you. Developing trust is helpful for establishing return customers, or for a CVC to be able to set up further opportunities for a team to leverage different innovation from a portfolio company. Furthermore, by flipping the funnel, there are additional contact points for people to interact with, which generates an enriched web of support.

After you are able to engage with customers and understand their pain points, excitement, and desires, it is helpful to incentivize them to tell others about the products. As discussed in Section 4.5.2, external innovation can be leveraged by integrating it into the make/buy strategic

purchasing decisions by incorporating make/buy/innovate as a viable option. If people are incentivized to work with companies and innovate to develop technology, there is an immediate, additional value for them. Although a CVC cannot establish a loyalty rewards system such as an airline can to recognize brand loyalty, there are other ways to promote future engagements and the importance of word-of-mouth recommendations (Jaffe 72). For example, a CVC can incentivize internal stakeholders by granting access to special events, lectures, or tours of the portfolio companies. Especially in a virtual world, these types of events can be simple to coordinate and very enriching for the participants.

Finally, with an inverted funnel, the next step is to shift the one-on-one engagement plan to facilitate larger scale engagement and activation. This final stage is the moment where trusted customers become the active spokespeople for your brand. Externally, companies activate their customers by encouraging them to engage with one another and create a community. Here, internal company events allow internal stakeholders to demonstrate the power of external innovation to others in the mother company, even when the CVC is not present. By providing platforms to demonstrate the strength of external innovation, a CVC can help leverage others to show the value of innovation.

Furthermore, when there is one universal problem to solve, product led growth (PLG) could be implemented. PLG relies on the simplicity of the product and the ability for its value to speak for itself. If a CVC can achieve this depth while maintaining simplicity, it will have truly succeeded.

5.4.2. Create a Feedback Loop to Understand Company Needs and Technology Gaps

It may be a balancing act, but authenticity is key for success. As Godin warns, "When the megaphone becomes a shortsighted corporate initiative, it's gotta fail" (Godin). However, when leveraged carefully and authentically, a company CVC can turn internal stakeholder customers into salespeople that amplify their message. Flipping the funnel allows you to focus on your existing customers' needs rather than focusing solely on customer acquisition (Jaffe 50). In turn, internal stakeholders can use this megaphone to project their technology needs and gaps back to the technology team in the CVC.

Internal stakeholders need to have the ability to bring awareness of their product needs to the CVC team. As mentioned in Chapter 4, evaluation is a critical component for successful strategic investments. Therefore, to better glean key feedback and determine what sorts of technology should be scouted, the marketing funnel could be flipped over. By inverting the funnel, this strategy allows a CVC to *begin* with their customers' *needs*, rather than recognizing the 'sale', or opportunity to work with a portfolio company as discussed in section 5.3.

5.5. Position for Innovation Scalability

By establishing a best practice for operational excellence and adhering to a sales framework for engaging with internal stakeholders, a CVC team should be able to repeat and scale their operations effectively. By acting in a consistent and thoughtful manner, the culture of the CVC will promote innovation. Furthermore, there will be increased comfort in strategic investment in technology and products, and not only for financial gains throughout the company. As external innovation gains support within a large company, there will be an increased pull for this form of advancement, and not only a push from the CVC. This innovation momentum, when set in the correct direction, can be capitalized on, and yield incredible results.

By modeling a CVC team similarly to a sales team, you can create a recognizable and repeatable framework that will be teachable and transferable to current and future team members. Furthermore, as an inverted marketing funnel is a valuable asset to a team (Godin), this method can help generate excitement for working with the CVC and portfolio companies throughout the company.

Chapter 6

6. Testing the Strategic CVC System with Use Cases

To test the best practices explained in Chapter 4 and 5 and examine how a large company can evaluate and leverage external innovation, this thesis will examine three Boeing CVC Portfolio Company relationships.

6.1. Use Case Portfolio Company A: Recognize the Value of a Best Practice

The first use case will examine a Boeing CVC Portfolio Company A (anonymized to protect proprietary information) and the challenges the team faced finding a strategic fit for it internally.

Company A is a graduate of the Boeing accelerator program whose technology focuses on a composite material manufacturing capability that would support a core Boeing business. Their novel approach creates a digital platform to automate a manufacturing process that traditionally has required multiple, manual steps that demand frontal meetings and subsequent follow-up design iterations. Many engineers, procurement specialists, and materials scientists are needed to approve drawings and final mold designs before they are manufactured. Once a design is generated, sourcing a supplier and the manufacturing is then distributed to local fabrication shops. The idea proposed by the accelerator company saves companies time and money by utilizing a digital platform and algorithm.

The innovation Company A is proposing automates the design of a composite mold. In addition, although the manufacturing process of the mold itself is still performed in a fairly standard way, Company A approaches the sourcing and distribution of work in a new manner. For many industries, Company A's method would dramatically simplify their design time and reduce the cost of production. In addition, fewer people would be required to meet and review the product because a great deal of evaluation could be performed instantly via the platform. However, despite the apparent strengths of the portfolio company, and the CVC backing it, there was pushback from internal Boeing stakeholders to see a demo of what the Accelerator Portfolio Company had to offer.

In practice, this use case demonstrated the internal resistance to external innovation. After systematically speaking with multiple internal stakeholders via organized virtual meeting sessions, there was a trend of discomfort and a lack of desire to engage with the startup. In this case, it is important to review the facts and understand where there are conflicts in the established best practice model, the Event Chain and Stakeholder Engagement (Figure 18), and the CVC Sales Team Model and observe if and how they can be remedied.

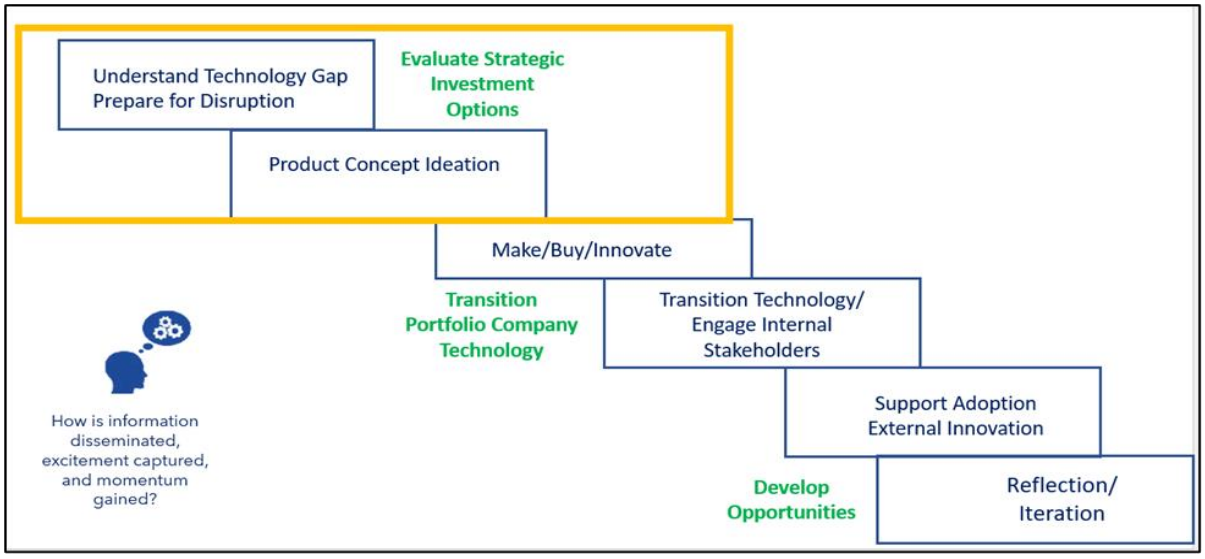

Figure 18: Event Chain and Stakeholder Engagement

In this case, Company A was selected through a Boeing Corporate Accelerator. The product itself appeared to be sound and be a scalable process. Furthermore, Company A had a solid, dedicated team working on continuous improvement. As a financial investment, this company could be viewed by a traditional VC as meeting their needs. However, when Company A was transitioned to the CVC, and the CVC became the *sales team* as described in section 5.2, despite their attempts to *sell* to others in the mother company, it was apparent that internal stakeholders did not want this product and were skeptical of working with young accelerator graduates.

Despite the Accelerator and CVC vetting the company, there was suspicion as to whether there was a manufacturing advantage gained by engaging with a small startup that did not have the standard capabilities, operating procedures, or the TRL of a traditional supplier. Furthermore, through additional interviews, it became apparent that people did not understand the value of working with a company that did not yet have regulated process compliance or the formality of supplier management meetings established. An analysis of this Use Case is presented in Table 4.

Table 4: Testing the Model: Success and Challenges for Use Case A

		Evaluate		Transition		Develop
1.	▲	Successful Accelerator Product with promising technology, team, and market need	▲	Preliminary internal excitement for promising tech and willingness for preliminary meetings	▲	Quick to suggest that external teams could use
2.	▼	Does not address a current technology gap or need for the team, although this product could have future benefits	▼ ▼	Stakeholders worried about the technology eliminating certain positions Inability and lack of desire to partner and develop a future technology (say "no" before they listen)	▼	Conflicting functional requirements - Low TRL of startup did not meet the immediate production needs

6.1.1. The Desire for a Supplier, not a Partner

Boeing prides itself and is ultra-focused on their attention to safety, quality, and integrity as core values. Inherently, early-stage companies are small, and although they are also focused on safety, quality, and integrity, an accelerator graduate is an early-stage company that is still maturing. In this use case, Company A did not yet have processes established the way internal Boeing Stakeholders are used to seeing them.

As a result, despite Company A being a successful accelerator with strong financial potential for a traditional VC, it was not viewed as a strategic CVC investment because internal stakeholders did not recognize the value in partnering with a portfolio company to develop a *strategic, future* product. Instead, internal stakeholders expected to see a traditional *supplier*. Here the portfolio company was successful, it appeared to have the potential for financial success, but it failed to gain traction with the CVC, a failure mode recognized in section 4.2.1.

As discussed, the merits of CVC support early-stage technology growth. Although the CVC can see there is a way to implement the new manufacturing technology, the internal Boeing stakeholder wanted an off-the-shelf product. Culturally, that is what they are used to. However, if the mission is to provide robust, innovative solutions and be able to approach things from a new perspective, the culture needs to shift.

In this use case, the technology was not adopted by internal Boeing stakeholders because they were not used to engaging with a company that did not yet have certain attributes, such as a specific TRL level or regulatory certification. Internally, when approached, people wanted to see a supplier, even if engaging with the portfolio company could have ultimately allowed them to create a simpler and more effective manufacturing method in the future.

As a result, there is a contradictory set of priorities that hinders the adoption of external, early-stage innovation. The aforementioned model recognizes this discrepancy. Thus, if a CVC wanted

to further leverage this technology, it is clear which aspects need to be improved. These difficulties are presented in Figure 19.

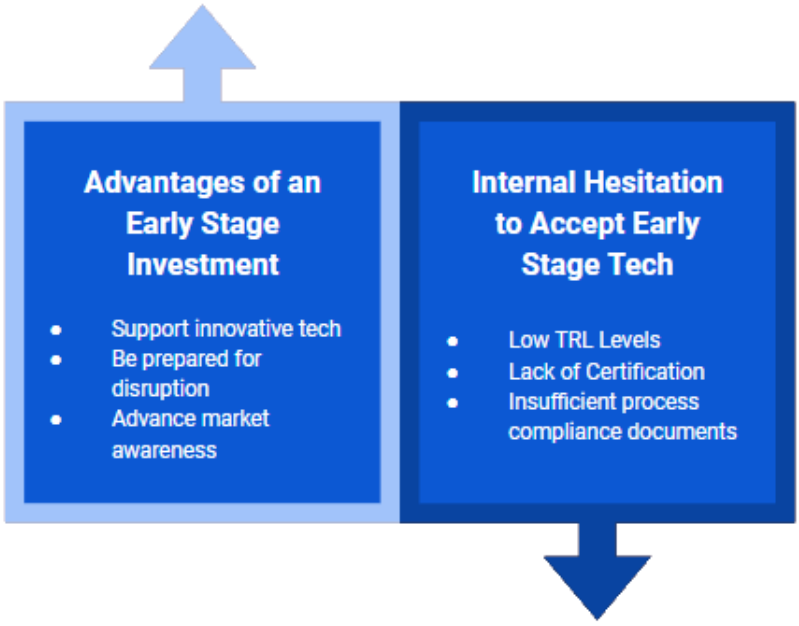

Figure 19: Difficulties in Acceptance of Tech Despite Advantages

6.2. Use Case Portfolio Company B: Success Through Collaboration

This use case will examine a Portfolio Company that Boeing has worked with for many years and highlights the CVC's desire to leverage the portfolio company's current success to generate additional opportunities across additional Boeing Business Units. It is important to note that this investment was made in 2018, prior to the reorganization of the CVC and the spinoff of the financial arm. At the time of the investment, the VC team was fully integrated internally. Because time has passed there is an ability to view both the financial and strategic maturity of this investment, and stakeholders have gotten to see them in action for a few years.

Company B focuses on a technology that supports Boeing's core business developing aircraft and their flagship product is a far-reach, future technology to support engines that will take years to realize. However, in the meantime, they have created a myriad of stand-alone products developed from the research related to the end goal product. This innovation can be sold and utilized on its own. Furthermore, there is an inherent push for creating technology to support sustainability goals and they can support the reduction of fuel use in direct and indirect technologies. However, despite the great R&D investment both independently and through the CVC connection, there has not been a direct product sold.

A few years ago, Company B was selected to be a Portfolio Company because there was an apparent, direct fit for a specific application to augment a core Boeing product by supporting engine efficiency and aircraft design. This proved to be true. As anticipated when partnering with a startup, their initial technology was not at a high TRL level, but rather in work. However, in this use case it was apparent that a collaboration could prove to be valuable for both Boeing and Company B since each team needed to continue researching and working on prototypes to develop a future product. When the portfolio company was evaluated, it met an existing technology gap, and it was recognized that there is a mutual benefit to collaborate and leverage external innovation.

In this use case, there was an understanding that the financial investment that was made would have a strategic, technical value that would be amplified because neither party could achieve the technology without the mutual support of the other. Thus, this use case demonstrates a solid strategic investment to leverage external innovation. As a large, established company, Boeing did not yet have all of the required components internally, yet had the foresight to investigate a far-reaching technology created by an external team. Furthermore, Boeing has set important sustainability goals for itself, and Company B's technology can help to support their goals. However, a far-time horizon investment can be a double edge sword. In this use case, a strategic financial investment was made to develop the next generation of a product. Although there is a long-term, strategic plan, it could take years for a financial investment to be realized shown in Table 5.

Table 5: Testing the Model: Success and Challenges for Use Case B

		Evaluate		Transition		Develop
1.	▲	Successful Portfolio Company with technology that would fill a technology gap and market need	▲	Preliminary internal collaboration and willingness to work together	▲	Quick to find core business needs that could transform aviation
2.	▲	Technology addresses a current technology gap or need as well as future, and future future benefits for core business technology	▲	Eagerness to workshop and brainstorm future technology	▲	Despite Low TRL, it is recognized that Boeing does not have the internal capability. Collaboration leads to mutual success

6.2.1. Leveraging Success to Build Future Strategic Opportunities

In an effort to explore additional strategic investment opportunities and generate immediate collaborations to leverage the new products Company B has to offer, it was decided to create a large-scale internal brainstorming workshop. The goal of the workshop was to bring together Boeing and Company B's SMEs and leadership teams to explore opportunities for technology replacement, to design future generation architecture advancements, and to dream about any "future future" exploratory designs that could exist.

In this use case, asking internal stakeholders to participate in a *workshop* proved to be different than asking if they wanted to simply *incorporate* external technology. It appeared as though people felt a sense of *ownership* and strength when asked to present their current work and highlight where they are looking for support. SMEs who do not usually interact, from across various BUs, had the opportunity to learn from one another and explore the art of the possible. Furthermore, SMEs who do not usually interact, from across various BUs, had the opportunity to learn from one another.

In this use case stakeholders were engaged early through the preliminary ideation. As described in section 4.5.3, early adoption is helpful to promote engagement. In this case, people were eager to propose collaborative projects and prioritize the incorporation of external innovation. Even if there was not an immediate financial gain, there was a successful push to transition external innovation into the parent company.

6.3. Use Case Portfolio Company C: A CVC Team is Like a Sales Team

Portfolio Company C specializes in energy systems and has technology that can support the core Boeing business. The primary reason the CVC found Company C attractive was that they could leverage their energy system technology both as a supplier with an off the shelf product, or as a strategic partner to customize a system. Despite advanced ongoing Boeing R&D in the field, Boeing does not focus on energy systems as a product sold independently, but rather as an integral part of their aircraft. Thus, this use case demonstrates how Boeing can leverage external innovation to fill a current Boeing technology gap. In this situation, Company C meets the preliminary CVC evaluation criteria.

To further explore opportunities to leverage Company C's innovation, a team at Boeing started to collaborate on a design for a product in a near adjacent market that would highlight Company C's energy system. In order to effectively engage and leverage Company C's technology, this Use Case demonstrates the value in sending a CVC portfolio company lead through the marketing funnel.

6.3.1. Bold Moves: Promote a Near Adjacent Market Product

Company C is not afraid to dream big and in collaboration with Boeing they began to explore a future product outside of a core Boeing business. The concept is to create a specialized handling system that would augment current cargo mobility practices. This unique product would leverage the strengths of Boeing design and Boeing's ability to certify products in a regulatory environment, while implementing Company C's core product. Furthermore, by partnering with Company C, Boeing could create an additional product that could be sold independently or packaged with existing core business offerings.

By implementing Company C's core technology in tandem with Boeing design and their deep understanding of the regulatory environment for aerospace innovation, Boeing could create a new product for the aerospace industry. By leveraging external innovation for internal Boeing development, they could also stimulate commercial growth for Boeing's airline customers.

Despite the apparent mutual benefits proposed by leveraging external innovation, internal Boeing stakeholders resisted adoption. Despite attempts for promotion of early adoption as discussed in section 4.5.3, preliminary conversations and presentations were met with pushback. Although concrete examples of technology capabilities were provided, stakeholders did not know how to react to technology that did not support a core business, but rather an adjacent market. Although it is common for stakeholders to feel hesitant about investing in or developing non-core business products, diversification is an important strategy for growth and risk mitigation. Diversification of a product line or customer base may feel unusual to an established, large company. However, it is common for a VC investment portfolio to strengthen their yield and provide risk mitigation through diversification of type, size, and genre or investment portfolio company. Moreover, creating products for varied markets and different customers helps to capture a greater market segment. As discussed in section 4.2.1, failure is an option, and a CVC could help mitigate risk, even while markets evolve, through the diversification of products and customers.

6.3.2. Implement the Model: Send a CVC Lead Through the Funnel

This Use Case demonstrates the value of sending a CVC portfolio company lead through the marketing funnel as proposed in the model in Chapter 5. By sending the CVC leads through the Marketing Funnel, hopefully early awareness and excitement for the Portfolio Company's products will translate into adoption and a desire to collaborate with the Portfolio Company. This opportunity will further capitalize on the strategic CVC investment made by the CVC and VC teams.

1. Awareness
2. Interest
3. Consideration
4. Intent
5. Evaluation
6. Purchase

In this case, the first thing the CVC team needs to do is raise awareness. As discussed, the first step is to generate interest in the near adjacent market product to help explain why exploring a non-core business opportunity could be helpful. The CVC team successfully conducted market research to prove an expressed and latent customer need and evaluated the potential benefits this collaborative technology could generate for Boeing and Company C. In addition, because the product came from an active, expressed customer need, as well as a latent market need, the product would greatly benefit Boeing customers.

Next, the CVC team needs to further generate interest by beginning to build relationships and evaluate the internal stakeholder needs as an internal customer. By understanding the internal stakeholder needs, the CVC can demonstrate how the collaborative product would help grow the stakeholder's BU. The CVC team did this by speaking with a myriad of individuals and teams

to demonstrate how Boeing could leverage Company C's proven technology to create a specialized handling system with unique features and benefits for Boeing customers.

Although internal stakeholders were eager to support Boeing customers, the conversion rate for those who showed consideration or genuine intent was limited. Internal stakeholders were hesitant to hear about something in a near-adjacent market, and their tendency was to revert to core-business priorities. Therefore, the CVC strategy for engagement with internal stakeholders could have been improved by better identifying and explaining potential risks and opportunities. Furthermore, it would be helpful to more concisely demonstrate how the specialized handling system aligned with top strategic Boeing goals, such as sustainability. By establishing clear metrics for success, CVC and internal stakeholders could better allocate resources to meet company goals.

Therefore, when it came time for final evaluation and a decision to 'purchase', or in this case, the decision to support the non-core product that would highlight Company C's external innovation, stakeholders hesitated. Table 6 presents this use case.

Table 6: Testing the Model: Success and Challenges for Use Case C

		Evaluate		Transition		Develop
1.	▲	Successful Portfolio Company with technology that would fill a technology gap and market need	▼	Minimal internal collaboration and willingness to work together	▼	Not a core business need, although it could transform airborne cargo
2.	▼	Does not address a current technology gap or need for the team, although this product could have future benefits and is in a near-adjacent market	▼	Resistance to exploring a near adjacent market	▼	Excitement from engineering teams, but no internal stakeholder lead

Chapter 7

7. Conclusion

> *"To succeed consistently, good managers need to be skilled not just in choosing, training, and motivating the right people for the right job, but in choosing, building, and preparing the right organization for the job as well."* — Clayton M. Christensen

Innovation is fundamental for company growth and success and thus different pathways should be explored and implemented to create sustainable progress. By promoting advancements in technology with properly aligned incentives, innovation can stimulate opportunity.

This thesis has created an internal structure for a corporate venture capital team to evaluate startups, transition innovation into their company, and develop commercial growth opportunities externally once the products are ready. Strategic CVC investments can provide a pulse on the market through their portfolio companies' intimate awareness as they develop their technology to enable a future positioning awareness that a larger company may not typically be exposed to. In addition, leveraging startup agility can help develop IP nimbly. As a result, CVCs successfully explore strategic investments to bridge company needs and technology gaps. Leveraging external innovation through strategic investment is a useful tool to enhance business objectives to augment core business and support industry growth.

7.1. Results and Outcomes

7.1.1. Establish a Best Practice for the CVC to Best Leverage Strategic Investments

In an effort to harness the strength of an independent VC, navigate the corporate needs of a large company, and successfully engage with startups it is important to establish a best practice and work from a sound model to create a common foundation so everyone can recognize what is expected and how best to accomplish these objectives. Business is not conducted in a vacuum and thus, even if you believe you have the right ideas in place, a CVC will only work if everyone is aware of the guiding principles and if there is support at all levels for external innovation. By establishing a common language and shared culture, each player can navigate through the framework proposed in this thesis.

It is also important to gather insight and feedback from a variety of internal stakeholders to better understand what is useful for a company. However, a CVC must not only address the current needs of a company, but rather guide stakeholders to explore future opportunities to effectively leverage the strength of strategic investments. It is imperative to maintain market awareness and plan beyond the core business success. By decoupling the financial investment from the strategic value, the horizon is much broader and can be leveraged further.

Furthermore, revamping the procurement strategy to include *innovation* alongside the traditional *make or buy* options allows a CVC portfolio company to become a viable supply chain source. Implementing *innovation* as a procurement strategy tool can help normalize strategic investments with a portfolio company as an accepted pathway to develop future innovation. By bringing the strength of a large corporation together with the nimbleness of a startup, a strategic CVC could revolutionize product development by effectively leveraging external innovation.

7.1.2. A New Framework for Internal Stakeholder Engagement: Utilize The Marketing Funnel and Then Invert It

This thesis created a model comparing a CVC team to a traditional sales and marketing team. By recognizing the similarities and leveraging the established techniques of a sales and marketing team, a CVC team can promote the portfolio companies that they work with to best leverage their capabilities. Furthermore, a skillful CVC team member can bring a product to life for internal stakeholders through inquisitive questions and thoughtful presentations. In a manner similar to a traditional sales team that converts leads into customers, a CVC can track their internal stakeholder leads through The Marketing Funnel as they convert prospects into partners with the portfolio companies.

Following the stages of Awareness, Interest, Consideration, Intent, Evaluation, and finalizing a Purchase, because the product 'purchased' the opportunity to work with a portfolio company, a CVC should immediately transition into working as a Customer Success representative and implement their Portfolio Development to facilitate a healthy partnership between the Portfolio Company and the internal stakeholders.

At this point, unlike a sales team, this model demonstrates the importance for a CVC to further engage in order to fully capitalize on the value of a partnership between the portfolio company and the internal stakeholder. By flipping The Marketing Funnel on its side as a megaphone or upside down, a CVC can turn their internal stakeholder customers into 'salespeople' to further promote the value of external innovation. Furthermore, this framework creates a feedback loop for continuous insight into company technology gaps and needs. By placing the existing stakeholders at the base, a CVC team has more focus on them. Furthermore, this model generates a recognizable and repeatable framework for current and future team members, an important factor for scaling a team.

7.2. Use Case Learnings

7.2.1. CVC Stakeholder Engagement is Paramount

To expand upon the elements of an established best practice, engaging with internal stakeholders with the mindset of a sales team will provide a framework for a CVC to efficiently capitalize on a strategic investment and create value for the parent company. Promoting a portfolio company to internal stakeholder customers who recognize the brand of the CVC and are excited by the prospect of this pathway for innovation there will be increased comfort in strategic investment for technology and product, and not only for financial gains throughout the company. As external innovation gains support within a large company, there will be an increased pull for this form of advancement, that works in tandem with the push from the CVC. This innovation momentum, when set in the correct direction, can be capitalized on and yield incredible results.

As discussed in Chapter 4, a large company moving slowly and cautiously in their comfort zone and core product market stands in stark contrast to a young startup developing breakthrough technology and innovation. Unless there is not only executive buy-in, but also a promotion of acceptance throughout all the organization levels, the CVC will have a difficult time transitioning technology into the mother company and may struggle to capitalize on all of the strengths VC has to offer.

To promote adoption, stakeholders should be empowered at every level to decide if and how to incorporate and implement external innovation. When a large company is structured to filter things from people above them, far too often people decide to say "no" before they even have heard what the opportunity is. While building coalitions and forming committees is necessary for many organizational processes, technology should be able to speak for itself once it is proven and examined by the appropriate subject matter expert (SME). Furthermore, when internal

stakeholders are successful, they should be able to promote external innovation to others in correlation with a framework to leverage external innovation.

There are many cultural and political details to work through in conjunction with the strategic elements of a CVC. The adoption of CVC and external startup technology is a process that will take time as internal stakeholders need to overcome cultural trepidation, political resistance, or distrust of a product not created internally. However, by listening to internal and external stakeholder needs, a CVC team cultivates meaningful opportunities and mutually beneficial value for large companies and emerging startups.

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