Improving Connections Among Entrepreneurial Support Programs to Increase the Impact of Start-ups

A study of Denmark and the United States

This is an Interactive Qualifying Project Report submitted to the faculty of WORCESTER POLYTECHNIC INSTITUTE in partial fulfilment of the requirements for the degree of Bachelor of Science



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ABSTRACT

The failure rate for start-ups is high, and programs to support new entrepreneurs do not work in unison, making it difficult for entrepreneurs to leverage the benefits of the resources available. Our goal was to create recommendations on how to facilitate connections among entrepreneurial resources to create more impactful start-ups. By gaining the perspectives of stakeholders through interviews and a virtual seminar, we found that value creation and transferable skills are key to the longevity of a business; entrepreneurs do not utilize many available resources; biases create a lack of gender inclusivity in entrepreneurship, and the perception of failure varies culturally. Finally, we developed specific recommendations for each stakeholder group and Lagertha, our sponsoring organization.

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EXECUTIVE SUMMARY

Entrepreneurs are valuable contributors to both growing and developed economies around the world by helping to sustain upward economic mobility (Abdesselam et al., 2017). However, the success of entrepreneurs is impacted by cultural differences, gender stereotypes, and accessibility of resources.

The United States and Denmark have different environments for business and different attitudes towards aspects of entrepreneurship such as risk-taking and failure. Gender stereotypes within the entrepreneurial community negatively influence the evaluation of female entrepreneurs and thereby limit the resources that women receive. Resources for entrepreneurs include university, incubator, and corporate venture capital (CVC) programs. Each of these has unique benefits and flaws so by using only one resource to support a business, entrepreneurs can hinder their growth by limiting the opportunities available to them.

The resources that can be used to enable an entrepreneur's success focus on different elements of entrepreneurial development and do not often work in unison. Lagertha, a Denmark-based company that aims to support emerging female entrepreneurs in male-dominated, tech-based industries, is looking to better understand how connecting the resources that an entrepreneur utilizes can influence the success and impact of their start-up.

Project Goal

The goal of this project was to create recommendations in collaboration with Lagertha on how the entrepreneurial value chain can be improved to create more impactful start-up companies. The entrepreneurial value chain is defined as the relationship between university programs, organizations that promote entrepreneurship such as Lagertha and other incubators, corporations, and global industries.

Project Objectives

- 1. Identify and understand perspectives of key stakeholders: entrepreneurs, universities, incubators, and corporations
- 2. Design and conduct a virtual seminar to present research findings and collect data from student stakeholders
- 3. Identify how Lagertha can facilitate connections among key stakeholders to promote the long-term success of start-ups

Methodology

To guide our data collection, we established a set of research questions:

- 1. What resources have successful entrepreneurs taken advantage of and how do they find these resources?
- 2. What opportunities exist to connect universities, incubators, and CVC programs to support entrepreneurs?
- 3. Do female entrepreneurs need additional support in finding/utilizing these resources? If so, in what ways could female entrepreneurs be better supported?

We utilized semi-structured interviews with stakeholders in both the United States and Denmark to collect data pertaining to these research questions. We interviewed entrepreneurs, university entrepreneurship educators, incubator representatives, and corporate representatives. Several interviewees had experience in more than one of these categories, and nine of the 10 interviewees were from the United States or Denmark.

Using the data collected through interviews, we designed and conducted a virtual seminar to share our findings and gather student perspectives about inclusivity and national cultures. The seminar topics were (1) the Importance of Value Creation, (2) Creating an Inclusive Entrepreneurial Ecosystem, (3) the Impact of National Cultures on Entrepreneurial Environments, and (4) Making the Most of Available Resources. The data we gathered through interviews and the seminar was used to create recommendations on how Lagertha can facilitate connections among entrepreneurial support resources.

Findings/Conclusions

The findings from our stakeholder interviews and seminar participants supported conclusions in the areas of value creation, support resources, inclusivity, and entrepreneurial environments.

Value creation and transferable skills are central parts of an entrepreneurial mindset. Stakeholders in the value chain consider value creation an essential concept for entrepreneurs to consider when starting a business. Addressing a societal need should be at the forefront of a business to fulfil a market need. Transferable skills can help an entrepreneur understand a societal need and play a significant role when it comes to working effectively on a team, forming partnerships, and networking professionally; all of which are vital to the growth of a business

Entrepreneurs are often unaware of or unable to access entrepreneurial support resources. We found that new entrepreneurs may not know what resources exist to fulfil the

unique needs of their growing business, or may lose access to important resources like software, workspace, funding, etc., because they have graduated from university. Additionally, stakeholders indicated that entrepreneurs should work with corporate venture programs that align with their start-up's goals and business model to ensure long-term relations. Without knowledge of what external support resources offer or where to find them, entrepreneurs often do not access them at all.

External and internal biases result in a lack of gender inclusivity in entrepreneurship. We found that externally inflicted biases against businesses that are femalerun give rise to internal biases in women about their capability to become successful entrepreneurs. Female stakeholders agreed that the narrative about female-founded businesses not being as successful as male-founded businesses needs to change to create an environment where women can thrive as entrepreneurs.

Failure is less accepted in Denmark than the United States. Stakeholders indicated that the United States offers an environment that is more accepting of failure and treats it as a learning opportunity, while the culture in Denmark puts pressure on entrepreneurs to succeed in their first business venture. We found that the public perception of an entrepreneur's failure affects whether more people in a country choose to become entrepreneurs or not.

Based on our research, we concluded that entrepreneurs, universities, incubators, corporations, and Lagertha can all contribute to improving the connections between entrepreneurial support resources, and thus, we have made recommendations to each group.

Recommendations

Recommendations for Entrepreneurs:

- Value Creation: We recommend that entrepreneurs place an emphasis on value creation, especially in the preliminary stages of business development such as ideation or pitching. Creating value by addressing an unmet societal need will improve the long-term success of the start-up. Particularly, entrepreneurs should evaluate whether their product or service offers a new or alternative solution that is meaningful to their consumers.
- **Diverse Teams:** We recommend that entrepreneurs create teams with people that come from various backgrounds in order to have a diverse set of perspectives, experiences, and skill sets on the team. It is important to recognize that some entrepreneurs have faced barriers or biases that their partners have not and creating an inclusive space for team members to work will improve the success of the business.
- **Resources:** We recommend that entrepreneurs use their personal and professional networks extensively to connect with resources such as incubators, accelerators,

investors, and potential consumers. Resources may not always be presented directly to entrepreneurs and taking initiative to research different support program opportunities (e.g., university programs, incubators, corporate venture capital programs) will be beneficial for an entrepreneur to address the specific needs of their start-up.

Recommendations for University Programs:

- General Curriculum Changes: We recommend that universities make changes to both entrepreneurship and non-entrepreneurship classes to incorporate value creation in a more diverse set of curricula. It would be beneficial to teach value creation in an engineering design course, a first-year seminar, or as an elective course so the information is accessible to all students.
- Entrepreneurship Curriculum Changes: We recommend that courses related to entrepreneurship include lessons about cultural norms and differences among entrepreneurial environments, the perception of failure, and mental health management. Understanding how these can affect the success of a start-up is important when deciding a location to launch a business. These concepts should first be introduced in introductory courses in entrepreneurship, and further elaborated on as the intensity of the coursework progresses.
- Alumni Networks: We recommend that universities increase alumni engagement with university entrepreneurship students through an advisory network of alumni from diverse backgrounds. Inviting alumni to mentor student entrepreneurs could help increase awareness of external resources. We recommend that this network be free for students to increase accessibility to student entrepreneurs with limited resources.

Recommendations for Incubator Programs:

- Physical Space: We recommend incubator programs offer physical workspace as a
 primary resource, as many stakeholders claimed physical space was the most valuable
 resource provided by incubators. By renting co-working or office space to businesses,
 incubators offer communal spaces where entrepreneurs can collaborate, build their
 networks, form diverse teams, and find role models.
- Marketing: We recommend that incubators market their services more frequently and to
 a more specific target audience, as we found that entrepreneurs benefit from using
 resources that are catered towards their business and goals. Frequent marketing raises
 awareness of resources that incubators offer while targeted marketing clearly
 communicates what kinds of businesses would benefit from an incubator's services.

Recommendations for Corporate Venture Programs:

• **Pitch Days:** We recommend that corporations looking for CVC partnerships host more equitable pitch days by inviting more female judges to pitch competitions and

- incorporating group feedback sessions. These competitions often favor men due to judges' implicit biases to favor masculine traits in pitches. Emphasizing transferable skills in pitch days can also help to make them more inclusive and beneficial.
- Marketing: We recommend that corporations implement marketing strategies targeted towards university students and entrepreneurs in incubators to increase awareness of corporate venture opportunities. Additionally, we recommend that the marketing strategies used to promote corporate venture opportunities include imagery and wording that is inclusive towards entrepreneurs from underrepresented groups, such as women. This advertising can be optimized by specifically outlining what types of start-ups the corporation hopes to partner with, what the expectations of the partnership are, and by marketing to organizations that cater to those types of start-ups.

Recommendations for Lagertha:

- Connections: We recommend that Lagertha works to connect entrepreneurs with
 resources by forming partnerships with other incubators and universities. Lagertha can
 facilitate connecting these resources and create an infrastructure that makes it easier for
 entrepreneurs to access multiple resources in the value chain in the order that best suits
 their business.
- Incubator Partnerships: We recommend that Lagertha partner with other incubators to create a network of diverse incubators that Lagertha can help entrepreneurs navigate. This would enable many start-ups to access the incubators most suited to their needs and aligned with their goals.
- Corporate Partnerships: We recommend that Lagertha continues to seek corporate partnerships to help create a pipeline between start-ups and CVC programs. We recommend that Lagertha help plan pitch events with corporate partners and train entrepreneurs prior to corporate pitch events. We also recommend that Lagertha educate entrepreneurs on the goals and values of their corporate partners.
- University Partnerships: We recommend that Lagertha partners with universities, specifically technical universities. Establishing partnerships with technical universities can help relevant technical start-ups reach corporations with CVC programs. We suggest that Lagertha present to university classes about their services and promote the types of entrepreneurial support resources available to students after graduation, such as incubators and corporate ventures.
- Marketing: We recommend that Lagertha makes an Instagram account to reach a younger population of entrepreneurs. While Lagertha's LinkedIn profile is effective in a professional network, less experienced entrepreneurs should be advertised to more directly about any new initiatives to help connect them with resources.

AUTHORSHIP

Section	Primary Writer	Primary Editor
Abstract	GP	PJ, EC
Acknowledgements	GP	EC
Executive Summary	LL	PJ
1.0 Introduction	All	All
2.0 Background		
2.1 The Impact of Entrepreneurship on Economic Development	EC	GP
2.2 Becoming an Entrepreneur	PJ	EC
2.3 Supporting Female Entrepreneurs	LL	PJ
2.4 Lagertha's Business Model	GP	LL
3.0 Methodology		
3.1 Objective 1: Identify and Understand Perspectives of Key	EC	PJ
Stakeholders: Entrepreneurs, Universities, Incubators, and		
Corporations		
3.2 Objective 2: Design and Facilitate a Virtual Seminar to Present	PJ	EC
Research Findings and Collect Further Data from Student		
Stakeholders		
3.3 Objective 3: Identify How Lagertha Can Facilitate Connections	EC	LL
Among University Programs, Incubators, and Corporations		
4.0 Findings		
4.1 The Importance of Developing an Entrepreneurial Mindset	GP	EC
4.2 Availability and Utilization of Entrepreneurial Resources	LL	EC
4.3 Inclusivity in Entrepreneurial Environments	EC	PJ
4.4 Effects of National Cultures on Entrepreneurial Environments in	PJ	LL
Denmark and the United States		
4.5 Limitations	LL	PJ
5.0 Conclusions and Recommendations		
Conclusions	PJ	EC
5.1 Recommendations for Entrepreneurs	PJ	EC
5.2 Recommendations for University Programs	EC	GP
5.3 Recommendations for Incubator Programs	PJ	GP
5.4 Recommendations for Corporate Venture Programs	EC	GP
5.5 Recommendations for Lagertha	PJ	EC
Appendices		

Appendix A: Project Timeline		
Appendix B: Interview Request Email		EC
Appendix C: Informed Consent Statement		PJ
Appendix D: Interview Questions for Various Stakeholders		All
Appendix E: Interview Notes		PJ
	LL	
Appendix F: Request to Participate as Keynote Speaker Email		LL
Appendix G: Seminar Advertising		GP, LL
Appendix H: Seminar Schedule		EC
Appendix I: Seminar Topic Plans		EC
Appendix J: Additional Seminar Data		

TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENTS	ii
EXECUTIVE SUMMARY	iv
AUTHORSHIP	ix
TABLE OF CONTENTS	
LIST OF FIGURES AND TABLES	xii
1.0 INTRODUCTION	1
2.0 BACKGROUND	3
2.1 The Impact of Entrepreneurship on Economic Development	3
2.2 Becoming an Entrepreneur	6
2.3 Supporting Female Entrepreneurs	
2.4 Lagertha's Business Model	11
3.0 METHODOLOGY	14
3.1 Objective 1: Identify and Understand Perspectives of Key Stakeholders: Entrepreneu	ırs,
Universities, Incubators, and Corporations	14
3.2 Objective 2: Design and Facilitate a Virtual Seminar to Present Research Findings and	nd
Collect Further Data from Student Stakeholders	16
3.3 Objective 3: Identify How Lagertha Can Facilitate Connections Among University	
Programs, Incubators, and Corporations	19
4.0 FINDINGS	20
4.1 Developing an Entrepreneurial Mindset Driven by Value Creation	20
4.2 Availability and Utilization of Entrepreneurial Resources	
4.3 Inclusivity in Entrepreneurial Environments	24
4.4 Effects of National Cultures on Entrepreneurial Environments in Denmark and the U	nited
States	27
4.5 Limitations	30
5.0 CONCLUSION and RECOMMENDATIONS	31
Conclusions	31
Recommendations	32
REFERENCES	37
APPENDICES	42
Appendix A: Project Timeline	42
Appendix B: Interview Request Email	
Appendix C: Informed Consent Statement	43
Appendix D: Interview Questions for Various Stakeholders	45
Appendix E: Interview Notes	
Appendix F: Request to Participate as Keynote Speaker Email	76

Appendix G: Seminar Advertising	. 78
Appendix H: Seminar Schedule	. 83
Appendix I: Seminar Topic Plans	. 84
Appendix J: Additional Seminar Data	. 89

LIST OF FIGURES AND TABLES

Figure 1. Seminar participant responses during Inclusivity workshop

Table 1. Interviewee breakdown across stakeholder categories

1.0 INTRODUCTION

Entrepreneurs are valuable contributors to both growing and developed economies around the world. Whether by means of innovation, job creation, or sparking market competition, entrepreneurship helps to sustain upward economic mobility (Abdesselam et al., 2017). Valliere and Peterson note that "entrepreneurship is a critically important dimension for predicting and explaining the economic performance of countries" (2010). Despite the importance placed on entrepreneurship in global and domestic economies and the positive correlation it has with economic indicators such as a country's gross domestic product, many barriers stand in the way of becoming an entrepreneur (Marič et al., 2013). Entrepreneurs—particularly, emerging entrepreneurs—need support in overcoming barriers such as educational inequality, financing, and undeveloped marketing (CB Insights, 2021; Gorji & Rahimian, 2012). Additionally, entrepreneurial barriers tend to disproportionately affect women, and there are often gender stereotypes associated with entrepreneurship (Rubio-Bañón & Esteban-Lloret, 2016; Wu et al., 2019).

The success of entrepreneurs is impacted by regional and cultural differences surrounding entrepreneurship. According to the Global Entrepreneurship and Development Institute (GEDI), the success of an entrepreneur does not occur in a vacuum; it is rather a result of an entrepreneur's location, their local and national economy, and their society (GEDI, 2019). The cultures in the United States and some Nordic countries are known globally to be some of the most supportive environments for entrepreneurship. In 2019, the US, Sweden, and Denmark were ranked in the top 10 out of 137 countries in the GEDI Global Entrepreneurship Index. While all these countries have been judged to be world leaders in entrepreneurship, the United States and the Nordic region have different environments for business and work. For example, while the United States has a culture that values and respects working late hours and discourages taking time off, Nordic countries value a strong work-life balance that encourages people to take breaks and recharge because it will allow them to be more productive (Motoyama, 2016).

In addition to there being various environments in which an entrepreneur may thrive, there is a variety of resources to help entrepreneurs grow their businesses. These resources include university, incubator, and corporate venture capital (CVC) programs, with each of them having unique benefits and flaws. University programs help to increase revenue and decrease failure rates of start-ups but do not significantly affect entrepreneurship rates (Eesley & Lee., 2020). Incubator programs provide resources like physical space, tools, and mentorship that help developing businesses succeed but there is often an associated upfront cost (Mörke & Swensson, 2020). CVC partnerships can increase access to funding and corporate resources for more

established firms, though there is sometimes minimal engagement from entrepreneurs due to a fear of exploitation (Basu et al., 2011). Entrepreneurs can increase the opportunities available to them by leveraging several of these resources throughout their career.

The resources that can be used to aid an entrepreneur's success focus on different elements of entrepreneurial development and do not often work in unison. Specifically, universities, incubators, and corporate ventures operate separately rather than as part of an integrated ecosystem (Mason et. al., 2014). The intersection of and differences between varying entrepreneurial resources are concepts central to the mission of Lagertha, a Denmark-based company that aims to support emerging female entrepreneurs in male-dominated, tech-based industries. Lagertha is looking to better understand how connecting the resources that an entrepreneur utilizes can influence the success and impact of their start-up.

The goal of this project was to create recommendations in collaboration with Lagertha on how the entrepreneurial value chain can be improved to create more impactful start-up companies. For the scope of this project, the entrepreneurial value chain is defined as the relationship between university programs, organizations that promote entrepreneurship such as Lagertha and other incubators, corporations, and global industries. To meet this goal, we have centered our project around three main objectives:

- 1. Identify and understand perspectives of key stakeholders: entrepreneurs, universities, incubators, and corporations
- 2. Design and conduct a virtual seminar to present research findings and collect data from student stakeholders
- 3. Identify how Lagertha can facilitate connections among key stakeholders to promote the long-term success of start-ups

2.0 BACKGROUND

In this section, we first discuss the importance of entrepreneurship on global and local scales, and its impacts on the economy in the following areas: job creation, gross domestic product (GDP), and market competition. We then explore the process of becoming an entrepreneur, while highlighting some of the barriers that emerging entrepreneurs might face. Particularly, we focus on the ways in which these barriers disproportionately affect women, and the resources available to help women navigate this process. One of these resources is Lagertha, a digital platform that works with global corporations to provide female entrepreneurs with guidance and tools to advance their careers.

2.1 THE IMPACT OF ENTREPRENEURSHIP ON ECONOMIC DEVELOPMENT

New business ventures contribute to economic growth and development through the creation of diverse job opportunities (Abdesselam et al., 2017). To quantify this idea, Decker et al. note that, in the United States – a country considered to have an economy that supports entrepreneurship – one fifth of gross job creation can be attributed to business start-ups. The creation of new firms and of new business ventures within existing firms generates approximately six million new jobs every year (2014). The creation of jobs further contributes to local economic development by incentivizing job seekers to relocate to entrepreneurship "hubs." These hubs tend to be centered around university clusters, with some of the most notable being Boston, Massachusetts, the San Francisco Bay Area, and the area surrounding the University of Cambridge in London, England. An influx of people moving to entrepreneurship hubs can benefit the local economies and serve as a valuable opportunity for universities to partner with or sponsor new entrepreneurship initiatives (Kressel & Lento, 2012).

Entrepreneurship contributes positively to the local economy and is an important metric for predicting economic performance, which can be measured through the growth of a country's GDP. Although the relationship between entrepreneurship and GDP varies from country to country, Valliere and Peterson (2010) found that in developed nations, high-expectation entrepreneurship activities contribute significantly to GDP growth. For the scope of Valliere and Peterson's (2010) research, high-expectation entrepreneurship activities are businesses less than 42 months in age which are on track to employ at least 20 employees in the span of five years.

There is a positive correlation between entrepreneurial activity and national economic growth (Marič et al., 2013). Kressel and Lento further support this claim, citing that venture-capital-funded industries caused a GDP growth increase of approximately 7% in 2004 (2012). New venture activities (and thus, GDP growth) have the potential to influence daily life and wellbeing; for example, countries that are considered to have entrepreneurial economies tend to have better success recovering from economic recessions (Decker et al., 2014). GDP per capita can be used as a means of measuring quality of life, highlighting that entrepreneurial ventures can benefit everyone in the local economy (Becker et al., 2005).

The emergence of new companies and markets ultimately benefits consumers by putting pressure on existing enterprises. Competition drives the market and entrepreneurship causes competition on both local and global scales (Kressel & Lento, 2012). If new start-ups do not enter the market, then there is not an incentive for existing firms to innovate by developing better products or refining their services. The opposite is also true: in a market with many similar firms, there is a need for improvement (in the form of lower prices, better quality products, etc.) to remain competitive. The result is that consumers have different choices to satisfy their needs offered at lower prices (Matusik, 2016). This helps to prevent economic stagnation—the severity of this risk is highlighted by Kressel and Lento (2012) when they stated that "...the global economy is moving so fast that standing still means falling behind" (p. 36). Global competition is an important component in global development, and this is made possible through entrepreneurship.

2.1.1 CULTURAL DIFFERENCES AFFECTING ENTREPRENEURSHIP

Different countries have diverse cultures and ecosystems surrounding entrepreneurship that can impact an entrepreneur's success. The Global Entrepreneurship Development Institute claims that entrepreneurial success cannot occur in a vacuum; it is dependent on the economy and society both locally and nationally (GEDI, 2022). The Global Entrepreneurship Index (GEI) is an annual index that measures the health of entrepreneurial ecosystems in 137 countries in both a domestic and international context. According to the GEI, the United States has consistently been ranked number one and the Nordic countries of Denmark, Finland, and Sweden have all consistently been ranked in the top ten (GEDI, 2022). While all these countries have established themselves as having impactful entrepreneurial ecosystems and there are similarities in their cultures, there are also unique differences that indicate that there are multiple environments in which entrepreneurs can thrive.

A study done by Steigertahl & Mauer found that there is an importance placed on interpersonal connections for entrepreneurial success, including identifying role models and mentors as well as developing a community and network. The study concluded that this social context and business environment are the main drivers for an entrepreneurial ecosystem to prosper (2021). In Nordic countries, populations of people are small and spread apart which has created an environment that places importance on frequent communication to stay connected. In all cultures, including the United States, having a network is a source of social capital that allows people to connect and achieve their goals, both personally and professionally (Gino et al., 2020). This interconnectivity allows for diverse collaboration in entrepreneurial endeavors. In specific industries, especially the technology sector, it is popular for experienced professionals to act as mentors for the next generation. Mentors are encouraged to share their learnings with younger generations rather than hide them for a competitive advantage (Steigertahl & Mauer, 2021).

In the business environments of both the Nordic region and the United States, there is capital that is accessible to emerging entrepreneurs. This capital comes from both private and public channels, which increases the chances of a business receiving financial support. Additionally, the Nordic region offers access to affordable, high-level education (Steigertahl & Mauer, 2021). This access to capital and education is a key factor that makes the ecosystem thrive and attracts foreign talent. In the United States, however, higher education is much less accessible because it is expensive, which can limit an entrepreneur's network and the resources available to them. Despite its high cost, in a comparative study done by the Global Entrepreneurship Monitor (GEM) from 2000 to 2006, the United States ranked in the top three for having favorable entrepreneurial education while Denmark ranked below the United States and countries such as the Netherlands, Italy, and Germany ranked even lower (Schøtt, 2007).

Comparing the Nordic region to the United States, there are evident differences in the entrepreneurial ecosystem. The United States has hubs throughout the country where industry-specific businesses thrive. In these hubs, there is fierce competition between entrepreneurs and people are less willing to share their experiences to support one another. In the United States, effort and reward are closely connected and it is commonly believed that those who have earned more did so because they worked for it. In contrast to this, Europeans generally believe that wealth should be spread out (Schøtt, 2007). However, despite effort and reward being closely connected, failing business ventures in the United States are also well respected if the entrepreneur perseveres and grows from the experience (McArdle, 2015). Failure in the United States is seen as a learning experience where people are taught valuable lessons and are less likely to repeat mistakes (Schøtt, 2007). This concept differs from Nordic ecosystems where it is more challenging to rebound from failure due to the social stigmas surrounding it. In a study done by the GEM in 2016 to compare the perception of failure in various countries, the United

States had a fear of failure of 30 percent while the European Union average was 40 percent (Switters et al., 2017). Similarly, people in Europe, specifically Denmark, are much less likely to take risks when it comes to business and would prefer to "play it safe" which is why many entrepreneurs start small businesses with no intention of growing it. They maintain their businesses to keep a comfortable lifestyle instead of maximizing their profit (Schøtt, 2006). This is very different from the culture in the United States where there is a strong focus on material wealth and personal advancement (Lee & Peterson, 2000).

2.2 BECOMING AN ENTREPRENEUR

In this section, we discuss a few ways in which future entrepreneurs may be trained or supported to build their business. This section also highlights barriers that entrepreneurs commonly encounter despite the existence of support programs.

2.2.1 TRAINING OPTIONS FOR FUTURE ENTREPRENEURS

Harvard Business Review has identified five vital aspects for entrepreneurs to consider in their journey of creating a successful business: (1) defining an enterprise on a well-developed idea, (2) creating a refined business model, (3) legally organizing the business, (4) coming up with a business plan, and (5) obtaining funding (2018). Each of these overarching steps comes with careful considerations that entrepreneurs should take to customize this template to their business opportunity. To support the journey of nearly 500 million entrepreneurs globally, there are several types of programs that can educate, train, or propel a business forward (Singer et al., 2018). These programs typically fall into three hierarchical categories: university programs, business incubators, and corporate venture capital (CVC).

University Programs: Currently, there are over 100 accredited business schools across the world, most of which have an entrepreneurial track at either the undergraduate or graduate level (Adolphus, n.d.). Galvão et al. (2018) claim that an entrepreneurial university is one that promotes a culture and practice of entrepreneurship while providing opportunities and access to resources for students. According to Eesley and Lee (2021), entrepreneurship education programs have grown extensively over the last 10 years without consideration of what aspects of programs create a lasting impact on students and alumni. Entrepreneurship programs are no longer limited to business schools, and in recent years there has been a shift to introducing entrepreneurship programs at technology and engineering schools (Eesley & Lee, 2021). When compared to a business school program, an engineering program that incorporates

entrepreneurial teaching tends to be less impactful in equipping students with the ability to establish successful, profitable start-ups (Eesley & Lee, 2021). This difference in program success could be explained by the fact that students in engineering programs often have a heavy course load which may deter them from participating in time-consuming entrepreneurship coursework (Eesley & Lee, 2021).

Eesley and Lee (2021) found that most entrepreneurial education programs focus primarily on skill development and further conclude that the skills taught in these programs equip individuals with the ability to both recognize and act on business opportunities. Galvão et al. (2018) state that key aspects of entrepreneurial education specifically involve the development of interpersonal, social, and entrepreneurial mindset skills. These skills help an entrepreneur maintain a network of connections, which can be integral to their business' success. Entrepreneurs benefit from learning how to negotiate, communicate an idea, cooperate with a wide variety of people, and develop leadership characteristics (Galvão et al., 2018; Nieminen & Hytti, 2016). Furthermore, entrepreneurs thrive as part of a social environment, which is why many university programs also support students in building a social network of mentors, customers, and stakeholders through an approach of "learning by doing" (Galvão et al., 2018). The goal of such programs is to develop an entrepreneurial mindset in people and give them the tools and resources necessary to act on innovative ideas. The agreed-upon positive impacts of entrepreneurial education include increased self-confidence in young entrepreneurs, improved skills to either better identify opportunities or act on them, and an increased understanding of the process to become an entrepreneur (Eesley & Lee, 2021; Galvão et al., 2018). However, the outcomes of these educational programs require further research to understand the effect they have on the success of start-up businesses (Galvão et al., 2018).

Business Incubators: Entrepreneurs in the early stages of their business can opt for one of approximately 7,000 business incubator programs worldwide to cater to their needs for training or resources (Harvard Business Review, 2018; Torun et al., 2018). Business incubators are companies that can be used to propagate an idea into a business and provide resources such as office space, access to training, mentoring, networking, and support for the business (Bruneel et al., 2012; Harvard Business Review, 2018). Business incubator programs started with the goal of providing a shared space for entrepreneurs to collaborate with each other and further the growth of their own businesses (Torun et al., 2018). Accelerators are similar to incubators but are more fast-paced and geared towards entrepreneurs who want a competitive advantage in the market (Harvard Business Review, 2018). According to Pauwels et. al (2016), the primary reason an entrepreneur would use an accelerator is to obtain pre-seed investments and gain exposure to intensive business development opportunities. Accelerators are more beneficial to startups that have a robust idea and can compete with other entrepreneurs, as well as

entrepreneurs that can participate in equity investments (Harvard Business Review, 2018; Pauwels et al., 2016). These opportunities mirror much of what incubators offer, but in a shorter time frame (three to six months).

Corporate Venture Capital (CVC): Another opportunity that exists for entrepreneurs to grow their business is to participate in a corporate venture capital (CVC) enterprise, which is when an established corporation partners with or invests in a smaller, related start-up. Though specific targets can and often do vary between establishments, the general goal of these partnerships is to foster innovation by providing resources and capital to smaller firms (Waldkirch et al., 2021).

The success of a CVC relationship is difficult to measure and attempts to do so yield conflicting results. Goedhuys et al. (2013) argue that these collaborative and strategic partnerships make structural change and innovation possible. Conversely, research by Waldkirch et al. (2021) found that corporate ventures have high failure rates and may be more conducive to making short-term profits than they are to pursuing innovative initiatives. Maula et al. (2005) state that, "The availability of the specialist form of capital provided by venture capital firms to young high potential businesses has been viewed as critical in supporting a vibrant modern 'information economy,'" though they do not elaborate on how likely this success is.

Though there is no consensus among researchers on the likelihood of corporate venture partnerships being successful, there are well-defined benefits that come from forming these business relationships. Corporations benefit from increased adaptability in a changing economy that comes from pursuing an exploratory initiative (Basu et al., 2011). Although corporate ventures may be subject to high failure rates, these partnerships can still serve as valuable learning experiences (Waldkirch et al., 2021). Independent entrepreneurs can benefit from these partnerships as well–particularly in the form of receiving capital–if they are willing to partner with corporations. Basu et al. claim that "...corporate investors are often viewed suspiciously by both ventures and independent venture capitalists due to the perception that a CVC investor's intent may be to expropriate a venture's technology" (2011). Another factor to consider is that these ventures can be inaccessible even for those entrepreneurs that wish to pursue them; Basu et al. concluded that these partnerships are most likely to occur in rapidly changing and competitive industries (2011).

2.2.2 GENERAL CHALLENGES THAT ENTREPRENEURS FACE

Despite the existence of support and training programs, start-up failure rates are high; the Harvard Business Review (2018) quotes a start-up failure rate of 75%. The main areas where entrepreneurs struggle most include (CB Insights, 2021; Gorji & Rahimian, 2012):

Financing: Of all start-up owners worldwide, 38% claim that running out of funds was the main reason their business failed (CB Insights, 2021). Gorji & Rahimian (2012) concur that financial and legal constraints pose the greatest barriers for entrepreneurs. Entrepreneurs that start with more capital tend to be more successful and make up a small percentage of all entrepreneurs which creates a discrepancy in initial fund allocation (Ceptureanu & Ceptureanu, 2015).

Reaching consumers: 35% of all start-up owners worldwide claim that a lack of market need for their product or service is the reason that their business failed, which highlights an entrepreneur's struggle to reach the appropriate clientele often caused by misidentifying the need for their product (CB Insights, 2021). Studies have shown that entrepreneurs often focus on product development instead of the initial need for the product, creating a business model, and appropriately promoting their business to the public; these are all significant factors in sustaining a business (Gorji & Rahimian, 2012; Van Weele et al., 2017).

Socio-cultural perception of entrepreneurs in their industry/location: The society and culture in which an entrepreneur works greatly affect personal and societal attitudes surrounding entrepreneurship. Social barriers particularly affect young or new entrepreneurs because they are greatly influenced by the view of prominent role models in their lives like family members and teachers. Without appropriate encouragement and guidance, young people may view entrepreneurship in a negative light due to these social perceptions, leading to failure and lack of stable financial gain (Ceptureanu & Ceptureanu, 2015). Perhaps one of the larger effects of socio-cultural views is the male-female gender gap within entrepreneurship; according to the European Institute of Innovation and Technology (EIT), only 14.8% of start-up founders are female (2021).

2.3 SUPPORTING FEMALE ENTREPRENEURS

To counter the low proportion of female entrepreneurs, many methods are utilized to engage women with entrepreneurship and support female-founded start-ups. A study by Gorgi and Raminian concluded that the most effective support for female entrepreneurs focuses on

socio-cultural, environmental, and individual barriers since these impact female entrepreneurs more than their male counterparts (2012).

2.3.1 BARRIERS THAT DISPROPORTIONATELY AFFECT FEMALE ENTREPRENEURS

The gender gap in entrepreneurship can be attributed to female entrepreneurs facing an additional set of barriers related to social perception, which includes the navigation of cultural practices and gender roles as well as an uneven distribution of finances (Gaweł, 2021; Mroczek-Dąbrowska & Gaweł, 2020; Qiu, 2018). Local cultural practices influence women's choices to be entrepreneurs and the extent to which they are supported in society as entrepreneurs (Qiu, 2018). A study by Qiu drew conclusions on nine practices or behaviors that individuals follow which influence the culture of a society. Specifically, Qiu (2018) found three behaviors that resulted in variation in societal support or opposition to female entrepreneurs:

- **Power Distance**: A society where unequal distribution of power is the norm.
- **Future Orientation**: Active planning/policy making for the future is determined by leadership, which is predominately male.
- **Uncertainty Avoidance:** Societal problems are resolved by following strict rules and policies.

These behaviors can pose as a barrier for women because they all relate to the power dynamics of a society and create a space where women face more difficulty in becoming entrepreneurs. This study concluded that people do not see the need to support female entrepreneurs as a priority and that social capital is usually directed to men. Further, the cultural norms of a society influence the gender roles assigned to men and women, which negatively impact women's reach as entrepreneurs (Rubio-Bañón & Esteban-Lloret, 2016; Wu et al., 2019). Rubio-Bañón & Esteban-Lloret (2016) claim that these norms have influenced the expectations for male and female entrepreneurs where men are considered the ideal business owners and women are considered ideal secondary workers (like secretaries). Wu et al. (2019) further elaborate on these gender stereotypes within the entrepreneurial community by claiming that they negatively influence the evaluation of female entrepreneurs by peers and thereby limit the resources that women receive. The image of an entrepreneur being aggressive, risk taking, and dominating can discourage people with significant venture capital, resources, and bank loans from selecting female entrepreneurs over males (Wu et al., 2019). For example, in 2020, femalefounded start-up businesses worldwide obtained less than half the amount in equity financing than start-ups founded by males (World Economic Forum, 2020).

These gender inequalities are further highlighted through the prevalence and impact of pitch days. Pitch days and pitch competitions help entrepreneurs or aspiring entrepreneurs solicit capital from external investors and often follow a standard format that includes a company presentation, question and answer session, and negotiation (Khurana & Lee, 2022). Additionally, pitch days facilitate the formation of business partnerships and, at the university level, provide an opportunity for networking with alumni (Price, 2021). Price's (2021) research emphasized the weight that a pitch can hold and stated that effective communication is of critical importance for growing a company. Pitch days can be a valuable learning experience as they may help develop essential skills for entrepreneurs, but as stated by Khurana and Lee (2022) cause "a persistent and pervasive gender imbalance."

Entrepreneurs who display feminine behaviors or speech patterns during pitches are less likely to receive interest from investors and be perceived as authoritative (Balachandra et al., 2021). In addition to being penalized for displaying feminine characteristics during a pitch, Khurana and Lee (2022) found that female entrepreneurs are also penalized for displaying qualities such as taking risks or making bold financial decisions, which are generally considered to be masculine.

A lack of investor interest can cause women to have negative self-perceptions as entrepreneurs. Multiple researchers have concluded that women often perceive that they are less capable than men, thereby encumbering their perceived self-efficacy. A study by Hohl et al. (2021) found that men are more likely to overvalue their businesses, while women are more likely to undervalue their business in a pitch. Undervaluing a business can be costly in that an entrepreneur might sell more equity for less money and will be required to obtain capital more frequently. Ultimately, teams with female entrepreneurs are less likely to secure a deal following a pitch competition than male teams (Khurana & Lee, 2022).

In an attempt to mitigate these inequalities, the Organization for Economic Co-operation and Development (OECD) has been involved in improving access to education, policymaking, and monitoring discriminatory institutions worldwide to support women (Adema et al., 2014). Despite these efforts, the Global Entrepreneurship Monitor reports only a 5% reduction in the gender gap (Kelley et al., 2017).

2.4 LAGERTHA'S BUSINESS MODEL

Lagertha is a Denmark-based global company with a mission to connect female-founded start-up companies with global industries while promoting diverse and sustainable operations (Lagertha, 2022). According to Ely & Thomas (2020), having diversity within a workforce is not

enough to improve performance within an organization—a company must also shift its corporate culture and adjust its management practices to actively combat bias in systems of oppression and create a culture that values the diverse knowledge of its employees. Changing corporate culture is an aspect of workforce diversity that many companies struggle to incorporate and is the leading motivator for the development of Lagertha's programs.

Lagertha offers training programs that educate its clients on creating and utilizing a diverse workforce as well as teaching them about developing their own environmental, social, and governance (ESG) goals. The diversity training module aims to determine the status of diversity within participant companies by helping them identify stereotypes and implement changes so diversity is at the core of their values. The ESG training module aims to teach participants about how ESG goals are interconnected and uses advice from various businesses, investors, and accredited documents to provide guidance on incorporating ESG in a company's sustainability narrative.

Lagertha also offers an incubator program that connects entrepreneurial women with global industries to promote the long-term viability of startups. Specifically, Lagertha supports female entrepreneurs in seven traditionally male-dominated fields: (1) maritime/shipping; (2) logistics; (3) mining/sustainable productivity; (4) new digital technologies; (5) transport; (6) energy; and (7) customer focus and the next generation focused on sustainable stewardship. There are programs tailored to different types of entrepreneurs and start-ups. Lagertha's incubator programs aim to connect entrepreneurial women of all ages with global industrial partners and stakeholders that could further expand their business. The three different programs they offer vary based on the goals of the client and the duration of the program:

- 1. For women who have a business model or idea that is scalable to the global level,
- 2. For women who aim to create a small business with a limited number of employees, and
- 3. For intrapreneurial women (managers who promote innovative product development and marketing). This involves a broader ecosystem because these women will likely join a more diverse entrepreneurial environment in the future.

These programs provide services such as coaching and mentoring, matching with partners and global industries, the development or optimization of a business model, and access to investor portfolios. Each program also provides entry into an online community of like-minded women (Lagertha, 2022).

Even with the existence of university programs, incubators, and CVC, the success rate of entrepreneurs continues to be exceptionally low with an average failure rate of 90 percent

(Krishna et al., 2016). Lagertha aims to create a new research space to improve startup success rates by addressing the fragmentations of the support programs utilized by entrepreneurs (comprised of universities, incubator companies, and corporate industries).

3.0 METHODOLOGY

The goal of our project was to create recommendations on how the entrepreneurial value chain could be improved to create more impactful start-ups. For the scope of our research, the entrepreneurial value chain refers to the relationship between university programs, business incubator programs such as Lagertha, and global industries or corporations. To achieve this goal, we pursued the following objectives:

- 1. Identify and understand perspectives of key stakeholders: entrepreneurs, universities, incubators, and corporations
- 2. Design and conduct a virtual seminar to present research findings and collect further data from student stakeholders
- 3. Identify how Lagertha can facilitate connections among key stakeholders to promote the long-term success of startups

3.1 OBJECTIVE 1: IDENTIFY AND UNDERSTAND PERSPECTIVES OF KEY STAKEHOLDERS: ENTREPRENEURS, UNIVERSITIES, INCUBATORS, AND CORPORATIONS

To achieve our first objective, we wanted to learn about different stakeholders' perceptions of their role in the entrepreneurial value chain, the availability and accessibility of entrepreneurial support resources, and the influence of gender inequality on a female entrepreneur's career. We developed a set of research questions to answer through our stakeholder interviews:

- 1. What resources have successful entrepreneurs taken advantage of (e.g., University programs, incubators, etc.) and how do they find these resources?
- 2. What opportunities exist to connect universities, business incubators, and CVC programs to support entrepreneurs?
- 3. Do female entrepreneurs need additional support in finding/utilizing these resources? If so, in what ways could female entrepreneurs be better supported?

We utilized Lagertha's network, our personal networks, and online searches to identify stakeholders to contact. We sought out stakeholders from the following categories: entrepreneurs, university entrepreneurship educators, incubator representatives, and corporate representatives. Several interviewees had experience in more than one of these categories, and nine of the 10 interviewees were from the United States or Denmark. A breakdown of interviewed stakeholders can be seen in Table 1 below.

Table 1: Interviewee breakdown across stakeholder categories

Interviewee Name	Stakeholder	Current Position or	Organization,	
	Category	Title	Company, or	
			University they	
			Represent	
Curtis Abel	University	Executive Director of	Worcester	
		Innovation and	Polytechnic Institute	
		Entrepreneurship, ad	(WPI)	
		interim		
Rev. Dr. Debora	University	Dean of Worcester	Worcester	
Jackson		Polytechnic Institute	Polytechnic Institute	
		Business School	(WPI)	
Marc Printz	Incubator	Community Manager	WorcLab	
Iris Madsen	Entrepreneur	Co-Founder and	Hydrovertic,	
		CEO, student	University of	
			Southern Denmark	
Professor A (this	University	Professor of	Technical University	
interviewee preferred		Entrepreneurship	of Denmark (DTU)	
to remain				
anonymous)				
Dr. Lars Alkærsig	University	Head of Education	Technical University	
		for Entrepreneurship	of Denmark (DTU)	
Rune Nygaard	Corporate	Business Manager	Wilhelmsen Group,	
		Ventures, member of	Lagertha	
		Lagertha Advisory		
		Board		
Annette Rye Larsen	University, Corporate	Startup Hub	Copenhagen School	
		Manager, Project	of Design and	
		Manager	Technology (KEA)	
Helene Skov Udsen	Entrepreneur	Co-founder, student	Nordic Twins,	
			Vivere, Copenhagen	
			School of Design and	
			Technology (KEA)	
Donna Levin	Entrepreneur,	CEO, Arthur M.	Babson College	
	Corporate, University	Blank School for		
		Entrepreneurial		
		Leadership		

We developed a series of questions for each specific interviewee. Some of the questions were kept consistent for each interviewee within one stakeholder category so that we could compare the responses, but others were more specific to the interviewees' individual experiences; no two interviews followed the exact same structure, though all were semi-structured to encourage conversation. During each interview, one team member facilitated and led the meeting by asking the main questions, one team member asked follow-up questions and ensured that the conversation stayed on track, and two team members took notes of the interviewee's responses. When possible, the interviews were recorded. The interview questions and notes can be found in Appendices D and E, respectively.

We analyzed the results of the interviews to identify common themes or points of disagreement among stakeholder responses. We also looked for repeated words, phrases, and opinions shared by multiple interviewees and mapped their responses to our research questions. We drew upon learnings from the interviews to develop a virtual seminar and to identify how Lagertha could facilitate connections among entrepreneurs and support resources such as universities, incubators, and corporations.

We acknowledge that these interviews have limitations and biases. The four stakeholder categories are not equally represented in our interviewee pool. Specifically, we interviewed more university representatives and entrepreneurs than incubator directors and corporate representatives, who were less responsive to requests for interviews. Additionally, interviewees may have been hesitant to speak negatively or highlight potential drawbacks of entrepreneurial programs they are associated with. Similarly, corporate officials may not have disclosed any negative feelings they might have towards entrepreneurship or CVC ventures. Further, there was potential for non-response bias in that entrepreneurs may be more likely to participate in an interview if they consider themselves to be successful. Because of this, our data may apply better to more successful entrepreneurs than less successful entrepreneurs.

3.2 OBJECTIVE 2: DESIGN AND FACILITATE A VIRTUAL SEMINAR TO PRESENT RESEARCH FINDINGS AND COLLECT FURTHER DATA FROM STUDENT STAKEHOLDERS

The goal of this seminar was to introduce university students to entrepreneurship by highlighting a few key topics pertinent to our research: value creation, gender inclusivity in entrepreneurship, cultural differences in entrepreneurship, and the availability of entrepreneurial support programs. Each of these topics included a 10-minute keynote speech and a 20-minute interactive workshop activity in breakout rooms of randomized attendees. We collected data

through guided discussions, and recordings of the Zoom call to characterize the attendees' attitudes towards these topics. Participant responses to the guiding questions were collected with an online survey tool, Poll Everywhere. The seminar took place after all interviews were conducted and its design was developed based on the findings from these interviews and previous research. The design of each topic, the keynote speaker, and workshop activity are described below.

The Importance of Value Creation

The goal of this topic was to help participants understand that, to create value, a business must satisfy an unmet societal need. Specifically, it is important to convey the need for a business through a pitch to attract customers and investors. Professor Curtis Abel, the Executive Director of Innovation and Entrepreneurship at WPI, was the keynote speaker for this topic. He introduced the "need, approach, benefit, competition" (NABC) model of value proposition and discussed how to relay each of these elements in a pitch.

Following Professor Abel's keynote speech, participants were sent into randomized breakout rooms in groups of four or five and given five minutes to prepare a brief (less than one minute) business pitch according to the NABC model. Professor Abel assigned each group an item to pitch and a target consumer from a predetermined list, which can be found in Appendix I.1. Participants returned to the main session and one group was chosen at random to present their pitch. Other participants from the seminar were selected at random by Professor Abel to provide feedback and answer questions about whether they would purchase or invest in the product after hearing the pitch.

Creating an Inclusive Entrepreneurial Environment

The goal of this topic was to discuss the importance of creating an environment where people from underrepresented populations can be better supported as entrepreneurs. This topic had a particular focus on gender inclusivity in entrepreneurship. Professor Rosanna Garcia, who is the Beswick Professor of Innovation and Entrepreneurship at WPI and has a research focus on underrepresented populations in entrepreneurship, delivered the keynote speech for this topic. She spoke about challenges she had faced as a female entrepreneur and discussed ways women may be discouraged from pursuing entrepreneurship.

After Professor Garcia's keynote speech, participants were sent into three randomized breakout rooms, each with one member of our team, to have a guided discussion about gender inclusivity. The guided discussion included questions about how female-founded businesses and feminine-sounding pitches are perceived. Participants were also asked to share their personal experiences with feeling discouraged from pursuing entrepreneurship (if applicable).

Participants responded through Poll Everywhere. The complete list of questions asked in this guided discussion can be found in Appendix I.2.

The Impact of National Cultures on Entrepreneurial Environments

The goal of this topic was to illustrate how cultural differences can impact an entrepreneur's career. Specifically, this topic focused on the differences in work-life balance and the perception of business failures between the United States and Denmark. We also aimed to emphasize the importance of asking questions in cross-cultural communication. Kate Maria Vinther, the founder of Lagertha, was the keynote speaker for this topic. She spoke about her experiences as an entrepreneur in multiple cultures, and how national culture can impact someone's decision to pursue entrepreneurship.

After Kate Maria Vinther's keynote speech, participants were asked to respond to a few open-ended prompts on Poll Everywhere about their opinions and experiences with the topics covered in the keynote speech. Then, participants were sent to three randomized breakout rooms, each with one member of our team to guide the activity. Two participants in each breakout room either volunteered or were chosen to participate; one participant played the role of a patient visiting a doctor in a foreign country and the other acted as the doctor. The goal was for the doctor to diagnose the patient, but the patient was not allowed to use certain words to describe their symptoms, and neither participant was allowed to ask questions to the other person. When participants returned to the main session of the Zoom call, they were asked to describe their conversation in one word, which was displayed on a word cloud through Poll Everywhere. Through this activity, we aimed to demonstrate the value of asking questions for effective communication, especially cross-cultural communication and how this could impact businesses. Further information about the procedure for this activity can be found in Appendix I.3.

Making the Most of Available Resources

The goal of this topic was to present what we learned through our research and interviews with entrepreneurs about the availability and utilization of entrepreneurial support resources. We wanted to help participants to become more aware of different types of entrepreneurial support resources. Our team delivered the keynote speech for this topic. We gave brief descriptions of university entrepreneurship programs, incubators, and corporate venture capital partnerships, and highlighted some issues that may prevent entrepreneurs from taking advantage of them.

After our keynote speech, participants were sent into four randomized breakout rooms, each with one member of our team. Each breakout room was provided with a short description of a business idea and asked to brainstorm what support resources would be most beneficial in advancing the business. When participants returned to the main session of the Zoom call, they

were asked to share the resources and strategies they developed. For more information about the structure of this topic, please refer to Appendix I.4.

3.3 OBJECTIVE 3: IDENTIFY HOW LAGERTHA CAN FACILITATE CONNECTIONS AMONG UNIVERSITY PROGRAMS, INCUBATORS, AND CORPORATIONS

Through our data collection and analysis, we aimed to learn about the availability and accessibility of support resources within the entrepreneurial value chain made up of universities, incubators, and corporations. We identified ways the connections among these resources in the value chain could be improved to better support emerging entrepreneurs. Additionally, we determined circumstances where entrepreneurs from underrepresented populations might need more support, and if so, what types of support they need. Based on the data collected from research, interviews, and the seminar, we provided recommendations to Lagertha on how they can help to integrate entrepreneurs, universities, incubators, and corporations to create a more supportive entrepreneurial ecosystem.

4.0 FINDINGS

In this section, we first present findings on the importance of value creation in developing a successful start-up. Next, we discuss the utilization of entrepreneurial support resources such as university programs, business incubators, and corporate venture capital initiatives. We then introduce findings on gender inclusivity in entrepreneurial environments. Finally, we illustrate the cultural differences identified through our research of Denmark and the United States, specifically in terms of fostering entrepreneurship. These findings will lay the foundation for the development of recommendations on how to improve connections among entrepreneurial support resources to increase the impact of start-ups.

4.1 DEVELOPING AN ENTREPRENEURIAL MINDSET DRIVEN BY VALUE CREATION

In this section, we present perspectives from university faculty, entrepreneurs, and corporate employees about the importance of developing a need-based value proposition and transferable skills to start a successful business. We then discuss how these concepts are key components of developing an entrepreneurial mindset and the role this mindset plays within the entrepreneurial value chain.

A business should be based on a need, not an idea. A common theme throughout our research was the importance of creating value in starting a business and maintaining its success. This was introduced in our first interview by Professor Curtis Abel, Executive Director of Innovation and Entrepreneurship at Worcester Polytechnic Institute (WPI) and was emphasized in following interviews by other stakeholders. Abel stated that to create value, a business proposition must address an unmet societal need, or it must provide a more appealing solution to a problem than what is currently on the market. When an entrepreneur uses value creation in their business proposition, they have a clear understanding of who their target customer is and can build their business model around this market. An effective way to ensure a business proposition has value is to use the Need, Approach, Benefit, Competition (NABC) model which involves identifying a need or a problem to be solved, developing an approach for how this need or problem can be addressed, recognizing what the benefits are for the stakeholders, and determining how this solution compares with competing strategies or alternatives (C. Abel, personal communication, February 21, 2022).

Rev. Dr. Debora Jackson, the dean of the WPI Business School, Professor Lars Alkærsig, Head of Education for Entrepreneurship at the Technical University of Denmark (DTU), and

Rune Nygaard, manager of corporate ventures for Wilhelmsen Group, concurred that creating a business proposition that addresses a specific societal need or problem is essential to the long-term success of a start-up. Nygaard mentioned that failure to identify a need for a business can be extremely detrimental to an entrepreneur's success. In our interview, he stated, "Most start-ups I have worked with are so in love with their solution, they alter the problem to make their solution fit. No. You need to fix your solution to address the problem, not the other way around." It is often a lack of this specific need or problem within a business that might prevent potential investors, such as corporations, from investing in start-ups and can hinder the growth or trigger the failure of start-up companies (R. Nygaard, personal communication, March 24, 2022).

Transferable skills are necessary for the development of a successful start-up.

Another key component to the success of start-ups is the development of transferable skills. Transferable skills, also referred to as life skills or soft skills, are capabilities that can be applied to a multitude of activities or situations. Examples of transferable skills are communication, problem solving, teamwork, time management, and organization. These types of skills are highly valued by professionals, especially employers (Janakiraman, 2018).

Helene Skov Udsen, co-founder of Nordic Twins and VIVERE and student at the Copenhagen School of Design and Technology (KEA), discussed how transferable skills are often overlooked which can contribute to an unhealthy work environment. She spoke about her experiences that led her to become an entrepreneur and mentioned that when skills like communication, collaboration, and teamwork are neglected, the work environment can suffer. This can place strain on the relationships between managers and employees and can have a negative impact on the mental health of those involved (H.S. Udsen, personal communication, April 7, 2022).

An entrepreneurial mindset is versatile and can apply beyond starting a business.

The ability to identify and address a societal need, create value, and develop transferable skills are key elements in developing an entrepreneurial mindset. An entrepreneurial mindset is versatile; the skills learned through entrepreneurial education are life skills that can apply beyond starting a business. Abel and Alkærsig agreed that the skills gained through an entrepreneurial education are useful for everyone, not just those looking to start their own business (C. Abel, personal communication, February 21, 2022; L. Alkærsig, personal communication, March 25, 2022). These skills are effective for pitching oneself to an employer, establishing connections and networking in the corporate world, and maintaining healthy relationships among co-workers. A specific example that Abel used to describe the versatility of an entrepreneurial mindset is when someone is interviewing for a position at a company. The interviewee must present themselves and their skillset in a way that has value to the employer by reflecting the needs of

the job description (C. Abel, personal communication, February 21, 2022). Similarly, Annette Rye Larsen, manager of the KEA Startup Hub, stated that the skills that students at KEA develop will help them in other professional areas even if they do not pursue entrepreneurship, such as forming partnerships or working within a large company (A. R. Larsen, personal communication, April 4, 2022).

4.2 AVAILABILITY AND UTILIZATION OF ENTREPRENEURIAL RESOURCES

In this section, we assess entrepreneurial resources by analyzing the extent to which they are utilized and how accessible they are to determine factors that contribute to their underutilization. In addition, we discuss factors that contribute to successfully accessing and utilizing these resources for entrepreneurial ventures.

Entrepreneurs are often unaware of the entrepreneurial resources available to

them. Despite the importance of these resources to entrepreneurs at various stages of business development, many entrepreneurs expressed a lack of prior knowledge about the resources they ended up using. Iris Madsen, co-founder of Hydrovertic, initially studied theoretical mathematics at the University of Copenhagen, but after participating in a commercial biotechnology project, iGEM, discovered her interest in business and applied sciences. After founding her first company, she began studying product development and innovation at the University of Southern Denmark. Growing up around entrepreneurship and being exposed to entrepreneurial resources was what helped Madsen picture herself pursuing entrepreneurship (I. Madsen, personal communication, March 18, 2022). However, it can be difficult to become aware of these resources without prior exposure; Madsen stated that, "This is of course the conundrum, as you do not know it [entrepreneurial support resources] exists before you are exposed to it, and you will not be exposed to it before you know it exists" (I. Madsen, personal communication, April 28, 2022).

Udsen chose KEA for the unique combination of design and entrepreneurship in the curriculum. However, she was not aware of the KEA Startup Hub until Larsen presented about the hub during one of Udsen's classes (H. S. Udsen, personal communication, April 7, 2022). Larsen said that students typically do not use the full extent of KEA's resources unless they have direct exposure to them (A. R. Larsen, personal communication, April 4, 2022). Many students do not utilize their university's entrepreneurship programs because the advertisements fail to reach them. This can be due in part to many students not realizing their entrepreneurial potential until they are directly presented with opportunities for development.

Marc Printz, community manager at WorcLab, an incubator in Worcester, Massachusetts and WPI alumnus, noted that entrepreneurs with large networks are often able to find the resources they need through their connections (M. Printz, personal communication, February 24, 2022). It can be difficult for new entrepreneurs who are still building their networks to discover the resources most beneficial for them.

University students often lose access to resources after graduation. Universities provide many resources to their students such as research databases, physical space, connections with professors and mentors, and tools such as 3D printers, laser cutters, and prototyping equipment. While many universities have alumni networks and some services that are available to alumni (such as career development resources), the sudden lack of resources following graduation often leaves entrepreneurs feeling stranded. However, incubator programs can provide many of these resources. Research database subscriptions, office space, tools, and software can be very expensive and might not fit into the budget of small start-ups, but incubators provide these types of resources at a lower cost, decreasing the time and money required to start and run a business (M. Printz, personal communication, February 24, 2022). The importance of these resources is supported by Galvão et al. (2018), who state that entrepreneurs thrive in social environments and that successful programs for entrepreneurs tend to provide tools and resources.

Larsen also recognizes the issue of losing resources after graduation. Since KEA offers programs lasting only 1.5 to 3.5 years (instead of four or five years like many university programs), students often need to use other resources after graduating (A.R. Larsen, personal communication, April 4, 2022). To address this, the KEA Startup Hub aims to connect entrepreneurs not only with other entrepreneurs but with programs that extend beyond graduation, such as the Nordic Entrepreneurship Hub and programs offered by cluster organizations. Alumni are also invited to many of KEA's events to both gain knowledge from participating in events and share their experiences with students still enrolled at KEA to expose them to the world of entrepreneurship beyond university.

Corporate officials providing venture capital are looking for specific qualities in start-ups. Corporate venture capital is an important resource, particularly for start-ups that require large investments to perform research and development. While many entrepreneurs recognize when this resource would be useful for them, it can be difficult to utilize effectively due to the competitive nature of events for pitching ideas to corporations and a lack of understanding what ideas corporations want to invest in. Nygaard expressed in an interview that it can be difficult to find start-ups for corporate ventures; corporations sometimes need to interview thousands of start-ups to find ones that align with the corporation's goals, motivations,

and values, and those start-ups must also be able to communicate those aspects of their business during a pitch (R. Nygaard, personal communication, March 24, 2022). For example, many corporations incorporate goals based on environmental, social, and governance sustainability into their business models; pitching to such a corporation is unlikely to be effective if the business being pitched does not incorporate similar goals. Understanding what the corporation being pitched to is looking for and knowing how to pitch effectively are vital for any entrepreneur seeking corporate funding.

4.3 INCLUSIVITY IN ENTREPRENEURIAL ENVIRONMENTS

In this section, we compare the perspectives of stakeholders with our previous research to establish findings on gender inclusivity in entrepreneurship. Specifically, our results draw upon stakeholder interviews with professors and female entrepreneurs. We explore a lack of inclusivity as a result of biases inflicted both externally and internally such as the negative perception of feminine qualities in a business setting or the tendency of women to undervalue their businesses.

Technical skills associated with men are sometimes seen as more valuable than transferable skills associated with women. Several of our interviews with female entrepreneurs suggest that women are frequently perceived as having transferable skills and lacking technical skills, while the inverse is true for men. Udsen suggested that this association could be due to differences in upbringing. In her experience, she felt that young men are taught to be aggressive and to be risk takers but are sometimes discouraged from sharing their feelings. As a young woman, she felt she was raised to be polite, do as she was told, and was encouraged to talk through her feelings. Udsen noted that learning how to navigate her emotions as a child contributed to the transferable skills she utilizes in her business ventures today, and that she does not necessarily reflect the traits or lifestyle that society associates with being a stereotypical entrepreneur. (H. S. Udsen, personal communication, April 7, 2022).

The social perception of entrepreneurship can be further explained through Wu et al.'s 2019 study, which found that entrepreneurs are often associated with traits like aggressiveness and a high risk tolerance—much like those traits that Udsen suggested are taught to young men. Rubio- Bañón and Esteban-Lloret (2016) further contributed to this research; their study found that men are considered to be better suited for running a business than women are. Stakeholder interviews support this claim; Udsen noted that her abilities were not appreciated compared to her male coworkers: "My qualities were not important, but I thought they were...I couldn't shine

because my skills were soft skills, and that's frustrating" (H. S. Udsen, personal communication, April 7, 2022).

The social norms and expectations surrounding entrepreneurship and the differences in how technical and transferable skills are valued in the workplace may cause women to feel pressure (whether self- or externally-inflicted) to emulate masculine qualities. Madsen shared her experience with this when she was reporting her business' finances, stating, "...I'm making budgets I can trust [and I was told,] 'you are reporting these way too realistic[ally]; you need to inflate your numbers more because that is what men are doing.' And I would hate that...If I had lied on the numbers...I could have gotten a better deal" (I. Madsen, personal communication, March 18, 2022).

A possible consequence of the difference in how men and women (and their respective traits and skills) are valued is that it could be harder for entrepreneurs to create diverse teams. There is strength in diversity, but different motivations between business partners can complicate decision-making (A. R. Larsen, personal communication, April 4, 2022; I. Madsen, personal communication, March 18, 2022).

Women are often discouraged from pursuing entrepreneurship in technical industries. Women often face more discrimination in careers in STEM fields and in entrepreneurship, and this was highlighted through stakeholder interviews. Donna Levin, who now works as the CEO of the Arthur M. Blank School for Entrepreneurial Leadership but formerly worked at several start-ups and co-founded Care.com, was initially interested in computer programming, but was discouraged from pursuing it (D. Levin, personal communication, April 7, 2022). Jackson spoke about her previous position in manufacturing engineering; she noted that the female dress code contradicted the appropriate attire for the manufacturing floor, which was an oversight that made this part of the factory inaccessible (D. Jackson, personal communication, February 23, 2022).

Gender inequality is of particular significance in entrepreneurship. Both previous research and data from stakeholder interviews about male vs. female performance in pitch competitions suggest that women face additional barriers in advancing their entrepreneurial careers. Previous research found that entrepreneurs that display feminine qualities are judged more negatively during pitch competitions (Khurana & Lee, 2022). Participants from the virtual seminar for university students about value creation, inclusivity in entrepreneurship, cultural differences in entrepreneurship, and entrepreneurial resources, supported these claims. As seen in Figure 1a, 45% of the participants from the seminar agreed that it would be beneficial for women to reframe their pitches to be less feminine in order to cater to their audience.

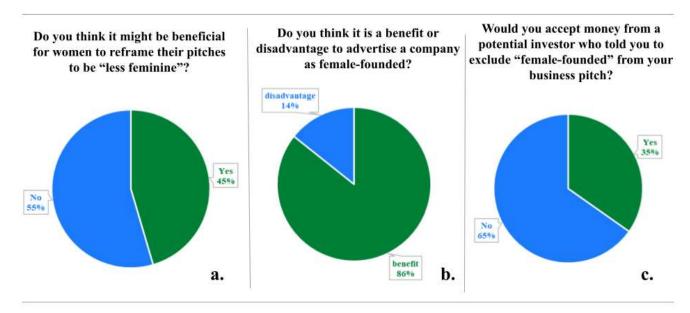


Figure 1. Seminar participant responses during Inclusivity workshop. Data from seminar participants was gathered using Poll Everywhere software. (a) participant responses related to reframing pitches to be less femine (b) participant responses related to the perception of a female-founded company (c) participant responses related to a hypothetical investment

This demonstrates that pitches are judged on a certain norm where women need to consider the audience they are speaking to and change the way in which they present to avoid being perceived negatively. Further, Professor A, a professor of entrepreneurship at DTU who preferred to remain anonymous, who has conducted research focused on mental health and inclusivity in entrepreneurship, expressed that even when women demonstrate masculine qualities in pitching their businesses, they are still negatively perceived (Professor A, personal communication, March 22, 2022). Levin gave additional insight into how pitch days put women at a disadvantage: "It's a well-documented fact: women get questions about downside and risk and males typically get questions about, you know, 'how do you manage the upside?"" (D. Levin, personal communication, April 7, 2022). The way these questions are framed could imply that there is an expectation that female-run businesses will fail, and male-run businesses will thrive.

There is an increasing understanding of the need to create an environment at pitch days that is more accepting of women and female-founded businesses. Participants of the seminar were asked about the perception of women at pitch days, specifically in the context of having female-founded businesses. As seen in Figures 1b and 1c, 86% of participants felt like it was an

advantage to advertise a company as female-founded and 65% of participants indicated that they would not accept capital from an investor that is against advertising a company as female-founded. One participant stated that, "companies are starting to recognize the benefit and more women and underrepresented business owners are seeing more contracts".

Female entrepreneurs may limit themselves due to internal bias. Gender discrimination, whether in the workplace or at pitch competitions, can give rise to internal bias and self-inflicted barriers. There was an overlap between the literature and stakeholder interviews in two key areas: women tend to undervalue themselves and their businesses while men tend to overvalue, and perfectionism can be a barrier to entrepreneurship.

Reuben et al. (2014) and Hohl et al. (2021) concur that women are more likely to underestimate their performance and capabilities. Women tended to underestimate how well they would perform on a math exam, whereas men tended to overestimate how well they would perform on the same exam (Reuben et al., 2014). Similarly, women are more likely to undervalue their businesses during a pitch, while men are more likely to overvalue their business. This undervaluation can be costly; women may offer the same amount of equity for less capital, so they must seek funding more frequently (Hohl et al., 2021).

Another point of agreement among stakeholders was that the tendency for female entrepreneurs to strive for perfectionism can put them at a disadvantage. Madsen stated in her interview that women often wait for the perfect idea before pursuing an entrepreneurial endeavor (I. Madsen, personal communication, March 18, 2022). Udsen made a similar remark, stating, "We have a society where only perfection is good enough" (H. S. Udsen, personal communication, April 7, 2022). The tendency to aim for perfectionism can create misleading data; Professor A suggested in an interview that the reported failure rate for female-founded businesses might be deceivingly low, because women tend not to pursue an idea for a start-up unless they are very confident it will be successful (Professor A, personal communication, March 22, 2022).

4.4 EFFECTS OF NATIONAL CULTURES ON ENTREPRENEURIAL ENVIRONMENTS IN DENMARK AND THE UNITED STATES

Societal and cultural attitudes towards entrepreneurship can impact the success of a start-up. In this section, we highlight some key ways in which entrepreneurial culture influences the prevalence of entrepreneurship and the impact of start-ups. Specifically, we looked at the entrepreneurial cultures of the United States and Denmark. We discuss the effects of risk

aversion behaviors and varying perceptions of failure on entrepreneurs. Additionally, we explored how government policies and work-life balance can influence an entrepreneur's business.

There are differences in the way failure is perceived in each culture. Entrepreneurial endeavors are risky with 75% of start-ups failing (Harvard Business Review, 2018). Several interviewees from varying backgrounds in entrepreneurship agreed that while failure is a key part of becoming a successful start-up owner, it is not seen in the same light across different cultures (L. Alkærsig, personal communication, March 25, 2022; H. S. Udsen, personal communication, April 7, 2022). One participant of the seminar noted how "entrepreneurship comes along with this idea that... you have to give 100% right out of the gate... which may be discouraging to those more risk-averse."

Both Alkærsig and Udsen agreed that failure is more accepted in the United States, making the U.S. a more conducive environment for risk-taking associated with entrepreneurship. Previous studies have also found that in the United States, failures are seen as learning opportunities and entrepreneurs that have failed start-ups are less likely to fail again (Schott, 2006; McArdle, 2015). 47% of the participants of the virtual seminar, who were all from the United States, shared the view that failure is seen as an opportunity to learn and grow as an entrepreneur and in one's professional life, while 53% of participants believed that failure was perceived negatively.

In contrast, many stakeholders expressed that there is a negative attitude towards failing as an entrepreneur in Denmark (L. Alkærsig, personal communication, March 25, 2022; H. S. Udsen, personal communication, April 7, 2022; R. Nygaard, March 24, 2022). According to the Global Entrepreneurship Monitor (GEM), in Denmark, failure is seen as an indication of a lack of competence (Schott, 2006). Udsen concurred as she stated how in Denmark it often feels like you only have one chance at being a successful entrepreneur because "failure does not seem to be an option" and if your image as an entrepreneur is ruined it is hard to escape it and bounce back (H. S. Udsen, personal communication, April 7, 2022). Alkærsig expanded on this concept by explaining the "Law of the Under," where Danish people are encouraged not to boast about their accomplishments and being an entrepreneur may be viewed as going against this societal norm.

Stakeholders argued that there needs to be a shift in attitudes surrounding failure and Danish entrepreneurs must be encouraged to persevere (L. Alkærsig, personal communication, March 25, 2022; H. S. Udsen, personal communication, April 7, 2022; R. Nygaard, March 24, 2022). Nygaard does note a shift in attitude towards entrepreneurship and failure in Denmark and

expressed that there are now more initiatives to help entrepreneurs learn from their mistakes such as mentorship programs with more experienced entrepreneurs.

Government regulation and economic policy can impact the establishment and growth of a company. Support from the government in the form of benefits and infrastructure for entrepreneurs impacts business growth. Alkærsig discussed how, due to its low corporate tax and well-known social benefits such as universal healthcare, social security, and free education, "Denmark should be the ideal place to start a business" (L. Alkærsig, personal communication, March 25, 2022). Specifically, it is possible to quit a job or have a failed start-up and still sustain a livelihood which is important in encouraging people to take the risk to become an entrepreneur. However, with the prevalence of risk averse behaviors, people are not motivated to leave jobs and start their own businesses in Denmark. Conversely, in the United States, where major benefits such as healthcare and social security are associated with a stable job, people take the risk to become an entrepreneur; this is a well-known part of the "Silicon Valley mentality" (Steiber & Alänge, 2016).

Entrepreneurship is associated with less work-life balance than other careers in both cultures. The image of an entrepreneur is often associated with being risky, aggressive, and working as many hours as necessary to ensure the goals of the start-up are met. Interviews with stakeholders in both the United States and Denmark revealed that while the concept of work-life balance is much more prevalent in Nordic countries like Denmark, it does not seem to apply to entrepreneurs in these cultures (L. Alkærsig, personal communication, March 25, 2022; H. S. Udsen, personal communication, April 7, 2022; M. Printz, personal communication, February 24, 2022; A. R. Larsen, personal communication, April 4, 2022).

Udsen emphasized the stark difference between the work-life balance of a more traditional career and entrepreneurship. Udsen described how while the standard in Denmark is to have a 37-hour work week, she was working 50-60 hours per week for the start-up she first joined. The view of a "real entrepreneur" that works all week, sacrifices personal life, and takes risks has been pushed into Danish culture by popular media. An example of this is the "Silicon Valley" mindset from the United States. When asked how seminar participants thought the work-life balance in their country compared to other countries, all participants from the United States shared similar opinions that there wasn't an emphasis on work-life balance in the U.S.

Both Udsen and Larsen believe that incorporating better work-life balance in the lives of entrepreneurs is a direction that needs to be addressed in Denmark. This is applicable to other cultures as well; a lack of work-life balance is common for entrepreneurs in both cultures. For example, Larsen recommends that students grow their business slowly and take on other jobs for

sustained income so that they are not sacrificing all their stakes for their new business. Udsen concurred with the idea that entrepreneurs should set boundaries for themselves so they can account for the importance of their personal lives and both mental and physical health.

Being an entrepreneur can impact mental health in both cultures. Considering the lack of work-life balance that entrepreneurs experience, their mental and physical well-being can be heavily impacted. This is a theme that is common between entrepreneurs in both the United States and Denmark. One participant of the seminar, who was from the United States, stated that "[people] feel pressure to work to the point where mental health and basic necessities to living a good life fall to the wayside." Udsen recalled how she worked in a very high-stress environment in her first start-up that resulted in her and six other employees leaving the company due to mental health issues triggered by people in higher positions of power. This aligns with research by Kensbock et al. which depicts how employees in an 'unhealthy' company—one with a high frequency of mental health disorders—often bring negative behaviors to new environments they go to work in (2022). Not placing an emphasis on mental wellness can be especially detrimental to small start-ups where losing employees can result in businesses shutting down.

4.5 LIMITATIONS

The findings we have presented are based on data collected from 10 interviews and thus may not be representative of the stakeholder groups at large. Additionally, we had difficulty reaching corporate representatives for interviews; it may be worthwhile to make research findings and conclusions based on more thorough corporate perspectives.

Most seminar attendees were American, so questions asked to participants regardless of national culture may be skewed toward an American perspective in cases where cultural perspectives vary. This was likely due to insufficient advertising to Danish students because the seminar was primarily advertised within our personal networks. Additionally, the seminar was often advertised to people with prior knowledge about this project, which may have introduced bias due to attendees being more likely to share our personal values and opinions.

5.0 CONCLUSION AND RECOMMENDATIONS

CONCLUSIONS

The findings from our stakeholder interviews and the virtual seminar supported conclusions in the areas of value creation, support resources, inclusivity, and entrepreneurial environments. These conclusions informed the creation of our recommendations for specific stakeholders in the entrepreneurial value chain.

Conclusion 1 – Value creation and transferable skills are central parts of an entrepreneurial mindset.

Stakeholders in the value chain consider value creation an essential concept for entrepreneurs to consider when starting a business. Addressing a societal need should be at the forefront of a business to fulfil a market need. Transferable skills can help an entrepreneur understand a societal need and play a significant role when it comes to working effectively on a team, forming partnerships, and networking professionally, all of which are vital to the growth of a business.

Conclusion 2 – Entrepreneurs are often unaware of or unable to access entrepreneurial support resources.

Entrepreneurs, particularly new entrepreneurs, may not be able to access the support resources they need. This can be attributed to new entrepreneurs not knowing what resources exist to fulfil the unique needs of their growing business, or because they have graduated and lost access to the software, workspace, funding, etc., offered by their university. Without knowledge of what external support resources offer or where to find them, entrepreneurs often do not access them at all.

Conclusion 3 – External and internal biases result in a lack of gender inclusivity in entrepreneurship.

Female entrepreneurs often display feminine qualities in their writing and in business pitches, which are perceived negatively. This can be damaging to current and future female entrepreneurs. These externally inflicted biases give rise to internal bias in women about their ability to become successful entrepreneurs. Female stakeholders agreed that the narrative about female-founded businesses not being as successful as male-founded businesses needs to change, and there needs to be specific action taken to create an environment where entrepreneurial women can thrive.

Conclusion 4 – Failure is less accepted in Denmark than the United States.

The United States offers an environment that is more accepting of failure and treats it as a learning opportunity, while the culture in Denmark puts pressure on entrepreneurs to succeed on their first business attempt. The public perception of an entrepreneur's efforts, specifically efforts that result in failure, affects whether more people choose to pursue entrepreneurship. This perception can be a motivator or a deterrent.

RECOMMENDATIONS

All stakeholders in the value chain can contribute to improving the connections between entrepreneurial support resources, and so we have made recommendations to each stakeholder group: entrepreneurs, universities, incubators, corporations, and Lagertha. These recommendations are generalized and will not necessarily apply to all members of a stakeholder group. We encourage stakeholders to compare themselves or their institutions with those from which we collected data to identify which recommendations may be most applicable.

5.1 RECOMMENDATIONS FOR ENTREPRENEURS

Value Creation: We recommend that entrepreneurs place an emphasis on incorporating value creation in their business, especially in the preliminary stages of their start-up such as ideation or pitching. Creating value by addressing an unmet societal need will improve the long-term success of the start-up. Particularly, entrepreneurs should evaluate whether their product or service offers a new or alternative solution that is meaningful to their consumers.

Diverse Teams: We recommend that entrepreneurs create teams with people that come from various backgrounds in order to have a diverse set of perspectives, experiences, and skill sets on the team. It is important to recognize that some entrepreneurs have faced barriers or biases that their partners have not and creating an inclusive space for team members to work will improve the success of the business.

Resources: We recommend that entrepreneurs use their personal and professional networks extensively to connect with resources such as incubators, accelerators, investors, and potential consumers. Resources may not always be presented directly to entrepreneurs and taking initiative to research different support program opportunities (e.g., university programs, incubators, corporate venture capital programs) will be beneficial so entrepreneurs can address the specific needs of their start-up.

5.2 RECOMMENDATIONS FOR UNIVERSITY PROGRAMS

General Curriculum Changes: We recommend that universities make changes to the curriculum in both entrepreneurship and non-entrepreneurship classes. Based on our research findings about the importance of value creation and its significance outside of entrepreneurship, we recommend that universities incorporate value creation in a more diverse set of curricula. For example, a lesson about creating value could be incorporated into university classes like engineering design, project or business management, entrepreneurship, and marketing. Specifically, we recommend that Worcester Polytechnic Institute expose students to the concepts of value creation by including it in the lesson plans for *Interdisciplinary (ID) 2050*. Because *ID2050* is largely comprised of research and presentations, we believe teaching students how to ensure their project is valuable to their sponsoring organization, as well as how to effectively present this value, would complement the current structure of the course. At other universities, it would be valuable to teach about value creation in a first-year seminar or as an elective course so the information is made accessible to any student that may be interested.

Entrepreneurship Curriculum Changes: We recommend that courses related to entrepreneurship are modified to include lessons about cultural norms and differences among entrepreneurial environments, the perception of failure, and mental health management. We concluded that the success of a start-up can be largely impacted by the cultural norms surrounding entrepreneurship. Understanding the different ways success or failure are perceived in a business setting is a key factor when deciding where to launch a business. Additionally, because being an entrepreneur often entails long workweeks, we recommend that students learn strategies for maintaining their mental wellbeing. We believe these concepts should first be introduced in introductory courses in entrepreneurship, and further elaborated on as the intensity of the coursework progresses.

Alumni Networks: We recommend that universities increase alumni engagement with university entrepreneurship through developing an advisory network for student entrepreneurs. Student entrepreneurs are often unaware of entrepreneurial support resources available to them (either within or outside their university) and inviting alumni that have previously utilized these resources to mentor student entrepreneurs could help to increase student awareness. When creating these networks, we recommend that universities invite alumni mentors who hail from diverse paths and backgrounds to support students who may come from underrepresented populations in entrepreneurship. We recommend that this network be free for students to increase accessibility.

5.3 RECOMMENDATIONS FOR INCUBATOR PROGRAMS

Physical Space: We recommend incubator programs prioritize offering physical workspace to entrepreneurs, even if many services the incubator offers are digital. Our findings suggested that office space is one of the major resources that student entrepreneurs and fledgling entrepreneurs require when starting a business. Whether or not an incubator rents co-working or office space to businesses in their incubation program, we would recommend that they offer communal spaces where entrepreneurs in their program can collaborate. This would also help entrepreneurs to build their networks, form diverse teams, and find role models, which could be of particular significance to entrepreneurs from underrepresented populations.

Marketing: We recommend that incubators take an approach to marketing their services that is more frequent, targeted, and specific. Frequent marketing will make it more accessible for entrepreneurs to find the resources that incubators offer at the exact time they are looking for it. Entrepreneurs will be more likely to respond to advertisements from incubators that specifically explain what kinds of businesses would benefit from the incubator's services.

5.4 RECOMMENDATIONS FOR CORPORATE VENTURE PROGRAMS

Pitch Days: We recommend that corporations looking for CVC partnerships host more equitable pitch days in order to attract more female entrepreneurs. Previous research found that female entrepreneurs are less likely to make a deal with an investor following a pitch competition than male entrepreneurs due to the perception that female entrepreneurs are less capable. Female entrepreneurs are penalized by male judges during these competitions regardless of whether they display masculine or feminine qualities during their pitch (Khurana & Lee, 2022; Balachandra et al., 2021). To mitigate this, we recommend that corporations invite more female judges to pitch competitions.

To allow entrepreneurs to demonstrate and develop their transferable skills, which we have concluded are necessary in starting a successful business, we recommend that corporations include group feedback sessions in pitch competitions. Being able to effectively give and receive feedback is a valuable transferable skill that entrepreneurs may not have the chance to demonstrate otherwise.

Marketing: We recommend that corporations implement marketing strategies that are targeted towards university students and entrepreneurs in incubators to increase awareness of corporate venture opportunities. To do this, a corporate representative could attend university pitch events or classes and could visit an incubator to share information about partnership opportunities. In

advertisements, we recommend that corporate venture programs specifically outline what types of start-ups they are looking to partner with. Further, they should tailor these advertisement strategies to include and promote female entrepreneurs by including females in their media and advertising their company's inclusivity goals.

5.5 RECOMMENDATIONS FOR LAGERTHA

Lagertha should act as a facilitator in making connections between the resources in the value chain and create an infrastructure that makes it easy for entrepreneurs to access multiple of these resources in the order that best suits their business.

Incubator Partnerships: We recommend that Lagertha partners with other incubators to create a network of diverse incubators that each offer unique, industry-specific resources. Lagertha could act as a hub or facilitator to help entrepreneurs find the incubator program that best complements their business needs. As demonstrated in our research, entrepreneurs benefit from connecting with support programs that match their start-up's goals and business model. This network of incubators would enable many start-ups to get access to benefits that are tailored specifically to their start-up.

Corporate Partnerships: We recommend that Lagertha continues to seek corporate partnerships to help create a pipeline between start-ups and CVC programs. Partnering with a corporation would help to increase Lagertha's resources and network, which may make it easier to find incubators or universities to partner with. We recommend that Lagertha help plan pitch events with corporate partners and train entrepreneurs prior to corporate pitch events. We also recommend that Lagertha educate entrepreneurs on the goals and values of their corporate partners.

University Partnerships: We recommend that Lagertha partners with universities, specifically technical universities. Since Lagertha aims to connect start-ups with global industries, and most start-ups that enter CVC programs are technical in nature, establishing partnerships with technical universities would expose corporations to more relevant start-ups and entrepreneurs. We suggest that Lagertha present to university classes about their services and promote the types of entrepreneurial support resources available to students after graduation, such as incubators and corporate ventures. This would increase awareness of the resources available outside of university. As an example, Lagertha could attend a university career fair with a corporate representative to promote CVC opportunities as a career option for students with start-ups.

Marketing: We recommend that Lagertha makes an Instagram account in order to engage with the younger population of entrepreneurs that typically use Instagram as a social platform. While Lagertha's LinkedIn profile does well in creating a professional network, the demographic of Lagertha's network on LinkedIn is comprised of well-established entrepreneurs that may not need help navigating the entrepreneurial resources for their business. Using Instagram will allow Lagertha to reach more of its target audience and increase the exposure of its programs.

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APPENDICES

APPENDIX A: PROJECT TIMELINE

LAGERTHA GANTT CHART

PROJECT TITLE	Lagertha: Copenhagen IQP D22
AUTHORSHIP	Emily C., Priyanka J., Lyra L, Gabrielle P.
CHART BY	Lyra L.

To view tasks chronologically:	Data > Filter	Views > Chronology		BREA	K																IQP													
TASKS		WEEK 7		WEEK 8		_	WEEK 9		WEEK 10			WEEK 11			WEEK 12				WEEK 13			WEEK 14				WEEK 15				WEEK 16				
		7/22-3/5		6/22-3/12/2	22 3/13/22-3/19/22		3/20/22-3/26/22									4/10/22-4/16/22			4/17/22-4/23/22			4/24/22-4/30/22				5/1/22-5/4/22								
TASK TITLE	START DATE	END DATE DUE DA	F S	S M	T W R	F S	S M	T W F	R F S	S	м т	W R	F S	S M	1 T V	V R	FS	S M	T W	R	F S	S N	1 T	W R	F S	S	м т	W R	F S	S N	T W	R F	S	S M T
ID2050																																		
IQP																																		
Establishing & Reaching Contacts	3/14/22	3/30/22																1																
Design Final Presentation	4/22/22	4/28/22						11																										
Final Presentation	4/29/22	4/29/22																																
Seminar																																		
Establish Topics & Schedule	3/23/22	3/29/22																																
Design Flyer	3/25/22	3/29/22																																
Design Social Media Advertisements	4/8/22	4/11/22																																
Establish Potential Keynote Speakers	3/28/22	3/31/22																																
Design Value Creation Workshop	4/6/22	4/19/22																																
	4/13/22	4/20/22																													1			
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C. 7. 11 (2)		4/20/22																																
Write Resources Keynote Speech	4/19/22	4/20/22																																
Conduct Seminar	4/21/22	4/21/22																																
Data Analysis	4/22/22	4/27/22																			-1-1													
Edit Keynote Video	4/27/22	4/28/22																																
Interviews in Denmark																																		
Interview Date Range	3/18/22	4/7/22																																
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Methodology Revisions	4/3/22	4/4/22																																
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Conclusions & Recommendations Outline		4/12/22																								1								
Full Report Drafting		4/25/22																								1								
·		4/28/22																																
Executive Summary Draft		4/28/22																																
Full Report Final Revisions		5/1/22																																
		5/1/22																																
Publication	5/1/22	5/1/22																												-	-			

APPENDIX B: INTERVIEW REQUEST EMAIL

Dear <insert name>,

We are a group of students from Worcester Polytechnic Institute, USA working in collaboration with a Danish company, Lagertha, to improve connections between entrepreneurial support programs to increase the impact of emerging start-ups. We are hoping to gain insight into <insert reason for contacting interviewee>.

We were wondering if you would be interested in and willing to meet with us for a 30-minute interview as a representative of **<insert organization name>**? If so, please reply to this email to let us know your availability for **<insert dates>**. We would be happy to either come to your office or to meet virtually over Zoom.

We look forward to hearing from you!

Best regards, Emily Coughlin Priyanka Joshi Lyra Layne Gabrielle Puchovsky

APPENDIX C: INFORMED CONSENT STATEMENT

Purpose of Study: We are a group of students from Worcester Polytechnic Institute, USA working in collaboration with a Danish company, Lagertha, to improve connections between entrepreneurial support programs to increase the impact on emerging entrepreneurs. We are hoping to get insight into **insert main goal of interview**> by conducting this interview.

Procedure: This interview will last approximately 30 minutes. You may leave at any time. Before the interview, all participants will be provided with a copy of planned questions if possible. You will have the opportunity to ask any clarifying questions of your interviewer before beginning. During the interview, you will be presented with a series of questions and asked to discuss. A member of our team will take notes of participant responses. If possible, we would like to record this session. This recording will not be published or distributed. By signing below, you provide your consent for this interview to be recorded. This is completely voluntary. If this section is left blank, we will not record the interview.

Signature of Participant Date
Benefits and Risks: Participation in this interview will help our team to better understand <insert goal="" interview="" main="" of="">, which will assist us in our overall goal of making recommendations on how we can increase the impact of startups. There are no known risks of participation. However, you have the right to withdraw from this study at any point, to refuse to answer any question, or to ask that your information not be included in our final, published report.</insert>
Confidentiality: Participation in this interview is completely voluntary and you may withdraw at any time. If you are willing, we would like to identify you in our report by quoting you based on notes that we take during the interview. If you would prefer, your answers can be kept anonymous. You have the right to review any quotations in the report before it is published. We are also more than happy to provide you with a copy of our report at the conclusion of the study. ☐ I would prefer to remain anonymous ☐ I give consent to be identified ☐ I am unsure and need further information
Contact Information: If you have questions or concerns before, during, or after the interview, you may contact any member of our team or the study's principal investigator at the information provided below. Principal Investigator:
Richard (Rick) Vaz, Professor, Worcester Polytechnic Institute Email: vaz@wpi.edu Phone: +1 (508) 8315000 x5344
Team Members:
Team Email: gr-Lagertha-D22@wpi.edu Emily Coughlin: emcoughlin@wpi.edu Priyanka Joshi: prjoshi@wpi.edu Lyra Layne: llayne@wpi.edu Gabrielle Puchovsky: gbpuchovsky@wpi.edu
Consent:

By signing below, you provide	le your consent to participa	te in this study as detailed in this form.
Your signature indicates that	you understand the provide	ed information and have had the
opportunity to ask questions	of the interviewers or princ	ipal investigator.
	_ Signature of Participant	Date
	_ Participant Name	
	Signature of Facilitator	Date

APPENDIX D: INTERVIEW QUESTIONS FOR VARIOUS STAKEHOLDERS

	I
Questions for Entrepreneurs	Stakeholder
Tell us about your entrepreneurial journey. How did you get where you are?	Donna Levin,
	Iris Madsen,
	Helene Udsen
Do you think the resources within the value chain work independently? Are	Donna Levin
there ways to better connect these resources to create more impactful	
startups? (define value chain to the interviewee)	
What steps could universities, corporations, and business	
incubators/accelerators be taking to better connect themselves to other	
entrepreneurial support resources?	
What would be an optimal way to utilize the resources available within the	
entrepreneurial value chain?	
What roles have you played in the entrepreneurial value chain between	Donna Levin,
universities, incubator programs, and corporations?	Annette Larsen
How would you quantify the success of a business? What metrics would	Debora Jackson
you use?	
We know that many start-ups fail/entrepreneurs have had failures - if you	Iris Madsen,
have had these types of experiences how did you overcome them and how	Helene Udsen
did this help you grow?	
Female Entrepreneurs	
What challenges have you faced as a woman in entrepreneurship and how	Professor A,
did you overcome them?	Debora Jackson,
	Iris Madsen,
	Helene Udsen

What advice would you give to aspiring female entrepreneurs?	Iris Madsen,
	Helene Udsen
Student Entrepreneurs	
How easy is it to find entrepreneurial support resources outside of	Iris Madsen,
university?	Helene Udsen
Are these resources well-known among other student entrepreneurs?	
How far does university support extend beyond graduation?	
What entrepreneurial programs have you utilized and benefited from to get	Iris Madsen,
resources or startup capital? How did you find these programs?	Helene Udsen
Are there steps that you think universities could be taking to better connect	Helene Udsen
students with resources?	
How have you benefited from corporate partnerships and resources for	Iris Madsen
entrepreneurs (ex. Incubator programs)? Please explain.	
Questions for University Contacts	
Tell us about your career path. How did you find your current role? (This	Curtis Abel,
can be tailored to suit specific interviewee)	Professor A,
	Lars Alkærsig,
	Debora Jackson,
	Donna Levin,
	Annette Larsen
Do you consider yourself to be an entrepreneur, a teacher of	Curtis Abel
entrepreneurship or both?	
At what point in someone's career is entrepreneurial education most	Curtis Abel,
beneficial/impactful?	Lars Alkærsig,
	Debora Jackson,
	Annette Larsen
How does <insert university=""> measure the long-term success of student</insert>	Curtis Abel,
entrepreneurial endeavors? How far does support extend beyond	Professor A,
graduation?	Debora Jackson,
	Annette Larsen
How does an entrepreneurship program at a technical university differ from	Debora Jackson,
one at a business university? Why should there be an entrepreneurship	Donna Levin
program at technical universities?	
Worcester Polytechnic Institute (WPI)	
How does the WPI Innovation & Entrepreneurship center support	Curtis Abel
entrepreneurship - what specific steps are taken to help students succeed?	

How does the WPI business school work with the innovation and	Debora Jackson
entrepreneurship program to support future entrepreneurs?	
Technical University of Denmark (DTU)	
We read online that student innovation is one of DTU's pillars. Can you tell	Professor A,
us more about DTU's missions related to student innovation and start-ups,	Lars Alkærsig
and the programs available to students?	
Has DTU held any pitch events or pitch competitions with business	Professor A,
incubators or corporations for student entrepreneurs? (In this context, a	Lars Alkærsig
pitch event is an event in which entrepreneurs pitch or propose their start-up	
idea to an audience (which sometimes includes potential investors)	
Copenhagen School of Design and Technology (KEA)	
Tell us about KEA's mission and some of the programs/resources you offer	Annette Larsen
to emerging entrepreneurs. Is there one that seems most effective?	
Does KEA have a process for connecting entrepreneurs with industries or	
corporate venture capital programs?	
Does KEA try to maintain relationships with entrepreneurs after they leave	
the program? Can you explain the nature of those relationships?	
Questions for Incubator Program – WorcLab	
Tell us about WorcLab's mission and some of the programs/ resources you	Marc Printz
offer to emerging entrepreneurs	
What is your process for finding entrepreneurs and connecting them to	
industry? Do you have different programs based on the goals of the	
entrepreneur?	
Do you try to maintain relationships with entrepreneurs after they leave the	
program? Can you explain the nature of those relationships?	
How does WorcLab measure the long-term success of entrepreneurial	
endeavors? Does support end after a defined period of time?	
What kind of experiences did you gain from being involved in the I&E	
center at WPI before joining WorcLab that were beneficial to you as an	
entrepreneur?	
Questions for Corporate Connections	
Overseeing ventures for your corporation, where do you find your start-ups?	Rune Nygaard
Is it hard to find start-ups for these ventures? Would you partner with	

someone who had just come out of university, or would you prefer someone	
with more experience?	
What advice would you give a start-up looking to form a partnership with a	
corporation?	
Do you find pitch days to be beneficial for both sides, from the	
entrepreneur's end and the corporation's end?	
Have you ever participated in a corporate venture capital (CVC) initiative,	Donna Levin
either from the start-up side or the industry side? If so, what did you learn	
from them?	
Questions about National Cultures	
What impact does the entrepreneurial environment of a country have on	Rune Nygaard,
entrepreneurs?	Lars Alkærsig
What is the culture surrounding entrepreneurship in your country?	Marc Printz,
	Helene Udsen
How would you describe the culture/stigma surrounding failure in	Helene Udsen
Denmark?	

APPENDIX E: INTERVIEW NOTES

APPENDIX E.1: INTERVIEW WITH PROFESSOR CURTIS ABEL

Q: Tell us about your journey from tech to entrepreneurship, how do you see yourself? A: I would consider myself an entrepreneur. Entrepreneurship is not just starting a business, it is about creating value in everything we do, which is a different viewpoint on entrepreneurship. Right now, as we look at entrepreneurship, everyone is doing the same thing. Right now, it is all about differentiation. Lots of schools sound like WPI these days (project-based learning, etc.). It's not always about what you do, but how you do it. Laurie added impact to WPI's mission of theory and practice, and we can make ourselves stand out by teaching about value creation, which is what WPI does. They do this through repetition in a fun, supportive, inclusive environment. I got a PhD in Engineering, an MBA, and worked in corporate. I worked at American Express right out of school, was not an entrepreneur at all, did work in mathematical modeling. This was a great experience. In a corporate environment, business development is about intrapreneurship, which is when you pitch to senior management instead of going after corporate ventures. Was a part of a few failed start-ups. Still consider myself an entrepreneur because of mindset. I left a business right before getting tenure to work at WPI to create an entrepreneurial mindset culture here in faculty and students in an experiential way. WPI innovation and entrepreneurship is about being a leader and solving global problems that have meaning for others. We have a ton of programs to inspire and mobilize, we want to bring the

community together to solve problems that matter and try to bring the community together that is going to have shared interest. And that's a big thing, shared passions. Building timeless value creation skills in a community that has creativity and resilience. We will impact the greater good, providing funding, venturing, and networking. To do this, we have to create connections. Inspire Innovation -> Build Foundational Skills -> Elevate impact for Greater Good

Programs that we offer: Tinkerbox, Innovation Challenges, MakeBucks, WinterSession, Chat to Connect, Tech Tomorrow. These are all part of the "Inspire Innovation" section.

Very few students leave WPI with a business. We have the opportunity to accomplish this because we have a proven value proposition approach to address unmet societal needs. This is better than what anyone else is doing. Focus on the "how." Entrepreneurship needs to be a habit of mind, something with diverse and interdisciplinary collaboration. Because WPI has a project-based curriculum, we can do this in a scalable way. Value proposition is all about making sure you are solving a problem that hits a pain point that no one else has been able to do. It should be unique, no one else is doing it, and sustainable. We want to be able to scale that and implement this in the curriculum in a sustainable way. Imagine you are a prospective student or parent. You choose a school because WPI offers you a lifelong gift, how to create a value proposition which impacts your influence in a positive way. Value creation skills can be applied anywhere. This can be helpful for startups, for pitching to your boss, selling yourself to an interviewer. This is an entrepreneurial skill. How do you make sure you are solving the right problem? How are you going to create value for people?

"Value creation is an essential precursor to innovation and entrepreneurship" - Curtis Abel

To summarize, yes he considers himself to be an entrepreneur and a teacher of entrepreneurship. Has never started a business himself, but has been a part of a few failed startups. They failed because of the people...no trust, not enough diversity on the team, not good chemistry, etc. We want to create these skills in an intentional way.

Q: At what point in someone's career (as an entrepreneurial or not) is an entrepreneurial education most impactful?

A: The earlier you develop them, the better, but this is a lifelong learning thing. Most entrepreneurs don't pinpoint the right NEED. The WHY. They just want to produce with little focus on who needs this and why. High school, maybe earlier, would be a good time to establish these skills. It is important to find the pain point. Storytelling/statistics in a value proposition are very important. The earlier someone starts practicing these skills, the better. It is not limited to

universities or incubators. Think about selling yourself to an employer, for example. The job posting is their need, their vision is your story.

Q: Since there is the focus on developing an entrepreneurial mindset, how do you feel this is best achieved? Through soft skills or technical skills?

A: What I like to call them are "timeless transferable skills," or "life skills." They can be used over and over again—they're timeless. Pushing the NABC value proposition. Partnered with someone to help students develop their value propositions based on peer feedback. Diversity of the environment is critical. They should be fun, too! Life is way too short. There is another program we are working on where they bring companies and form teams of company employees, faculty members, and students. Each team will work on a problem that the company is interested in. This is something we are doing for external partnerships and may be a way to generate revenue.

Q: I almost see WPI programs like an incubator company, yes?

A: Yes, sort of. The definition of incubator is broad, but yes. I am a big fan of building community. Value is benefits/cost, so more benefits, more value. Most people make decisions based on emotion as opposed to data.

Q: We want to come up with some metrics to measure success. How does WPI/I&E measure success of entrepreneurial ventures? Where does support from I&E extend to?

A: You hit a good point that I probably don't have the answers for. Typical entrepreneurship programs measure success by the number of startups that make it to market, which is pretty lousy. We started by tracking the number of trained faculty, but I would argue that does not necessarily measure behavioral change. I like to think about it from a behavioral standpoint, but I don't have a way to measure that. Need to measure quality over quantity which is difficult. Not always about money - need to look at the direct and indirect impact to the people and environment. Maybe pre- and post- videos of value pitches? There is always subjectivity in how you measure this, though. Some metrics are really valuable but aren't captured. What is the DIRECT IMPACT TO PEOPLE USING YOUR SERVICE, OR TO THE ENVIRONMENT? An indirect path might be when you develop something cool that society benefits from. Be creative when keeping metrics in mind, because metrics drive behavior.

Q: When did the IE program start at WPI?

A: I came to WPI in 2015. The center was not in place yet, however the strategy was being worked on. I was on search committee for executive director

Q: discuss any other slides which you feel would be important

A: Talked about Tinkerbox, Pallyt, WPI Robotics Educational for Physically Active Youth in Namibia, Eli Swai, Chat to Connect where student organizations can come together with mentors for networking, clubs can choose what they want to talk about. Also MakerBucks where you can get seed funding by making a social media story on your idea. WinterSession is about entering into the world of discovery, MakerSpace, innovation through making course (ES202X), I&E Sandbox with Joe Doiron where students can get credit for working on their own business. I&E fellowship program, open to recent alum as well, can provide seed funding. Tech Advisors Network: teams pitch to mentors/alum every month. The diversity of the mentors was not there. Wanted to expand. Now it is bi-monthly, some months they pitch, other months they get feedback

APPENDIX E.2: INTERVIEW WITH REV. DR. DEAN DEBORA JACKSON

Q: Tell us about your journey to where you are today – did you always know you wanted to be an entrepreneur?

A: (High level rough sketch) Started as a software engineer and business major studying quantitative methods and systems operations/management. Came to MA from Indiana to do software engineering for a company called Digital Equipment Incorp. but coding was not my strong suit. Came to WPI and got my masters in management and led a team of engineers in software development at startups, starting digitally then expanding (B2B and B2C platform development). E-commerce energy service provider CIO/COO. Also came back to WPI to get a masters in manufacturing engineering. Worked for a company similar to Enron. Deregulated energy industry/market collapsed and all the venture capital was lost. Raised about \$17 million in capital. I was called to pastoral ministry and went to seminary even as a CIO. Continued as pastor for 8 years after startup was shutdown, had 10000 clergy in that time Did a doctorate in ministry. Got my doctorate in ministry. Worked with Yale to establish programs with my background in theology and management. Came back to MA to work with All Girls Allowed, a non profit, to redefine their business model and get them back into an operational state. Came to WPI to be Dean of the Business school and have been doing that for the last 15 months.

Q: Tell us about some of the challenges you have faced

A: Start of my career the challenge was youth. I felt I was too young to lead engineers. Being a woman in a manufacturing environment was a challenge. Sometimes I couldn't go on to the factory floor because I was wearing heels. Defining manufacturing processes through software and ensure that the computers being built were made the way the manufacturer wanted. I had trouble working in Puerto Rico because the engineers wouldn't ask questions because I am a woman. No one assumed I had a high position because I was a woman. Faced racial biases. I was

the first female and first African American to lead the church I was called to. Even at WPI I am a very non-traditional dean because I am not a lifelong academic. People still question my credibility despite my qualifications.

Q: How to measure success or failure of a business?

A: You must be able to articulate your value proposition. What are you trying to do? What is the business trying to do? What are the metrics for measuring that? The way success is defined is dependent on the value proposition. Do what is most effective for you and your supply chain. Identify what is trying to be done and what success would look like for that. Is there research that has been done that would help determine if reaching a goal would be sufficient to make a difference? Who can you work with? Can they help to make the company more effective in reaching goals/benchmarks for success? Determine how to demonstrate how you're making a difference. Demonstrate the path to navigate the environment/ecosystem you hope to create: what is the end goal, and how do you get there? Develop a roadmap for navigating the resources that are accessible.

Q: How does the WPI business school work with the innovation and entrepreneurship program to support future entrepreneurs?

A: When we built the innovation studio and the trustees funded that, we didn't want to have a center that felt like it was owned by one entity. It was built as a resource so it was separate from the business school and accessible to all students. The business school and the i&e department are separate but connected. It feels really confusing because the theory of i&e is unequivocally taught in the business school but the practice of it is in the i&e studio and those 2 things don't jive enough. That's why Prof. Garcia is important because she is my endowed chair of i&e. She has created a map of the entrepreneurial resources at WPI that pulls all the different pieces together. We are trying to figure out "what is the journey of entrepreneurship here at WPI?"

- Business idea/innovation
- Articulate value proposition
- Complete customer discovery (through i-corps an academic program)
- Business development (use business development lab and Prof. Garcia to work with diff companies, students, faculty, etc.)
- Set business model/get first customer
- Business school launch & accelerator
- Ready for seed/angel funding?
- Commercialization fund/outside investors (attempt, go back if not funded)
- Launch

Value creation initiative to help value propositions

Customer discovery work through i-corps (academic program)

WBS business development lab (prof garcia is working with different companies student, faculty companies etc)

Business modeling through business school

Tech advisory network has seasoned entrepreneurs, professionals to challenge your business model

WBS launch wpi - incubator/accelerator that has student projects going through it

• Prepares you for the venture capital, seed/angel funding through a good ptch

Commercialization - office of tech commercialization

• To prepared for funds/outside investors

Prepared for launch

Create a process/path on how to go about that system

Q: At what point in someone's career is entrepreneurial education most beneficial/impactful? A: Whenever you decide you want to be an entrepreneur. I tried to do independent consulting and it was kind of dreadful. It was hard to deliver and also create opportunities for the next thing. I would have gaps between consulting engagements and because of that gaps in income. Having those ideas, processes, and people that you can consult with to walk through the journey and weigh your risks is important. The idea that you would leave a good job to try something new was something that was not expected in my upbringing. Culture becomes a huge factor in being able to help people

Q: Would people benefit from continually engaging in programs throughout their career? A: People these days could have 15 jobs or more before retiring. We will learn, unlearn, adapt, so lifelong learning experiences are incredibly beneficial, and spending only four years learning is not necessarily sustainable after college (maybe excluding the academia path). Experience is the best way to learn after college. Systems now are not rewarding longevity. It becomes harder as an employer to keep people because there is more money/opportunities out there.

Q: How does WPI measure the long-term success of student entrepreneurial endeavors? How far does support extend beyond graduation?

A: Career development center is available to WPI students for life. There is a strong alumni network. WPI really does mean for folks to have lifelong learning and opportunities. Alumni discount on coming back to WPI for further education/degree programs.

Q: How does an entrepreneurship program at a technical university differ from one at a business university? Why should there be an entrepreneurship program at technical universities?

A: What will differ is that the ideation might be more technically focused but the whole idea is what are your passions. Other than this, the programs operate very similarly. The merging of engineering and entrepreneurship/innovation is important. So is hearing a variety of voices from different backgrounds, demographics, etc.Encouraging an entrepreneurial mindset is encouraging different voices, experiences, different lived experiences, socioeconomic experiences. Necessity is the mother of invention. Marginalized people often have innovative ideas to address problems that don't affect more privileged groups. If you are too far removed from where the problem is you'll never see where the opportunity is.

APPENDIX E.3: INTERVIEW WITH MARC PRINTZ

Q: Where does WorcLab fit into the "value chain"?

A: It's like building a map. WPI encourages people to build a cool thing and sell it while other universities encourage students to find a problem and address it. A lot of universities will encourage students to pursue business after graduation. The issue is once you graduate you don't have access to the resources you used to get at WPI (e.g. 3D printers, laser cutters). Once you are no longer in a university, you have to figure out how you can start a business in the least amount of time and for the least amount of money. Incubators help with this. Space resources, and connections to the community are what WorcLab is all about. The resources of an accelerator are different as they focus on education, mentorship, and directed networking. Some organizations can provide both. Greentown Labs is an example of this. WorcLab is an incubator that addresses the lack of space/resources for start-ups and helps them make connections. WorcLab is the resource you would use if you wanted to start a business a few years after graduating. WPI students have the advantage of knowing people with a lot of specialized educational backgrounds (have connections with engineers, programmers, etc.)

Q: Who do you talk to if it has been a while since you've graduated?

A: Recommends learning more about entrepreneurship with the resources you already have. For example, listening to podcasts such as How I Built This by Guy Raz or watching the Silicon Valley TV series. Also learn about other opportunities such as the Startup World Cup (competition that gathers university startups from across the globe and put them in categories to compete) and STATION F, the world's largest startup incubator for entrepreneurs in Europe. There are different pros and cons to starting out as an entrepreneur and some of these can depend on where you are. Entrepreneurship is a dominant force in America but not because of the

education, other countries have surpassed the United States in education. In Europe, it is really easy to both form a company and shut down a company. There is country specific information on how long it takes to set up a business. The US has a lot of investment opportunities. It has a culture that is very work focused with not a lot of work-life balance, especially in the Northeast and the West Coast. Europe has a lot more work-life balance. In Europe work is seen as how you make money to fund your life and have fun and it should not consume your life. In the US, you are one in a million start-ups versus in Australia it is much easier to stand out. It can be easier to stand out in countries with fewer start-ups, but it can be harder to find investors.

Three different paths to start a business:

- Starting a business after going to university
- Going into industry after university then starting a business
- Starting a small business without a university education in something you're passionate about (i.e. etsy businesses)

Entrepreneurs don't need to be start-up founders; joining a team is also a good option.

Q: What kind of experiences did you gain from being involved in the I&E center at WPI before joining WorcLab that were beneficial to you as an entrepreneur.

A: Was a part of the entrepreneurship club. Had Gina Betty as a fantastic mentor. She helped innovation and entrepreneurship become more formalized before the I&E studio was created and helped put the idea of entrepreneurship in people's heads at WPI. She is one of the best connected people in the Worcester/Massachusetts community. The Tinkerbox program is fantastic. WPI does not take ownership of your ideas/patents the way that most other universities do. WPI lets you have ownership in your business. Universities have different policies about their shares in student-founded start-ups. Investors generally don't like to invest in businesses owned by colleges because the college will usually have more say. Very few WPI graduates continue to work on the business they found while at WPI; most start new business ventures when they graduate.

Q: How does WorcLab find the entrepreneurs they work with?

A: It depends on an entrepreneur's journey. University graduates come through Startup Worcester and get free access to WorcLab for a year. Many customers come in a few years after graduating from universities in or around the central Massachusetts area. WorcLab is for startups in tech industries. Entrepreneurs also find WorcLab through their network (recommended by connections). Don't underestimate SEO.

Q: Does WorcLab stay connected with entrepreneurs after they leave?

A: WorcLab strives for a long-term relationship with entrepreneurs and is a stepping stone to higher programs/ventures for college graduates (university is the first stepping stone). Building strong connections is vital to an entrepreneur's success.

APPENDIX E.4: INTERVIEW WITH IRIS MADSEN

Q: Tell us about your entrepreneurial journey. How did you get to where you are? A: Initial intrapreneurial journey started when I started studying mathematics in Copenhagen. I got involved with iGem (like GMO) and worked with CRISPR to create a new strain and commercialize it. I was on the business side and found out how fun it was to apply that to science and left mathematics behind. Shortly after, I co-founded my own company for self watering plants. I was looking for 40 million dkk for the iGem project (working with GMO is not easy). I wanted to do something more simple and doable with my own money. I used the University of Southern Denmark to learn how this could be done and am currently finishing up my education. I eventually ended up selling my first business and two years ago I started Hydrovertic with 3 other male engineers.

Q: What challenges have you faced as a woman in entrepreneurship and how did you overcome them?

A: This is a tricky question because you don't really realize it. If I fill out an application and it gets rejected, I don't know if it gets rejected because I have a feminine writing style or another reason. I think something specifically I found out just recently was that when I am doing budgeting, I'm making budgets that I can trust. I know this budget is what is going to happen, within some margin of course...I'm part of a female accelerator program...and they were just saying, 'You are reporting these way too realistic[ally]; you need to inflate your numbers way more because that is what men are doing.' And I would hate that...If I had lied on the numbers...I could have gotten a better deal but I would not have felt right about it. My company just landed an investment of 500,000 dkk and we are worried about the risk.

Q: How have you benefited from corporate partnerships and resources for entrepreneurs (ex. Incubator programs)? Please explain.

A: The most helpful incubators have provided office space and are cheap. It makes a huge difference when basic amenities and resources are provided. SDU also has an accelerator that

offers breakfast once a week. Anything that is free is attractive to students. My advice for emerging entrepreneurs is to stop taking general accelerators and apply for industry specific accelerators. These offer more valuable conversations, workshops, mentorships, etc. A really good Amsterdam based accelerator that is known to be really successful is Intec and it only accepts female entrepreneurs. It can be challenging to be involved with a lot of incubators. We currently utilize three incubators: SDU, Clean, and Intec. They make masterclasses that you can attend and access to learn more. Dell also has an accelerator program for entrepreneurs that place an emphasis on accepting female founders. Beyond Beta in Denmark is a really big accelerator that is very time demanding and similar to a bootcamp. DTU also offers their own accelerator program.

[List of incubators she told us about]

- Akademikernes A-kasse (aka.dk)
 - o Provided office space and cheap lunch
- SDU accelerator (Southern Denmark University)
 - Provided free breakfast
- Clean Innovation Accelerator
- Rockstart (rockstart.com)
- Intech Founders (intechfounders.com)
 - o Exclusively female entrepreneurs
- Beyond Beta (beyondbeta.dk)
 - Very big in Denmark
- DTU Science Park (dtusciencepark.com)

Q: How accessible would you say finding these incubators/accelerators are?

A: They are not that challenging to find. My main concern is finding space to work. We will be losing access to softwares like statista, 3D drawing softwares, etc. Software, databases, etc. are expensive and incredibly useful resources that people often take for granted while they have them.

Q: Once you graduate does the university support help?

A: You are usually stranded after graduation, at least in terms of having a space to work. You might have half a year after university or you can borrow a little bit of production space but then it's a big shift after you finish university. At this point, you don't have any income and then you have to pay out of pocket for incubators/accelerators. Accelerators are starting to put emphasis on the transition out of university. There's only one accelerator that has anything to do with being students.

Q: What advice would you give to aspiring female entrepreneurs?

A: Just start with an idea and go for it. Girls are often looking for the perfect idea but don't do this. Start with something and just go from there and you will learn. Talk to everyone about your idea; make it known. Don't be afraid of people stealing your idea; people love being involved in your ideas. This will help you practice how to explain your idea to people. Don't try to follow other's journeys (don't try to be Elon Musk). If someone gained notoriety by doing something new, doing what they did isn't something new anymore. Be unique and find out what's comfortable for you. Accelerators are pushing you into a funnel where you have to work in one way. What is motivating you? What is giving you energy to put in the 20 hours a day to become an entrepreneur?

Q: How have failures impacted where you are today?

A: I sold my first company to my co-founder because we did not see eye to eye on a lot of things. You have to find the right people to work with. Partners with different motivations will run into disagreements that make it hard to make important decisions. Recognize the signs; inability to agree on little things means you won't be able to agree on big things. Be willing to let go and move on when things just aren't going to work. Think about what's best for the company, not what's best for you/your partners. I don't think there was anything that could have helped me through this problem because it was a person-to-person problem. Not only do companies have a name, but they also have a personality, a sort of humanity.

Q: In your opinion, how is corporate venture building viewed in the world of entrepreneurship? A: It very much depends. The ones I am close knit with are all impact start-ups and so venture building is a part of their world but it's not their main goal. I have never really participated in a pitch day because I don't want to, not because of the environment but because my motivation does not quite align with them. We are not looking to super fast inflate the company and we want it to be long-term. I think pitch days are storytelling competitions and they can be nonfactual. That's what should matter but it doesn't. They want to see big numbers, big ideas, and big potential. A lot of pitched ideas get selected due to exaggeration when they aren't fully feasible/can't be implemented. You cannot measure potential against facts. No one is fact checking you. Men are just more comfortable bullshitting. Women are less likely to bullshit/exaggerate than men, so mens' ideas tend to seem grander

[Resources she shared with us]:

- https://igem.org/
- https://aka.dk/startup/Program/

- https://rockstart.com/
- https://www.intechfounders.com/
- https://beyondbeta.dk/accelerator/
- https://dtusciencepark.com/futurebox/greenup/
- https://www.norrskenimpactaccelerator.com/
- https://venturecup.dk/
- https://www.squarely.com/
- https://high5girls.dk/en/

APPENDIX E.5: INTERVIEW WITH A PROFESSOR OF ENTREPRENEURSHIP AT DTU (PROFESSOR A)

Q: Tell us about your career path. How did you find your current role?

A: In the last year of her studies as a student in management and psychology, there was a new professor doing digital entrepreneurship. She then wrote a Masters Thesis on corporate entrepreneurship and was offered a PhD position. She went to Technical University in Lucerne, Switzerland and worked there as a postdoc. She got assistant professorship in the management department which she liked but she missed working with technical students. She then started looking for a job at a technical university and wound up at DTU.

Q: We read online that student innovation is one of DTU's pillars. Can you tell us more about DTU's missions related to student innovation and start-ups, and the programs available to students?

A: When she started at DTU, she took over the oldest course in entrepreneurship- it has traditions associated with it and any DTU student can take it. It is quite popular. When she started to take it over, there were 80-100 students, now there are over 200 students. There are also more advanced courses. There is a masters program that acts almost like an incubator and spits out most of the start-ups from DTU. It was for engineering students only, but it is good to have a mix in these classes—some business students, some engineering. The accreditation process started 2 years ago and students are exceeding expectations. Students come in with an idea and leave with a Masters Degree and a start-up. There have been 14 start-ups created so far from 30 students. Several projects already have soft funding. This program always has more than 100 applicants, they can admit 50. It has been extremely successful.

Q: How long are these courses?

A: Normal course is 13 weeks, Masters program is 2 years. In the first semester, students work in various and diverse teams while they devise their ideas. By the end of that semester, they have

an idea and a team. Second semester is proof of concept and using Xtech, DTU's incubator, then some go abroad. It is like a hybrid of an incubator and a Master's program.

Q: How long after graduation does support last?

A: They will get funding during their studies. They are as flexible as possible if people need more time writing their thesis.

Q: How does DTU measure the long-term success of student entrepreneurial endeavors? How far does support extend beyond graduation?

A: The first cohort of the program still has not graduated because it is so new. The program will be evaluated in 6 years, but this Masters program is very new so it is hard to judge. This may pose an issue in the future—it is important to ensure that the structure of a company will allow the founder to take a salary, otherwise the government will see it as unsuccessful and will shut it down.

Q: Has DTU held any pitch events or pitch competitions with business incubators or corporations for student entrepreneurs?

A: DTU offers a program called Pizza and Pitches where students listen to each other's pitches and give feedback. There isn't really anything else at the moment. It's all a but self organized at the moment.

Q: Would you promote this seminar to students at DTU?

A: Yes! - Make sure to send the flyer.

Q: What challenges have you faced as a female in entrepreneurship/ what challenges exist for females in entrepreneurship?

A: trying to create a flipped classroom approach that makes it normal to be a female entrepreneur. Learn from podcasts from female student entrepreneurs—someone accessible, not a huge serial entrepreneur so that it is more relatable. She tends to use a lot of female CEOs and entrepreneurs to promote entrepreneurship. Supervising a project that checks investor biases. Tech start-ups are generally male-dominated. Advice at the moment is generally short-sighted. People like masculine traits but you need to be authentic, it doesn't matter how "strong of elbows" you have if you are not authentic. They are considering pitching the same ideas with different language to see how that affects the way it is judged. Teaching approaches are also not catered towards people on the spectrum. There are more male students that continue with their startups (risk aversion is higher for women), and when women demonstrate masculine traits they are seen as bitchy. Training needs to be on both sides (I think by this she means that judges and

contestants need to be trained). Failure rate for women might actually be lower because they won't pursue an idea unless they are very confident it will work.

Q: What things can women do to have better pitches or start-ups?

A: Prepare twice as much as a man would, be very confident in the pitch/presentation, but be yourself during the Q/A phase. It is important to be confident but also personable.

Q: Connections with CVB?

A: Some of the courses are more focused on corporate ventures. Cases in some of classes are coming from companies, sometimes companies sign off their IP so students can run with the idea. Strong sense of urgency from companies to partner with start-ups to outsource some innovation. Collaboration is becoming more common.

APPENDIX E.6: INTERVIEW WITH DR. LARS ALKÆRSIG

Q: Tell us about your career path. How did you find your current role?

A: I got an undergraduate degree in Computer Science and a graduate degree in Business. I was hired by DTU while working as an independent intellectual property consultant as a side project and have been here for almost 10 years. I wasn't initially an entrepreneurship educator or researcher, but innovation, business development, and entrepreneurship are basically the same thing, and the methods and experience are transferable. Then I became the head of education for entrepreneurship because of my background in management.

Q: How important is entrepreneurial education at tech school?

A: It entirely depends on the person. Some people detest it—they prefer lab work, or something else. But I think the majority of students should be exposed to it. Not every student can enter research. That's not to say I think everyone should run a business—in fact, the opposite. Students are too often pushed into businesses when they shouldn't be and suffer for it. We also need to focus on the work life balance. Every student should be exposed to it, even though they may not like it; transferable skills are very useful for everyone. We need creative ways of sharing this knowledge and information, though. It benefits every setting of a company. There is a mandatory course but it hasn't been super well-received—people are either uninterested or even hate it. For the vast majority, entrepreneurship is something that happens by chance. No one grows up thinking that they are going to be an entrepreneur. Being able to pitch an idea, show minimum viable product, etc. allows you to gain more resources in a business setting. This is especially important because development is expensive, especially in engineering.

Q: Can you tell us more about DTU's missions related to student innovation and start-ups, and the programs available to students?

A: DTU offers a Masters in entrepreneurship that doesn't require a Bachelors in anything in particular to enroll. They find a team, develop a business, and launch it during their studies. Programs are very diverse. There are lots of extracurricular, cross-department initiatives through SkyLab, which has the incubator and Ignite program that helps students with an idea develop it. There are 3 main courses in entrepreneurship. Knowledge-based: come with an idea. However, students often solve student problems. They aren't going to save the world, but they have their own merit. Technology entrepreneurship course: developing a viable business strategy—building a business around technology. University benefits in that they can see, "what might we actually do with this technology?" X-Tech: a course with a strong prototyping effort—less theoretical than the others, you actually get to build something. There are also a few activities around the campus, but they tend to be either sporadic or for graduate students. We are working and collaborating to make entrepreneurship a mandatory part of all graduate studies, non-commercial pitching. It would focus on pitching an idea based on how it benefits society rather than focusing on obtaining funding. On top of all this, it is easier for students here to work on their passion projects because DTU actually owns their land and is able to create a campus feel.

Q: How is the DTU curriculum structured?

A: It depends. There's not much flexibility if you were to switch into or out of engineering sciences. Denmark is a 3+2 country: 3-year bachelors, 2-year masters for almost everything. About a third of students are enrolled in an internship/co-op program, but we won't discuss that much. Most people get a bachelor's and a master's—in some cases, you really need both to get a job.

Q: What is your opinion on pitch days? Are they helpful? Are students generally prepared? A: They can be valuable if there are the right projects, right students, right crowd with the right objectives. It is harder to be productive without a clear objective. Sufficiently structured and not too big, they can work well. In Silicon valley you see these pitch events where there are thousands of teams, which is cool but you are never going to talk to the right person, it is just too big.

Q: What's the most valuable part of a good pitch?

A: The most important thing is the clarity of...well, it depends who you are talking to. If you are talking to investors, you need to be able to tell them how they are going to make money. You need to speak to the golden gecko. The actual "good," the ethics—it doesn't always matter as much to investors. They are going to invest in something they can make money from. Strong focus on "what does the solution provide, and why is it necessary?" Sometimes, the audience

isn't into the technology-they might not even understand it. If you are trying to sell your idea, you need to focus on what the solution provides. Your pitch needs to be more interesting than the food provided at the pitch day. You are competing against so many other people. You need to make someone excited about the idea who wasn't initially excited about the idea. Investors and investors' minds are hard to quantify, I'm not sure that anyone will ever be able to do that.

Q: What impact does the entrepreneurial environment of a country have on entrepreneurs? A: Unity Technologies was founded in Denmark, but they are technically an American company because they received a lot of money from Silicon Valley and had to move to continue growing and be competitive. Sometimes for systemic reasons, it really matters. Also, it is important to fail in entrepreneurship, often multiple times. But there are cultural differences in how failure is perceived, too. In Japan, it is not very supportive towards start-ups because of the way you see your work. You wouldn't quit your job to pursue a start-up because it is seen as a betrayal to your employer. Your employer and all the competitors would never hire you again because of this. There are very, very few start-ups, and failure would be devastating. The complete opposite is the US. The Silicon Valley mentality is celebrated, and failure is accepted. People don't look down on you because you failed, there isn't much shame there. Europe is a bit odd, but it depends where you are. At least in Denmark, it is very different. There is this idea often perceived as a law, the "Law of the Under," that says you should never think you are better than anyone else. Some people may see you this way if you try to start a new business. Fear of failure plays into this—Danes are sometimes uncomfortable with this. Denmark should be the ideal place to start a business-low corporate tax, universal health care, social security. It seems like the perfect place to start a business because you are almost risk-free. But taking these risks is not celebrated. Not only is this not the same culture as Silicon Valley, but there is also not the same amount of money available for investments. Plus you have a much smaller market just due to the fact that Denmark is a smaller country. Risk-takers are much more likely to move somewhere like the United States to start a business.

APPENDIX E.7: INTERVIEW WITH RUNE NYGAARD

Q: Tell us about career path

A: My background started working in the Ophelia paper industry right after school, working as a chemical engineer, selling chemicals. Worked with municipal wastewater plants—these are usually very small with just a few employees. I worked with a company that developed a system to remotely monitor chemical levels. I went to Wilhelmson in 2009. Automatic dosing of chemicals on ships, full automation. They had been limiting the market to just consumers with Wilhelmson chemicals on board, and decided to try to make this its own company, but this was

impacted by COVID-19. This caused them to ask more about what a start-up is, how to work with start-ups. Wilhelmson started Open Innovation, which runs projects that are not fully connected to what they do. I have also been working with RayMaking that is similar to Lagertha. Came across Lagertha through LinkedIn. I am really passionate about equality. We are losing 50% of the brains when we are not focusing on diversity. This has been my motivation and I see the value of it, especially in an industry that is as male-dominated as shipping and maritime. Having a one-track mind makes someone susceptible to failure. To succeed, we need to include all.

Q: Did you get an MBA?

A: I was found. I had been going back and forth to school prior to Wilhelmson, taking classes on economics so I could learn how to manage a budget. I saw my engineering background as an advantage, because I saw problems and wanted to fix it, not just accepting that things don't work. The mindset has always been there. My father told me I was too lazy to do things the normal way, so I should be an inventor. On the other hand, I've never taken the chance to risk my own money. I'm happy to have the chance to do this from the corporate side.

Q: Day in the life of a business venture manager? What projects do you work on? A: Currently responsible for just one venture, used to be responsible for multiple. Wilhelmson is in chemicals, maintenance/repair information so we have a wide portfolio. When we started ventures we wanted to work with adjacent things: Sensors in ropes to measure load, chemical sensors for boilers, digital reporting of test results. Now, we are working on 3D printing for ships, CO2 measurements and reporting for shipping—which is completely disconnected, and is placed as a different department.

Q: In your opinion, what impact does university education have on the success of an entrepreneur?

A: I think it helps a lot in the sense that you can back up what you're saying with a degree. I have papers, I have proof, I know this. Most of the experience I use today is based on work-related experiences and I know where to find the technical documents or formulas that I need to use. However, my time in school taught me how to learn new stuff, which is important now as an entrepreneur. I have a problem, I want to solve it, I don't know how. Where can I find that information—I got that from school.

Q: Being in charge of ventures for Wilhelmson, where do you find your start-ups? Would you partner with someone who had just come out of university, or would you prefer someone with more experience?

A: I would definitely take someone from university. Fresh minds, not cluttered with the prejudgements that people have. We have problems that no one has a solution for, why would someone with experience have a better way of solving it than someone without? I think maybe pairing them up to learn about trial and error, failure, get someone with experience to back them up. The more you work with experienced people, the more you learn about how to handle failure. Partnering them up with someone (internally or externally) would provide the most benefit... When I started in my role of managing business ventures, no one understood. I had to explain that my job was to kill every good idea as quickly as possible. If we can't kill them—it must be a good idea.

Q: Is it hard to find start-ups for these ventures?

A: Right out of university and ready to focus, is what I would prefer. No, they're not easy to find. Maybe it is because I haven't put all my resources in. The most important to me is that they have an open-mind. Maybe they are 5 years out of school. Most start-ups I have worked with are so in love with their solution, they alter the problem to make their solution fit. No. You need to fix your solution to address the problem, not the other way around. What am I trying to solve, and does my solution fit? It is not easy to come into contact with a lot of these start-ups. There are so, so many start-ups. My boss is on the board of Motion Ventures, which is a Corporate Venture Fund that invests in start-ups. To shortlist, they need to interview thousands

Q: We are planning a seminar with Lagertha. (Explains seminar). Input?

A: Sounds like you are missing "Get World Peace." These 4 topics are sort of a big ask. In big corporations, it can be hard to figure out who to talk to. Using LinkedIn or another database where you can find people more easily. I need to be more out, public. Yes I work at a global company, but it is hard to work with someone from Australia. It is easier to find start-ups to work with in the early stages who are close to your own time zone. A lot of start-ups are people with solutions to a technical solution. They are so focused on their problem and are worried about people stealing their ideas. Openness is not a problem if you are careful, but be wary—corporations are open to steal. If they were more open, they could probably get more corporations. A lot of start-ups are people with a technical solution to a specific problem. They need to establish how your start-up is different from other similar ones. Corporations need to be more "out in search" and have more of a presence so interested start-ups can better find them.

They need to be more open as well–take 30 minutes to listen to someone's pitch, for example. Corporate mindset used to be "An idea isn't good if I didn't come up with it," but now it is more focused on accepting ideas from different sources.

Q: Do you find pitch days to be beneficial for both sides?

A: I would say yes, given that the start-ups, especially if Lagertha is going to do it, give them guidance on how to pitch. You need help on how to build a good pitch, what is important and what isn't important. This is extremely important. You need to pitch properly to get money or to get a corporation to give money to you. You need to have the people with the right mindset, needs to be two way to see if there is a match or not. It would be more beneficial for the corporates to know topics—one line per company, "this is what they are doing," and group them together. So you know what to expect. You understand why you are listening to this pitch. I've been turning up to some pitch days expecting something and it was completely different, and once I understood that I stopped paying attention. I still felt it was my obligation to give good feedback. A short description of what to expect for the listeners, and putting the right people in the audience so appropriate feedback can be given. As a start-up, you will be a bit nervous for a pitch day. Corporates need to be considerate of this, remind themselves that this is vulnerable. Remind them in the invite that there are people putting themselves out there, so be constructive not nasty. As a start-up, you need a reason to be there.

Q: What advice would you give a start-up looking to form a partnership with a corporation? A: Look after you. Don't be intimidated by big corporations. There is a reason why they want to work with you. Have a clear plan for IPs and patents. There are a lot of corporate companies that want to swallow you or steal from you. Be clear what you are doing. You can look at it as a growing opportunity for your company, or you can look at it as something else. Be very clear on what your objective with a corporation is. Don't be tricked or bullied

Q: Have you always lived in Norway?

A: Yes, it would have been fun to work in other countries but I work in a global role at a global company. People all over the world have been part of my ventures, and there are definitely cultural differences. I think Norway can be a good place to have start-ups. There are more and more start-up communities popping up. I don't think it matters where you are from, it is your mindset. Yes, you may have access to people with certain responsibilities or powers in certain companies, but no matter where you are, that is just a Zoom call away. There are benefits of being in say, Singapore, for maritime start-ups because there are a lot of them. Short distance to government support. Norway is building the same, for that reason, I think it will be very good in Norway in a few years. On the other hand, it is easy to drown when there are so many people doing the same thing. Maybe it would be good to be in Greece–less crowded (less competition).

Q: ESG Goals

A: It doesn't matter if you are a start-up or a corporation, you need to know what is going on in the world. Socially, this depends on the country, but the environment is everywhere. Don't use ESG as buzz words; be clear in purpose, goals, etc. ESG goals are becoming more ubiquitous, so

it's important to go deeper. Find the benefit and sell that benefit to partners. Does my offer benefit these goals? Why is that a benefit to my customers or partners? If you consistently have to remind yourself of these goals, it is wrong. They should be a part of your culture, like second nature.

APPENDIX E.8: INTERVIEW WITH ANNETTE RYE LARSEN

Q: Tell us about your entrepreneurial journey to where you are today—how have your past experiences impacted your current role?

A: Took opportunities as they came, worked in the pharmaceutical and biotech industry. Built a department of innovation at a Danish company outside of Copenhagen, during time there worked with universities and other companies. Eventually returned to Copenhagen. Worked at DTU in a program similar to that of KEA, matching companies to researchers and working with student-founded start-ups. Came to KEA in November of 2021 and has been here since.

Q: Tell us about KEA's mission and some of the programs/resources you offer to emerging entrepreneurs. Is there one that seems most effective?

A: Entrepreneurship is a big part of the strategy at KEA. Entrepreneurship strategy contains three marks to aim for: sustainability, technology, and business. If you study at universities, it is more core research but not very practical. Here at KEA, most of the classrooms are cases. Companies come and visit to present cases to classes, students at KEA are required to have an internship with a company. When you graduate from KEA, you should leave able to make money—either you have a job, or you have a profitable start-up. Programs include the Nordic Entrepreneurship Hub and IGNITE.

Q: Does KEA have a process for connecting entrepreneurs with industries or corporate venture capital programs?

A: No, at least not yet

Q: Does KEA try to maintain relationships with entrepreneurs after they leave the program? Can you explain the nature of those relationships?

A: KEA has a very strong alumni organization, hosts meetings and social events. Alumni also have access to NEH (Nordic Entrepreneurship Hub). Would like to have an alumni network with people from the hub because they can gain knowledge from participating in events and also provide knowledge from experience after graduation

Q: How does KEA measure the long-term success of entrepreneurial endeavors?

A: Jewelry company (Ackva?) went through Ignite program and Nordic entrepreneurship hub. They are working with another business but have another job. They have no investors in their company (on purpose). Several companies from the hub are similar; they aren't as high-tech and don't need as much capital). High-tech start-ups often fail because they need so many investments. Asks students to consider if they should have investors or partners to grow their companies, but most students prefer to grow their business a little slower. One challenge is that KEA has a lot of solo entrepreneurs, or those on teams have teams that are too similar. They would benefit from working with a more diverse group. They don't work together because they don't meet. Kickoff for ignite program brought all students together and did a meet and greet with an interactive activity. You don't even have to be co founders or working on the same business, but they can help each other in different ways.

Q: At what point in someone's career is entrepreneurial education the most beneficial/impactful? A: Not everyone at KEA has a start-up, but they can still get skills that would be beneficial for pursuing entrepreneurship. Even if they don't end up with their own start-up, these skills can help with forming partnerships or with working in a larger company. People benefit from soft skills in big companies too—some of the most helpful experiences in university for post-university are related to soft skills.

Q: How does an entrepreneurship program at a technical university differ from one at a business university? Why should there be an entrepreneurship program at technical universities? A: KEA isn't necessarily a business school and the education provided here differs from that of a traditional university. In terms of entrepreneurship, we focus on the idea, the why, the value proposition. Entrepreneurship at other universities is similar, though some of them have mandatory entrepreneurship classes.

Q: What role do you feel you play in the entrepreneurial value chain between universities, incubator programs, and corporations?

A: Unsure. Students can work on their initial idea here, work with teachers to get guidance/coaching, etc. but they need to use the rest of the ecosystem to really grow their business. Wants to inform people of the networks and resources out there—many entrepreneurs don't use resources unless they are actively brought to them. Tries to bring in different people and organizations to the startup hub so people can get to know each other. Help them get access to this system, convince them to participate in pitching events, competitions, etc. Entrepreneurs need to get out there, entrepreneurs at KEA are very early-stage. If students can only work on their project in the later stage of their education (which in total lasts between 1.5 and 3.5 years at KEA) they will struggle unless they utilize other resources.

Could see students from more technical universities being a supplier to bigger companies, and maybe this is part of the future for the more technical side at KEA. But CVC is probably less likely for fields like jewelers or fashion designers from KEA

A place she sees potential is students here need to see that there are different ways to work together besides working for a big company or being a solo entrepreneur. There is a middle ground that isn't explored very frequently, but if students could learn more about the ways in which they can work together, the value chain could be improved

APPENDIX E.9: INTERVIEW WITH HELENE SKOV UDSEN

Q: What has your journey to become the entrepreneur you are today been like?

A: We were working at a start-up company here in Denmark. But sometimes with a start-up it can be chaotic, and sometimes there are no rules at all and they just do what they want to do. I quickly ended up working too many hours. Especially here in Denmark, 37 hours is normal a week, but I was working 50 or 60 hours; I gave everything, and nothing came back. I was stressed, and mentally and physically I was exhausted. We were actually six girls at the time, and we all ended up quitting the job in a month or so because it was so bad. The environment there was not good. So yeah, I quit, and my sister quit as well, and then I was very stressed and burned out. It was a challenging time, but eventually I almost turned it into something positive, and I was like "okay, I need to create my own workspace where I am the leader, or can make a great environment just for myself and for my sister." Then we had a lot of time because we were sick at the time; we couldn't work at all because we were so burned out. We bought a sewing machine because we had a lot of time now. We went to our closest thrift store and bought some fabrics and we just began to sew, and we were like, "there are a lot of pretty fabrics here that will just be thrown out or burned or something, so why don't we just recycle it and make something new?" Then we created a website with help from my sister's boyfriend, and then we went live in two months. It helped me a lot in coming back on my feet and not remembering the negativity from my last job. It was nice, and it just went from there, and now we're here.

Q: What year did you start doing this?

A: It was 2019. I quit in August, and then we were live in November.

Q: What is the entrepreneurial environment like in Denmark?

A: You talked about the environment in the start-up industry, like neglecting family, friends, sleep, mental health, and physical health. I think there is a trend now, especially here in Denmark and on Instagram, there is a lot about soft skills. In creating a business you are not supposed to

neglect family and mental health and all of that. Like Shark Tank, we have Lions Den, and there is one female judge and then four men, and all the men are very "hard skills"-oriented and "you can't do both career and family." Every time I see it, I'm like, "is that what we want to tell the young people and children?" It's hard when TV shows are almost promoting this bad environment. I hope, and am seeing on Instagram, the women encouraging more of a work-life balance. It's nice to see, and I hope it will continue; it's new, but I know it will become more and more a thing.

Q: What challenges have you faced as a female entrepreneur?

A: I find it very important to promote more soft skills. That's something I have experienced being in other companies as well. When I was in a meeting, for example, with other men and I was the only woman, maybe, then it was frustrating because I didn't have anything to say. My qualities were not important, but I thought they were. So they could do their hard skills, and they were shining, but I couldn't shine because my skills are more soft skills. And that's frustrating, because I thought I was not taken seriously, and it's frustrating when you can't shine because you have to shine or else you can get fired, maybe, or you can just overthink a lot. The view on how to be a "real" entrepreneur, that's difficult as well, because I have a boyfriend and he has his own company that he started here in Denmark, but he had to move to America because of investors in his company. His attitude is to prioritize work over friends and family and health, and mine is more to balance work with social life and health. He's brilliant at it and it works for him, but it doesn't work for me. And his friends having [his] same view, and my girl friends having [my] same view... I don't know if it's a female-male thing, I hope it's not, but that's a thing that I've observed. I just need to stand up and like, "no, my view is just as okay as your view of being an entrepreneur, and I can be an entrepreneur with my view as well as you can," and one isn't better than the other view. So, you know, just stand up. But it's difficult to just say, "I need to go now because I have to get some sleep, otherwise the next day will not work," and then maybe another person with another view will be like, "no, you can't do that, this is important." It takes time, and I'm still learning, but every time I'm saying "no" it helps. It's important. I think KEA is very good at promoting soft skills and work-life balance. Last semester we started this company VIVERE. We had a teacher who was amazing, and he was an entrepreneur and a male. I had my doubts about how he would handle me and my sister this semester because he was the main person we had to go to this semester and he was teaching us. And then I got stressed, and he saw my sister and me being burned out, and instead of being like, "just keep on going, you will get through it," he was like, "no, you have to take a break, and it's okay if I don't hear from you, it won't mess with the grades, don't think about that at all. I know you are good students, so take your time and let me know if I can help you with something." We

were away for maybe three or four weeks and he didn't push us at all. He was just like, "take your time, go on a vacation, just do something, see a psychologist, please do something," and that helped me a lot, seeing that a teacher sees us as people and not just students. And KEA is very good about it; all my teachers are like him. We can talk to them if we want to, they understand us, if you can't do an assignment it's okay, they just help us. It's so lovely. I have not heard of any school at all having these kinds of teachers. I don't know if it's a KEA thing or if they're just very good at finding good teachers, but it's very nice. It helps a lot setting these boundaries because they listen and they take me seriously. We are almost like family, and I feel very safe speaking up and just being like, "I'm not in a very good palace right now, is it okay if I take some time off, or can I just speak to you, or can you help me," just something. And didn't feel like that before, I was like "I'll just get into KEA and work work work and then you will be so caught up and lose yourself," but it's not like that here, it's another environment and i think it's lovely. The KEA Startup Hub has a lot of females here, and I think it helps a lot. I didn't have any role models growing up, it was all male entrepreneurs, and I think it's important to have a role model. None in my family are into entrepreneurship at all, they are teachers and working in communes, so no role model there. Growing up my friends had other interests than me, so that would've been nice as well just to talk to friends and have a community there, but no. So now, being here and talking with other females, it helps a lot too. So I think it's important as a female entrepreneur to seek a community. And no, it's not about excluding men, it's not about that, it's just that we have a problem here with the female entrepreneurs, and what we can do about it is make a female community within entrepreneurship. The posters are about female entrepreneurs, and that's nice for me, and I think the boys seem to be fine with it, I haven't heard anything. They have some other role models out there they can look up to, but we do not have the same. So it's nice that KEA has a lot of females up here.

Q: What entrepreneurial resources have you taken advantage of, and how did you find them? A: We used the Ignite program and something called the Nordic Entrepreneurship Hub. And then the Beyond Beta incubator program with a digital focus, called Digital Lead. We haven't started there yet but we got accepted into the program. We did not know about these resources until Annette came into one of our classes and that's how we found out about the KEA Startup Hub and Ignite program. I don't think the students know where these programs are unless a university faculty shows them where to find it and which resources they can take advantage of. There are plenty, but I didn't know about any of them at all until I was here.

Q: Are there steps that you think universities could be taking to better connect students with resources?

A: Yes, I think like Annette did, just seek out the students, get in a classroom where students are all in one place and talk about it. I don't think you can just send an email because it's difficult to

get everyone to see it. Maybe they can do more on Instagram and social media as well, but it only takes five minutes to go to a class and catch their focus. I don't know how else they could have told us about those resources. Then we see the people as well, who's in charge of it and where we can find them. If we have a question we can ask right away instead of emailing them. It's just easier.

Q: After you graduate will you still be able to use any of KEA's resources?

A: Yes, actually. We get access to KEA Startup Hub I think a year after our studies end; I'm not sure, but Annette will try to make sure we get access. You can sign up for the workshops too after you graduate. And you can apply to the Nordic Entrepreneurship Hub after your studies end. I know we will keep access to the office in KEA Startup Hub. Because of COVID I learned I cannot be productive at home, and working at cafes can be expensive, so we work at KEA Startup Hub and when we get home we relax.

Q: What advice would you give to aspiring female entrepreneurs?

A: Just do it. It sounds easy, and it's not, but just do it. A lot of people have dreams and think a lot but don't do enough. I would be frustrated by just thinking about something and never doing it. You can't regret doing it as much as you can regret not doing it. It's important to push yourself out of your comfort zone sometimes to work toward your dreams, but then take time to rest. Small steps and boundaries are very important. Also, we have a society where it's like, "only perfection is good enough," almost, and that's just sad. Another piece of advice is to just fail; it's okay, you will get up again, and you will learn from it, so don't be afraid to fail.

Q: How would you describe the culture and stigma around failure in Denmark?

A: My boyfriend told me he moved to America actually because there's a thing like "fail five times and the sixth time you can succeed," and here in Denmark it's almost like you have one shot, and I don't know why. If you say you would do this, you have to do it and do it perfectly because failure is just not an option here. The consequences of failing a business in Denmark is quite huge, and you can't get away from the reputation. News spreads faster because Denmark is a small country, and then it's harder to come back. It's a big personal thing if your business fails. It would be better if the Danes were more positive. It's also like how boys and girls are raised in Denmark. Boys are taught to "just do it, put yourself out there," and girls are taught to "be polite, do what you do perfectly, study hard and do your homework." I don't know why it's so different, but it's very obvious seeing how the boys are talked to versus the girls. And the girls learn to communicate their feelings and boundaries but boys just go out and play sports outside, so girls generally score higher on soft skills than the boys.

APPENDIX E.10: INTERVIEW WITH DONNA LEVIN

Q: Tell us about your journey to where you are today – did you always know you wanted to be an entrepreneur/work in entrepreneurship?

A: Absolutely not, at one point I wanted to be a journalist. I love writing and was encouraged to write. I loved my initial computer programming classes, and was discouraged from pursuing anything along those lines. My only path when I was about your age was survival. I ended up in tech because it paid better than every opportunity I had as a writer. Wore a lot of different hates—operations, R&D, marketing. By the time I became a consultant, people would contract us to build new products. We were sort of the force behind new products or had complicated things that ended up being tested. We were acquired and merged. I ran a small division about machine testing at the time of the merge and suddenly became responsible for a lot more. There was sort of a negative stigma around consulting. They tried to be positive

This ultimately led me to my first start-up—It was a dysfunctional company, but on the upside, I got promoted a lot and was a part of shutting the company down. I learned how important it was to listen to your customers. After that, someone who knew my story told me that someone was starting a company that would help people save money for college. He started a really successful marketing and branding company, made a lot of money. His strategy was to make a for-profit company, and I joined it, staying from initial thought/development until they were acquired by Sallie Mae. Around that time, I started hearing the phrases "entrepreneur" and "start-up" a lot more. I realized there were a lot of problems I wanted to solve. My child had a seizure-like episode at 11 weeks and couldn't go to daycare. They had a vicious cycle of staying home and taking care of the child and working nights, etc. People didn't understand why I would leave a stable job at Sallie Mae. I didn't think it was risky. I took venture funding, stayed until it went public. Left at that point, got my MBA. Wanted to build better accelerators, and realized I am good at helping people bring their business ideas to life. Once companies become public it is difficult. I'm better in those earlier stages.

Q: What would be an optimal way to utilize the resources available within the entrepreneurial value chain? What roles have you played in the entrepreneurial value chain between universities, incubator programs, and corporations? (For the scope of our project, the value chain refers to the connections between entrepreneurial support resources (ex. university programs, incubator/accelerator programs, corporate venture programs))

A: Loves how we describe the value chain. I think it's sort of one big ecosystem. If you put the entrepreneur at the middle, I think there is an imbalance in that ecosystem depending on where you are in the world. It may be easy to get connected to that value chain if you are a college student in New England, but it's less accessible for those who took a less traditional path (maybe

didn't go to college). My friend in CV reached out for her opinion on starting an accelerator. No one entity can solve it all, it feels like people are sort of starting to make connections in the value chain but not everywhere. Partnering with the US Chamber to launch a problem in OK where there used to be the Black Wall Street. This is a place where those connections really don't exist. Let's take a look at Mass Challenge. I love and support them, but the reality is, most of the winners that come out of it have gone through academic institutions. The ones at the top are the ones that have been plugged into the value chain. 75% of our global GDP is driven by families who are in business together. They definitely don't always go through this value chain

Having been at so many venture-backed companies, we acquired a small company in Texas. Owner made the most money at Care.com after they went public. She had an idea for a business, and started a small business. Decided that they would take money from no one, would not work nights or weekends. Making so much money (10m/year). Her team never worked nights or weekends.

I am a firm believer in paying it forward and paying it back. I've worn a lot of different hats in the value chain. Right now I'm on the university side, but I've also been a judge for Mass Challenge, have been involved in small companies, commercial accelerators. "In the value chain, we all have a responsibility to be connectors"

VCs are always looking for other VCs that will invest in them. I was in a class last night at MIT for a WPI trustee. I worked with a very closely-connected community. Once you're in the community it's so easy to navigate around, but it's hard to get in if you don't have those initial connections. If there is anything I can do to support, say, a woman, bring her idea to life. People of color trying to get into the value chain—it can be hard to initially get plugged in.

Q: Do you think the resources within the value chain work independently? Are there ways to better connect these resources to create more impactful startups? What steps could universities, corporations, and business incubators/accelerators be taking to better connect themselves to other entrepreneurial support resources?

A: Yes absolutely. For one, I point the finger right at myself. We are protective of our students which is a blessing and a curse. Students have ideas that need funding and we protect them from funders. We don't give them the chance to develop relationships while they are in academic institutions. We don't want students dropping out of school.

Another thing is we frequently have a hard time getting students together. We have pitch to match events, but it's hard to learn the best ways to engage with students. Figuring out the best ways to make those connections and bring students together, we would exponentially increase our chances of solving the more complex problems. The solution doesn't rest at just one institution and everyone should have a seat at that table.

From the venture side, the reality is, the systems and structures put in place are highly biased. Someone's definition of credit-worthiness can impact someone's ability to get a loan. That could be improved to increase the success of the entire value chain.

Women get questions about downside and risk, men get questions about how they manage the upside because it's like the investors know they are going to be successful. If people don't fit the expected pattern.

Is there a better proxy to determine the success of a team instead of pattern-matching

Q: How does an entrepreneurship program at a technical university differ from one at a business university? Why should there be an entrepreneurship program at technical universities?

A: Full disclosure, caveat on my lived experience. I haven't researched this area. At MIT, there was definitely tension between the business school and the more technical schools. This was a challenge that was constantly being broken down in a number of ways. If you go to a technical university and want to pursue entrepreneurship in anything outside the norm (rockets, computers, etc.), people think it is weird. People feel disrespected, because they aren't "MIT-big." I think WPI is still in the phases of making entrepreneurship a program and a force for good. Other people say no, entrepreneurship is evil. There is a delicate dance, and, similar to MIT. We find tons of solutions looking for problems, the business side is the opposite. People in this case have lots of problems but not as many ideas on how to solve them. How can we create the trust needed to bridge these fields together? Babson believes in entrepreneurship of all kinds. People can play multiple roles, they need to be able to change and put on different hats.

Q: Have you ever participated in a corporate venture capital (CVC) initiative, either from the start-up side or the industry side? If so, what did you learn from them?

A: Technical start-ups often require more funding and seek out these CVC opportunities. From the CV perspective, usually if you are pitching to a traditional investor/CV, they want to know if it is a good match for their firm and if they have the right ideas. CV is about company strategy, and sometimes things get thrown out the window. Google Ventures had invested in Care.com. It was about their business strategy, which Care.com was not connected to. It was great, but for other companies just starting. If it was one of the student teams I advised and the first thing they wanted to do was to take money from a CV, I'd be very hesitant because usually CVs are not so eager to give out money. Sometimes these companies have to shut down not because they weren't doing well, but because the company that invested in them had a change in corporate strategy. CV really depends on how critically you are going to gauge the company strategy moving on. I would not like it if they were the lead investment for me or my student points.

APPENDIX F: REQUEST TO PARTICIPATE AS KEYNOTE SPEAKER EMAIL

Dear <insert name>,

Thank you so much for taking the time to have an interview with us. Your insight has been extremely valuable to our research and you have offered a really interesting perspective about <insert notable perspective>.

To portray our research we will conduct a virtual seminar on April 21st, 2022 from 3:00 to 6:00 pm CEST (9:00 am to 12:00 pm EST). The seminar will allow students interested in entrepreneurship to network with similar students from diverse cultures through attending keynote speeches and interactive workshops that will help them develop their entrepreneurial mindset. Our main points of contact for audience members are university students in Massachusetts, United States and Denmark. The topics of the seminar will be:

- 1. The Importance of Value Creation
- 2. Creating an Inclusive Entrepreneurial Ecosystem
- 3. The Impact of National Cultures on Entrepreneurial Environments
- 4. Making the Most of Available Resources

Given the information that you provided us in our interview about **<topic relevant to seminar>**, we would like to invite you to be the keynote speaker for the **<insert seminar topic>** topic. Keynote speeches will be about 5-10 minutes and we would like to work collaboratively with you to develop a 20-minute workshop that reflects the ideas of the speech that the four of us will help facilitate.

If you are interested in joining us, we would like to schedule you to talk and work with us to run a workshop from <time of their seminar topic in appropriate time zone>. However, if that time does not work, we will try to accommodate your schedule within the 9:00 am to 12:00 pm timeframe to the best of our ability. While you are invited to attend the whole seminar, we completely understand if you can only attend for your keynote section.

We have attached the current advertising flyer and tentative schedule. We appreciate your consideration and look forward to hearing from you!

Best regards,

Emily Coughlin (Mechanical Engineering, WPI 2023) Priyanka Joshi (Biomedical Engineering, WPI 2023) Lyra Layne (Mathematical Sciences, WPI 2023) Gabrielle Puchovsky (Industrial Engineering WPI 2023)

APPENDIX G: SEMINAR ADVERTISING

APPENDIX G.1: SEMINAR FLYER



APPENDIX G.2: INSTAGRAM FEED POST FOR SEMINAR

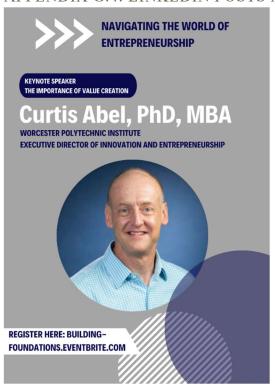




APPENDIX G.3: INSTAGRAM STORY POST FOR SEMINAR



APPENDIX G.4: LINKEDIN POSTS ABOUT KEYNOTE SPEAKERS







APPENDIX H: SEMINAR SCHEDULE

Central European Summer Time Schedule

- 3:00 3:05 pm Introductions and review of schedule
- 3:05 3:35 pm The Importance of Value Creation
- 3:40 4:10 pm Creating an Inclusive Entrepreneurial Ecosystem
- 4:10 4:20 pm Break
- 4:20 4:50 pm The Impact of National Cultures on Entrepreneurial Environments
- 4:55 5:25 pm Making the Most of Available Resources
- 5:25 5:30 pm Closing remarks
- 5:30 6:00 pm Networking

Eastern Standard Time Schedule

- 9:00 9:05 am Introductions and review of schedule
- 9:05 9:35 am The Importance of Value Creation
- 9:40 10:10 am Creating an Inclusive Entrepreneurial Ecosystem
- 10:10 10:20 am Break
- 10:20 10:50 am The Impact of National Cultures on Entrepreneurial Environments
- 10:55 11:25 am Making the Most of Available Resources
- 11:25 11:30 am Closing remarks
- 11:30 am 12:00 pm Networking



APPENDIX I: SEMINAR TOPIC PLANS

APPENDIX I.1: THE IMPORTANCE OF VALUE CREATION

The Importance of Value Creation

Keynote Speech Delivered by Professor Curtis Abel Facilitated by Gabrielle Puchovsky

Schedule

3:05 - 3:15pm – Introduction and keynote speech, give sample pitch

Send participants into randomized breakout rooms in groups of 4-5

3:15 - 3:30pm – Participants create pitches in breakout rooms

Breakout rooms close

3:30 - 3:35pm – Group discussion

3:35 - 3:40pm - Conclude topic, thank participants and Professor Abel

Pitch Activity

Instructions

You will be sent into breakout rooms with a group of 4-5 people. As a group, you will be given a target customer and a product you have to sell to them - Once you are in your breakout room, Professor Abel will go into each of the breakout rooms and assign you your customer and product. Until then, feel free to introduce yourselves to your group members. You will then prepare a 30 second to 1 minute pitch with your team centered around the Need Approach Benefit Competition (NABC) model - the structure of this will be shared in the chat. Once everyone has had time to develop a pitch, we will all come back to the main session and one of the groups will be asked to share their pitch, so make sure you designate one person in your group to share if your group is chosen.

Possible Items to be Pitched	Possible Customers to Pitch to	
Garlic candle	Dog owner	
Smart curtain robot	Single dads	
World's longest game of Monopoly	Bullied kids	
Balancing eagle	First grade student	
31-pound gummy hot dog	Nursing home patients	
Fountain pen	Artists	
Carolina Reaper tortilla chip	Tourists in your city	
	Gloomy teenagers	
	Sorority sisters	
	Barista	
	65-year-old retiree	
	CEO of a start-up	
	Professional chef	
	Fraternity brothers	
Questions Following Pitch Activity**		
As an investor would you invest in this product? Why or why not?		

APPENDIX I.2: CREATING AN INCLUSIVE ENTREPRENEURIAL ECOSYSTEM

As a customer, would you purchase this product? Why or why not?

Creating an Inclusive Entrepreneurial Ecosystem		
Keynote Speech Delivered by Professor Rosanna Garcia		
Facilitated by Emily Coughlin		
Schedule		
3:40 - 3:50pm – Introduction and keynote speech		

Send participants into three randomized breakout rooms

 $3\!:\!50$ - $4\!:\!08\text{pm}-\text{Guided}$ discussion workshop through Poll Everywhere

Close breakout rooms

4:08 - 4:10pm - Conclude topic, thank participations and Professor Garcia

Guided Discussion Questions

Instructions

You will be sent into breakout rooms with a group of 4-5 people. As a group, you will be given a target customer and a product you have to sell to them - Once you are in your breakout room, Professor Abel will go into each of the breakout rooms and assign you your customer and product. Until then, feel free to introduce yourselves to your group members. You will then prepare a 30 second to 1 minute pitch with your team centered around the Need Approach Benefit Competition (NABC) model - the structure of this will be shared in the chat. Once everyone has had time to develop a pitch, we will all come back to the main session and one of the groups will be asked to share their pitch, so make sure you designate one person in your group to share if your group is chosen.

group to share it your group is enosen.			
Question	Type of Response		
Do you think it is a benefit or a disadvantage	Multiple choice (benefit/disadvantage); open-		
to advertise a company as female-	ended		
founded/female-run?			
Please explain			
Would you accept money from a potential	Multiple choice (yes/no); open-ended		
investor who told you to exclude "female-			
founded" from your business pitch?			
Please explain			
Do you think it might be beneficial for	Multiple choice (yes/no); open-ended		
women to reframe their pitches to be "less			
feminine?"			
Why or why not?			
What are some obstacles that women might	Open-ended		
have to consider in a professional setting that			
men don't?			
Have you ever felt discouraged from pursuing	Open-ended		
entrepreneurship because of your background			
or identity? Please explain your answer			
What could be done to make entrepreneurship	Open-ended		
more approachable?			

APPENDIX I.3: THE IMPACT OF NATIONAL CULTURES ON ENTREPRENEURIAL ENVIRONMENTS

The Impact of National Cultures on Entrepreneurial Environments			
Keynote Speech Delivered by Kate Maria Vinther			
Facilitated by Priyanka Joshi			
	edule		
4:20 - 4:30pm – Introduction and keynote speed			
4:30 - 4:35pm – Poll Everywhere survey in mai			
Send participants into three randomized breako			
4:35 - 4:45pm – Doctor and patient role-playing			
Close breakout rooms	5 40-11-19 11-12-11 41-11-11-11-11-11-11-11-11-11-11-11-11-1		
4:45 - 4:50pm – Poll Everywhere word cloud, t	hank participations and Kate Maria Vinther		
	e in Main Session		
Question	Type of Response		
Where are you from?	Open-ended		
•			
How do you think failure in professional life	Open-ended		
is perceived in your country?			
How do you think the work/life balance in	Open-ended		
your country compares to work/life balances			
elsewhere?			
Doctor and Page 1	atient Activity		
Instructions Provided to Patient	Instructions Provided to Doctor		
Your symptoms are nausea, dizziness, fever,	The potential treatments are antibiotics		
cough, sore throat, loss of appetite, body	(penicillin, amoxicillin), cough drops, rest,		
aches and chills. These are symptoms that can	fluids, cough syrup, allergy medicine, or		
align with many different illnesses. Also, you	anything else you come up with		
are allergic to penicillin.			
You want to convey this to your doctor and be	You may not ask any questions to the patient		
tested/treated correctly for your illness.			
You may not use the following words to You must try to diagnose the patient			
describe your symptoms: fever, nausea,			
allergy, cough, ache, appetite, dizzy			

You may not ask any questions to the doctor The potential diagnoses are COVID-19, Flu, strep throat, mono (mononucleosis), allergies

Discussion Questions in Breakout Room**

Why do we ask questions?

What are the benefits of asking questions?

Do you think there are any disadvantages to asking questions?

How do these ideas apply to a multicultural business setting?

Poll Everywhere Word Cloud

Using one word, describe what it felt like to be talking to each other without asking questions.

APPENDIX I.4: MAKING THE MOST OF AVAILABLE RESOURCES

Making the Most of Available Resources

Keynote Speech Delivered by Emily Coughlin, Priyanka Joshi, Lyra Layne, Gabrielle Puchovsky

Facilitated by Lyra Layne

Schedule

4:55 - 5:05pm – Introduction and keynote speech

Send participants into four randomized breakout rooms, provide each breakout room with one of the four business ideas

5:05 - 5:20pm – Breakout room activity

Close breakout rooms

5:20 - 5:30pm – Share business plans, conclude topic, thank participations and move into closing remarks

Breakout Room Activity

Instructions

Each breakout room will be assigned to a product/business idea and will work together to come up with a plan for that business focused on what resources they should use (in what order) to achieve success. It's not required to name a specific resource you would use, but the more thorough the better! You are also encouraged to say what you specifically hope to gain from using a certain resource.

Business Plans

Business 1 - Biomedical R&D:

You are a biomedical engineering student at a university and in one of your classes you learned about the issues with infections from metal prosthetics. From research that you did in this class, you were able to come up with an idea for a biocompatible coating that would prevent bacteria and other pathogens from infecting the prosthetic site. You believe your coating is a competitor for what is currently in research and development and want to expand on your idea beyond the class you are in. What entrepreneurial resources would you use to make this happen?

Business 2 - Handcrafted Jewelry:

You are a very crafty person and one of your hobbies is making handcrafted jewelry. You have started selling your work to friends and family and they seem to really enjoy your pieces and are encouraging you to pursue starting a business. What entrepreneurial resources would you use to make this happen?

Business 3 - Small-Scale Farming:

You are a young adult living in a crowded city with 2 roommates. The three of you are passionate about plants and agricultural sustainability. Because of the lack of space in your small city apartment, you have developed a system that allows you all to grow your plants vertically. You think this technology that you have developed could be helpful for other people like you that grow plants as a hobby but also for people who farm on a small scale and you want to start selling your product. What entrepreneurial resources would you use to make this happen?

Business 4 - Commercial Lifehack:

You are a ride-share driver and you're tired of your customers accidentally dropping phones, wallets, keys, and various knick knacks in your car. You always end up needing to reach under the car seat and feel around for whatever they accidentally left behind. You have the idea to squeeze segments of pool noodles between the car seat and center console to block items from falling under the seat; however, the pool noodles don't look great stuffed into your car, so you have the idea to design a product to fit the gap and blend in with the car's interior. When your passengers show interest in the idea, you realize you could develop this as a commercial product. What entrepreneurial resources would you use to make this happen?

APPENDIX J: ADDITIONAL SEMINAR DATA

APPENDIX J.1: SEMINAR PARTICIPANT RESPONSES TO FIRST SURVEY QUESTION ABOUT FEMALE-FOUNDED BUSINESSES IN ENTREPRENEURSHIP

^{**}Responses not collected through Poll Everywhere

	Question 1		
Participant Number*	Do you think it is a benefit or disadvantage to advertise a company as female-founded?	Please explain your previous answer	
1	benefit	It could be a disadvantage in terms of being taken seriously unfortunaetly but being 'diverse' is popular right now and having a woman run company is a good interest boost right now.	
2	benefit	I guess it would lend a different perspective to the company and give an opportunity for a different approach	
3	benefit	Companies are starting to recognize the benefit and more women and underrepresented businesses owners are seeing more contracts. Finally!	
4	benefit	I don't think there's any disadvantage to the business if it is female lead and I think females offer a unique perspective which hasn't been explored as much	
5	disadvantage	Dependent on the product you are selling (benefit if you are targeting your product to the female experience). Disadvantage as bias may affect sales.	
6	benefit	Many institutions nowadays prioritize diversity in leadership (gender, race, etc) when looking to hire companies. Especially the larger, more diverse, and more left-leaning the institute/investors is/are	
7	benefit		
8	benefit	Many organizations are very aware of importance of diversity and want to support female led companies in businesses like mine - being in the wine business	
9	benefit		
10	disadvantage	I think there is a stigma associated with female run businesses, I feel as though they are more expected to fail.	

11	benefit	I believe it is neither a benefit or disadvantage for	
		a company to be female founded/run. Women	
		often (generalization) lead in a different style to	
		men (generalization), and this difference in	
		leadership style has both benefits and drawbacks.	
12	benefit	Despite biases in business against women, I think	
		a woman-led business has a better chance of being	
		distinctive and standing out in the marketplace.	
13	benefit	diversity of thought	
14	benefit	I think it would catch clients attention	
15	benefit		
16	benefit	More and more investors are female and are	
		looking for female businesses	
17	benefit		
18	benefit	As a female consumer, I actively look for	
		advertising that indicates that a company is female	
		run	
19	benefit		
20	benefit		
21	disadvantage		

^{*} Participant numbers do not indicate a response from the same person between Appendix J.1, J.2, J.3, J.4, and J.5.

APPENDIX J.2: SEMINAR PARTICIPANT RESPONSES TO SECOND SURVEY QUESTION ABOUT A HYPOTHETICAL INVESTMENT SCENARIO

	Question 2		
Participant	Would you accept money Please explain your previous answer		
Number*	from a potential investor		
	who told you to exclude		
	"female-founded" from		
	your business pitch?		
1	No	I would think in 2022 that that wouldn't happen so	
		I'm surprised it does. I would think that you	
		wouldn't want to link your company to a company	
		or investor with backwards ideas, could come	
		back to bite you later	

2	No	I don't want to work with someone who doesn't	
		respect something I've worked hard for	
3	No	That sounds like the investor has a view toward	
		female-founded businesses that is discriminatory	
		and unacceptable.	
4	No		
5	No		
6	No		
7	Yes		
8	Yes	Given the previously discussed "popularity" of	
		diversity in company pitches, the investor may	
		want the presentation to focus primarily on the	
		product being pitched.	
9	No	Excluding a group that has been historically	
		discriminated against is offensive to me.	
10	No		
11	Yes	Business is business and money is money.	
		Depends on your ethics as a company owner.	
12	No	In addition to my strong disagreement with them	
		on that, they will have trouble supporting our	
		organization if they are not on board with work on	
		environmental justice.	
13	No	though it is hard, i feel as though accepting the	
		money just strengthens patriarchal values	
14	No	I would not respect them as an influencer of my	
		business if would not accept that it was female	
		owned	
15	Yes	It depends on how stable the business is. The	
		investor could also understand that many people	
		see a bias when it comes to female run businesses.	
16	No	No. Back to the conversation on culture. If we are	
		part of setting the culture, we become part of the	
		problem.	
17	Yes	Go Robin Hood style, take the money turn it	
		around a give back work long term to achieve	
		your dream	

18	Yes	They may think it will inhibit funding
19	No	
20	Yes	I might not be able to afford to do otherwise
21	No	
22	Yes	
23	No	

^{*} Participant numbers do not indicate a response from the same person between Appendix J.1, J.2, J.3, J.4, and J.5.

APPENDIX J.3: SEMINAR PARTICIPANT RESPONSES TO THIRD SURVEY QUESTION ABOUT PITCH COMPETITIONS

	Question 3		
Participant Number*	Do you think it might be beneficial for women to reframe their pitches to be "less feminine?"	Why or why not?	
1	No	I think it should be framed as a strength. It is a Proven fact that Men and Women approach things and can think things through differently and that can be a good thing. I do think that it shouldn't be a one sided pitch though, you do need to include what appeals to both sexes in a pitch	
2	No	In the bigger picture, nothing "feminine" should be associated with a negative connotation as it's implied here. I think it's more stereotypical and hope with the advancements in our society related to DEI there would be a shift in thinkin g	
3	No	I think your speech should be authentic to the person speaking no matter who or what is involved.	
4	No	I think that labeling a pitch as feminine means that you're already correlating femininity with certain stereotypes so there is no need to classify one pitch as feminine and one as not. But regardless, being labeled as feminine shouldn't be a problem in any setting.	

5	No	you shouldn't have to redefine yourself to be
		deemed worthy in the workplace
6	No	Femininity doesn't have anything to do with a
		product.
7	No	Every pitch is different, so if that is best way the
		pitch can be presented it should be kept that way
8	No	Honesty seems to me a quality that should be
		universally appreciated.
9	Yes	Tough question to answer yes or no. I can imagine
		a product/market where an emphasis on
		femininity could seem irrelevant or mismatched.
10	No	A 'feminine' pitch isn't inherently good or bad in
		any way.
11	Yes	Mostly depends on the product and the experience
		you are trying to envoke with the audience.
12	No	As a society, it's important we stand strong in
		normalizing female voices and perspectives in
		business
13	No	
14	Yes	Pitches need to match your audience- just like a
		product needs to address the need of the end
		consumer
15	Yes	
16	Yes	speak to the language of the audience.
17	Yes	
18	Yes	I think you have to consider what is the best way
		to communicate to your audience. They are prolly
		used to a certain pitch style
19	Yes	
20	No	
21	Yes	
22	Yes	They can avoid words that seem weak and un- CEO like.

^{*} Participant numbers do not indicate a response from the same person between Appendix J.1, J.2, J.3, J.4, and J.5.

APPENDIX J.4: SEMINAR PARTICIPANT RESPONSES TO OPEN-ENDED QUESTIONS ABOUT ISSUES THAT WOMEN MAY FACE IN THEIR PROFESSIONAL LIVES AND HOW TO MITIGATE THEM

Participant	What are some obstacles	What could be done to	Have you ever felt
Number*	that women might have	make entrepreneurship	discouraged from
	to consider in a	more approachable?	pursuing
	professional setting that		entrepreneurship because
	men don't?		of your background or
			identity? Please explain
			your answer.
1	Having their ideas being	Be inclusive for	
	dismissed or overlooked.	everyone in general and	
		not discriminate against	
		anyone.	
2	Not being taken	Connect the culture	No - possibly because
	seriously. Not being	around entrepreneurship	I'm a white male.
	listened to. Being	more to meeting societal	
	interrupted. Being talked	needs and less to striking	
	down to. Being	it rich.	
	considered less		
	technically adept than		
	men.		
3	Being seen as too	I think a culture more	
	feminine, too weak to	accepting of failure	
	hold positions of power.	would encourage more	
		people to attempt	
		entrepreneurship	
4	Your actions being	More female	
	sexualized	representation	
5	How they look, what	teach the younger	
	they're wearing, if they're	upcoming generation,	
	being too loud or too	specifically those who	
	aggressive, how they	have it "easier" in the	
	have to work twice as	field, how to be	
	hard as men to advance,	considerate and	
	how they present their	respectful especially in	
	ideas so their listened	terms of DEI	

	too, who they can trust to		
	respect them		
6	Having a minority	Making it less	
	opinion. Men and women	intimidating to dive in	
	often have different		
	perspectives, and if an		
	office is full of men that		
	share an opinion it might		
	be difficult to go against		
	that		
7	More awareness of how	having better ways to	personally, no I haven't
	they physically present	connect with funding	
	not just what they look	sources	
	like but how they		
	promote their own		
	confidence and strength		
	I think they might be		
	under more scrutiny than		
	a male counterpart		
8	balancing family with		
	career		
9	Not being "too much" or		
	"not enough". Clothing.		
	Sexualization.		
10	Style of how they		
	approach problem		
	solving; balancing work		
	and family		
11	Feminine voice,		
	Confidence		
12	Lack of empathy, not		
	being taken seriously,		
	disregarding of concerns,		
	overcoming automatic		
	initial perception from		
	bias		

13	Being seen as the parent	Finding ways to get	
	to always be responsible	women with capital into	
	for the children;	investing	
	perception that they are	5	
	obligated to put family		
	above entrepreunership		
14	Perceived as not being	Teach it to more people	
	part of the "club"	especially at young ages.	
	whatever that means!	I never thought about it	
		as a younger person, I	
		did not know any	
		entrepreneurs!	
15	Being able to speak up		
	for themselves for a		
	variety of reasons		
	(misrepresentation,		
	sexual harassment, etc.)		
16	Sexual harassment by	Don't call it	Not exactly. But I feel
	customers or investors.	entrepreneurship.	you have to be twice as
		Have women and girls	good for half the credit.
		get used to rejection	So 4X as good for equal
		earlier.	credit.
17	Not being taken as	I think entrepreneurship	
	seriously as men within a	comes along with this	
	traditionally male-	idea that taking a risk in	
	dominated industry	a new business needs to	
		be a "diving all the way	
		in the deep end" and that	
		you have to give 100%	
		right out of the gate, and	
		that there is no "dip your	
		toes in the water", which	
		may be discouraging to	
		those more risk-averse	
18		More resources	
19		emphasize a	
		collaborative and	

	community model and	
	challenge the "rise and	
	grind" or "hustle"	
	mindsets (i'm not sure if	
	those are the best terms)	
20	Safer Environments	

^{*} Participant numbers do not indicate a response from the same participant between Appendix J.1, J.2, J.3, J.4, and J.5.

APPENDIX J.5: SEMINAR PARTICIPANT RESPONSES TO OPEN-ENDED QUESTIONS ABOUT THE PERCEPTION OF FAILURE AND WORK-LIFE BALANCE IN THEIR COUNTRY

Participant	Where are you from	How do you think failure	How do you think the
Number*	(city, country)?	in professional life is	work-life balance in your
		perceived in your	country compares to
		country?	work-life balances
			elsewhere?
1	Santa Barbara,	It can almost be	
	California, USA	inspirational. When one	
		reads about the lack of	
		success someone had	
		prior to a breakthrough	
		and success, it shows all	
		ideas don't work, even	
		those that achieve great	
		success/press later.	
2	Mendon Massachusetts,	It depends what you do	Unfortunately, I think
	USA	after, If once you fail and	more work could be done
		then regroup and try	in the USA on work-life
		again than it is viewed as	balance, sometimes it
		a learning experience and	seems that work can take
		growth	over
3	Lunenburg, MA, USA	I think it depends on	it's a lot of work and not
		each person individual	a lot of life
		and what they grew up	
		with	

4	Newburgh, NY, USA	It's okay as long as you bounce back	It sucks
5	Mendon, MA, USA	It is seen as an opportunity to learn and grow	There is less balance i believe in the US than other countries
6	USA	Professional failure is considered pretty taboo	The work-life balance in the US is incredibly slanted in the favor of wokr
7	Winslow, Maine	Accepted more than in Denmark	Work life balance not same priority in US as in Denmark
8	Tilton, USA	Not good, it is viewed as a bad thing and you are not cut out for it	Not good, coming here to Denmark I've noticed a huge change in work-life balance. It is way more relaxed here compared to the USA
9	boston, ma		
10	Media, PA, USA (outside Philadelphia)	It's about money- how much you make, how much you sell (for). You don't make much money then in US ppl think you've failed	Not good! Ppl in US are way too overworked. My dad works 45 hours/week. There's also a "grind" culture where you're perceived as better the more you work. This is very different from Denmark where the 35 hour work week is common
11	Worcester MA, US	I think it is perceived as bad, but it does also show that you're trying.	I think it's pretty bad. People work and feel pressure to work to the point where mental

			health and basic necessities to living a good life fall to the wayside.
12	Springfield, USA	Failure is looked down upon	Work-life balance in the US is very unhealthy compared to other countries
13	Orlando FL, USA	I think it varies with your role in a professional workplace. I feel like "big picture" failures are not looked at as harshly as day to day tasks.	
14	Albany, USA	I believe that failure is seen through a "growth mindset" lens, where failure (especially entrepreneurial failure) is seen as an opportunity to grow and respected for trying something risky / bold	I think the work-life balance in my country is not well developed, where needing a work- life balance is viewed as a weakness
15	Sutton MA, USA		
16	Indiana, USA	Extremely harshly	Poor
17	Boston, USA	Failure is a learning experience	
18	Worcester MA, USA	I think a certain amount of failure early in one's career is often seen as a valuable learning experience.	Horrible. I think the US has a very unhealthy obsession with work for work's sake. People work long hours without being

			very productive, and
			their personal lives
			suffer. I have enjoyed the
			focus on family and
			community and personal
			life I sense here in
			Denmark.
19	Athens, Ohio, USA	As a personnel failure.	Poor.
		It can vary by particular	
		company culture.	
		It depends on framing. A	
		project can fail in the	
		goal but still get useful	
		information. It's hard to	
		frame a business	
		bankruptcy positively.	

^{*} Participant numbers do not indicate a response from the same participant between Appendix J.1, J.2, J.3, J.4, and J.5.

APPENDIX J.6: WORD CLOUD GENERATED FROM PARTICIPANT RESPONSES ON DOCTOR-PATIENT INTERACTIVE WORKSHOP

Using one word, describe what it felt like to be talking to each other without asking questions.



^{*} Size of the word correlates to frequency of appearance i.e., the larger the size of the word, the more participants submitted it as a response