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A View of Ecosystem Building: The Ecosystem of Incubators & Accelerators in Scandinavia and The Nordics.

A Cooperation between Finland and The Basque Country

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Thesis Abstract

Entrepreneurship is one of the fastest-growing modalities in the fields of business and economics, characterized by having a strong innovation and social impact-driven blueprint. Therefore, building proper and tailored-to-demand ecosystems is imperative to ensure both entrepreneurs and their offspring startups survive.

The objective of this dissertation is to understand why and how entrepreneurship is created, as well as, how to ignite it through proper ecosystem modeling, differentiate and identify the actors and factors that play a key role in ensuring entrepreneurial success, and how the latter differs from one regional cluster to another, in this regard, Finland and the Basque Country. Therefore, finding a linking point that enables the practice of exporting ecosystem- and entrepreneurship-related practices from one country to another driven by a collaborative ecosystem duality could benefit entrepreneurship regionally and internationally.

This thesis can be divided into both empirical research and theoretical frameworks. The empirical research focuses on giving a comprehensive analysis of the current nascent and already established conditions of the Finnish and Basque entrepreneurial ecosystems with a specific focus on ecosystem building and on the application of The Nordic Model in other entrepreneurially-strong ecosystems. Additionally, all the data collected and currently present in this thesis consists of secondary data.

The research successfully reveals a previously little-known executive map of the activity levels of two distant entrepreneurial regions and latitudes, and how diverse and distinct ecosystem models can foster collaborative international networks, distancing from the traditional models of primarily relying solely on local markets and fostering the improvement of global internationalization capacities.

These results are of great significance for both practice and theory and can be relevant for additional researchers, experiential marketing initiatives, public organizations, higher education institutes, entrepreneurship societies, and startups in Finland and the Basque Country.

Keywords: Disruptive Innovation, Corporate Entrepreneurship, Entrepreneurship, Intrapreneurship, Company Builders, Venture Builders, Accelerators, Incubators, HEIs, Entrepreneurial Education, Startup Ecosystems, Entrepreneurial Ecosystems, The Nordics, Scandinavia, Finland, Basque Country.

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Terms and Abbreviations

3ES	3 Entrepreneurship Societies
AWS	Amazon Web Services
B2B	Business to Business
BAT	B Accelerator Tower
BBK	Bilbao Bizkaia Kutxa
BBVA	Banco Bilbao Vizcaya Argentaria
BCC	Cámara de Comercio de Bilbao
BIC	Business and Innovation Centre
BIND	Open Innovation & Acceleration Platform
CAF	Construcciones y Auxiliar de Ferrocarriles
CAPV	Basque Autonomous Community
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CMO	Chief Marketing Officer
CO2	Carbon Dioxide
CTO	Chief Technology Officer
DISC	The Digital Innovation and Scale-up initiative
EAE	EAE Business School
EBB-OVE	Basque Entrepreneurship Observatory- Observatorio Vasco
EC	European Commission
ECEPR	European Centre for Entrepreneurship and Policy Reform
EE	Entrepreneurial Education
EER	European Entrepreneurial Region
EFER	European Foundation for Entrepreneurship
EIC	European Innovation Council
EIS	European Innovation Scoreboard
EMEA	Europe, Middle East, and Africa
EU	European Union

EURADA	The European Association of Development Agencies
EY	Ernst & Young Global Limited
FDI BISCAY	Diputación Foral de Bizkaia
FDI	Direct Foreign Investment Intelligence
FiBAN	Finnish Business Angels Network
GB	Geo-Based Intelligence
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GHI	Global Happiness Index
GII	Global Innovation Index
GPIE	Global Program in Innovation & Entrepreneurship
HEI	Higher Education Institute
IBM	The International Business Machines Corporation
ICT	Information and Communication Technology
IESE	Institute of Higher Business Studies (IESE) Business School
IMD	International Institute for Management Development
INDEX	International Venture Capital Firm
INNOVANDIS	Innovation and Entrepreneurship Programme
IT	Information Technology University
KONE	Osakeyhtiö Kone Aktiebolag
LEINN	Entrepreneurial Leadership and Innovation
MIT	Massachusetts Institute of Technology
MU	Mondragon University
MVP	Minimum Viable Product
NACE	Statistical Classification of Economic Activities in the European Community
NATO	The North Atlantic Treaty Organization
NEBT	Newly created and independent SMEs established in high-tech sectors
ODCs	Entrepreneurial Clusters, Organizaciones Dinamizadoras de Clústeres
OECD	The Organisation for Economic Co-operation and Development

ORACLE	Oak Ridge Automatic Computer and Logical Engine
RD	Research & Development
RIS	Regional Innovation Scoreboard
RIS3	Regional Innovation Strategy for Smart Specialization
SDG	The Sustainable Development Goals
SMART	Specific, Measurable, Achievable, Realistic, and Timely
SME	Small and Medium-sized Enterprises
SPRI	The Basque Business Development Agency
STEM	Science, Technology, Engineering and Mathematics
SWOT	Strengths, Weaknesses, Opportunities, and Threats
THINK	Think Globally, Act Locally, or Think Positive
TKNIKA	Basque VET Applied Research Centre
UD	Deusto University
UK	United Kingdom
UNICEF	United Nations Children's Fund
UPV/EHU	University of The Basque Country-Euskal Herriko Unibertsitatea
US	United States
VC	Venture Capital
VET	Vocational Education and Training
ZITEK	Entrepreneurship Support Programme at the Bizkaia UPV/EHU Campus

1. INTRODUCTION

When referring to ecosystems, underestimating the role of simple, but essential biological concepts applied to businesses would differ the latter and the respective processes that lead to the creation of the aforementioned from being interactive, living, complex, communities of "sentient" public and private profile organisms that transform and convert resources into the building blocks on a thriving economy.

In nature, ecosystems occur naturally, they rebalance as change is introduced, and do not exist to serve a common purpose for their participants other than to seek stability amongst themselves. In the same manner, business ecosystems characterize themselves as having a common all-embracing purpose; fostering the creation of collective value for common customers, and thus requiring hand-in-hand orchestration (EY, 2021).

In economics, entrepreneurial ecosystems also regarded as entrepreneurship ecosystems, are defined as well-established networks of interconnected infrastructures and systems built by interdependent actors and partnerships that directly or indirectly support the creation and growth of new startup ventures. From a science-business perspective, ecosystems are responsible for supporting business ventures from as early as their embryonic stage till reaching maturity through the implementation and later corporate exploitation of biotic and abiotic factors connected through the adaptive life cycle of business clusters. Additionally, as impact-driven habitats, according to the *Kauffman Foundation* (Open Growth, 2022);

> "Entrepreneurial ecosystems drive local economic vibrancy and national economic growth by building fertile environments for new and growing companies to thrive."

Therefore the best approach to explaining a thriving habitat for business is what is known in academic literature as *The Ecosystem Metaphor*. This model refers to the core elements – individuals, business entities, or institutions – independent from the individual entrepreneur that, are decisive in implementing the success factors of a delivery method or lack of when producing and developing talent through the developmental stages of entrepreneurship. Additionally, when the aforementioned core is supported by a network of organizations and individuals, these are known as entrepreneurship stakeholders. These stakeholders may include governments, academic institutions, politicians, family-owned businesses, the private sector, research centers, cooperatives, public and private foundations, professionals, investment banks, and high-profile individuals (Isenberg, D., 2016).

In order for entrepreneurship to become a sustainable practice one isolated actor is hardly ever considered sufficient and turns out to be inhibitive for growth. In well-known business ecosystems such as The Nordics, Scandinavia, and Silicon Valley an evolution in tandem of those core elements has been shown to be conducive and to deliver optimal and long-lived outputs. Similarly to this, their economic and political policies have been shown to propel and gestate both an entrepreneurial opportunity and mindset (Isenberg, D., 2016). These examples show that the formation of these ecosystems is a clear image of how external governments and societal leaders who want to propel and produce entrepreneurship as part of their respective economic policies must first and foremost strengthen such core functionalities in tandem.

In his article entitled *"How To Start an Entrepreneurial Revolution"* Professor of Entrepreneurship Practice, Daniel Isenberg describes the environment in which entrepreneurship and its key players tend to thrive. Inferring from examples of different business habitats in the world, the article concludes that access to human, financial, and professional resources as well as operating in an environment where government policies safeguard and promote entrepreneurship is when entrepreneurs are most successful (Isenberg, D., 2010; Harvard Business Review, 2010). In this regard, *The Babson College Entrepreneurship Ecosystem Project* further categorizes this framework into the following domains: policy, culture, finance, support, markets, and human capital. Therefore, all these collectives of networks and business habitats are described as the entrepreneurship ecosystem (Spinelli, S., Jr., 2019; Babson College, 2019).

Additionally, the roadmap for this thesis stems from a study of the development, survival, and comparison between three geographic areas, in which an inner ecosystem of some of the aforementioned actors will be studied to gain a deeper understanding of how and why some ecosystems thrive while others don't and how countries influence their growth or downfall. The geographical areas of study will cover The Nordics, Scandinavia, and the Basque Country. In this regard, the following ecosystems will be of utmost relevance when further developing the study: startup ecosystems, university-based or integrated entrepreneurship ecosystems, and business clusters.

Taking into account the proposed entrepreneurial scenario it is the objective of this work, to understand the anatomy as well as the factors of two of the most successful European entrepreneurship models and clustering areas in order to propose and adapt their proprietary models to those currently present in Spain, specifically in the Basque Country region, and how these models can be imported, adapted and successfully applied to foster economic growth and to create further collaborative networks with both Scandinavia and The Nordics.

1.1. Author's Background

From 2020 to 2021, the author of this thesis was selected and participated as an entrepreneur in both Finnish university-linked incubators and accelerators, as well as privately-held accelerators in the Finnish startup ecosystem. Namely, Hatch Incubator Program, Boost Turku Accelerator, KIUAS, Cambridge Venture Camp, and Sauna Pitching. An entrepreneurial journey ignited by an innovative new-to-the-market cosmeceutical idea, with patentable technology aiming to solve current market gaps in the beauty industry and offering a new concept for dermatological care.

The business model and the idea were backed up both by Hatch Incubator Program where it gained an honorary mention within the competition and Laurea Entrepreneurship Society where the author successfully experienced the Nordic approach to ideation and further business creation. Mixing a strong entrepreneurial mindset with theoretical and practical studies.

This experience was further supported by the benefits of joining startup networks such as Metropolia Entrepreneurship Society, Aalto Entrepreneurship Society, and Laurea Entrepreneurship Society (Board Member).

1.2. Purpose of the research

Entrepreneurship is one of the widest and most sought-after career choices in contemporary times. The author of this thesis pretends to identify the key factors, environments, and ecosystems that bring the best outcomes and foster these agents to drive economic and social change. By applying the *anthropological entrepreneurship theory model* and based on data collected through online interviews conducted by other researchers, publications, and individual observations the author aims to propose a theoretical model that applies an improved and adapted proprietary model to set a clear path on how the proper use of resources can positively impact local environments to do better and aim to an internationally sustainable network of business opportunities.

1.3. Research problem and research questions

In order to achieve the central objective discussed in this paper, the core questions of the thesis are placed as follows:

- How can we gestate and grow an inner Ecosystem in the Basque Country that successfully applies and improves those currently present in Scandinavia and The Nordics by identifying the key factors of influence?

- Why does the entrepreneurial revolution adapt and thrive in some localized areas and countries better than others?

- How effective is the anthropological entrepreneurship theory at predicting sustainable and prosperous ecosystems?

- How can other business clusters and geographical entrepreneurial areas benefit from imported ecosystem success models?

Beyond the main central objectives, the following additional specific goals were also considered:

- Social and psychological characteristics of the target market (entrepreneurs and public and private organizations) in the preferred geographic scope.

- Structural and organizational differences between Incubators and Accelerators in the geographical area proposed for the study.

- Ratio and scope of execution of said programs as well as the percentage of success in the business field.

- Proposal for internationalization and subsequent adaptation of the Scandinavian model in the Iberian Peninsula and the Basque Country.

The focus of this thesis is to identify the key factors and actors that can ensure a healthy entrepreneurial ecosystem focused on offering an executable strategy and vision to empower entrepreneurial talent both locally and internationally through the study and application of self-sufficient ecosystems and thus helping ensure a clear network of international innovation and collaboration.

1.4. Thesis Structure

This thesis is structured systematically by the author to identify and answer the questions related to the research topic and efficiently analyze the actors and factors of successful ecosystems.

The process starts by exploring the origins and causes of entrepreneurship, followed by explaining what business ecosystems represent and how they come to be, the current entrepreneurial global scenario, focusing on the factors and actors that make ecosystems possible, and the main aspects of startup success.

The following chapter is devoted to the current European, Nordic, and Scandinavian Ecosystem models: the internal and external factors, entrepreneurial data, the startup network, and how startups execute scalability and thrive beyond their expected initial lifespan.

The third chapter is devoted to analyzing and evaluating the potential creation of an entrepreneurial ecosystem duality and offers an executive summary of both Basque and Finnish ecosystems and their distinctive profiles.

The final chapter is a SWOT analysis and a policy decalogue with ecosystem-related recommendations about the advantages of collaborative entrepreneurial ecosystems from Finland to the Basque Country and how to build proper ecosystem models.

2. RESEARCH METHODS

2.1. Data Acquisition Process

Due to the complexity of the subject that is intended to be researched, it was decided to work with non-interventionist research with a qualitative base. The reason being that there will be no action on the objects studied, but rather an analysis of their respective characteristics (Gomes, F., 2021).

It is noteworthy that developing a methodology for social science-related research goes far beyond simply gathering a series of methodologies or techniques. There must be the necessary reflection for an overall conception and analysis (Quivy & Campenhoudt, 2005). Therefore, it can be mentioned that the research conducted for this thesis is qualitatively based, but there were additionally some moments when the data collected was analyzed from a quantitative perspective, as in the case of the pre-existing online interviews and the documental analysis. From the perspective of its objectives, it is of explorative nature, having as its purpose to provide more information about the subjects and topics investigated. This research was collected through extensive data collection and bibliographic surveys. Additionally, it was decided to work mainly with qualitative research as the aim of the study was to understand the reality of theoretical models in relation to the activity inside the entrepreneurial ecosystems and how to approach the latter from a hands-on experience perspective (Gomes, F., 2021).

The preparatory phase consisted of a literature review related to the three major themes of the research which are, entrepreneurship, intrapreneurship, entrepreneurial ecosystem actors, entrepreneurial education at HEIs, innovation-related strategies, European, national, and regional policies, and their intersections. Thus, the literature review explores entrepreneurship and its different pillars, how and why startups thrive, and why ecosystems remain the ultimate infrastructure to reassure the well-being and health of a country or region.

The second phase of the research was the exploratory phase with the addition of two methods: document analysis and pre-existing interview evaluation. With this, the current ecosystem state is analyzed (Gomes, F., 2021).

The last phase of the research consists of a SWOT analysis, the proposal for a dual ecosystem “Ecosystem X” and the introduction of the implementation of a policy decalogue recommendation.

2.2. Data Analysis

The literature review serves to better understand the theoretical frameworks and models on which the research is based on. The three major areas of study were entrepreneurial ecosystems and their actors and factors in the search to better comprehend their role as growth and wealth-sustaining influencers, and how they can answer to socio-economic disruptions and instability. Subsequently, the scope of entrepreneurship and startups was introduced, and their current relevance to contemporary society, as they have encouraged innovation and change for a more sustainable and conscious society that can aim to efficiently solve today's problems.

3. THEORETICAL APPROACH

3.1. The Disruption Economy

For a deeper and more concise understanding of the concepts of ecosystem and entrepreneurial ecosystems, alongside the actors that operate within them, it is necessary to understand where they stem from and how they came about, and in what context. In this regard, to better acknowledge the role of entrepreneurial ecosystems in the contemporary economy it is essential to see them as shifting building blocks for a disruptive economy where new market disruption is set into the spotlight.

Merriam-Webster dictionary defines disruption as either “the act or process of disrupting something” or “a break or interruption in the normal course or continuation of some activity or process”. Even though traditionally, disruption has been linked to a negative connotation, in contemporary times its meaning has shifted and is often related to innovation. Disruption remains a term used in business to refer to business scenarios where companies are presented with new technologies, services, and business models that may seem unnecessary but become essential in the long run. Therefore, disruption and innovation are similar in that they share a role as makers and builders and while there is no clear line between innovation and disruption, the latter can be a form of innovation in the same way the former can be a form of disruption.

In contemporary disruptive business scenarios, with each systemic shift in Fintech or STEM business fields comes a new workplace response; a novel model that gradually snowballs into a larger cultural morphosis and impacts the everyday life of the individuals that conform to the market. Respectively, the digital disruption of today's ecosystems forces mint thinking and market behaviours that terminate one model while giving rise to ones that previously did not exist in the contemporary market scene. Concluding that with disruption comes the opportunity for eruption, the opportunity to create and grow, as well as fade and eventually die (Forbes, 2015).

The dominant opportunistic factor in the disruption economy is that it enables two core opportunities. First, it allows enterprises to redefine why and how they work. An organizational awakening that then leads to the second opportunity for companies to adopt: a better way to serve employees who *choose* to work there because they believe in the company's purpose (Forbes, 2015).

Currently, one of the most respected modern business theories is that of Clayton Christensen’s disruptive innovation. A theory that is explored in his 1997 book, “The Innovator’s Dilemma”. This theory is commonly used by business leaders and academics alike to further understand how disruption takes place and how new business ventures can penetrate the market and still rise to the top of the food chain. Often overlooked by industry incumbents, yet capable of making their way upmarket by taking earlier learnings and innovating upon them, yielding a threat and eventually becoming industry-level competitors.

In this regard, innovation remains no longer a goal, but a survival trait and a necessity. It is well-known that regardless of the market and industry, business ventures must be able to adapt to innovation, many times meaning a complete digital morphosis. Companies that may refuse to evolve and adapt may risk their competitiveness and remain no longer relevant in a market that celebrates the brave and often risk-seekers. Within business, these morphoses also named innovations, are known as business disruptions, as they initially contribute to an upset before organizations embrace those new models of thinking and executing. By understanding the proposition of a business disruption, companies are better equipped to foster market evolution while improving their decision-making simultaneously (Christensen, C. M., Reynor, M. F., et al, 2015; Harvard Business Review, 2015).

Only after the novel business model has established itself do ecosystems and businesses alike begin calling it innovative. However, there is a difference between traditional innovation and that-of disruptive innovation.

The key factor in the disruption economy lies in the shifting tides that are slowly shaping disruptive market tendencies and business execution methods. While disruptive innovation refers to the opportunity window when products or services start at the bottom of the existing market, often followed by a poor or questionable reputation, but slowly scaleup to gain momentum and potentially end up replacing outdated traditional methods, traditional innovation -also referred to- as sustaining innovation, on the other hand, is when business ventures introduce new editions or upgrades of a product or service to their customer base in an effort to remain relevant in their respective market. This type of innovation has been shown to lose value over time, therefore redeeming unsustainable in the contemporary market. As more often than not this leads to customers looking for product substitutes rather than remaining in an ever-changing price point range (Forbes, 2015).

3.1.1. Understanding Nordic Innovation

While not only exclusive to digitalization, disruptive entrepreneurial ecosystems are those business habitats that foster the creation and scalability of digital technologies and entrepreneurial activities. Digital Technology has become a crucial tool for designing business models and enabling their proper success. It also allows the creation of new business ventures responsible for maintaining the ecosystem vibrant. Therefore, Digital Technology can promote entrepreneurial activities and evolve entrepreneurial ecosystems, disrupting business models and positioning ventures for future growth (Von Briel et al., 2018; Zahra, S. A., et al. 2022).

Both The Nordic and Scandinavian countries are flagship examples of geographical regions with a long history of entrepreneurship and innovation. Being widely known for their global outlook, access to government support, high degrees of equality, and social and economic stability, these factors actively contribute to their inherent capacity for innovation. In this context, in order to provide supplementary statistical data on scale-ups that would complement the current official statistics for business, Nordic Innovation has called upon the Nordic Statistical Institutes (Nordic Innovation, 2023). Therefore, setting an example for a proprietary disruption method. A method that has already long been in the works and aims to be replicated in the Nordic Innovation House in Silicon Valley. In addition to this, according to

the European Commission, Sweden, Finland, and Denmark hold the top places in the 5 leading innovative economies in Europe.

Considered Europe's Startup Factory, The Nordic countries have a decades-long reputation for being at the forefront of disruption and innovation. They combine a vibrant competitive landscape for capital, venture capital firms, innovation ecosystems, strategic geographical positioning, and start-up challengers with an extensive tradition for cooperation and collaboration (Mckinsey & Company, 2020). Additionally, during the pandemic, all 5 sovereign countries managed to improve their 2020 margins in contrast to those of 2019, despite the challenges and restrictions.

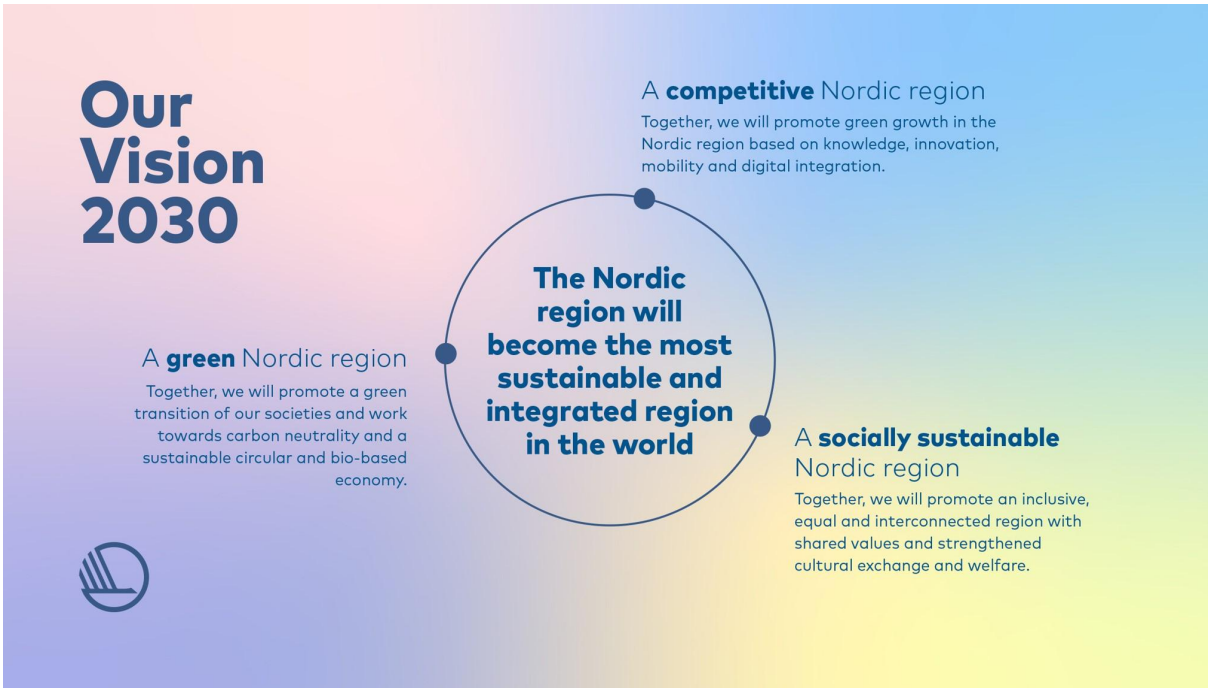

Figure 1 Nordic Innovation 2030 Plan & Goals. Towards an Innovation-driven Future and Region. Source: Nordic Innovation, Programs, 2030.

The above figure makes reference to the Nordic Innovation 2030 Plan, a policy under the Nordic Council of Ministers that aims to make the Nordics a pioneering region for sustainable growth by promoting entrepreneurship, innovation, and competitiveness in Nordic businesses (Nordic Innovation, 2023). Making the Nordic region the most integrated and sustainable region in the world by 2030 (Nordic Co-operation, 2021). To achieve this, Nordic Innovation is focusing on three innovation goals: becoming and setting a new standard for green mobility, leading in sustainable and smart growth models, and a waste-free Nordic and Scandinavian region.

One of the elements that make the Nordic and Scandinavian models successful and sustainable is their shared history. The Nordic model is strengthened by active market policies that aim to reduce conflict between the providers of labour and the interests of capital. Additionally, comparing their domestic market sizes, these regions majorly rely on exportation for their global outlook, considering that the domestic market tends to be smaller.

According to the Global Innovation Index (GII) 2021, Finland ranks 7th among the 132 economies present in the index. These rankings are based on each country's innovation capabilities and consist of up to 80 innovation input and output indicators.

The most notorious of the five sovereign states in the Nordics, Sweden, has consistently ranked at the top of the European Innovation Scoreboard, a yearly index developed by the European Commission. An index, where Sweden characterizes itself for its long-term focus on research and education and for investing more than 3% of its GDP in R&D, which in 2022 alone reached $567 billion. Being the fields of Green Technology and Life Sciences the core areas where both Swedish enterprises and researchers excel (World Economics, Sweden, Economic Data, 2022).

3.1.2. Entrepreneurship & Disruption

The entrepreneurial economy is heavily linked with the disruption economy as entrepreneurs play a vital role in economic growth and development. And while Entrepreneurship doesn't directly translate to disruption, it does contribute to disrupting current market ideals, as well as traditional business administration & management concepts. Economic development essentially involves a process of upward change where the real per capita income of a country increases over time (Economics Discussion, 2021). In this regard, entrepreneurs are believed to serve as catalysts in the processes of economic growth and industrialization. Technical progress alone is unable to enable economic development unless technological discoveries are included by entrepreneurs to further benefit the economy. As a result, entrepreneurs are the key to creating new enterprises that stimulate economic growth and revive established businesses that make up an economic structure (Economics Discussion, 2021).

Research shows that entrepreneurial human capital is responsible for initiating and sustaining the process of economic development through capital formation, improvement in per capita income, generation of employment, balanced regional development, improvement in living standards, financial independence, backward and forward linkages, inspiring others towards entrepreneurial action, creating know-how, augment the number of enterprises, provide and increase diversity in firms, organizing of society's productive resources and the development of new production techniques among others (Economics Discussion, 2021).

Respectively, it is the entrepreneur who organizes and executes capital, labour, and technology. Development does not happen spontaneously and neither does innovation. They rarely are a natural consequence of economic conditions being right. For them to take place a catalyst is needed and this undoubtedly requires entrepreneurial action and activity to a considerable extent. On the other hand, the diversity of economic activities that characterize rich nations can be linked to the vast supply of entrepreneurial human capital. Highly entrepreneurial countries characterize themselves for initiating change, which leads to a chain reaction through backward and forward linkages (Economics Discussion, 2021).

Additionally, the role of entrepreneurship in economic development varies from one economic ecosystem to another depending upon the industrial climate, resources, and political system's responsiveness to the entrepreneurial function (Economics Discussion, 2021). Entrepreneurs are responsible for giving organizations momentum and they set themselves critical for the long-term vitality of every economy. Entrepreneurial favourable conditions are an essential aspect to consider when measuring the aforementioned outputs of economic development that entrepreneurs can have an impact on (Investopedia, 2023).

3.1.3. New Market Disruption Model

When researching and further expanding disruption into an entrepreneurial ecosystem framework, the following models are crucial to understanding how innovation is driven and spread across entrepreneurial networks and how it builds a profile for each geographical region, based on their respective governmental policies and entrepreneurial and innovation indexes.

On this matter, Professor Clayton Christensen of Harvard Business School argues that there are three disruption models as part of the New Market Disruption and Disruptive Innovation Theory. According to him, disruptive strategy comprises sustaining innovation, low-end disruption, and new market disruption. Both new-market disruption and low-end disruption are well-known types of disruptive innovation. As previously covered, disruption involves the process by which a novel SME-usually with limited resources-moves upmarket while challenging larger, more established entities. In this regard, in both new-market and low-end disruptions, current businesses are focused on higher profit margins rather than gaining conflict with novel market-entrants for mere market share (Harvard Business School, 2022). The key differentiator factor lies in each innovation's relationship with the existing market.

While we may approach disruptive market models from the perspective of existing organizations that mainly thrive on a sustaining innovation-based model or present themselves with an opportunity to disrupt an existing market with a soon to be best in class innovative service or product, learning about all three can aid us in better enabling proper assessments when positioning a business in a competitive landscape, understanding the factors that influence disruptions as well as how to craft strategies to propel or inactivate disruption when needed. Key aspects that every entrepreneur within an ecosystem will have to assess if they are to thrive and survive as well as for innovative programs to better cater to their entrepreneurial "customer base" and better innovate within their regional scope of activities. Therefore, all three types of disruption are briefly explained prior to deep-diving into new market disruption (Harvard Business School, 2022):

- *Sustaining Innovation* is the scenario where a company comes up with better products or services to sell for higher profit margins to a niche or early-adopter-type customer base.
- *Low-end disruption* involves companies making use of a low-cost business model to penetrate the bottom of an existing business market and claiming a segment, creating a cause-effect where incumbent businesses are forced to retreat upmarket to retain higher profit margins.

- *New-market disruption* is where a company creates and claims a novel segment in a saturated market by catering to an unserved customer, gradually improving in quality and service, and positioning itself on top of the dominant competition. This model is most notorious when related to startups, and thus is a critical factor when exploring entrepreneurial ecosystems and company builder programs.

Respectively, the three main distinctive characteristics of new-market disruption include the fact that 1) it targets non-consumption, meaning it is a new-in-class product or service that the target audience couldn't purchase before. 2) It is characterized as making a profit at lower price point ranges per unit than the dominant business. Which lessens barriers to entry by not influencing conflict between entry-level and senior-level businesses. Additionally, 3) it provides lower performance for established customers but higher performance for non-customers, making the market entrant seemingly non-threatening. While established customers won't set for lower quality, this comes as acceptable for non-customers (Harvard Business School, 2022).

These key aspects of new-market disruption can be clearly seen in the technological industry where innovation is a constant buzzword, and competition with substitutive products is at all times high. Personal computers, smartphones, and smartwatches are a clear example of new market disruption. Shared mobility services and transistor radios are also some examples widely covered in disruptive literature (Harvard Business School, 2022).

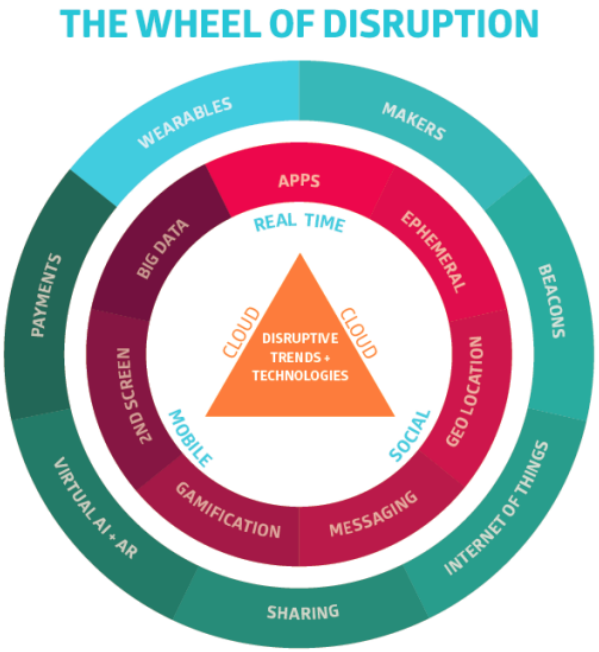

Figure 2: Schematic view of many important factors of new-market disruptive strategies for technology companies with a focus on market-entry opportunities (Enabler Space, 2020).

The following figure is referred to as *The Wheel of Disruption*, a model created to track technologies that helped direct investments towards innovation and strategic iteration, thus driving disruptive change. Nowadays it focuses more on technology's effect on behavioural science and how it influences market responses. Yet, it is a proper model to summarize new-market disruption strategies. Respectively, startups have the potential to disrupt markets by using digital transformation as a tool to analyze data, identify market trends, and make better and more accurate decisions. Similarly, to market disruption, ecosystem disruption happens when industry field boundaries collapse. Digital transformation has altered business activities to such a state, that the traditional approach to strategy, industries, and competition has been proven to be inadequate. Moreover, modern disruption, in fact, shows the ability to break industry boundaries and redefine entire entrepreneurial ecosystems (Ron Adner, 2012).

3.2. The Entrepreneurial Revolution

In a world that has become dominated by global markets, global players, and international-scale products and services, exporting giant firms have remained the focus of interest until recently. While previously, small firms were considered to be at a considerable disadvantage compared to larger, more established firms, due to limitations such as long-distance communication, negotiating with national and international governments, and financial costs involved with learning about foreign business environments. Despite a wide array of counteracting limitations, entrepreneurship has emerged and expanded as an economic and social development engine throughout international frontiers. Over the last two decades, the role and presence of entrepreneurship have changed drastically, delving between the model of entrepreneurial economy and managed economy, first introduced by Audretsch and Thurik in 2001.

According to Professor Daniel Isenberg and based on his 2010 Harvard Business Review published article, "How to Start an Entrepreneurial Revolution", entrepreneurship tends to thrive in environments across the globe where there is reassured access to human and financial capital and to the resources entrepreneurs need for their respective activities. Additionally, he highlights the key role that governments play in these environments encouraging policies that safeguard and aid entrepreneurs in fostering entrepreneurial economies locally and internationally, gradually shifting away from more managed economy models, thus consistently moving towards a network model known as entrepreneurship ecosystem.

In the early stages of the development phases of innovative ecosystems and communities, it is essential to acknowledge entrepreneurship as a crucial driving force for economic growth and development. An undeniable contributing agent to the competitiveness of society, and to job creation and market proliferation, both entrepreneurs and their offspring startups have been key players in economic incubation and acceleration across the globe. Since most new entrepreneurial ventures depend heavily on cutting-edge technology, disruptive business models, highly trained professionals, and innovative, frequently new-to-market goods and services it comes as no surprise that the so-called "company builders" which include

incubators and accelerators have been an essential part of the path from concept ideation to profitable venture scale-ups (Lehtonen, S., 2020).

These entrepreneurship programs, namely incubators, accelerators, and venture builders, are known to be innovative investment and growth vehicles and shared-business resource and service providers that are responsible for fostering a novel contribution to enhancing entrepreneurial attitudes and advancing entrepreneurial ventures across the globe. Additionally, regarded as active players in helping new generations of startups -usually in the Fintech space- scale up and thrive, they act as primary sources of knowledge, support, and networking for all levels of entrepreneurs.

Several dynamic industry forces, such as fluctuating economies, technological innovation & disruption, and geopolitical & demographic changes have brought new threats and opportunities for organizations and shifted societies from the inside out all across the globe. Therefore, in order to cope with a volatile and ever-changing portfolio of market forces, private and public organizations, governments and the public are constantly aware of the role of entrepreneurship in society. Considered a multifaceted phenomenon, entrepreneurship is analyzed as a resource, a state of being, and a process. Catering to the diverse needs it tackles (Bessant and Tidd, 2011; Toma, S. G., Grigore, A. M., Marinescu, P., 2014).

Additionally, socioeconomic contexts that generate a high predisposition for pushing economic and political agents to start new enterprises are characterized as being rich in entrepreneurial capital, while on the contrary, in contexts where starting up new companies is inhibited, it can be said that they primarily lack proper entrepreneurial capital (Audretsch & Thurik, 2001).

On the other hand, international entities, governments, and policymakers have centred their attention on acknowledging the role fulfilled by entrepreneurship in generating and fostering economic development. Industry experts have since gradually abandoned their traditional approach to economic development, based on the managed economy model, where economic development is based mainly on the recruitment of large organizations with both fiscal and financial incentives. Seen as the primary drivers of economic development and growth, these big enterprises are regarded as generating the majority of a country's employment, innovation, and export profile. Today, experts are relying more on SMEs and new ventures than previously. The entrepreneurial economy is being hailed and recognized by governments not only as a good solution to non-controversially sustain and promote job creation, and enhance per capita income growth but also for being a core mechanism for enhancing economic development (Shane, 2005, p. 1).

According to Audretsch and Thurik's model of the entrepreneurial economy, the role of large companies is different than when referring to a managed economy. In this case, large corporations are seen as complementary or supporting actors to smaller firms. While large firms still contribute to innovation, exports, and employment, they are no longer seen as dominant drivers. Small startups and ventures play a more direct role in fostering innovation and economic growth. This is why governments need to ensure entrepreneurs succeed with proper access to markets and resources. A scenario where national policies play a crucial role (Kressel and Lento, 2012, p. 6).

In this regard, when it comes to the entrepreneurial economy, the Nordic region is known for its strong entrepreneurial ecosystem, with proper structural conditions and framework for entrepreneurial activity. Scandinavia, which includes Norway, Denmark, and Sweden also selects a strong tradition of entrepreneurship and innovation. The overall framework conditions in this region are well-positioned to fully benefit from entrepreneurship, making these countries world leaders in terms of entrepreneurial and innovation capacity. According to the Nordic Entrepreneurship Monitor (2010), the Nordic region generates high numbers of novel firms, but seems to fall behind other leading nations where high startup rates turn into a promising portfolio of high-growth enterprises. To further assist in addressing this challenge, Nordic Innovation has established a "Knowledge Centre" for Entrepreneurship with goals to better assist and coordinate the growth of entrepreneurial education programs and entrepreneurship activities in the Nordic region. Objectives they aim to achieve by establishing a regular Nordic policy forum, and by strengthening joint Nordic analysis and data and hitting international benchmarks on entrepreneurial growth (Nordic Innovation, 2010).

Category	Entrepreneurial economy	Managed economy
Underlying forces		
	Localization	Globalization
	Change	Continuity
	Jobs and high wages	Jobs or high wages
External environment		
	Turbulence	Stability
	Diversity	Specialization
	Heterogeneity	Homogeneity
How firms function		
	Motivation	Control
	Market exchange	Firm transaction
	Competition and cooperation	Competition or cooperation
	Flexibility	Scale
Government policy		
	Enabling	Constraining
	Input targeting	Output targeting
	Local locus	National locus
	Entrepreneurial	Incumbent

Figure 3 Understanding The Key Differences Between The Entrepreneurial Economy and the Managed Economy (Audretsch & Thurik, 2001).

Contemporary societies are currently demanding more socially interconnected and efficient systems to address their needs. In order to make this possible, entrepreneurs must comprehend that by starting new ventures with a goal to both spur social and economic development, they are contributing to a long-term sustainable approach. This scene can be

seen in developed nations as ventures opt for larger platforms for growth and internationalization.

Changing and influencing entrepreneurial culture requires not only shifting and redefining the role of entrepreneurs in society and culture but also incentivizing intrapreneurship so that employees can firsthand innovate within established organizations and help them become sustainable long-term and remain close to their sustainable development goal indexes.

As can be seen in the figure above, the entrepreneurial economy model defines a framework that explains why entrepreneurship may be considered a more adequate frame of reference than that of the managed economy model in developed contemporary economies. This model contrasts the most fundamental elements while also offering a clear view of the advantages that a local or international entrepreneurial economy can offer.

An entrepreneurial economy is driven by knowledge as its dominant factor of production. It merges advanced level technical and scientific know-how as well as aspects such as creativity, communication, and emotional intelligence among others. In this type of economy, the competitive advantage lies in and is driven by innovative dynamics (Thurik, 2009).

On the other hand, a managed economy is one where production labour and capital are the driving production factors. However, in contemporary, developed economies and in terms of scope, the model of the entrepreneurship economy may be a better benchmark than the model of the managed economy and the core topic of this thesis project.

Regarding the entrepreneurial economy in Europe, small to medium-sized enterprises (SMEs) are considered the backbone of the economy, being responsible for making up the majority of the current job market. The European Commission (EC) aims to promote entrepreneurial activities and foster an improved business environment for SMEs, allowing them to reach their full potential in today's global economy. In 2020, while going through a pandemic, the European Union's business economy was made up of 26.3 million active enterprises with more than 131 million professionals being employed across different seniority levels and industries. Out of the aforementioned active enterprises making up the EU's economy in 2020, an overwhelming majority, 99.8% to be exact, was composed of micro and SME enterprises. Up to 23.3 million of those enterprises contributed together to 52.7% of the added value generated within the European Union's non-financial business economy, including sectors such as industry, distributive trades and services, and construction. Simply put, economic activities covered in Sections B to J and L to N and Division 95 of NACE Rev. 2. (Eurostat, 2022).

3.3. Corporate vs. Non-Corporate Entrepreneurship

Prior to explaining and setting a pathway to understanding the role of Incubator, Accelerator, and Venture Builder Programs inside an Entrepreneurial Ecosystem, we must differentiate how these actors exist and function inside two entrepreneurship models: Corporate Entrepreneurship also referred to as intrapreneurship and traditional entrepreneurship.

Similar to traditional entrepreneurship, corporate entrepreneurship also creates opportunities for value creation, cultural transformation, technological advances, and employment for entrepreneurs, entrepreneurial ecosystems, economies, governments, and societies across the globe. Additionally, entrepreneurship and intrapreneurship are both forms of innovation and leadership, but they tend to differ from several angles. While an entrepreneur is usually the founder or member of the core team of a new business venture, an intrapreneur is an employee at an already existing entity. Entrepreneurs are usually motivated by market opportunity, therefore facing higher risk and freedom of management, while intrapreneurs are motivated by necessity within an organization and thus operate within the permissions and limits of the management within said entity.

The key aspect when differentiating both is to identify entrepreneurs as “game changers” and intrapreneurs as “value creators”. Both styles innovate and lead towards a specific goal, yet the main business challenge differs from one to another. Entrepreneurship’s main challenge is to escalate to best-in-class market know-how and brand credibility. On the other hand, intrapreneurship’s main goal is innovating through proper company culture.

Corporate entrepreneurship usually refers to the process of creating new ventures inside an already established company. Through a system known as intrapreneurship, an employee is allowed to act like a traditional entrepreneur within the company or another organization. This allows the company to innovate itself from within while supporting the employee with all the needed resources to do so. Corporate entrepreneurship also allows intrapreneurs to foster attitudes such as self-motivation, and proactive and action-oriented approaches while initiating the pursuit of innovative products or services. This differs from the well-known traditional entrepreneurship model, which unravels around starting a new business venture from scratch. Resources tend to be limited and they are required to be built from the ground up, and the know-how most often than not is yet to be properly exploited. On the other hand, corporate entrepreneurship leverages the capabilities, assets, networks, resources, and market position of the parent company to conceive, launch, manage, and foster a new venture, often, in the form of a spin-off (MIT Sloan Management Review, 2007).

Corporate entrepreneurship has evolved in the last decade to better adapt to an ever-fluctuating business environment. A clear example of this tendency is how the pandemic disrupted all walks of life, a similar response to how entrepreneurship challenges the status quo of traditional business administration and management. The Global Entrepreneurship Monitor’s (GEM) 2021-2022 report analyzes entrepreneurial trends and attitudes in different countries, highlighting how entrepreneurial ecosystems have developed and survived during and after the global pandemic. In this regard, some of the aforementioned trends and attitudes include a growing interest in entrepreneurship, a growing focus on how to foster social responsibility within organizations, and how to come up with new business models on opportunities focused on global recovery (World Economic Forum, 2022).

According to “Corporate Entrepreneurship and Innovation” by Paul Burns, there are four pillars also known as entrepreneurial architecture inside corporate entrepreneurship, that consist of culture, leadership, structure, and strategy. All four elements are crucial when fostering an environment that encourages and supports intrapreneurship within an established business entity.

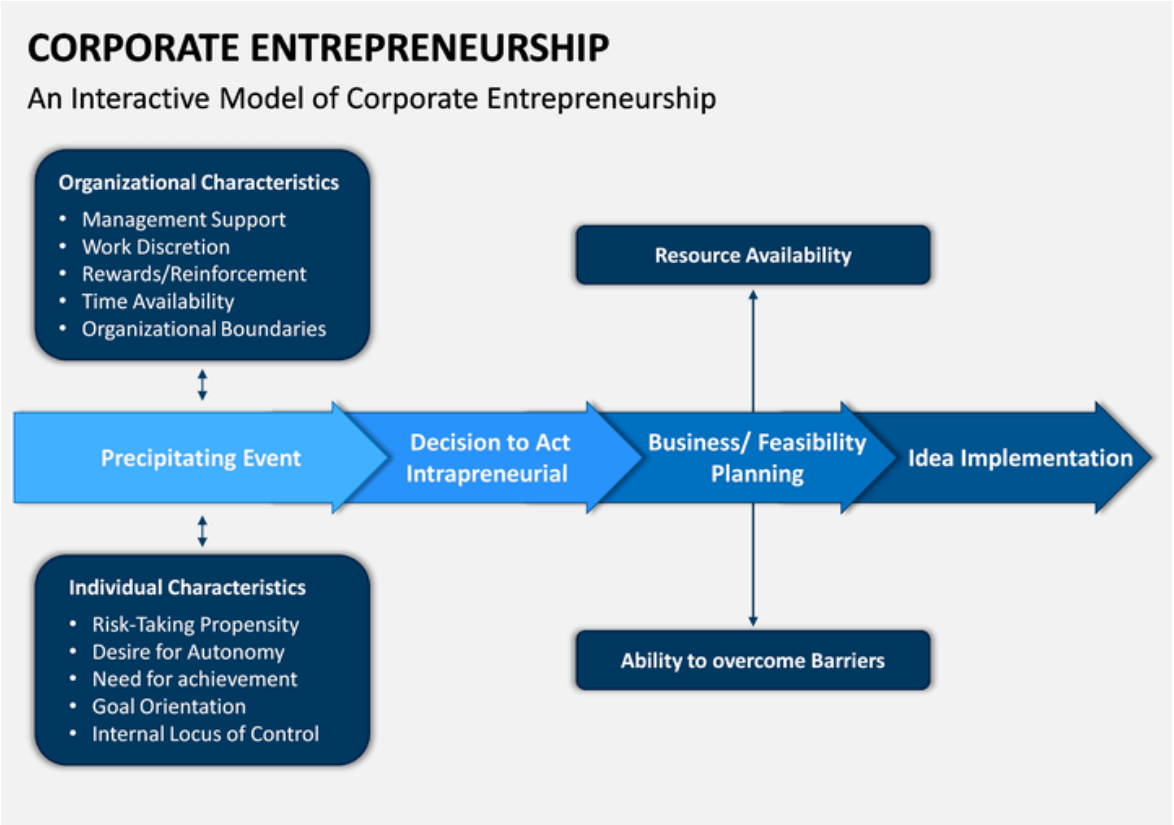

Figure 4 An Executive Framework of The Stages of Corporate Entrepreneurship. Corporate Entrepreneurship Framework. Thinking Intrapreneurially. Source (Sketch Bubble, 2020).

Similar to Accelerator and Incubator programs, usually directed to traditional startups and entrepreneurship, corporate entrepreneurship characterizes itself by developing Venture Builder Programs to further assist in innovating from within. As seen in the above figure, corporate Venture Building is an answer to this. It usually involves the ideation of a new concept or idea that is tested and validated by a team of senior professionals and if approved the company will proceed to establish a novel, independent entity which serves as an external innovation hub, while still remaining tightly aligned to the parent company's strategic roadmap (Forbes Business Council, 2021).

Additionally, to further apply an intrapreneurial approach to new business creation and innovation a few indicators need to be considered. In this regard, the need for corporate entrepreneurship within a company is measured by the following factors: rapid growth in primary and secondary competitors, distrust in the traditional methods, both at the business and managerial level, international competition, desire to improve productivity and efficiency, downsizing of major corporations, and the desire of employees to explore entrepreneurship.

According to Michael J. Lippitz and Robert C. Wolcott, the approach that venture builders tend to gravitate towards in developing new spin-offs is based on the four core models of corporate entrepreneurship; the Opportunist Model, The Advocate Model, the Enabler Model, and the Producer Model. Each intrapreneurial approach raises specific challenges

while also providing certain benefits, therefore it is highly influenced by the company's function, objectives, and set of challenges.

Figure 5 Emerging Models of Corporate Entrepreneurship (Wolcott, Lippitz, 2007).

As mentioned above, the first model is known as "The Opportunist Model". In this intrapreneurial model, the company characterizes as showing little to no intentional approach to corporate entrepreneurship, and new ventures are built from the grassroots initiatives of a select number of "project champions". If designated resources and organizational control are lacking, corporate entrepreneurship will proceed opportunistically (Wolcott, Lippitz, 2007).

The second model is described as "The Advocate Model", which consists of assigning organizational ownership when creating new businesses while intentionally providing tight budgets to the core team. Advocate organizations act as innovation experts and promoters, facilitating intrapreneurship in combination with business units (Wolcott, Lippitz, 2007).

The third model, known as the "Enabler Model", consists of employees across an organization wanting to develop new ideas and concepts if met with adequate company support in the form of resources and processes. Enabling individuals to pursue opportunities of their own making as they fit the entity's strategic frame. In the most recent version of this model, companies have developed clear criteria for selecting opportunities to pursue, decision-making transparency, application guidelines for funding, recruitment, and retention of an entrepreneurial employee body, and active and long-term support from senior group management (Wolcott, Lippitz, 2007).

The fourth model on the other hand, known as “The Producer Model”, is where companies pursue intrapreneurship by establishing and supporting formal entities with significant dedicated capital funds or active know-how and influence over business unit funding. As with the previous model, the core objective is to awaken and encourage latent entrepreneurs, but it also protects emerging projects and enterprises from conflicts, encourages cross-unit cooperation, and helps build potentially disruptive ventures, creating career pathways for executives to pursue outside of their designated roles and responsibilities (Wolcott, Lippitz, 2007).

While not exclusive to only applying one model at a time, corporate organizations will often synergistically apply intrapreneurial complexes by merging more than one model into a set innovative strategy, as well as use different models at different business development stages, hacking the growth and survival of the aforementioned corporate spin-offs.

Successful examples of corporate entrepreneurship include Gmail -the first-of-its-kind email platform with high storage capacity and a search function created by Paul Buchheit while working as an employee at Google- Art Fry, responsible for developing Post-It notes from a previously dissolved adhesive project by Spencer Silver. Furthermore, well-known major organizations such as DuPont, IBM, and Cargill have been developing new models of corporate entrepreneurship since the late 1990s.

Additionally, corporate entrepreneurship in Europe has come a long way since the late 1990s, but it still lags in achieving successful late-stage outputs when compared with international startup ecosystems. Despite this, Europe’s start-up ecosystem has seen a surge in the number of unicorn companies and the accelerated pace at which they were created. Of the more than 99 venture-capital-backed European Unicorns, 14 novel ones were added to the ecosystem in 2019 alone (Mckinsey, 2020).

3.3.1. The Venture Builder Process

While, this thesis will focus on the traditional entrepreneurial company builder ecosystem in Europe with a specific focus on the Nordic and Scandinavian regions, doing a meaningful comparison to that of the Basque Country, it is important to highlight how company builders shift when referring to corporate entrepreneurship, as it is the case of venture builder programs.

Business incubators, accelerators, and venture builder programs all comply with the criteria to be considered “company builders”, but they do have some core differences as well as different target customers.

Venture builders work by housing the capital, the resources, and the means to efficiently start up new ventures. These novel companies are born out of in-house inspiration and idea generation and focus on identifying talented core teams that may work entrepreneurially and promoting the development of those attitudes and ideas by offering support in a variety of areas, from business development, and finance, to legal and business intelligence.

Venture builders differ from accelerators and incubators in that their main focus is on creating and launching companies with disruptive business models or ideas, while incubators and accelerators focus on supporting early-stage and advanced-staged startups in aspects such as mentoring, securing and searching for funding, leading ventures and providing shared services for a set period of time. Additionally, venture builders generate the backbone of the business venture in-house and select core teams to further develop them, while incubators and accelerators select startup applicants based on specific business fields and provide them with ecosystem resources and structural support to help them grow and evolve (The 97 Fund, 2020).

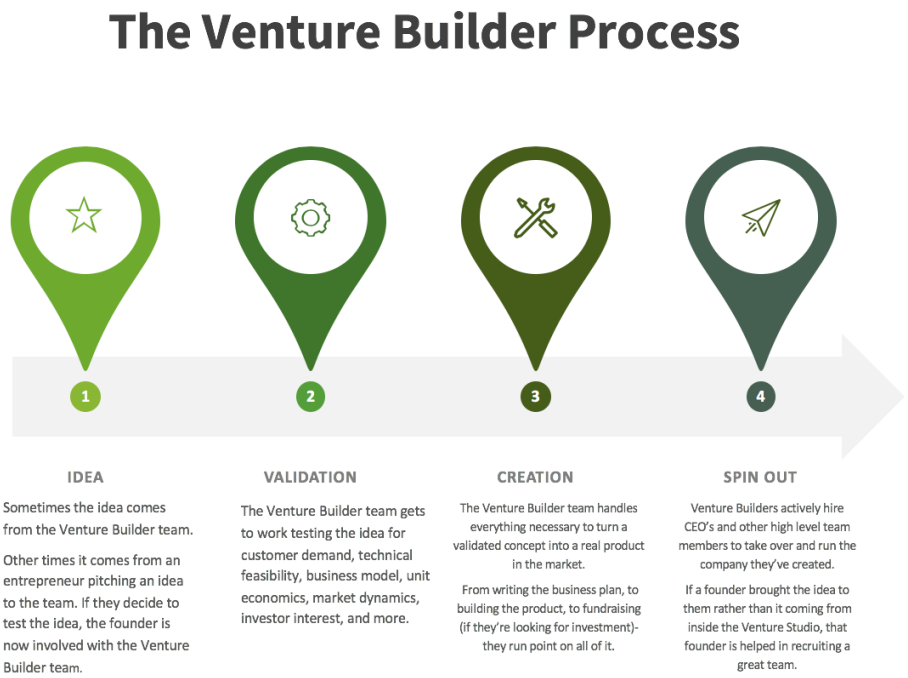

Figure 6 The Venture Builder Process Model. From Ideation to Spin-out, Corporate Entrepreneurship with a Focus on Disruptive Innovation (Medium, 2020).

The benefits of The Venture Builder Model include high operational involvement, shaping the founding team, larger structural support and investment horizon, creating cross-venture synergies, and investing resources heavily in early-stage ideation and conception. Additionally, it is a process that involves a multitude of core activities, as can be appreciated in the figure above. These activities include identifying disruptive ideas, building teams, finding funding, helping manage the business, and providing shared services. By leveraging their network they span out within ecosystems to contact seasoned entrepreneurs on factors such as resources, capital, skills, and market know-how (LinkedIn, 2020).

Furthermore, the types of venture building that this model addresses include, in-house venture building, working for investors, and working for corporations. Respectively, examples of these types of venture spin-outs include Betaworks, responsible for creating well-known spinouts such as Twitter and Medium, and B-works in Switzerland and Germany among others.

3.4. Anatomy of A Startup

According to the Merriam-Webster dictionary, a startup is defined to be either “a fledgling business enterprise” or “the act or an instance of setting in operation or motion”. Despite this, a broad or general definition of what a startup is has been a long debated topic (Business Insider, 2014), and to this day there are still discrepancies in what a startup is that entrepreneurs, ecosystem players, and investors agree upon. Simply put, startups are often defined as new business ventures (Lehtonen, S., 2020).

Referring to the section on "Corporate vs. Non-corporate Entrepreneurship," and based on the differentiating attributes that business ventures can adopt, it can be said that not all newly established businesses can be classified as startups. Although there is no official definition available, there are distinct features that distinguish a webshop from an innovative Fintech startup. When differentiating startups from smaller size ventures, the main attributes include maturity or age, growth or scalability, profitability, and short-term and long-term stability, or the lack of it. Aspects that do not dominate one another, but are perceived as “equally” important (Shontell, 2014; Lehtonen, S., 2020).

On the other hand, according to Lappalainen, startups are young enterprises whose business models are equipped to enable fast-charged, global growth while also investing in R & D and new market expansion as soon as the product-market-fit shows to be adequate.

When describing startups via biological concepts, the anatomy of a startup can refer to a variety of aspects inside a startup. It can refer to the leadership and team structures, where usually there is a Founder/CEO, CMO (Chief Marketing Officer), CTO (Chief Technical Officer), CFO (Chief Financial Officer), managerial roles, and developers, among others. It can also refer to the venture backbone of the company, investor portfolio, or even entrepreneurial attitudes such as creativity, passion, innovative drive, open-mindedness, and adaptability (Kauffman, 2009).

Startups typically are initiated by a solo founder also known as the founder or a group of founders, known as co-founders who have a novel or improved way to solve a problem or satisfy a demand, although at times startups can also create demands that did not exist prior to their market-entry. The initial stages of a startup include ideation, followed by market validation by either a solution interview or problem interview, followed by the process of building a minimum viable product (MVP), which is also known as a prototype and is needed to develop and validate a business model (Fontinelle, 2020).

After a certain “age” startup ventures stop being referred to as startups mainly due to the age range where they usually exist. Most sources draw a line around a startup’s age around five years old, while according to Graham five still is a reasonably young age for a startup. Usually, a company can not remain a startup past 10 years, as by then it is supposed to become a stable, non-growth-focused enterprise, has grown to a bigger dimension, and remains profitable for a concept known as scale-up (Graham, 2012; Lehtonen, S., 2020).

According to a study run by the Finnish government on startup growth factors and business bottlenecks, startups are mostly fairly young and small enterprises, independent and

privately owned with all the legal attributes to be able to grow, employ and operate within their respective market and geographical region. With a medium age of not more than five years and less than 50 employees, and remaining a limited company owned by the employer and registered under his or her name (Lehtonen, S., 2020).

Additionally, the main attribute of startups that most sources and experts agree upon is their ability and desire to grow and scale up in a fast-paced timeframe and market. According to Paul Graham, one of the co-founders of the universally known Y-combinator accelerator in the US, a startup refers to a company designed to grow fast, being a newly founded venture does not make an embryonic-stage business a startup. Moreover, even if most startups are fairly novel ventures, the age of a startup does not define its identity. More often than not, growth is considered the defining factor where all other attributes stem from such as cutting-edge technology development, securing venture funding, and working towards an exit (Graham, 2012; Lehtonen, S., 2020).

Respectively, many sources agree on the fact that startups do not only aim to respond to deficiencies or create new types of goods and services on the market, but considering they are rooted in innovation, they look at doing so disruptively. This is why startups are also known as disruptors within their respective industries. In this regard, startups seek to grow through disruptive and innovative business models, remaining the main difference between startups and traditional small businesses. Moreover, according to Steve Blank, a Stanford University professor, and Silicon Valley-based serial entrepreneur, while small businesses usually run on a fixed business model, startups look for profitable, repeatable, and scalable business models. Therefore, it would be safe to affirm that startups are organizations designed to build repeatable and scalable business models (Blank, 2010). Where coming up with the right business model and product market fit is crucial for a startup's lifecycle (Lehtonen, S., 2020).

If we observe startups from their high-risk factor, on the other hand, according to Eric Ries, creator of the Lean Startup Methodology, the most universally approved definition sets startups as human institutions designed to create new goods and services under conditions of high uncertainty (Ries, 2011, 27).

Seeking constant growth does not come without financial struggle, and ultimately lack of adequate funding and resources to grow, positions startups in uncharted waters, especially when startups tend to be valued in the tens, hundreds, and billions of dollars. This need for capital translates into startup financial cycles or rounds, which include bootstrapping, seed funding, series A, B, C & D funding rounds, and return on investment through going public. Without them, scaling up or moving to the next business phases will prove to be impossible, when the initial business model or MVP hardly ever proves itself to be successful in the initial years of business operations.

3.5. Startup Development Phases

From the conception of the concept or idea to the actual use of the finished product, including its development and enhancement, the startup development process encompasses

the entire ecosystem. Therefore each process needs accurate preparation before being implemented.

Startups begin with an idea or concept, accompanied by a desire to create through the process of making a discovery. The idea or concept alone does not make up a business as the future founder has yet to make the decision to address this idea through applying entrepreneurial activity (Lehtonen, S., 2020).

Figure 7 Startup Development Phases, from Ideas to Business and Talent to Organization. Source (Startup Commons, 2020).

As we can appreciate in the graphic above, the following stages are described as the development phases of building and scaling a startup from idea to working enterprise. The following stages will be described on their own according to the development phase map by Startup Commons.

Idea generation & research also known according to many sources as the discovery stage is therefore the first stage of a startup's development phases. At this stage, the key assets of entrepreneurs rely solely on an innovative or disruptive business idea and a firm resolution to bring the idea to market. Once the ideation process is set, research needs to be conducted in order to determine a potential market for the goods or service and to determine feasible or impractical the development and further launch of it. This research usually consists of market trend analysis, and competitor analysis, and can also be conducted via surveys (Gelderen et al. 2003, 3-5; Halme et al., 13, 2015; Global Startup Ecosystem Report, 2019, 19; Startup Genome, 2020).

The second stage in the startup development phase is related to finding a problem-solution fit. The business still remains in the pre-launch phase, as in this stage research is conducted and the business idea and model are further developed and customized to the exact needs of the problem solution fit. While this development stage and idea validation have no defined

framework as naming and content vary from one source to another. This stage is usually done before the founding of the core team and the startup itself, and thus, stages such as development and validation can also appear in other more advanced stages as seen in the figure above. Not exclusive to every case, but usually at this stage also, the founding members of the team are selected or discussed (Lehtonen, S., 2020).

The development is usually conducted around the strategy, the concept of the goods or services, the MVP or prototype testing, and an updated more appropriate business model (Lehtonen, S., 2020). As can be seen in the figure above, at this stage startup founders usually come together in defining their idea, mission, vision, and ethos, and form the initial founding team, which can expand to non-founding employees, such as developers or strategists (Gelderen et al. 2003, 3-5; Halme et al., 13, 2015; Global startup ecosystem report, 2019, 19; Startup Genome, 2020).

On this respective figure map by Startup Commons, these two previously explained stages are grouped in the formation stage, where the basic ideation principles, what, why, to whom, and how are to be answered about the new potential venture. After the formation phase takes place, comes the validation phase, followed by growth. By the time we arrive at the validation stage, which comprises the number 1 phase in the graphic, the company is already founded, and the core founding team is set and fully committed to moving forward (Startup Commons, 2020; Lehtonen, S., 2020).

The founding of a startup is currently accompanied by the validation of the business model or the product-market fit, whose main goal is to identify and attract customers and early adopters willing to pay for the novel goods or services and to improve the prototype to fully satisfy the needs of said customer base. The product-market fit is then confirmed through actual metrics and data from paying customers and substitutive products or services to see if the value proposition and the unique selling points fit the current market (Lehtonen, S., 2020). If the product or service market-fit proves unsuccessful and can’t be validated, then the new enterprise will be in need of pivoting and partially or fully modifying said business model, prototype, or target market and customer base altogether and try once more. Iterations of a product or service as totally natural and expected as time goes by, therefore, this stage can also translate to future stages alongside the development map, it is not exclusive to just this stage (Global Startup Ecosystem Report, 2019, 19; Startup Commons, 2020).

This stage is also known as what business experts have come to name “The Valley of Death” or “Business Bottleneck”, as it seems to be a phase all startups successfully or unsuccessfully go through and that to an extent determines the survival rate metrics that we so often hear in the media and resources related to entrepreneurship. The arguments on why this happens differ from one expert to another, but one aspect remains clear, most startups fail due to not being able to surpass it at some given time. According to Steve Blank, another reason for repeated failure tends to be related to failing to meet customer needs (Blank, 2006, 4; Salamzadeh & Kesim, 2015; Lehtonen, S., 2020).

The final stage is related to growth and becoming a scale-up. Establishing and strengthening both the business model and the startup long-term comes at no easy expense, as another quantitative barrier tends to be related to financing the growth phase of said startup.

Surviving the Valley of Death and securing the financing of the company growth is what growth entrepreneurship is all about. Oftentimes an ability only related to innovative companies (Promoting University-Based Entrepreneurship, 2009, 53; Lehtonen, S., 2020).

Finally, as can be clearly seen in the graphic the development stages of a startup are hardly ever nowhere to remain a straight and steady line, and tend to be closer to the movement of Brownian particles, easily translated to being a chaotic process. This is why some experts argue that startup growth is “growth measured through leaps”, as the horizon of probable future events is unpredictable, and market changes or even a pandemic can heavily impact a startup's future and survival (Tsai & Lan, 2020, 18).

3.6. Understanding Startup Failure

According to multiple sources, startups are born with a failure blueprint attached to them and more often than not tend to prove themselves defective and unfit to survive past the expected survival rate. In fact, it is estimated that up to 90% of all startups created fail, this estimate varies depending on the selection criteria applied to determine the said rate and also tends to change from one industry to another (Failory, 2020; Lehtonen, S., 2020; GB Insights, 2023).

According to the 2019 Global Startup Ecosystem Report, the actual failure rate for startup ventures is placed at even higher percentages, with only 1 out of 12 being a survivalist. Even though global rates remain consistent in most ecosystems and are mostly high, Nordic startups seem more resilient than their European counterparts (Lehtonen, S., 2020). So is the case of Finnish startups, where there is a factual record that up to 80% of newly founded Finnish startups make it past the three-year life-expectancy mark and 70% of those new ventures get to celebrate their five-year mark (Drivers and bottlenecks of startup growth, 2016, 23).

In this regard, the success and failure factors of a newly founded business venture have long been under discussion and still to this day remain a signature topic of business administration and management. Being an active and up-and-running company does not necessarily mean that there is a profitable structure in the works, and it is quite common that early-stage startups don’t get to turn in income (Lehtonen, S., 2020). While lack of profit at the initial stages is not considered a problem, it does become a problem once we gravitate towards the long run and turnover hasn’t grown as expected (Lappalainen, 2020). Startup profitability is an important measurement factor to a company’s success. However, turning into profitability is harder than it seems and it takes a medium between 3-4 years for most startups to become profitable, and only up to 40% of startups actually become profitable.

A clear example of a unicorn enterprise in the Nordic entrepreneurial ecosystem and one of the biggest unicorns in the scene by European standards, is the Finnish food-delivery startup Wolt, one of the European competitors to the Spanish Glovo. Wolt is one of the most recent unicorns in the Finnish business scene and one of four currently working under billion-dollar status. Wolt has recently funneled its profits and gained considerable investments to map out a drastic expansion into new markets, operating in over 100 different cities, but still

remains unprofitable in its 8 years of business activity, despite having turnover of 164,34 million euros as of 2023 (Lehtonen, S., 2020; Customer information, 2023; Wolt, 2023).

Of the 334 venture-backed Finnish startups, having received over 0.5 million euros in funding, only 1 out of 8 achieved profitable status, and only 3% were dissolved, hence no longer operational (Lappalainen, 2020; Lehtonen, S., 2020).

Business post-mortem data gathered by GB Insights since early 2014 shows that on its last round of collected interviews in 2023 they had interviewed a total of 442 failed companies. Most of them were startup-level companies. They also highlighted that funding, which is considered by many the lifeblood of startups, had dropped considerably in 2022, leaving many private companies with a financial shortage and on the verge of collapse. While global funding hit 415,1 billion dollars in 2022 alone, it marked 35% less than that of 2021. And, according to the same source, funding shortages have been a common problem even in the heart of startup innovation, Silicon Valley, where funding has reportedly fallen 40% year after year (GB Insights, 2023).

Based on the post-mortem data GB Insights has collected over a period that expands almost a decade, the top 20 reasons why startups tend to fail have been defined, based on extensive interviews with the executives of those dissolved companies. Despite this, it has to be highlighted that these reasons for startup failure are based on data from startups that have successfully raised different rounds of funding and have been successfully run for over a couple of years. This is mainly due to the shortage of data regarding earlier-stage startups who have failed, as the lack of raising funding or entering the growth phase doesn't differentiate them from regular business models or companies that do not qualify as startups (Lehtonen, S., 2020; GB Insights, 2023).

Another well-known reason why startups fail is the infamous "no market need" and it currently remains at the top as the number one reason for business failure. This is hailed to be a determining failure factor in up to 42% of the recorded cases. This translates to the inability of a handful of startups to successfully make sure that they have developed the appropriate market fit for their goods or services, and that there is a customer base willing to pay for them (Lehtonen, S., 2020).

According to Paul Graham, the co-founder of Y-Combinator, there are several reasons that lead to startup failure, apart from "no market need". He argues that lack of team diversity, a narrow and niche market segment, obstinacy, or a derivative concept can be considered among the 15 factors why startups fail to meet a proper market need (Graham, 2006).

Additionally, Steve Blank argues that the reason why inadequate business models and their creator ventures almost always fail is due to a lack of customers, propelled by non-existing market needs, the product not living up to serving customers, or failure to identify the right target audience (Blank, 2006, 4; Lehtonen, S., 2020).

Running out of money has been cited as the second most frequent cause of startup failure, with rates as high as 29%. Despite this, the lack of financial resources is not the main cause but rather a sign of other issues that spiral into a financial shortage. Therefore, recognizing the aforementioned causes is essential to avoiding uncomfortable business scenarios. The

major causes of financial hardship are typically a lack of clients, an unprofitable business model, excessively expensive inner and outer structures, pivoting failures, or an inability to locate a product that fits the market (GB Insights, 2023).

Respectively, the financial aspects of a startup have a strong correlation with success and innovation within most startup ventures (Okrah et al., 2018). Lack of cash and access to funding structures is a well-known obstacle to many, and it is the core obstacle when discussing growth entrepreneurship in The Nordics (Drivers and bottlenecks of startup growth, 2016, 37; Lehtonen, S., 2020).

The final and third factor driving startup failure is the lack of diversity and functionality within the core team. This factor presents itself in 23% of the post-mortem cases recorded by GB Insights (GB Insights, 2023). Other literature suggests that a lack of a proper team can lead to 60% of the failure cases (Mol, 2019), and that team failure can lead to boosting a wider net of underlying issues (Klotz et al., 2014, 249; Lehtonen, S., 2020).

Additionally, according to Eisenhardt, the team is hailed as the main contributor to startup success and when large and diverse teams that have collaborated before are studied, the probability for success increases considerably (Eisenhardt, 2013, 805; Lehtonen, S., 2020).

Taking the focus away from the three main reasons for startup failure, some other factors recorded by GB Insights include failure to pivot when going through hurdles, facing legal challenges such as lawsuits, patent violations, issues with management and development, competitors taking the lead, the team struggled to perform as intended, lack of passion within the company, lack of investors, a product or service without a business model, mistimed market and product, disharmony among investors, failed geographical expansion, and failed marketing campaign or simply cost-related problems (Lehtonen, S., 2020; GB Insights, 2023).

4. INSIDE THE STARTUP ECOSYSTEM: SUPPORTING ACTORS

4.1. Entrepreneurship in Higher Education Institutes (HEIs). Supporting Entrepreneurship in Higher Education Institutes in The Nordics and Scandinavia.

4.1.1. Current Scenario, Limitations, and Scope.

In recent years the field of Entrepreneurial Education (EE), has gained momentum in the EU countries more than it has in the US, currently its main ambassador. While the expansion of EE still shows some improvement areas, all major courses of entrepreneurial education at HEIs in the EU, are mainly focused on growing and retaining entrepreneurial awareness, attitudes, and skills and are encouraging students to behave and think entrepreneurially to increase their opportunity potential as well as to train future leaders. While the majority of HEIs in Europe have integrated Entrepreneurial Education courses in most of their electives, many universities still have to make substantial efforts to move entrepreneurship and innovation out of the traditional business administration context, aiming to make EE more attractive and available to their student body as a subject of its prestige.

While the field of EE in Europe still hasn't achieved the status it currently possesses in the US, in the last decade Entrepreneurial Education has extended through two phases of market penetration. During the first phase, HEIs in the European continent started teaching about EE through university spin-offs or corporate businesses. In the second phase, EE alumni at different institutions restructured businesses in need of refocusing the demand and field or business activity, they started innovating within larger organizations, a process known as intrapreneurship. Currently, most European HEIs focus on a primary goal: growth. In this regard, Entrepreneurial Education is regarded as an engine to drive capacity and creativity among all European countries for job creation and economic growth (Lehtonen, S., 2020).

Although the traditional European Entrepreneurship in Education at HEIs is an activity run by highly qualified individuals focused on self-employment, establishing business ventures, and assuming financial risk in the hope of profit, the current mindset defies this previously respected perspective. In contemporary times, HEIs are reshaping a new perspective when teaching new generations, by understanding Entrepreneurial Education as the process of planning and training divergent thinking as they can potentially influence new generations of entrepreneurs to run new ventures or do independent economic activities (Commission, 2016; Davidsson, 2016).

To understand how HEIs can act as promoters of EE, we need to understand first how both Institutions and the act of entrepreneurship, relate to each other. Entrepreneurship is about creativity, development, and innovation, as described in the EU by the OECD and the European Commission (Commission, 2014; Wilson et al., 2017). Additionally, The European Commission's Entrepreneurship Competence Framework defines entrepreneurship as an intersecting core competence applied by individuals and collectives, both corporate and human, across all aspects of life (EntreComp, 2016; Heinnovate, 2018):

> *“Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social”.*

Referencing the previous definition, entrepreneurship has long been a standing presence in higher education reform initiatives, being mostly present in the promotion of systematic crossing of knowledge boundaries and processes in teaching and research and in engaging external stakeholdership into leadership facets and the organizational capacity of HEIs (Ibrahim, O.A., Devesh, S. & Ubaidullah, V., 2017). Additionally, in an entrepreneurially and innovatively inclined HEI, research, teaching, and societal commitment come interlaced when continuous synergy and dynamic exchange are created between the latter by factors such as leadership, governance, and external stakeholdership inside the organization.

To further understand the distinct profile of entrepreneurial and innovative HEIs, catering to institutional diversity, the following definition by Gibb (2013) is provided (Ibrahim, O.A., Devesh, S. & Ubaidullah, V., 2017; Heinnovate, 2018):

> *"Entrepreneurial higher education institutions are designed to empower staff and students to demonstrate enterprise, innovation, and creativity in research, teaching, and pursuit and use of knowledge across boundaries. They contribute effectively to the enhancement of learning in a societal environment characterized by high levels of uncertainty and complexity and they are dedicated to creating public value via a process of open engagement, mutual learning, discovery, and exchange with all stakeholders in society - local, national, and international."*

Being an innovative and entrepreneurial HEIs depends to a considerable extent, upon innovative processes and individuals inside the organization, and the correct implementation of a supportive organizational culture. Therefore, promoting an entrepreneurial higher education institution is not related to relabelling what already exists, but to recognizing and innovatively building it (Heinnovate, 2018).

4.1.2. Addressing an Increasing Demand.

Higher education institutions are required to demonstrate their route to action when it comes to responding to the economic and social needs of society, by facilitating social mobility, enhancing graduate employability, contributing to national economic growth, facilitating wider access to higher education, and local development in the short and long terms while stimulating new ventures and innovation opportunities in existing entities. In addition, HEIs must progressively adapt and respond efficiently to new challenges to maintain existing standards of excellence and remain competitive in an international education ecosystem and market (Ibrahim, O.A., Devesh, S. & Ubaidullah, V., 2017).

In the last decade, an increasing amount of higher education institutions have become more inclined to foster an entrepreneurial and innovative environment as a response to this. While there is no “unique” or “signature” approach to this, there is a behavioral spectrum for higher education institutions that behave in an innovative and entrepreneurial manner. A spectrum

that supervises how HEIs build organizational capacity and manage resources; embed digital technology into their projects and activities; involve both internal and external stakeholders in their governance and leadership; create and foster synergies between research, societal impact, and engagement and teaching; and promote entrepreneurship through higher education and early-stage startup support; as well as, the exchange of know-how related to innovation to enhance the profile of existing business ventures (Fitzgerald, M. et al., (2013); Oldham, G.R. & Da Silva, N., (2015); Piccinini, E. et al. (2015); and Leu et al. (2017); Heinnovate, (2018)).

Research, undertaken in the last decade, defines how digital transformation and the skill to integrate, optimize and transform digital technologies support, catalyze, and sustain the development of an innovative and entrepreneurial HEI. By addressing the current demand many HEIs are currently offering entrepreneurial education at all levels of education as a stand-alone course or degree specialization. Fostering mainly entrepreneurial mindsets, behaviors, and skills through already established entrepreneurial infrastructures in the form of entrepreneurial courses, policies, and centers at all levels of higher education courses (Volkmann & Audretsch, 2017).

In addition, entrepreneurial activity trends are increasingly becoming a noteworthy source of revenue-generating innovation hubs and sources of independent-economic activity for most commerce, applied sciences, social sciences, engineering, and medical fields of study in the continent. These trends show that the entrepreneurial education sector is no longer restricted and congested by the boundaries of business education. These variations are the result of *Oslo's Entrepreneurship Education Policy* in the EU which stemmed from the Entrepreneurship Education in Europe Conference and remains active since 2006. This policy helped integrate EE subject areas and allow EE to further expand and develop to other HEIs in the continent. The countries that most successfully implemented this policy were Finland, Sweden, and Denmark which currently take the top spot in the European Union and are considered among the Top 10 countries globally according to the *Global Innovation Index* (Commission, 2016; Teodora Parveva, 2020). Following Oslo's EE policy, currently, most European countries hold a policy commitment to promoting EE and more than 80% of HEIs in Europe are massified with Entrepreneurial Education courses and learning models that apply to different advanced levels of education (Teodora Parveva, 2020), The Nordics and Scandinavia being among the most prosperous regions of countries when it comes to EE.

The implementation of Entrepreneurial Education in the European Union characterizes itself as following a life-long learning process, which stems from the previously mentioned policy's European Commission's Agenda and consists of continuously and efficiently stepping up progress in fostering entrepreneurship attitudes through effective action in education and learning in the European society. Bringing a blend of elements of entrepreneurial conduct such as autonomy, ideation, team action, and divergent and convergent thinking into HEIs. Setting EE as a precursor and undeniable contributor not only to the creation of financial wealth, but to the expansion of the job market and offering, the management of inequality, and the addressing of environmental issues through sustainable practices and policies.

The European Commission has long fostered entrepreneurial skills and transversal skills through its *Communication of the European Commission on Rethinking Education* published

in 2012. Moreover, *The Entrepreneurship 2020 Action Plan* already in 2013, listed EE as one of the three education urgent intervention fields. These policies, alongside the *Bologna Agreement*, show the major concern that the European Union currently holds regarding the field of European Youth and Entrepreneurship Education (Commission, 2016).

4.1.3. Applying Entrepreneurship inside HEIs

While the study of entrepreneurship traces back to the work of Irish-French economist Richard Cantillon in the late 17th and early 18th centuries, which proved foundational to classical economics, contemporary entrepreneurship in academia stems from the late 1930s and 1940s. Applied entrepreneurial education was first implemented in Japan in the late 1930s (Dana, 1992). Followed by Professor Myles Mace's entrepreneurial course on management of new enterprises in the 1940s conducted at Harvard Business School (The Harvard Gazette, 2000). Entrepreneurial education has since then diversified, gaining considerable momentum in the 80s and 90s, and since the 2000s the governmental interest and support have led to the implementation of entrepreneurial education and programs in higher education institutes (Matt & Schaeffer, 2018, 13; Lehtonen, S., 2020).

Entrepreneurial education has been one of the fastest-growing higher education themes in the European Union both in undergraduate and postgraduate degrees branching into a variety of entrepreneurship-related specializations, as it is highly considered one of the core strategies to create scalable and stable growth, jobs, and entrepreneurial ecosystems to its member countries (Commission, 2020).

Additionally, according to The European Foundation for Entrepreneurship (EFER), the role that young professionals play regarding their ability to start and develop their own entrepreneurial and social ventures is becoming an increasingly sought-after social and business scene, through the environments in which they cooperate and cohabitate (Wilson, 2004).

The aim of Higher Education Institutes when it comes to promoting and offering entrepreneurial education does not only translate to equipping future graduates with those 21st-century skills that are considered a priority for integral entrepreneurial education for primarily starting new ventures (traditional entrepreneurship) but to also empower and further enable them to transform organizations from withing through entrepreneurial impact (intrapreneurship). Accelerating entrepreneurial activities through educating highly competitive new generations of entrepreneurs has always been and currently remains the hallmark of achieving and sustaining long-term socio-economic development and growth of a country. Better preparing future leaders for complex, fast-changing, and interlinked problem-solving.

According to current research, traditional methods of teaching entrepreneurship involve an "about" approach, which teaches students what entrepreneurship is all about (Pittaway & Edwards, 2012), and they severely lack an applied methodological approach, which involves exposing students to the entrepreneurial process through problem-based learning and design thinking (Neck & Greene, 2011). In the last decade, an increasing number of

undergraduate and postgraduate level institutions have implemented a reframing of the entrepreneurial education system inside the classroom, enabling students to better learn the nature of the entrepreneurial process, while also gaining training on ideation, creativity, resilience, opportunity analysis, and dealing with institutional structures as well as uncertainty. In this regard, HEIs in The Nordics and Scandinavia have long been at the forefront of high-quality entrepreneurial education, despite the claim made by Neck & Greene that the vast majority of conventional pedagogy methods are primarily based on the linear approach to problem-solving and lack the necessary toolkits to solidify students' contextual understanding and learning of entrepreneurial processes. At the same time, some other European countries still fall behind.

Within this scope, the primary role of HEIs and industry partners is to build collaborative partnerships that allow students to experience directly important phases of the entrepreneurial process following a “learning by doing” approach, gaining valuable knowledge on “ideation”, “incubation” and “acceleration” of both novel and existing business ventures both in the homeland and internationally. Additionally, to achieve successful outcomes in terms of viable business ventures and ideas, it is equally crucial that students develop and acquire key skills to reap the maximum outputs an entrepreneurial ecosystem has to offer. This is especially present in many Nordic regions where both HEIs and Entrepreneurship Societies foster local entrepreneurial ecosystems through active engagement with key stakeholders and successful entrepreneurial actors that can help enhance capabilities and help identify and fill educational gaps. Many of the aforementioned Institutions remain active designers of Venture Camps, Clubs, Idea Competitions, and Intensive Summer Programs, focusing on entrepreneurial programs within two distinct trends: Corporate Entrepreneurship & Innovation and New Venture Creation. In addition to this, the role of external stakeholders is undeniable in The Nordic and Scandinavian regions, who have actively and significantly contributed to creating new values in the field, building and sponsoring incubators, accelerators, and technology and science parks in European HEIs. Additionally rating for the highest presence of University Innovation Hubs and University Spin-offs in the form of Entrepreneurial Societies In Europe.

Higher Education Institutes (HEIs) are the main catalysts in fostering entrepreneurial mindset and spirit by offering specialized courses on Entrepreneurship & Innovation. The traditional approach to teaching entrepreneurship and innovation is focused on stimulating entrepreneurial vision and action by leading potential novel business ventures, as this is used as a prime indicator when measuring the level of economic growth related to entrepreneurial activities both at regional and national levels (Acs & Szerb, 2011).

When referring to entrepreneurial education, this should not be confused with broader general economic or business studies, but considered as its own, focusing on promoting entrepreneurial attitudes, and a doer attitude, helping students recognize business opportunities and fostering creativity and innovation (Entrepreneurship Education: A road to success, 2015, 7; Entrepreneurship in Higher Education, Especially in Non-Business Studies, 2008, 10). Partly due to increased focus on entrepreneurial education, both general entrepreneurial competencies and the entrepreneurial potential of young and highly educated people have developed positively in The Nordics and Scandinavia over the past decade. Additionally, a lot of educated people are called what is known as "untapped entrepreneurial potential"—they can recognize business possibilities and possess

entrepreneurial abilities, but they don't take action (Promoting University-Based Entrepreneurship, 2009, 46; Finn et al., 2015, 3-5; Lehtonen, S., 2020).

4.1.4. Beyond the traditional definition.

Entrepreneurial education is currently divided into two to three sections, and it does not only involve the creation of new business ventures. In most cases, acknowledging and building attitudes and systems of belief toward entrepreneurship are the core starting points for proper entrepreneurial education (Entrepreneurship Education in Europe, 2006, 5). The linkage recommendations for entrepreneurial education focus initially on three core themes: novel or new entrepreneurship, entrepreneurial attitude and skills, and renewing entrepreneurship models (Entrepreneurship recommendations for higher education institutions, 2018, 3; Lehtonen, S., 2020).

Entrepreneurial education is, therefore, a merging practice of teaching the core modules for entrepreneurship and aiding aspiring entrepreneurs, students, or professionals, to become working entrepreneurs and help them succeed in running new business ventures. However, still to this day, there isn’t a fixed or common agreement as to what this entrepreneurial education includes (Lilischkis et al., 2015, 36; Entrepreneurship Recommendations for Higher Education Institutions, 2018, 3; Kirby, 2004; Hassan, 2020; Lehtonen, S., 2020).

When it comes to building and sustaining entrepreneurial education both in undergraduate and graduate studies, the key lies in building and fostering welcoming attitudes towards entrepreneurship as they contribute to the first stage of entrepreneurial education. It is not only beneficial for building and advancing at venture creation and both inner and outer innovation, but it also helps students in HEIs turn their novel ideas into action while helping them through with an environment that allows creativity, self-confidence, has their backs in case of need and assist on providing them with the adequate tools to advance and get started on their entrepreneurial journey both from an intrapreneurship perspective and also from the traditional angle.

Entrepreneurial education, therefore, also helps gestate and promote steadier development of personal skills and attributes that are beneficial to traditional entrepreneurship such as business management, responsibility, leadership, creativity, and having initiative, as well as promoting and marketing the alternative of becoming an employer instead of an employee and scaling an entrepreneurial spirit (Entrepreneurship Education in Europe, 2006, 5; Entrepreneurship in Higher Education, Especially in Non-Business Studies, 2008,11-12, Fernández et al., 2015, 6; Lehtonen, S., 2020).

In this regard, entrepreneurial education in HEIs has been proven to work. Students who have gone through entrepreneurial education modules, both at undergraduate and postgraduate levels, and have actively participated in ventures of similar nature, have been shown to be more likely to embark on their respective entrepreneurial journeys. Becoming more innovative and successful than their peers, compared to the baseline. HEIs students involved in entrepreneurial education programs also are found to reduce their unemployment risk considerably, tend to have access to better jobs and senior roles, and have higher

income, be that from multiple channels or an omnichannel income source. Additionally, there is proof that the implementation of entrepreneurial education also positively impacts HEIs, the economy, and society as a whole. The more and better conditions universities can offer to their student body, in topics such as business skills, practical training or incubation, and acceleration of business ideas and new ventures, the more future graduates will choose entrepreneurship as their go-to career choice (Entrepreneurship Education: A road to success, 2015, 7; Good practices in supporting entrepreneurship in higher education institutions, 2016, 8; Lehtonen, S., 2020).

When it comes to The Nordics, the Finnish Ministry of Education recognizes two waves of entrepreneurial education currently in place in Finnish HEIs. The first one started back in the 90s and continues to the current day, being university-led entrepreneurship modules or courses and activities run and organized by entrepreneurially inclined societies or clubs. These two waves are responsible for establishing a specific angle inside the current role of entrepreneurial higher education in Finland. The first wave would be responsible for defining the best approach and practices for both business funding and entrepreneurial education. The second wave, on the other hand, comprises entrepreneurial education, systematic promotion for entrepreneurship, support for business founding based on best venture practices, startup entrepreneurship, and the commercialization of the know-how in HEIs as a baseline for business ecosystems and as catalysts for business growth in the geographical area they operate at (Promoting university-based entrepreneurship, 2009, 10; Lehtonen, S., 2020).

Universities and other HEIs are known to show great entrepreneurial potential and can contribute actively to initiating and developing local innovation. In a constantly volatile and ever-evolving society where 21st-century skills tend to shift with each market variation, and in today-s knowledge-led economy, HEIs have a considerable role in transforming innovative outputs to their advantage, by promoting industry-centered know-how and creativity, and by leading to new venture creation. Despite this, with a lack of functioning entrepreneurial ecosystems in the scene, generated entrepreneurial education won't be enough to generate new business organisms on its own (Startup Growth Drivers and Bottlenecks, 2016, 77; Frizzo et al., 2018, 3; Entrepreneurship Recommendations for Higher Education Institutions, 2018; Matt & Schaeffer, 2018, 12; Lehtonen, S., 2020).

University-based and led entrepreneurship has long been at the forefront of the research and development efforts of HEIs, which has led to the creation of undergraduate and graduate student entrepreneurship. A student of such characteristics can be defined as an individual who merges his university studies with proper entrepreneurial activity, working as an active entrepreneur while pursuing their respective studies. This is why, student-entrepreneurship is still considered a student-centered activity, run by the students themselves and the entrepreneurial ecosystems and communities present at leading HEIs. A scenario well developed, tested and implemented in most HEIs in The Nordics and Scandinavian geographical regions. A key differentiator when it comes to student entrepreneurship is that in the geographical area of study that this thesis covers, it is both present at private and public institutions while in Spain most of the so-called "HEIs entrepreneurial ecosystems" are only present at certain private institutions in the country, therefore limiting this practice to only their student bodies (From student to entrepreneur, 2015, 6-8).

The aforementioned phenomenon is a linkage of university-level entrepreneurial education as well as training that involves both traditional entrepreneurial approaches and intrapreneurial ones (Lehtonen, S., 2020). From this angle, it is clear that HEIs serve a central role in the present and future timelines of an undergraduate or graduate-level student, as student bodies actively participate in entrepreneurial societies and communities, influence behavioral transformation, and nurture a thriving inner college-level entrepreneurial ecosystem, by implementing entrepreneurship education, training, and networking (From student to entrepreneur, 2015, 6-8; Matt & Schaeffer, 2018, 14).

4.1.5. Expanding the Curriculum, Integration, and Current Modalities.

At the undergraduate level, most EE-related courses in European Universities and Business Schools are currently taught in local languages, while at MBA, Master, and Doctoral levels most of these courses are being taught in the local, national, or English languages. Being English the dominant language in postgraduate, executive, and doctoral studies.

According to Wilson & Kaffka, currently, there are six teaching methodologies present at EE practice at HEIs; lectures, field or site visits, projects, case studies, digital and non-digital simulations, and entrepreneurial activities or exercises.

Among European Universities and Business Schools, entrepreneurial curriculums and study courses consist of diverse topics such as SME management, business strategy, innovation, startup or business planning and validation, politics, diversity issues, and socially responsible entrepreneurship. Topics that have as a goal the enriching of those students seeking EE. At the same time, as previously mentioned, Higher Education Institutes have a particularity, the fact that they act as platforms and produce and oversee business competition programs and boot camps focusing on startup process and innovation, under their management umbrella or in synergy with independent organizations (both of public and private nature).

4.1.6. Key Ideas, Conclusions, and Limitations

To summarize the primary trends in the EU regarding EE that need to be taken into account following the *“Inside the Startup Ecosystem: Supporting Actors”* chapter to further understand how company builders and HEIs undoubtedly share an umbilical cord, the following scenarios are mentioned:

- Teaching entrepreneurship as a stand-alone course, elective, or specialization is currently offered in many European HEIs at all levels of education both undergraduate, postgraduate, or doctoral studies.

- Entrepreneurial Education in Europe mainly comprises fostering mindset, behaviors, and skills, instead of setting a route-to-action approach or simulation-based training,

although there is recorded evidence of some exceptions. Being the latter most notoriously implemented at Nordic and Scandinavian Universities and Colleges.

- During recent years the incorporation of Entrepreneurial courses and specializations has been a core angle as a differentiation strategy within the HEIs.

- Many European HEIs have continuously established new policies to further integrate EE goals in all their departments.

- Currently, many HEIs in Europe have gained recognition as Innovation Hubs, Incubator Program holders, or even Business Accelerator Ecosystems as widely-known centers for entrepreneurship and innovation.

Respectively, there is also a need for highlighting the limitations that EE currently has in HEIs in Europe.

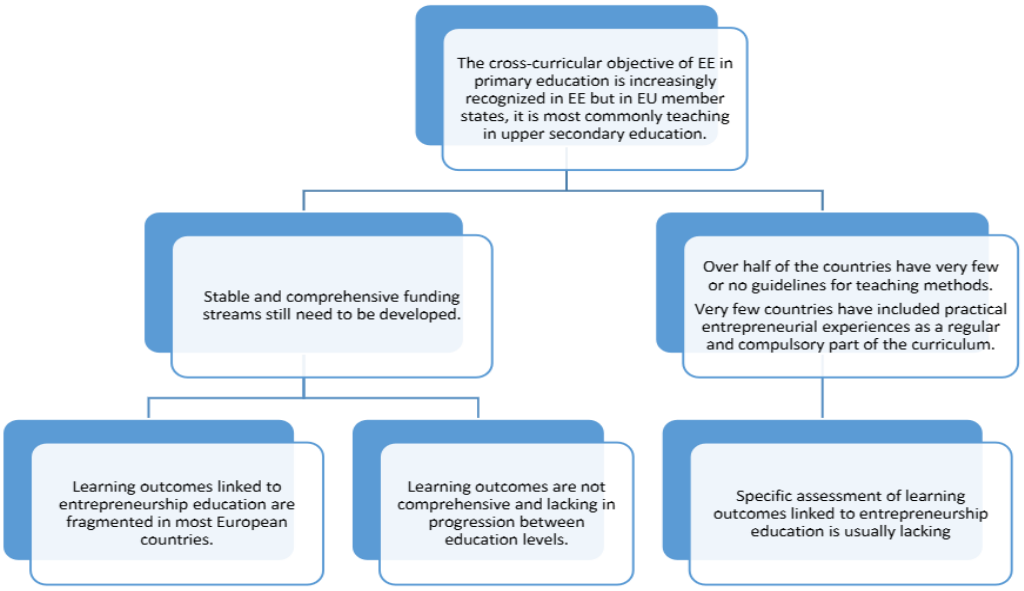

Figure 8 Key Issues with EE in HEIs in Europe: Source (Volkmann & Audretsch, 2017).

As can be seen in the figure above, even if there is currently quantifiable evidence that proper practices of implementation of wider and more complex university policies and institutional-level structures are in place to foster an entrepreneurial culture across and beyond HEIs, in some cases the freedom in implementing the right market-fit in designing modules or programs still remains restricted. While the data is from 2017, still to the present day, these structural limitations remain present. Therefore, new policies and structural changes must be adopted and set in place, if EE in Europe still aims to live up to the *Lisbon Agenda Goals*, and remain relevant and up to date with the integration of SDG for the *2030 Agenda* (Volkmann & Audretsch, 2017).

4.2. Incubation

Business incubation is defined as the process wherein an organization or an individual, namely an entrepreneur sponsor supports the growth and establishment of a startup. Those entities supporting startup creation are what are known as business incubators. While they are considered company builders, these business programs act as workspaces created to cater to the specific needs that their admitted startup portfolio may present and their main goal is to offer startups and new business ventures access to the appropriate resources they need and otherwise may struggle to get, all under one roof. As can be seen in the figure below, in addition to office space, incubators also provide startups with resident seasoned entrepreneurs and companies with access to a wide network of expert advisors, mentors, training, coaching, potential investors, and administrative support. Additionally, according to the International Business Incubation Association (InBIA), business incubators can also host a variety of networking events, business education hackathons, and business talks and there are some criteria in place to set up incubators with their portfolio of member companies (InBIA, 2017, 1; Lehtonen, S., 2020).

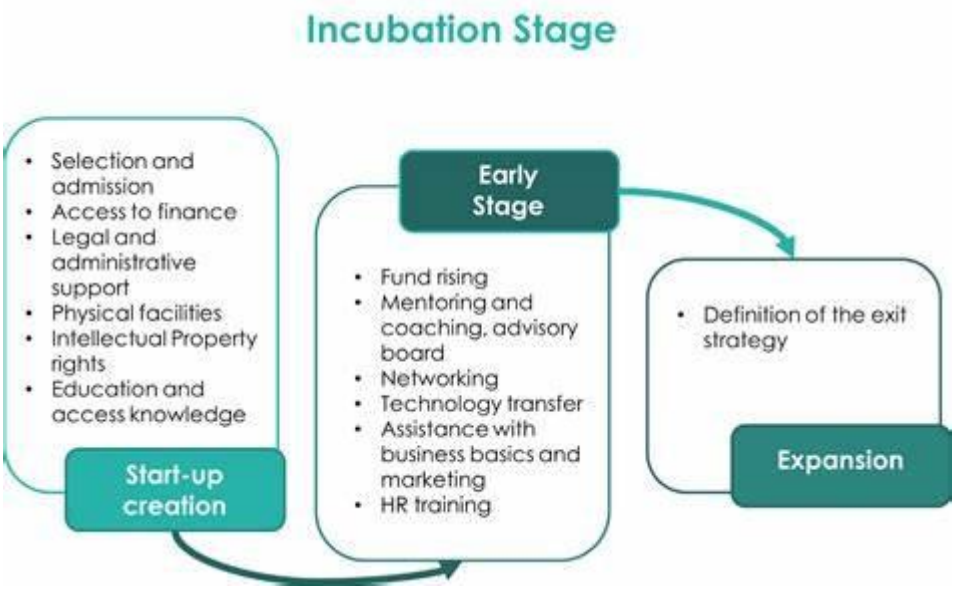

Figure 9 Business-Startup Incubation Phases (Slide Team, 2021).

If we address incubation from a more refined business perspective, a more concise definition is provided by Deutschmann, and positions business incubation and incubators as instruments responsible for fostering new business venture creation. Most incubator programs are aimed at newly-founded companies, or early-stage companies that have yet to fully develop and become viable on their own (Deutschmann, 2007, 3–4; Lehtonen, S., 2020).

While business incubation definitions vary depending on the literature, many experts agree on the basic characteristics making up the incubation process (Lehtonen, S., 2020). Therefore, incubators can be an organization, a physical space, or namely a program, all three operating under the same objective; taking in projects and business ventures that are yet to be fully developed into a business and aiding them in turning them into viable, scalable

companies (Kirby, 2004, Grimaldi & Grandi, 2005, 111; Fernández et al., 2015, 2-3; Lehtonen, S., 2020).

Therefore, both incubation stage models and definitions vary to some degree depending on the source, but they all agree on the core characteristics. A business incubator's main objective is to foster and produce successful companies that will leave the program upon completion with financial viability and prepared to face the market. How successful that outcome is, however, varies from one country and program to another. These variations are clear in incubators housed in developed countries, which show a tendency for focusing on high-tech venture creation, and incubators in developing countries, as the entrepreneurial market has different entry requirements as well as different needs. In the latter case, venture creation is heavily focused on socially conscious ventures (Al-Mubaraki et al., 2013; Lehtonen, S., 2020).

Currently, there are four types of business incubators; university business incubators, independent private incubators, business innovation centres, and corporate private incubators, as well as two business models; for-profit incubators and non-profit incubators (Grimaldi & Grandi, 2005).

According to Deutschmann (2007) inside Higher Education Institutions there can also be found university pre-incubators, which function as pre-startup incubator programs that operate on the pre-founding stage instead of serving already founded startup ventures. Additionally, according to Hannon (2004) and further explained in the following chapters, accelerators, on the contrary, are considered the stage of the highest intensity of business incubation. A more advanced company builder model that tends to serve more established and high-growth-focused enterprises. On the other hand, while, Grimaldi & Grandi (2005), also recognize the term accelerator, they define it as an independent private incubator program, which usually does not contribute to helping entry-level ventures at the business concept and ideation phase, but tends to help companies on the post-launch side, tackling their specific needs, sharing industry-level know-how, potential ways to get capital and strategies on how to reach a higher level of growth. Therefore, incubators can be seen as pre-launch developers and accelerators as growth activators within simple terminology (Lehtonen, S., 2020).

While business incubation has expanded into every entrepreneurial ecosystem, its origins trace back to the end of the 1950s in New York City, and even if the spread of business incubation didn't get the momentum it possesses nowadays after the 1990s incubators can be found widely across the world, in different incubator model programs, and mostly linked and integrated into many Higher Education Institutes (Hannon, 2004, 274; Lehtonen, S., 2020).

The most notable change that can be related to the 21st century when it comes to business incubation, has to be the Digitalization of incubation and the integration of the 21st-century market, capital, and networks. The most notable change in business incubation methodology has long been linked with the Technological Revolution in the late 90s and early 2000s, as the benefits and services incubator programs currently offer, have gravitated from the initial objective of reducing costs for new ventures, by offering facility services to currently offering

ways to satisfy the needs of new companies with coaching, networking, entrepreneurial education, and other learning services (Grimaldi & Grandi, 2005, 113; Lehtonen, S., 2020).

University-integrated and -linked incubation makes up to one-third of all business incubators currently operating within the ecosystem. In fact, universities and other Higher Education Institutes remain hailed as hubs for innovation, research, and entrepreneurial education and know-how (Robles, 2017, 13). When it comes to the business model of most incubator programs, according to authors Voisey, Jones & Thomas, 90% of all incubators fall under the non-profit business models and therefore rely on direct funding from industry sponsors and Higher Education Institutes (Voisey, Jones & Thomas, 2013, 350). The aforementioned symbiotic relationship between incubators and universities has been shown to benefit all parties, by allowing universities to capitalize and expand their in-house created innovations, students are influenced with entrepreneurial opportunities to incubate their business ideas, and incubators are offered with a wider range of human capital skill sets.

Through fostering an incubator-university collaboration, and offering a wide variety of entrepreneurial education elements, university-linked incubators can act as actors to promote entrepreneurship and increase the chances of it turning into entrepreneurial activity (Grimaldi & Grandi, 2005, 118-119; Voisey, Jones & Thomas, 2013, 352; Fernandez et al, 2015, 4-5; Hassan, 2020; Lehtonen, S., 2020).

At the Higher Education Institute level, university-linked business incubation and acceleration are still fairly young phenomena, as the oldest university incubator program dates back to 1983 (Meyer, 2017, 22). Relating to the Nordic region, especially Finland, the first wave of incubation-based programs started in 1988, mostly on trial bases, and after Finland became part of the UE, the second wave took place, which created 86 functioning programs. The majority of those programs were integrated into bigger enterprises or universities, regional development organizations, and science or technology parks (Saurio 2003, 13-14; Lehtonen, S., 2020).

Similar to business acceleration, business incubation has been extensively proven to aid novel venture members to become more successful, achieve growth entrepreneurship, and increase their survival rates considerably (Kirby, 2004). Incubators are also known for supporting multiple financial and economic goals, increasing jobs and wealth in a region, and promoting economic growth and innovation (Al-Mubaraki et al., 2013, 114; Meyer, 2017, 32 -34; Lehtonen, S., 2020).

Additionally, companies involved in accelerator and incubator activities are found to be more likely to grow faster compared to non-incubated and accelerated companies, have falter structures, and embrace a fail-fast-culture approach (Startup growth drivers and bottlenecks, 2016, 116-117). Incubator programs have also been found to increase product-output quality, reduce time to market and generate business stability when faced with uncertain conditions (Hannon, 2004, 282; Lehtonen, S., 2020).

Finland characterizes by having several incubator programs that offer a wide range of support and services for startups such as the aforementioned funding, networking, and mentorship opportunities. One of the flagship incubators in Finland is Startup Sauna, which is a leading startup hybrid program that provides multiple early-stage companies with access

to founding and networking infrastructures. Other notable incubators in the Finnish region include Turbiini Startup Incubator, NewCo Helsinki, and Aalto Startup Center (Medium, 2023).

4.3. Pre-incubation

Pre-incubation traces back to 1997 Germany, and it was in the form of university-led pre-incubation that a new concept that could tackle the lack of business knowledge that prevented the commercialization of innovative concepts and ideas that universities had to offer was created. At the time, the distinctive and unique novel structure allowed researchers and undergraduate and postgraduate students to test their business concepts and gain instant valuable business knowledge before venturing into real business environments. Even if incubators trace back to earlier days than pre-incubators, the pre-incubator organized at the University of Bielefeld still remains the first recording of a first of its kind (Wirsing et al., 2002, 265; Lehtonen, S., 2020).

Pre-incubators, similar to incubators, can be defined as an entity or program whose goal is to help form new startup ventures, by bringing teams together and acting as a hub where human and financial capital and know-how are condensed. Moreover, pre-incubators usually work in a collaborative state with Higher Education Institutions and other educational facilities, offering these programs as elective modules or a series of short-term business events (Lehtonen, S., 2020). In 2016 alone, Finland recorded 26 pre-incubators also known as startup labs, although the type of services has to be defined with further interviewing and mapping (Drivers and Bottlenecks of Startup Growth, 2016, 76-77).

While business incubation is considered more nurturing for startup ventures, pre-incubators on the other hand, are targeting embryonic stage ventures, meaning, the pre-founding stage. This helps aspiring entrepreneurs identify a variety of obstacles, including lack of proper know-how, lack of discipline, and experience managing an enterprise, lack of industry networks, and financial risk, all of which can be avoided to an extent if the concept is tested before its launch (Wirsing et al., 2002, 266; Kirby, 2004; Lehtonen, S., 2020).

The main differentiating factor regarding pre-incubation and business incubation is the venture stage each program targets (Deutschmann, 2007, 3; Lehtonen, S., 2020). Pre-incubators don’t just help their participants by offering a place to work, guidance and mentoring, assistance in developing their business ideas, MVPs, or prototypes, and help in finding a valid team to finally make it ready for market entry, it also helps students to learn the necessary entrepreneurial attitudes and skills for running and developing their respective business-related concepts and topics such as human resources, business development, finances, accounting, marketing in addition to their university studies (Kirby, 2004). As will be discussed in the following chapters, the inclusion of pre-incubation activities into student’s curricula is seen as a core and vital component of their entrepreneurial education (Wirsing et al., 2002, 274-275; Lehtonen, S., 2020).

Pre-incubator programs in Higher Education Institutes can be part of the entrepreneurial education learning process and can also contribute to activating those aspiring

entrepreneurs who are already ready to become full-time entrepreneurs whilst also offering the student body to test out with little to no risk involved and without being obliged to register a business to do so. Most pre-incubators currently follow not-for-profit business models, as most of its participants at such an early-stage don't have the necessity to commit resources (Deutschmann, 2007, 4; Lehtonen, S., 2020).

Research suggests that there are four main characteristics when it comes to pre-incubation, that all programs share. A targeted and tailored process that aids participants in developing their idea, business plan, and skillset, as well as the needed services and physical infrastructure such as a co-working space (Kepenek & Eser, 2016). Pre-incubators similar to all other company builder programs, also have selection criteria. A selection process aimed at reducing risk for the program, as the founding of the same can be depended and impacted on the number of successfully incubated cases, not just on the number of tested ideas. Additionally, most pre-incubators are time-limited, it usually varies from a couple of months to a few years, depending on the complexity of the program and the field of business that targets. Culture and operation practices also tend to define the timeframe of a program. The last characteristic would be their close-knit relationship with universities and other business entities (Kepenek & Eser, 2016, 11-12, 16-17; Lehtonen, S., 2020).

To sum up, as previously stated and according to Kirby, pre-incubators made up all the activities that are required to support aspiring entrepreneurs in their entrepreneurial activities through helping in developing the business concept from idea to successful startup creation and helping further test the market, limiting any risks or drawbacks. Respectively, the pre-incubator aims to ensure that after a successful pre-incubation and once the company has been founded, the startup would have all the needed capabilities and know-how for basic business survival by actively and strategically avoiding risks of failure due to poor framework management or lack of industry know-how (Kirby, 2004; Kepenek & Eser, 2016, 9; Lehtonen, S., 2020).

4.4. Acceleration

For early-stage companies with market-ready minimum viable products, passionate and driven founders, and big enterprise goals, securing membership in a business accelerator program can help with securing trust and credibility in order to break the barriers to entrepreneurship growth. Depending on the accelerator and the country where the program is organized, top slots come with up to six-figure funding rounds, teams of seasoned expert advisors, and the "halo effect" of being backed by a prestigious program that increases the well-needed customer and industry awareness factor towards novel ventures. Additionally, many accelerators offer sponsorship opportunities to help ex-pat ventures enter new foreign markets with a ready-to-market strategy and visa opportunities (Netsuite, 2022).

According to the British Business Bank, business accelerators are programs designed to support growth entrepreneurship, hence, helping and supporting established business ventures with an environment where they can thrive and become successful enterprises within the shortest timeframe. They are hailed by many as high-growth activators or igniters, as they accelerate the growth rate of a company to better help it position itself in the market

with a competitive approach. Similar to incubator programs, they typically offer network access, investment training, and a range of other supporting systems such as building initial products, securing and identifying financial and human capital, and identifying promising customer segments. But accelerators differ from incubators in several ways other than just on the limited duration as opposed to that of the continuous nature of incubators, as can be seen in the figure below (Hubspot for Startups, 2023).

	Incubators	Accelerators
Duration	1-5 years	3 months
Cohorts	No	Yes
Business Model	Rent; non-profit	Investment; and non-profit
Selection	Non-competitive	Competitive, cyclical
Venture Stage	Early, or late	Early
Education	Ad hoc, human resources, legal, etc.	Seminars
Mentorship	Minimal, tactical	Intense, by self and others
Venture Location	On-site	On-site

Table 1 Key Differences between Incubators, Investors, and Accelerators. Source (Susan Cohen, 2013). Adapted by the author of the thesis.

The timeframe of an accelerator program's duration can span from a few weeks up to three months, a duration designed to help cohorts of selected startups with their venture process. Similar to incubators, accelerator programs also offer some financial help in the form of a small amount of seed capital free of equity or involving sharing a percentage of the company's private equity stake in the process. A clear example of this is Y-Combinator's approach to maintaining its 7% equity stake for each one of the startups it backs up. Considered a seed-stage accelerator program, Y-Combinator (YC) currently offers standard deals of investment from anywhere between 125,000 to 500,000 depending on the company. By making equity stake a requirement for entry to many accelerators, these programs ensure a win-win approach, by helping ventures with the right method with the expectation of high growth and future return on investment scenarios. Despite this, most accelerator programs do not involve selected startups giving away any of their company's equity (Y-Combinator, 2023).

While the networking opportunities offered by startups are similar to that of incubator programs, they do expand the "seniority" as well as the prestige of their investors' portfolios. They additionally include a plethora of peer ventures and mentors who may identify as program graduates, angel investors, venture capitalists, corporate executives, and successful entrepreneurs. While the access to investors may vary from one program to another and may be present at different stages, it usually presents itself at the end of the

program, during “the demo day”, where selected ventures pitch to large audiences of senior and qualified investors (Susan Cohen, 2013).

Similar to other company builder programs, accelerator programs too can be separate entities or already university-integrated programs such as the *Digital Accelerator program at EAE Business School in Barcelona.*

Additionally, one of the distinctive factors that accelerators ensure to a certain degree, is survival. While the wide array of resources that incubator programs may provide to entrepreneurs might not be consistent with the specific needs of those nascent startups, and they may have an unrealistic approach to success, as is the case of some ventures that only get to survive inside the program, but aren’t ready for the real world, accelerators take the guesswork out of venture building and ensure that their portfolio develops in a manner that remains optimal for the market and their respective fields of business operations, hence the selection criteria process. While survival may seem attractive, the firm will inevitably remain a failure, and the program resources it may be consuming might be used to a better extent by another potential venture (Netsuite, 2022).

Not two business accelerators are alike. Besides the evident demographic, geographic, and sector-related specializations, as previously stated some accelerators follow a for-profit business model and are equity-based while others tend to gravitate towards a not-for-profit model. Regarding the advanced stage of business operations, some accelerators choose to incorporate elements from incubator programs (known as hybrid company builder programs) to nurture embryonic-stage startups (mainly done by pre–accelerators) and others prefer to work with more advanced enterprises and seasoned founders. Therefore, depending on the selection criteria the following key differences should be taken into account in case any of the readers of the thesis would be considering applying to an accelerator in their respective countries of origin or studies (Garey, 2022). According to multiple sources of literature, there are two types of business accelerators (Netsuite, 2022):

- *Seed or Early-stage Business Accelerators:* these programs characterize for focusing on fledgling startups by providing seed-stage funding opportunities. These kinds of accelerators, the majority of the ones available within entrepreneurial ecosystems are usually non-profits and founded by large FinTech companies or HEIs and seasoned investors looking to give back to entrepreneurial communities by providing capital and sponsorship collaboration.

- *Second-stage Business Accelerators:* focused on providing services to companies that are no longer brand-new startup ventures, but still lack the maturity either in terms of business strategy or operationally. Concerning funding, second-stage programs follow seed or startup rounds. By targeting a specific growth stage they help ventures become more profitable and competitive, launch new product or service lines, enter new markets, and acquire larger customers.

After second-stage accelerator programs, business accelerators usually fall under the spectrum of startup funding rounds as can be seen in the following table. Each funding round requiring more specialized programs.

Funding Tier	Adviser Program	Business Scenario
Pre-seed funding	Incubator or Hybrid program	Bootstrapping stage (own capital, funding network).
Seed funding	Seed Accelerator, or Angel Investor	The venture has a proven and solid concept and a nascent business model. Needs capital to refine and produce the product or service.
Series A	Seed, or Second-stage Accelerator	The company has a vetted concept back with a more solid business plan and financials and is looking for hiring senior roles.
Series B	Second-stage Accelerator	The company is looking to expand its market share, increase its customer base and hire at a larger scale.
Series C	Management Consulting Firm	The company is fully established and is currently looking for financial support to expand operations and start its own investment and acquisition portfolio.

Table 2 Startup Venture Funding Spectrum and Phases (Netsuite, 2022).

Additionally, apart from the not-for-profit and for-profit business models of different stage accelerator programs, there is the fact that when accelerator programs are affiliated with or integrated into a university, they may provide services related to intellectual property and their regulatory aspects as a bonus; the university may also use them to transfer in-house produced knowledge from faculty members to venture firms that are commercializing the university's intellectual property.

4.5. Pre-Acceleration

Pre-acceleration is known to be the early yet somewhat advanced stage where nascent companies are set to accelerate their growth and ready-to-market capacities. While pre-accelerators are still fairly unknown and young-age entrepreneurial programs, in contemporary times there has been a recorded gradual growth, expansion, and development inside European and international ecosystems. While similar in structure to their younger sibling pre-incubator and incubators, pre-accelerator programs characterize by initially and mostly catering to business individuals or aspiring entrepreneurs with early-stage ideas or

hardly developed ideas, but that are still somewhat more advanced and developed than those found in pre-incubator and incubator programs. The key aspect behind a pre-accelerator is to gear up entrepreneurs to access and join advanced startup accelerators such as Y-Combinator or Techstars, or for an early product or service MVP development or launch (Slideshare, 2015).

Even though the startup acceleration concept is widely known, its predecessor expression pre-accelerator is of recent origin and therefore undetermined. When it comes to the official definition we must observe and identify the following factors: generally first-time entrepreneurs and recent graduates. A great target customer for pre-accelerators is researchers, unemployed professionals, and higher education students. When it comes to the stage they address the very early and pre-seed stage. Pre-accelerator programs work in different stages, going from individuals without an existing idea or team, to market validation. When it comes to the length of the program they tend to be shorter than the acceleration programs expanding anywhere from 1 to 8 weeks. All pre-accelerator programs tend to have a strong experienced mentorship presence, some of them consisting of godfather-type mentors that work exclusively with a specific team during the entire program (Slideshare, 2015).

In most cases, they have a demo day at the completion of the program, where the teams pitch in front of judges, mentors, investors, or even the general public.

4.6. SWOT Analysis: Identifying Key Differentiators and Opportunities through Tool Implementation.

With the ongoing European political scenario, post-pandemic market, and economic disparities, times remain uncertain for many ventures around the world. If strategic thinking has always proven to be important, in today's active scenario there are several factors that make it indispensable and crucial for any business and entrepreneur alike, regardless of country or region. The increase of entrepreneurial risks and trends, and the slow progression in certain countries to efficiently implement an entrepreneurial culture among their respective societies, as well as the shift of global economies, are just a few examples.

It comes, therefore, as an essential necessity to pay proper attention to a segmented analysis of a company and its surrounding environment through running a SWOT analysis. This analysis was first developed and designed by Roland Christensen and Kenneth Andrews, two Harvard Business School researchers, and professors. The term SWOT is made out of a combination of the initials of the Anglo-Saxon words Strengths, Weaknesses, Opportunities, and Threats. Therefore, SWOT analysis corresponds to identifying in an integrated manner the main aspects that characterize the strategic position of an organization in a given moment, both from internal and external angles, the organization's relationship towards its environment, and the synthesis of internal and external analyses (Gomes, F., 2021). Additionally, the combination of Opportunities and Strengths creates Challenges, Threats, and Strengths create Warnings, Opportunities, and Weaknesses create Risks, and Threats and Weaknesses create Constraints. These combinations of outputs or junctions are known in business literature as Dynamic SWOT (Andrews, K.R., 1980; Carvalho & Cruz Filipe, 2008).

Figure 10 -SWOT Analysis: Strengths (S), Weaknesses (W), Opportunities (O), and Threats (T). Adapted by the author. Source (First Inflection, 2023).

In the following table, Porter (2004) further explains some key factors that help identify the company's portfolio of strengths and weaknesses (Gomes, F., 2021).

STRENGTHS	WEAKNESSES
☑ Factors that are responsible for building the mobility barriers protecting the company. ☑ Factors responsible for strengthening the firm's bargaining power vs. supplier and buyers. ☑ Factors responsible for isolating the company from rivalry with other enterprises.	☑ Factors responsible for weakening the mobility barriers protecting the company. ☑ Factors that weaken the bargaining power of the organizations related to suppliers and buyers. ☑ Factors responsible for exposing the company to rivalry scenarios from other companies.

STRENGTHS	WEAKNESSES
☑ Strong capabilities to implement strategies. ☑ Implementation capacities, relative to that of competitors. ☑ Skills and resources that enable the company to penetrate distinctive strategic groups and overcome mobility barriers. ☑ Larger scale strategic groups. ☑ Factors responsible for allowing lower costs of entry.	☑ Smaller scale strategic group. ☑ Factors influencing higher entry costs in the given strategic group than in others. ☑ Lower capacity to implement competitor strategy. ☑ Lack of skills and resources, that allow the company to move beyond mobility barriers and penetrate distinctive groups.

Table 3 SWOT Analysis-Strengths and Weaknesses According to Porter (2004).

5. MAPPING OUT FACTORS OF SUCCESSFUL ENTREPRENEURIAL ECOSYSTEMS IN EUROPE.

The European Commission and the European Innovation Council (EIC) define innovative entrepreneurial ecosystems as "living business habitats and networks of dynamic interactions between agents of all profiles, where know-how, information, and talent flow through established systems of cooperation and creation of sustained value." In this regard, in the last years, the recorded commitment indexes toward these networks using them as tools to promote specialization have gradually been consolidated in each region, generating employment and overall social welfare, and addressing the great challenges of society through talent development, entrepreneurship, open innovation, and collaboration between diverse agents (Cantner, U., Cunningham, J.A., Lehmann, E.E. et al., 2021; European Commission, 2023; European innovation Council, 2023).

Therefore, the main goal of this chapter is to analyze the external and internal environments of different Entrepreneurial ecosystems, ensuring a better understanding of how our local ecosystem works, the policies that make it possible as well as the main geographical areas that are responsible for setting a European Blueprint when it comes to venture creation and ecosystem proliferation. Additionally, it is the aim of this thesis to offer a complete picture of different entrepreneurial ecosystems in Europe, being the main targets of the study the Nordic, Scandinavian, Spanish, and Basque Entrepreneurial Ecosystems, as they all are referential international business hubs both locally and internationally, and to highlight different initiatives and best practices that can be adopted by governmental organizations to propel a better functioning ecosystem.

In order to achieve this, this thesis sets out to map out different company builders and venture builders in these leading European countries creating a portrait of the scope and relative density of entrepreneurial external and internal factors and actors with a focus on accelerator and incubator ecosystems in The Nordic and Scandinavian economies, currently two of the leading European economic and innovation strongholds.

By efficiently mapping the different key entrepreneurial ecosystems we can understand the portfolio of different needs and maturity stages of each ecosystem, gain first-hand insights from local players through different sources of data and learn how to expand, mobilize and scale up local and international startup programs defined by a European blueprint. The results set a before and after picture of the importance of international collaboration when it comes to the scope of entrepreneurial ecosystems.

5.1. The Entrepreneurship Ecosystem in Europe: Scope, Regulations, Market & Capital.

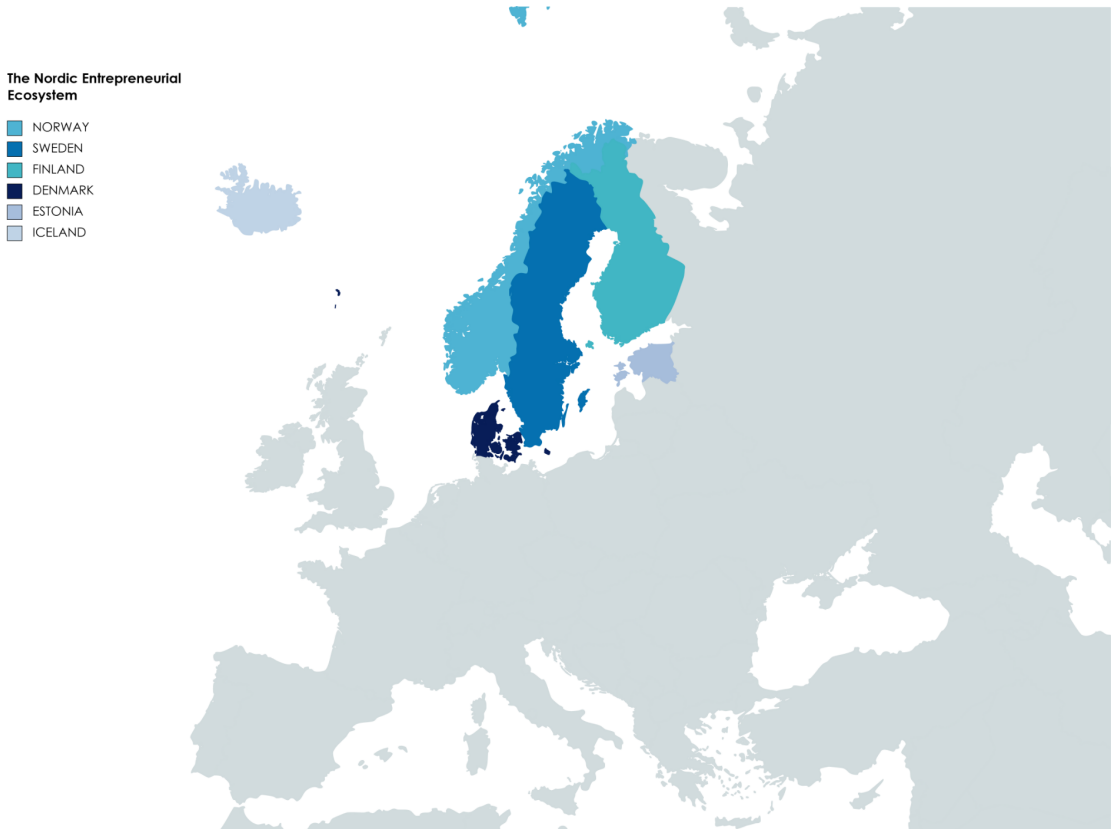

Figure 11 -The Nordic Entrepreneurial Ecosystem. Source adapted by the author. (MapChart, 2023).

Both as a continent and a geographical region of high intensity and a multitude of cultures, Europe characterizes as having multiple thriving ecosystems, both at national levels and as concentrated clusters in certain areas, each one with its own focus and notorious profile for a variety of reasons. In the last decade, there have been notable variations in the top-performing regions and their respective entrepreneurial ecosystems. Currently, although the UK no longer remains inside the EU, it is somewhat relevant to the study as it still is considered among Germany, Switzerland, Spain, The Netherlands, and Sweden as one of the six prominent nations leading in the Top 10 countries according to Global Startup Ecosystems (Global Startup Ecosystem Report, 2023).

According to the Startup Europe Initiative of the European Commission, in the last two decades, entrepreneurship has expanded throughout Europe, surpassing the US' startup program portfolio, mainly comprised of accelerators and incubators, by a considerable extent, securing a healthy and entrepreneurially thriving early-stage startup scene. Moreover, the number of European incubators and accelerators has dramatically increased since the start of the financial crisis. In fact, research conducted by Telefonica found out that most of these startup and venture builder programs were initially launched after the 2008's financial crisis. While the initial compound annual growth rate for incubators and accelerators

was roughly 14% pre-financial crisis, in the last 12 years that growth rate has surpassed 29%, marking up to 400% between the years 2007 and 2013 (Telefonica, 2022). Therefore we can say that entrepreneurial ecosystems in Europe are not in their embryonic stage, but aiming high and with strong differentiators in each of the countries of the EU.

A study run by the multinational Telefonica and based on the top seven countries ranked by GDP in Europe, namely Spain, Sweden, United Kingdom, France, Germany, Italy, and the Netherlands as well as three additional nascent less-known entrepreneurial ecosystems, including Slovakia, Czech Republic, and Ireland found that when compared to the US, both Europe and the latter have a comparable number of startup company builder programs per capita (Telefonica, 2022).

Currently, 260 startup programs can be found in the designated geographical area in Europe and 200 in the US. Additionally, given the similarity between the population of both economic areas, the US with a population of 316 million, and the top 10 nations in Europe having a combined population of 361 million people, it can be said that when it comes to a per capita basis, Europe currently is positioned above the US when it comes to the number of incubators and accelerators (Telefonica, 2022).

In terms of population density, the European market is approximately 1.6 times larger than that of the US. However, while this may seem an advantage, Europe still lags behind due to being composed of heterogeneous groups of nations at different stages of development in their respective entrepreneurial ecosystems. In addition to this, the accelerator and incubator program landscape in Europe characterizes as being diverse, with different principles and geographical models in place. While in Spain and Sweden, the business startup venture programs tend to spread evenly across the territory, in France and the United Kingdom, most programs concentrate around the national capital (Telefonica, 2022).

In the case of Spain, there are currently 180 incubator and accelerator programs, 23 of them in the Barcelona area alone, and 22 in Madrid. In the case of Finland, with a lower population density, there are currently 82, most of which reside between the Greater Helsinki Region, Turku, and Tampere. An additional example of this even clustering of company builders is Sweden. The country currently has 92 accelerators and incubators, but only 37 can be found in the Stockholm area (Tracxn, 2022; Invest In Spain, 2023).

This data, however, changes from one source to another due to the complex nature of the programs and the constant creation of new incubators and accelerators, as only between 2020 and 2023 there has been a record-breaking increase in entrepreneurial programs in all the aforementioned countries.

A good example of a resilient inner ecosystem in Europe is the allocation of public resources to mechanisms that work to stabilize the economy, tackle systemic risks, and kick-start growth. This resource allocation strategy holds considerable significance when as explained below the business density in the EU is mainly integrated by SMEs that contribute to 66.5% of the total employment and 57.8% of the gross added value generated by the private sector (Foray et al., 2012). In this regard, it is essential to acknowledge the substantial role that SMEs play in innovation, entrepreneurship, employment, and general economic growth. Therefore data regarding the exit, entry, and survival rates of SMEs are strongly related to

the quality of entrepreneurial environmental conditions in Europe (Porter, 1980; Urbano, Guerrero, Ferreira, & Fernandes, 2019).

When it comes to European entrepreneurship regulation, the EU has several policies in place to ensure ongoing support for entrepreneurship and the creation and proliferation of SMEs. This is mainly due to the fact that SMEs currently represent 99% of all existing businesses in the union and employ over 100 million professionals. Therefore, they are considered a central tool for ensuring twin transitions toward a digital and sustainable economy in the EU (European Commission, 2023). Additionally, a mentionable initiative is The European Entrepreneurial Region (EER), an ongoing project that identifies and rewards EU regions and capitals showing innovative and outstanding entrepreneurial policy strategies. In this regard, the EER label has been set up in collaboration with the European Commission, currently also supported by stakeholders at the EU level, including Eurochambres, EURADA, Social Economy Europe, and SME United, among others (The European Committee of the Regions (CoR), 2023). This and many other programs are currently in place to ensure that SMEs receive financial and market access assistance, and support European entrepreneurship, business venture creation, growth, and internationalization (European Union, 2023).

The European startup and entrepreneurial ecosystem is a diverse, distinct, and complex network that currently encompasses almost 50 sovereign states and countries (StartupBlink, 2020). In recent years, Europe's startup ecosystem has seen an increased surge in the number of unicorn companies and the pace at which they are being created. Despite this accelerated startup activity, Europe's startup ecosystem still falls behind in achieving prosperous late-stage outcomes when compared to other foreign startup ecosystems (McKinsey, 2020).

A current startup policy in place in the region to try to alleviate this disparity and help foster a stronger inner ecosystem within all nations is the *Startup Europe Initiative* created by the European Commission, which aims to connect scaleups, high-tech startups, corporate networks, investors, accelerators, HEIs, and the media. Furthermore, the initiative is currently further supported by a portfolio of already mentioned EU-funded policy actions and projects such as The Innovation Radar, the Digital Innovation & Scale-up Initiative (DISC), and the EU Startup Nation Standard (European Commission, 2023).

The promotion of innovation and entrepreneurship in Europe is the focus of numerous organizations and projects. The European Centre for Entrepreneurship and Policy Reform (ECEPR), a pan-European public policy think tank with a focus on entrepreneurship and industrial growth in Europe, is one such institution (European Centre for Entrepreneurship and Policy Reform, 2023). Additionally, at the European Union level, there are numerous programs and policies in place to support entrepreneurship. A declaration on a pan-European ecosystem for innovation and entrepreneurship, for instance, highlights the necessity of providing accelerators, venture capital companies, and other multipliers with incentives so they can test their business models and establish connections with new clients outside of their immediate geographic area (World Economic Forum, 2018).

When it comes to the strengths and limitations related to scope within the entrepreneurial ecosystem in Europe, the continent characterizes for showing healthy movement with many of the countries holding top positions in the global ecosystem rankings. There is, however, a

discrepancy between the overall performance and the potential of the European Startup Ecosystem when compared to other regions. In comparison with the US, European leading hubs are smaller in size and do not possess access to as many resources, having, therefore, a lack of concentration, capital, and talent.

In Europe, both academics and policymakers have paid special attention to the key conditions that encourage nascent entrepreneurial innovations and high-degree entrepreneurship (Guerrero & Urbano, 2019). In the European ecosystem context, regulators and policymakers have actively encouraged SMART specialization initiatives in different sectors and technology-related fields as a strategic approach to becoming highly entrepreneurial and competitive and enabling the construction of better systems for innovative ecosystems (Foray et al., 2012; Autio et al., 2014; Mccan & Ortega-Argilés, 2015; Acs, Estrin, Mickiewicz, & Szerb, 2017).

Despite this, there is a remarkably slow growth towards new policy reforms and it is proving to be detrimental to the European entrepreneurial ecosystem's competitive capacity when compared to role model cities across the US. The early stage of entrepreneurial activity is also lower among the adult populations, especially in the Mediterranean. In this regard, there are multiple factors for the aforementioned disparity beyond potential and growth, as without proper change in policy goals, the dream of making Europe an attractive and efficient entrepreneurial habitat for startups, will just remain a dream. In the following chapters, we will give an executive deepening of these actors and factors as well as study the current health and well-being of the ecosystems proposed for the thesis.

5.2. The Incubator and Accelerator Ecosystem in Europe: focus on The Nordics and Scandinavia.

Considered and hailed by many experts as "Europe's Unicorn Factory", the Nordic and Scandinavian regions which include Denmark, Norway, Sweden, Finland, Iceland, and recently Estonia, are well-known for having the highest number of unicorn companies per capita in Europe, making the Nordic startup ecosystem one of the most dynamic in the world. In this regard the Nordic Blueprint has propelled the fact that in the last few years, Nordic Fintechs have been notoriously efficient at raising record-breaking investment rounds, starting a movement where Nordic startups, especially Fintech are considered a different breed of ventures when compared to the global baseline. Consequently, foreign investors from across the globe are constantly on the search for the next unicorn, which now is responsible for attracting the highest levels of foreign investment opportunities per capita. This is further promoted through their exceptionally business-friendly and stable investment framework, making the region a highly attractive market for international investment (Innovation Lab Asia, Nordic Innovation Report, 2021).

With an overall population of 27.36 million people and 78 unicorn companies out of a European total of 179 unicorns, the Nordics have generated the highest number of unicorns per capita record globally outside of Silicon Valley. With over 3.4 scaleups per 100,000 inhabitants, the Nordics currently holds the highest scaleup density in Europe, the average being 1.0 per 100,000 inhabitants (Innovation Lab Asia, Nordic Innovation Report, 2021;

Vestbee, 2022). Skype, Supercell, and Spotify are well-established and known unicorns “Made in the Nordics” (Medium, 2022).

As previously stated, the Nordic nations consistently rank at the top of a wide range of global indexes, including entrepreneurship, competitiveness, and innovation. The most interesting of these rankings being the Global Happiness Index, which positions Finland as the happiest country in the world, having secured its place for 6 consecutive years. This index comprises a wide range of socio-economic factors such as social support, life expectancy, social networks, perceptions of corruption, economic equality, predictions of the future, freedom, trust, and safety. Ever since its launch in 2012, the Nordic countries have been notorious for topping said index. Referential ecosystem public and private organizations, and investment funds from all Nordic countries include Nordic Venture Network, Business Finland, Icebreaker VC, NordicNinja VC, Copenhagen Capacity, NordicBAN, Startup Norway, Icelandic Startups, and Espoo Innovation Garden (Innovation Lab Asia, 2022).

The fact that business accelerators and incubators remain a core active factor in the development of an entrepreneurial ecosystem is undeniable. Judging from the vivacity and sparkle that the Nordic startup ecosystem has to offer it is only reasonable to assume that the related infrastructure is well solidified when it comes to startup programs and hubs, namely startup labs, pre-incubators, incubators, pre-accelerators, accelerators, and venture builders. Therefore to support the aforementioned statement, in the following points the accelerator and incubator program ecosystems in the Nordic region will be briefly analyzed and compared, except for Iceland and Estonia due to their relatively small density and ecosystem dimensions.

5.2.1. Denmark (Startup Genome, 2023)

According to Simon Kollerup, a Danish politician, Denmark remains one of the leading digitalized countries in the world, which makes it an attractive market to adopt disruptive technologies and foster innovation. With a profile that currently holds top places in performance (top 10), talent & experience (top 10), and funding (top 15) inside the European Ecosystem, Denmark is gradually adopting nascent measures and policies to ensure and facilitate entry into the Danish entrepreneurial ecosystem (Startup Genome, 2023).

Internationally, and within the European market, Denmark is known for having an intimate yet integrated entrepreneurial ecosystem easy to access. In this regard, there is a wide range of platforms that assist investors and ex-pat startups aiming to enter the Danish market, softening their transition to the market. Some examples of such associations or platforms include Edtech Denmark, Vision Denmark, Agro Food Park, Copenhagen Health Tech Hub, Odense Robotics, Copenhagen Fintech, and the National Industry Association.

Additionally, when it comes to educating local talent which directly influences Denmark’s entrepreneurial potential through proper EE opportunities, Copenhagen is home to world-leading institutions such as Copenhagen Business School, Aalborg University, Technical University of Denmark, and IT University among others.

Characterized for having a vivid and rapid growth-centered startup scene, while in 2015, Denmark was home to over 70 Fintech enterprises, by the end of 2021, it gave home to over 250 ventures. Additionally, Odense is considered one of the flagship robotic hubs in the European ecosystem, currently hosting over 175 startup and scaleup ventures, 10 research institutes, and 40 Higher Education entrepreneurial programs. Regarding life sciences, Denmark is currently considered one of the fastest-growing European strongholds for biotech innovation and investment, being second to the Netherlands, regarding growth rate.

On international affairs, Denmark's entrepreneurial ecosystem may be best known for Copenhagen-founded business unicorns including Pleo, Trustpilot, and Zendesk, but the Danish ecosystem is also prominent with flourishing Fintech clusters. Localized between Odense, Aarhus, and Jutland, these Danish collectives of cities offer hubs for robotics, and both urban life and nature advantages, forming a nurturing and vibrant startup ecosystem, that only in 2021, was inhabited by over 4,300 startup and scaleup ventures with over 30 active VC investors, and producing 16 unicorns to date.

Macroenvironment factors such as an educated talent pool, free education, a robust entrepreneurial ecosystem, and a foreign-investor-centered low tax rate of 22%, the region has attracted increased interest from international corporations. Companies such as Apple, IBM, and Meta have expanded their R & D and innovation-related operations towards building data center campuses, sustainably-powered data centers, and software development labs in the Danish region. A strategy that has been backed by Denmark's signature formal governance model that is applied to its flagship digital and tech ecosystems, namely Healthtech, Createch, Agtech, Proptech, Fintech, Robotics, and Edtech) and currently governed by a committer under the Danish Digital Ecosphere, influential leaders inside the country's strongest ecosystems, and Digital Hub Denmark. In convergence, the ecosystem works to attract investors, talent, and customers to the over 1,100 startup and scaleup ventures operating in the ecosphere.

While numbers vary depending on the source, according to Incubator List (2023) there are currently 11 large and influential Denmark-based startup incubators, accelerators, and venture capital investors, including +Impact Accelerator, Accelerace, Knowledge Cube, Stairways, Go Grow, Syddansk Innovation, and Borean Innovation, among others. Additionally, key ecosystem players or actors include organizations such as Digital Hub Denmark, Odense Robotics, The Kitchen, Matrikel1, The Association of Tech Startups in Denmark, and TechBBQ.

Successful examples of multiple startups in the region include Aarhus-based ViaBill, and Copenhagen-based Dixa, both of which in 2021 raised 105 million and 177.3 million dollars respectively, most of which came from Series C funding rounds.

In competitiveness and efficiency aspects, the Danish entrepreneurial ecosystem is currently placed above global average indicators when it comes to early-stage funding and ecosystem value. Recorded to have between the 2019-2021 period overall early-stage funding of 1.1 billion dollars against the global average of 687 million, and a local ecosystem value of 38 billion dollars, against a global average of 28.6 billion. Additionally, in the same time period,

the median seed round was 1.2 million, double the global average, with a median Series A round of 4.7 million dollars, and the total accounted VC funding between 2017-2021 marked up to 5.9 billion dollars.

When it comes to successful exits, Danish-based startup unicorns hold a combined exit value of 21 billion dollars, against the global average per ecosystem of 11.3 billion and 258 recorded successful exits to date. Currently, the time to achieve successful exits in Denmark accounts for 10.6 years on average.

5.2.2. Sweden (Startup Genome, 2023)

According to Omid Ekhlasi, founder and CEO of Techarenan, the level of skill and execution among raising entrepreneurs in the Swedish entrepreneurial ecosystem is truly remarkable, with an international profile to find solutions to even the most pressing global-scale challenges of today, with Stockholm as its flagship change-driver. With an entrepreneurial profile that currently tops the world's rankings on a variety of indexes including the European Ecosystem in Talent & Experience (top 4), European Ecosystem in Funding (top 3), and European Ecosystem in Knowledge (top 3), Sweden and especially Stockholm remain one of the leading ecosystems in Europe and in the world. Usually considered the flagship nation inside the Nordic region, the success of Swedish unicorn companies such as Skype and Spotify, have contributed to making "Made in Stockholm" a globally renowned brand and startup hub, with an undisputable attractiveness towards investors globally. Three examples of fairly recent unicorn companies with a Swedish blueprint include the open banking platform company Tink, which was acquired by Visa for 1.8 billion euros, the banking company Klarna which has raised 3.7 billion dollars in funding from over 33 funding rounds, and the cloud communications company Sinch, which raised 1.1. billion dollars in 2021 alone.

Stockholm's entrepreneurial ecosystem characterizes as being notably international, with recorded large numbers of foreign actors hailing from different fields and industries. English remains the official business language in the region, with multiculturalism hailed as a business strength. Additionally, with an open ecosystem model that fosters competition and innovation, the government proactively directs resources to promote growth on ambitiously promising sectors and trade networks within growing markets including India, the Baltic region, and Brazil.

With an extremely competitive and efficient profile, after Silicon Valley, Stockholm produces the most unicorn companies per capita, thus being Europe's Unicorn Factory, and is home to over 1,000 startups of different natures with an average value per startup of 3.6 million dollars. Despite this success, startup support organizations and the government actively continue nurturing the Swedish ecosystem with a wide range of initiatives.

Regarding international affairs, in 2021, UNICEF established a global center dedicated to innovation in the Stockholm area. Additionally, the Stockholm Innovation Scholarship is currently awarded to promising innovators in categories such as life sciences and health, creative industries, simplifying everyday urban life, social impact and sustainability, and

travel and tourism. Such innovations are ranked according to Vinnova, the *Swedish Government's Innovation Agency*, an expert authority regarding innovation policy making.

When it comes to entrepreneurial education (EE), research and competence development at Swedish HEIs is currently funded by *The Knowledge Foundation*, also known as *KK-Stiftelsen*. Sweden's vibrant university community is further expanded through *Sthlm Fintech Week,* an annual startup event for companies operating in the Swedish Fintech ecosystem. With a strong and well-defined infrastructure, Kista is home to the Urban ICT Arena and Kista Science City, the European leading ICT cluster, which currently hosts enterprises such as IBM and Ericsson, as well as a wide range of universities and startups where SMART technology is developed, tested and displayed live in a real urban environment.

In terms of Ecosystem value, between the 2019-2021 period, the Swedish ecosystem was valued at 63 billion dollars against a global average of 28.6 billion, with early-stage funding overall of 1.3 billion dollars against a global average of 687 million. Additionally, in the same time period, the median seed round accounted for 950 thousand dollars against a global average of 671 thousand, and the median Series A round was 2.7 million dollars against a global average of 4.7 million.

Regarding successful exits and amounts per ecosystem, the Swedish ecosystem secured 356 successful exits (3 times more than the global average) with a combined value of 43 billion dollars against a global average of 11.3 billion. The total VC funding in the Swedish entrepreneurial ecosystem totaled up to 5.7 billion dollars against a global average of 4.5 billion and the estimated time for reaching an exit was recorded to be 9.4 years on average.

Sweden's key differentiator sub-sectors revolve around CleanTech and Life Sciences, having become a world leader in renewable energy resources, influenced by the country's ambitious and forward-thinking goals for reducing its carbon footprint and reaching net-zero emissions by 2045. An environmental approach that can be clearly appreciated in Stockholm's holistic city and urban planning, the region's target to become CO2 free by 2040, and close public and private ties with industry leaders. Additionally, the city's growing need for alternative fuels has influenced its growth to become a leader in smart grids, ocean power, and biogas. Examples of these initiatives include Northvolt and Eco-city Stockholm Royal Seaport. In regards to Life Sciences, Swedish STEM companies constantly benefit from the country's world-leading universities and research facilities, public and private profile collaboration, and its high growth and innovation capacity. An organization that looks after these aspects, is Business Sweden, which aims to accelerate the innovation and growth capacities of STEM companies "Made in Sweden".

Key ecosystem players in Sweden include Epicenter, ImpactHub, Venturecup, Northzone, and SUP46. While numbers vary depending on the source, according to Tracxn there are currently 92 incubator and accelerator programs in Sweden, most of which reside in the Stockholm area. The top 10 ones include Chalmers Ventures, Dohi, Smile Incubator, Fast Track Malmo, PunktB, Uppsala Innovation Centre, The Game Incubator, Ideon Innovation, Create Business Incubator, and THINK Accelerate (Tracxn, 2022).

5.2.3. Norway

The Norwegian entrepreneurial ecosystem characterizes by having a solid network of accelerator and incubator programs, innovation hubs, extensive coworking spaces, and a wide network of investor and support funds that have contributed to the expansion of Norwegian companies into local and international markets. In Oslo, Norway's capital, there are currently over 50 innovation spaces dedicated to propelling entrepreneurs into startup and scaleup success (Startup Universal, 2023). A promising ecosystem that in 2022 attracted 1.3 billion dollars worth of investment into Oslo's startup and scaleup scenes and currently houses over 1,833 active startup ventures with 1,215 rounds of investment to date (Oslo Business Region, 2023).

While Norway has traditionally focused on developing vibrant and lucrative fishing and energy sectors, in contemporary times its focus has expanded towards building a startup scene composed of sectors such as Hardware & IoT, SaaS, Software & Technology, AI, Energy & Environment, and Ecommerce & Retail (Startup Universal, 2023). Thanks to the country's access to natural resources and the Norwegian government's policy initiatives, the local entrepreneurial ecosystem has experienced a remarkable expansion into tech ventures, a sustainable growth that has translated into 45,000 grants with a global value of 2.89 billion dollars as well as an additional 8,480 loans with a value of 3.9 billion dollars (Appscrip, 2022). Furthermore, the presence of strong venture capital funding and early-stage entrepreneurial support has recorded steady growth each year, and thus new incubator and accelerator programs are constantly being established, directly improving the ecosystem (Founder Institute, 2019). Norway is currently home to over 120 Fintech ventures, focused on online banking, data and analytics, wealth-tech, and mobile payment. Additionally, the region is known for its green technology and ocean tech ventures such as Heaten, Otovo, and Ocean Oasis.

With a population of 5.4 million, and 9 key cities in the top 1000 when it comes to startup activity, Norway's entrepreneurial ecosystem currently ranks in 13th place in Europe and 24th out of the top 30 ecosystems globally (Startup Blink, 2023). When it comes to international affairs, the Norwegian entrepreneurial ecosystem is well connected with the startup ecosystems of Sweden, Finland, Denmark, Germany, and The UK, making it a strategic player.

Key ecosystem players in Norway include the cities of Oslo, Bergen, Tromsø, Stavanger, and Trondheim, Innovation Norway, a government-led program designed to foster and support entrepreneurship, and The Research Council of Norway, among others.

According to Incubator List Norway is currently home to 18 startup incubator and accelerator programs and venture capital investors (VCs) including 6AM Accelerator, +Impact Accelerator, Arkwright X, T:lab, Validé, ITSAccelerator, Katapult Accelerator, and StartupLab Accelerator. Additionally, Startup Norway is an incubator program that currently provides fundraising and investment opportunities, and access to startup growth networks to all nascent startup ventures and entrepreneurs who aim to contribute to the growth and competitiveness of the Norwegian entrepreneurial ecosystem (Founder Institute, 2019; Startup Universal, 2023).

Norway is still a fairly young entrepreneurial ecosystem when it comes to tech entrepreneurship, with only 4 unicorn companies to date and thus still lags behind when compared to its neighbour countries. An affirmation that can be easily seen when it comes to ecosystem value between the 2019-2021 period, as the overall ecosystem value was 9.5 billion dollars against a global average of 28.36 billion, with early-stage funding of Series A rounds of 496 million dollars against a global average of 670.6 million, and a cumulative exit value of 3.6 million dollars against a global average of 11.27 million (Startup Genome, 2023).

5.2.4. The Finnish Entrepreneurial Ecosystem

The Finnish startup and entrepreneurial ecosystem mostly is concentrated in the greater Helsinki region, even though there are smaller startup ecosystems in cities with big Higher Education Institutes such as Tampere, and Turku areas. A report conducted by The Finnish Ministry of Employment and Economy recorded that approximately 4000 new startups begin operating in Finland every year, 42% of which reside in the Greater Helsinki Region. Known as gazelle startups, up to 400 succeed at securing high growth in just a few years' time (Halme et al. 2015, 20-22). According to Global Entrepreneurship Monitor 2015 Report, Finland is known for recognizing proper and profitable business opportunities, to an extent the same degree as other European nations, but still lags behind compared to its neighbour countries currently considered the most entrepreneurial countries in Europe, Estonia with 51% and Sweden 70% index rankings respectively (Suomalainen et al., 2015, 3-5). Despite this, the Greater Helsinki Region still ranks best in the world regarding local connectedness among industry experts, investors, and founders and is in fourth place as an emerging ecosystem according to the Global Startup Ecosystem 2023 Report. In 2020, the Greater Helsinki region’s startup and entrepreneurial ecosystem was valued at 5.8 billion dollars (Global Startup Ecosystem Report, 2020, 43: Lehtonen, S., 2020).

As expected, the startup ecosystem in Sweden, another giant nation in the Nordic area and one of the top economies in Europe is considerably bigger and better valued, where its domestic entrepreneurial ecosystem around Stockholm is currently valued at over 44 billion dollars according to Global Startup Ecosystem 2023 Report.

One of the most respected rankings used to evaluate the efficiency as well as the entrepreneurial power that ecosystems have is the amount of business Unicorn companies it helps to birth. Startup Unicorns are rare and reaching a billion-dollar valuation remains a dream to all startups and investors alike, given that the chances of becoming one are slim and heavily dependent on a well-functioning and executed infrastructure. Regardless of statistical metrics and that according to GB Insights roughly 1% of all founded companies have the blueprint to become the next unicorn company, the Nordic region currently characterizes for housing altogether 65 unicorn companies and 24 soon-to-be unicorns, with a current population of 27 million inhabitants (GB Insights, 2015; Medium, 2022). This report alleviates the fact that currently in Europe, only 0.07% of all venture-backed firms make it to unicorn status (Trajkovska, 2019; Lehtonen, S., 2020).

According to INDEX Ventures 2020 report, Europe is currently home to 205 unicorn companies, which involves considerable growth when compared to 2010 when it only housed 22 unicorns. Finland currently makes up to 4 unicorns with a population of roughly 5.6 million people. Which makes it up almost a unicorn per million inhabitants (Lehtonen, S., 2020).

Even though the chances that lead to creating a successful business venture or the next business unicorn company are slim, the global entrepreneurial and startup ecosystems have experienced remarkable growth in the last few years, increasing to 3 Trillion as of 2020. The year 2019 was a decisive moment in time for Finland as it has a record-breaking amount of investment activities made in the local entrepreneurial ecosystem, totaling up to an investment portfolio of 511 million euros invested into over 415 companies across all fields. An investment four times higher than a decade ago in 2009. Venture funds also reached an all-time high during the same period, making up to 384 million euros destined to be invested back into the startups in the area in the years to come (FiBAN, 2019, 2020; Private equity investments in Finland, 2019, 2020; Lehtonen, S., 2020).

5.3. The Nordic and Scandinavian Success Model: Factors of a Unicorn Factory

With just 4% of the European population, the Nordics produce an impressive 9% of the world's total billion-dollar exits (since 2005). In comparison, the remaining 96% of the European population generates only 8% (Innovation Lab Asia, 2022). Sweden alone accounts for the 3rd highest startup rate globally, having 20 startups per 1000 individuals. Moreover, it also has the highest recorded 3-year startup survival rate in over 74% of the nascent ventures. If this wasn't impressive enough the Nordics currently account for the most valuable startups in the European ecosystem (Medium, 2022).

The Nordic Model has long been a proprietary venture creation approach that every other nation has tried to replicate, aiming to apply in their respective ecosystems the very thing that makes these countries and this Northern region so competitive and successful at creating billion-dollar business ventures. Furthermore, there are several key conditions that typically define a healthy ecosystem, and while these factors mainly revolve around building a unique environment – they rarely try to emulate what already has been executed in other regions. This is why, it is safe to assume that the Nordics are far from chasing becoming the "next Silicon Valley", and this remains the essential concept of why their entrepreneurial activity has such a distinctive blueprint and remains at the top of the entrepreneurial food chain to date. In this regard, according to researchers, the main 4 core factors contributing to Nordic success include (Medium, 2022; Startup Aarhus, 2022):

- *Being a born-global business enterprise from the start.* Having a population of slightly over 27 million inhabitants, their home market is relatively small considering other European markets such as Germany, with 80 million, therefore rather small market opportunities propels founders and founders to be to launch and grow internationally to claim bigger markets and reach international venture capital firms. Therefore, in order to achieve long-lasting survival and success rates Nordic startups are born with

an international blueprint, as can be seen in many Nordic companies currently operating in the US or bigger European markets. In this regard, startups “Made in The Nordics” share business models that are tailored for internationalization, with a range of MVPs made to survive in foreign markets, fundraising, and securing talent efforts focused on large venture firms and ecosystem networks. Additionally, around 90% of Nordic higher education students find it culturally acceptable to pursue entrepreneurship at different stages.

- *Having solid governmental and public sector support and startup and scale-up-friendly policies.* The Nordic countries characterize by having a welfare system that invests in talent and innovation. From Incubators, accelerators, innovation hubs, universities, and entrepreneurial education, to research and development. This has exponentially reduced the fear of failure and allows founders to grow and fail with minimal to no financial risk involved. This is achieved through an economy based on a combination of welfare and free market capitalism, providing Nordic citizens with high levels of social benefits including free social security, healthcare, and free higher education. In this regard, The Nordic Model is often considered a prime example for nations looking to establish economic stability and growth. Additionally, the government implements entrepreneurial policies offering grants, and tax credits and making up an attractive environment to incubate and accelerate startups. Such a case is Denmark and its startup ecosystem, where the Danish government has allocated over 134 million euros towards fostering and securing innovation projects until 2025, through implementing a “Digital Growth Strategy” Policy. Furthermore, Finland has set out to attract global talent through an initiative known as “Future is Made in Finland” which aims to attract up to 30,000 promising profiles within tech to study, work and start business ventures in the region. Additionally, the Nordic region has a strong focus on R&D, characterized by having one of the largest R&D investment rates by GDP in the EU.

- *Using technology as a growth enabler and propeller.* One of the key reasons why the Nordics produce such a high number of unicorns is due to their advanced profiles when it comes to technology and access to tech-related resources. According to the European Commission, Finland, Sweden, and Denmark are currently the top three most digitalized countries in Europe. Through early privatization of tech-related industries and early general access to computers and the internet has contributed to making the Nordic population the earliest adopters when it comes to technology ventures, with an internet penetration of over 975 of the total population in the region (Daniel Blomquist, 2022). In this regard, the Nordics consistently ranks as the top region for digital adoption and connectivity according to The European Union’s Digital Economy and Society Index. Tech-related policies like the previously mentioned are what contributed to creating a solid ground for the next wave of innovators to thrive.

- *Having a bidirectional relationship with society: An Ecosystem that gives back to society.* With a growing investor base, the early-stage investment climate in the Nordics has increased dramatically since 2017, rebranding itself as Nordic funds. In 2021 alone, the Nordic Venture Capitals raised over 1.8 billion dollars in funds (Tommy Andersen, 2022). Unicorn growth equaled ecosystem growth and well-being. A clear example of this is the case of Skype and its founder Niklas Zennstrom. After

Skype's notorious success, Niklas founded the now notorious investment fund Atomico, which later was responsible for funding other Nordic unicorns such as Rovio and Klarna. Additionally, the founders of Spotify and Klarna also set up their respective VC funds in the Swedish ecosystem and so did Johan Brand, founder of Kahoot with his venture firm "We are Human" in the Norwegian ecosystem. This shows how local investors with large exits are responsible for supporting the very infrastructure that propelled them into unicorn success. While in the past large established corporations moved to bigger markets, nowadays more and more companies are choosing to remain in the Nordic region and pay taxes locally, which gives back to the ecosystem as a whole.

Another notorious example of giving back to the ecosystem and uplifting it can be seen with a range of ecosystem players such as Slush, which today remains one of the world's leading tech and startup events, taking place annually in Helsinki, Finland and bringing over 9,000 entrepreneurs, investors and professionals to the Greater Helsinki Region. Additionally, Sting, one of Sweden's biggest accelerators has invested over 400 million dollars in Swedish startups. Norway, on the other hand, has a gradually growing community of co-investors under Startup Norway, to promote and support pre-seed and seed funding rounds.

- *High employee trust and proper work culture.* When it comes to the social cohesion that is also present in their work culture shows that Nordic employees have an average higher sense of trust than their European counterparts. In this regard, an EU-funded study ranked Denmark as the leading European country when it came to intrapreneurship, followed by Sweden, and Norway. According to research intrapreneurship allows employees to become more innovative, and increase collaboration between colleagues, which as a result influences more innovative societies. This directly benefits entrepreneurial activities as large established enterprises trust smaller startup ventures to build partnerships and collaborative networks. The flat working culture, knowledge sharing, and informal networks are one of the main reasons why Sweden has become the second most prolific startup hub in the world after Silicon Valley.

Therefore, it is safe to say that The Nordic Model success is an amalgamation of entrepreneurially and socially inclined factors that have been marinating throughout the region. Positive factors that have contributed to strengthening each other in areas such as early adoption and privatization of the tech industry, the culture of non-hierarchical organizations, and a born-global mindset. Furthermore, as stated before with the additional governmental and public sector support and a stable well functioning national economy, the Nordic Model provides a strong executive framework for a thriving entrepreneurial ecosystem. Additionally, with the proper implementation of collaborative and accessible funding networks and opportunities, ambitious seasoned founders and Nordic role models present in every aspect of the Nordic ecosystem, with a stable culture for engineering growth and fostering collaborative innovative initiatives, there is no doubt of the presence of a strong tendency to inspiring and helping to create and build new unicorn ventures. A proprietary model to follow for nations looking to implement and build their respective tailored ecosystems (Daniel Blomquist, 2022; Medium, 2022).

6. CASE STUDY: EXPORTING ECOSYSTEM PRACTICES FROM FINLAND TO THE BASQUE COUNTRY. Building a prosperous ecosystem through the implementation of 15 entrepreneurial policies and initiatives.

6.1. Introduction

Exploratory research is a preliminary study approach that allows identifying ideas, patterns, or hypotheses in order to make substantial findings on key subjects we may have underlooked previously. This research also allows the evaluation of existing theories and concepts that can be applied to a given scenario that may present itself as problematic or limiting and aid in the development of new strategies, concepts, and theoretical frameworks (Collis & Hussey, 2005). This chapter is dedicated to two geographical regions' analyses: Finland and the Basque Country. Firstly, the current entrepreneurial ecosystem state is introduced. Secondly, the development area is studied. Thirdly, the researched data found is presented and lastly, the competitive advantage of joint forces of both geographical regions for the future of thriving and improved entrepreneurial ecosystems in Europe and locally is evaluated (Gomes, F., 2021).

The primary data collected for this chapter is gathered with structured reports and online interviews with industry experts and organizations. Additionally, the secondary data is gathered from literature reviews, researched articles, publications, and books, to ensure the utmost reliable information from different angles possible (Gomes, F., 2021).

Thus, as a first approach to this case study, research was conducted on the primary entrepreneurial projects and initiatives present in the Basque Country and on the other hand solutions and policy implementations, we can import from Finland. Additionally, a short mapping of the Finnish Entrepreneurial Ecosystem is also presented to further justify the advantages of a collaborative partnership.

6.2. The Basque Entrepreneurial Ecosystem

Identified by multiple sources as a regional entrepreneurial ecosystem, the Basque Country is considered according to GDP rankings the fifth largest regional economy in Spain, with a gross domestic product of 74.7 billion euros, which accounts for over 8% of Spain's GDP (Reuters, 2021). Today, one of the most open economies in Europe, with over 5,300 companies exporting, which are more or less at even levels with the rest of Spain and external markets, and established worldwide, those exports account for 33.3% of the GDP of the Basque Country and represent 45 % of the total business of the region (Basque Trade & Investment, LinkedIn, 2023). This can also be seen in its blooming tech entrepreneurship hub currently housing more than 900 active startup ventures with their main headquarters in the Basque Country. Additionally, the Basque Country differs from other regional entrepreneurial ecosystems, by having a similar strong ecosystem to that of Finland, characterized by a strong entrepreneurial mindset, supporting infrastructure, the ability to

identify opportunities, and an active record for attracting new talent and investors and conditions to access a wide network of international markets (Guerrero & Martínez-Chávez, 2020). Despite being a remarkably active ecosystem with high potential, considering its dimensions and geographical capacity, data show that it still falls behind on a number of fronts that will be further discussed in the upcoming points.

The Basque Entrepreneurial Ecosystem differs from most of the European ecosystems in having a Collective Entrepreneurship approach to venture building. Known for its collaborative networking philosophy, the Basque region is well-known for sustaining long-term partnerships with technology centers, universities, science and technology parks, public and private financial institutions, and other agents with entrepreneurial impact, as well as, with agents of prestige in the main entrepreneurial hubs across the globe (BBVA Spark, 2021).

The Basque entrepreneurial ecosystem characterizes by having a strong public and private nature network with more than 100 agents at the autonomous, territorial, and regional levels that are responsible for promoting and supporting entrepreneurial projects in all stages of maturity. Additionally, the Basque Country is characterized by having a high level of alignment of the regional ecosystem with the *RIS3 strategies of Euskadi*, having relocated resources to achieve a 40% increase in SMART Industry, a 16% in Clean and Renewable Energies, and 18% in health, among others (Up! Euskadi, 2023).

With a strong and determined strategic focus on growth, the Basque Country shows a priority for the creation of new entrepreneurial projects as an essential tool for accelerating the generation of new economic activity, thus, a wide network of private and public organizations as part of the collective entrepreneurial approach has been assigned to support the different entrepreneurial collectives in the area. A system that grows ever more complex, segmented, and sophisticated with initiatives, programs, and tools supporting local and international entrepreneurship with a budget of 73,51 million euros dedicated towards that aim (Up! Euskadi, 2023).

The market entry to the Entrepreneurial Ecosystem of the Basque Country, are active public agents known as BICs, responsible for fostering and supporting entrepreneurial attitudes and culture, as well as, aiding in the creation process of new innovative enterprises and acting connectors between the different business networks or each province. There are currently four BICs; *BIC Araba, BIC Bizkaia, BIC Bizkaia Ezkerraldea, and BIC Gipuzkoa (BIND 4.0, 2020).* Additionally, key ecosystem players include:

- ***Up! Euskadi Basque Country*** (Up! Euskadi, 2023)

Up! consists of an ecosystem database launched recently by the Basque Government that aims to help map its entrepreneurial and startup ecosystems. The new platform known as *Up! Euskadi* provides real-time intelligence and data on startup and scaleup ventures, investors and VCs, innovation-related initiatives, different available funding rounds, and a multitude of other factors influencing and shaping the entrepreneurial scene in the region. The project is currently driven and managed by *SPRI-The Basque Business Development Agency*, a public organization dependent on the *Department of Economic Development*

Sustainability and Environment currently committed to supporting Basque entrepreneurship across all fields and industries. Additionally, the new mapping of this inner innovation ecosystem will facilitate data-driven policy and decision-making, and the sharing of cross-industry knowledge, which will help influence and foster the partnerships required to help the next generation of innovators succeed on a global scale (Deal Room, 2022; BIC Araba, 2022; SPRI Group, 2023).

- ***BIND 4.0 Basque Open Innovation Platform*** (Up! Euskadi, 2023)

Another example of an ambitious supporting infrastructure for startups in the Basque Country is *BIND 4.0*, an open innovation and acceleration platform that connects dynamic startup teams with 100 leading companies in the Basque Country.

Currently supported by The Basque Government and *SPRI*, and with ongoing partnerships with companies such as Bridgestone, CAF, Unilever, Faes Farma, Iberdrola, and Aernnova, among others, as a collaborative business network and technology multinationals such as Siemens, AWS Activate, Microsoft, and ORACLE for startups.

Currently, *BIND 4.0* offers four types of initiatives; *BIND 4.0 Acceleration Program, BIND 4.0 SME Connection, BIND +, and BIND 4.0 GovTech.*

- *BIND 4.0 Acceleration Program:* a company builder program with international and venture client approaches that consists of fostering dynamic partnership relationships between startups and large corporations in the Basque Country and is currently running its seventh edition with more than 240 startup-corporate projects developed to date. It aims to attract and support international talent with a wide portfolio of novel and disruptive technologies. Additionally, through Open Innovation and active collaboration with startups, it sets out to promote the digital transformation of large enterprises with headquarters in the region.

- *BIND 4.0 SME Connection:* designed to support a dynamic relationship between startups and SMEs in the Basque Country, materialized through entrepreneurial clusters (ODCs), currently in its second edition.

- *BIND Plus:* it is an initiative aimed at improving the internal capabilities in terms of open innovation of BIND 4.0 partner corporations.

- *BIND 4.0 GovTech:* is an initiative aimed at making use of acquired experience and transferring industry-related knowledge to public agents of the ecosystem, addressing a trend in clear growth worldwide.

- ***Basque Tek Ventures- Technology Transfer Venture Builder*** (Up! Euskadi, 2023)

Consists of an initiative for transferring deep tech that fosters and promotes the creation and scale-up of high-impact startups. It helps identify and prioritize the technological assets with the highest potential and supports the creation of companies and teams with high-performance blueprints while helping them access the market.

In addition to this, it also acts as an investment vehicle to support remarkable projects and survive the “valley of death”. Marketed as an intrapreneurial corporate-oriented program it centers on having a positive impact on the core critical factors influencing the creation of NEBTs in the Basque Country region, by influencing the work conducted by R+D agents and the ecosystem as a whole.

When it comes to the health and well-being of the Basque entrepreneurial ecosystem research shows that after the pandemic, in the natural year 2021, according to the *"Monitoring Report 2021"* part of the current *Interinstitutional Plan of Entrepreneurship 2024*, the main entrepreneurial indicators returned to growth levels, recovering pre-pandemic figures and putting the Basque Country back to levels of entrepreneurial activity closer to more advanced flagship countries in Europe. This initiative reflects a framework in which it remains a priority to create new entrepreneurial ventures in the Basque regions as a means to accelerate the generation of new economic activity.

	Bizkaia	**Gipuzkoa**	**Araba**	**TOTAL**
Verified Startups	518	319	158	995
VC Investors	10	3	2	15
Startup Employees	4,548	2,901	791	8,240
Corporates	194	119	57	370
Funding Series	Pre-seed, Seed, Series A, and Series B	Pre-seed, Seed, Series A	Pre-seed, Seed, Series A	Pre-seed, Seed, Series A, and Series B

Table 4 -The Entrepreneurship Ecosystem in The Basque Country (2022-2023). Source (Up Euskadi, 2023). Table adapted by the author of the thesis.

According to Up Euskadi, there are currently over 950 emerging companies with an innovative and technological blueprint, having 75% of those ventures B2B business models and a combined revenue of over 350 million euros. Additionally, during the 2013-2022 period, the Basque Entrepreneurial Ecosystem reportedly received over 370 million in investment as part of a portfolio of 1,000 investment operations made by private and public organizations.

As can be seen in the table above, Bizkaia remains the strongest province in the Basque Country when it comes to entrepreneurial activity as well as access to financial networks, employing almost twice as much workforce as Gipuzkoa which comes in second place. A key indicator of entrepreneurial stability in Bizkaia is also the fact that it currently remains the

only one out of the three to have secured multiple financial rounds of Series B investment (15-40 million euros). This comes as no surprise as internationally according to The Global Startup Ecosystem 2022 Report, the Basque entrepreneurial ecosystem is mainly known as Biscay Startup Bay.

In the words of Koldo Atxutegi, FDI Director (Global Startup Ecosystem Report, 2022; Startup Genome, 2023):

> "As Biscay, we are absolutely committed to developing and helping startups, that is the reason why we have decided to implement the Biscay Startup Bay Strategy to create in Bilbao one of the most connected ecosystems in the South of Europe."

Currently, the Basque entrepreneurial ecosystem, especially that of Biscay, is among the top 50 European ecosystems when it comes to funding, and among the top 40 regarding affordable talent (Global Startup Ecosystem Report, 2022; Startup Genome, 2023).

Biscay was especially known for being a financial and economic benchmark region in Europe at the end of the 20th century with enterprise growth based on steel mills and shipbuilding and one of the most active and bustling ports in Europe. In contemporary times it has proven itself to be able to transform from an industrially-based region to an international reference point for tourism and business. Today, Biskay is known for pursuing entrepreneurship and innovation as the anchors for economic growth and social impact through its BAT - B Accelerator Tower and Biscay Startup Bay internationalization strategy. Characterized by an innovative and entrepreneurial profile based on a multi-corporation and multi-sectoral approach and with the active involvement of local and international leading enterprises as key players within the ecosystem, Biskay Bay Area currently, has become one of the best connected Startup Bays and entrepreneurship hubs globally, with solid links with some of the most advanced entrepreneurship and innovation hubs on a global scale (Global Startup Ecosystem Report, 2022).

With a combined ecosystem value of 471 million dollars between 2019-2021, Bilbao-Biskay was named the best medium-sized city in Europe for direct foreign investment by Direct Foreign Investment (fDi) Intelligence. Additionally, the University of the Basque Country ranked in second place for startup creation in Spain according to 2021 reports, with 12 spin-offs created that year and over 1,000 patents in the last 5 years (Startup Genome, 2022). A regional ecosystem that is further strengthened by The Basque Research and Technology Alliance, a collaboration between 16 research and technology institutes, with 3,700 research staff members from UPV/EHU that bring 300 million euros in research investment annually and make up for 100 patents each year. Additionally, the Be Basque Talent Network is composed of over 6,500 professionals in different fields and is the largest professional network of its kind globally (Global Startup Ecosystem Report, 2022). While the early-stage funding still remains quite minimal, it still proves itself to be substantial given the dimensions of this regional ecosystem with an overall total early-stage funding of 42 million dollars as recorded between 2019-2022. Furthermore, there were 11 registered successful exits between 2019-2022 with a global value of 106 million dollars and a median time to exit of 12.6 years (Startup Genome, 2023).

When it comes to its sustainability and innovation profile, the Basque startup ecosystem, and especially that of Biscay characterizes by centering around CleanTech and Industry 4.0 and Future Technologies with Iberdrola, Repsol, and Petronor as key players. Additionally, according to reports, the Basque Ecosystem has seen gradual improvement since 2022, when the main indicators of entrepreneurship returned to the path of growth, recovering pre-pandemic figures and putting the Basque Country in levels of entrepreneurial activity similar to advanced countries at the European level (Startup Genome, 2023; Up! Euskadi, 2023).

6.3. Opportunities in a regional entrepreneurial ecosystem. Future of Entrepreneurship "Made in Basque Country".

Although it still remains a little-known fact on an international scale, the Basque Country has a long history of entrepreneurship. While traditionally Basque entrepreneurship has mainly focused on industry, there is a steady growth in gravitating toward technology-focused entrepreneurship. The growing ecosystem that currently exists in the Basque Country is due to hundreds of active entrepreneurs from a wide range of industries that currently call home to this regional ecosystem. Currently, the Basque Country ranks as one of Spain's entrepreneurial success stories thanks to its constant commitment to startups, innovation, and entrepreneurship (BBVA Spark, 2021).

When it relates to entrepreneurship, Spain is a country of many differences. The Basque Country, Catalunya, and Madrid are all examples of autonomous communities and regions within the Spanish entrepreneurial ecosystem trying to support local talent in each area so that it doesn't feel pressured to search for opportunities abroad. Institutions in these areas are known for actively seeking ways to retain entrepreneurs in their homeland ecosystems, influencing their growth and benefiting society in a bidirectional socially oriented partnership. In this regard, the Basque Country remains one of the distinctive cases in Spain. A certain range of factors such as its strategic geographical region, its culture, and important economic presence within the country. For years the region has been reinforcing its entrepreneurial ecosystem by promoting an infrastructure with tax incentives, direct assistance, subsidies, and training courses, and concentrating talent in the region. The long-term goal is to make entrepreneurial activities easier and more accessible, creating a sense of belonging that increases startups' loyalty to the autonomous community. Therefore, there is considerable effort on the part of public organizations to support creativity and ideation. By fostering training, economic stimulation, public and private collaboration, and infrastructure tailored to demand, the Basque Country aims to develop its ecosystems to further improve its regional wealth and quality of jobs (BBVA Spark, 2021).

Additionally, and as previously stated the Basque Country is a region with promising potential to be one of the flagship geographical regions for entrepreneurship and innovation in Spain and Europe. With a strong innovation profile and operating within the environment and sustainable bio-economy entrepreneurial ecosystems, alongside other industries previously mentioned, it remains an attractive sustainability and technological reference in

the European Union, having recorded revenues of over 99 million euros in 2021 alone (SPRI – the Basque Business Development Agency, 2022). The combined Basque ecosystem is valued at over 2.5 billion euros. Therefore, it comes as imperative to increase the total number of startup ventures as well as the success rate in the Basque region can have a major impact on job creation and ecosystem value creation by 2030.

On a national ecosystem level, Spain, currently, has an ongoing *Entrepreneurial Nation Strategy* that sets out to achieve four main goals through a set of 50 policies with a long-term scope and a vision to transform the competitive and productivity profile of the Spanish economy. This initiative aims to make Spain one of the Entrepreneurial Nations in Europe by 2030 through innovative entrepreneurial ventures, implementing public policies to improve gender parity, and filling up generational, territorial, and socio-economic gaps to develop inclusive entrepreneurial and economic development (Spain Entrepreneurial Nation Strategy, 2023).

With its current focus on developing four core goals to advance entrepreneurship both at national and regional levels; 1) to accelerate the external investment growth in the Spanish and regional innovative entrepreneurial ecosystems, 2) attract, develop, and retain talent to evolve Spain into a truly entrepreneurial UE nation, 3) increase entrepreneurial opportunities at the national level so that more Spanish companies can become scale-ups, 4) directly or indirectly influence and strengthen the entrepreneurial public sector (Spain Entrepreneurial Nation Strategy, 2023).

With these policies in place, there is recorded evidence that there are efforts currently being made to support the regional entrepreneurial and startup ecosystems, with a sharp focus on early-stage ventures, but there is still a recorded considerable gap for funding growth entrepreneurship.

Entrepreneurship “Made in Basque Country” is not a new concept as the region currently ranks fourth as a community for startups, with over 55 reference companies out of the 854 that are currently operational at the national level according to a 2020 report by *IESE Business School.* The opportunity is also promising thanks to regional proposals such as *B-Venture*, *BerriUp,* and *Euskalvalley* (BBVA Spark, 2021).

In this regard, Sherpa.ai is a successful example of a startup venture “Made in the Basque Country” that currently operates on a global scale, working with major corporations such as Huawei, Porsche, and Audi. Xabi Uribe-Etxeberria, founder & CEO of Sherpa argues that although Silicon Valley and other entrepreneurial ecosystems may seem like the go-to choice for any entrepreneur, stakeholder and to increase opportunities and supporting networks, there is still something special about staying operational in the Basque region (BBVA Spark, 2021).

Therefore, an entrepreneurial Blueprint “Made in Basque Country” supported by the following ecosystem factors comes as a promising and competitive value proposition to foster entrepreneurial opportunities at a regional level. To further prove the previous statement and for a detailed Basque Ecosystem overview see below *The Executive Map of The Basque Entrepreneurial Ecosystem.*

Table 5 Executive Map of The Basque Entrepreneurial Ecosystem (Divided by Ecosystem Factors). Source (Up! Euskadi, 2023).

ENTREPRENEURIAL NETWORKS
❖ Regional entrepreneurial networks: SAREKIN ❖ Mentoring Networks: EJGV, DDFF, city halls, BICs (BIC Araba, BEAZ-BIC Bizkaia, BIC Bizkaia Ezkerraldea & BIC Gipuzkoa). ❖ HEIs and Universities: (UPV/EHU, UD, MU & Tecnun). ❖ Center networks: FP-Tknika-Urratsbat. ❖ Entrepreneur networks and forums: ADEGI, CEBEK, SEA, ASPEGI, AED, SECOT, AJEBASK, BCC, and SUA. ❖ Investor networks: Emprendiza, Berriup, MicroWave, Metxa, Seed Capital Bizkaia. ❖ BBAA Networks: Orkestra Crecer +, Keiretsu, Coben. ❖ Partnership with international hubs.

EDUCATION (EE) / CAPABILITIES
❖ Basque Government: Lanbide, TKNIKA-FP, General Education Institutes, HAZI Youth Training Sector. ❖ Provincial Councils. ❖ BICs. ❖ City halls. ❖ HEIs and Universities: UPV/EHU, UD, MU, BCC & Tecnun. ❖ Chambers of Commerce. ❖ ADEGI, CEBEK, SEA. ❖ Accelerator Programs: Berriup, Metxa, BEAZ, BIND 4.0. ❖ European Commission-Erasmus. ❖ International Agents: SOSA, CIC.

Programs/ Modules, and Courses related to EE available in Basque HEIs:

Outside of HEIs, there are currently several entrepreneurship courses available in the Basque Country. One such entrepreneurial program is *The Youth Entrepreneurship*

Program, aimed at individuals and aspiring entrepreneurs under 30 and is designed to help them incorporate into the regional job market through self-employment and entrepreneurship activities. Organized as a 43-hour-long intensive group training plan that trains its participants on topics such as finances, strategy, entrepreneurial ecosystems, funding, sales, business management, communication, digital marketing, pitching before investors, tax and regulatory frameworks for startups, and internationalization strategies.

Another organization advocating for regional entrepreneurship is *Ekingune,* also known as *The Entrepreneurship Community of Vocational Training*. This initiative has been developed by *TKNIKA (the Centre for Investigation and Applied Innovation in VET)* and other associated vocational training centres, private, public, and semi-private centres committed to entrepreneurial education and activity.

Inside the higher education ecosystem, the leading Basque universities offer the following undergraduate and postgraduate degrees:

Deusto University currently offers several programs related to entrepreneurship such as *Innovation and Entrepreneurship Programme (INNOVANDIS)* which is offered simultaneously with any degree to train in innovative and entrepreneurial attitudes and behaviours and launch startup projects. Another program is the *Dual Master's Degree in Entrepreneurship in Action*. It offers innovative and enterprising graduate students a dual training mode, directly collaborating with active companies and organizations, fostering agile profiles in complex environments, and strategies to design novel sustainable business development models.

Additionally, Deusto University currently has two active business incubator programs, known as *Deustokabi and Innogune* with over 50 ongoing entrepreneurial initiatives in different fields, the *Innovation Hub Deusto Emprende*, and the entrepreneurial programs *DeustoSTART I & II.*

Tecnun, through the University of Navarra currently offers an *Innovation and Entrepreneurship Centre* known as *Innovation Factory* aiming to consolidate an innovative ecosystem that attracts talent and fosters disruptive entrepreneurship alongside the *Global Program in Innovation & Entrepreneurship (GPIE).*

The UPV/EHU currently offers several programs related to Entrepreneurship. One of the programs is known as *ZITEK Program*, which is responsible for promoting entrepreneurial culture and university spin-offs. The program currently has three active incubation structures for spin-offs and High-Tech startups.

Other programs offered by The University of The Basque Country are the *Talentia Program* and *Entreprenari,* which aim to promote entrepreneurship and innovative novel business models. The university also offers a wide variety of academic programs related to entrepreneurship including degrees, master's, and doctorates. Such a program is the *MBAe3 - Master's Degree in Entrepreneurship and Business Management.*

Mondragon University currently offers a *Bachelor's Degree in Entrepreneurial Leadership and Innovation (LEINN)* and a *Master's Degree in Entrepreneurship and Open Innovation*, facilitating students with entrepreneurial and intrapreneurial attitudes and skill sets.

INFRASTRUCTURES

- Basque Government: PARKEA, SPRILUR, Tknika/ PF Centers.
- Provincial Councils.
- BICs.
- City halls and Development Agencies.
- Industrialdeak.
- RVCTi.
- Universities: UPV/EHU, UD, MU, BCC & Tecnun.
- Mondragon Promotion Center, Saiolan.
- Other centers, hubs, incubation and acceleration spaces, and public and private coworking spaces.
- Infrastructures: telecommunications, transport and logistics, energy, and soil.

SUPPORT SERVICES

- Processes, programs, and services aimed to support entrepreneurship and technical teams of the public administrations: Basque Government, Provincial Councils, City Councils, Development Agencies, and BICs.
- Basque Observatory of Entrepreneurship Euskal Ekintzailetzaren Behatokia-EBB-OVE.
- Legal, intellectual property, fiscal, financial, sectorial, and technological support.

NON-GOVERNMENTAL INSTITUTIONS

- Chambers of Commerce.
- ADEGI, CEBEK, SEA.
- Associations: ASPEGI, AED, AJEBASK, ASLE.
- Innobasque.

MACRO ENVIRONMENT
❖ Public Institutions ❖ Economic, Business, and Knowledge Agents.

LIFE QUALITY
❖ Social, economic, institutional, and cultural fabric.

MARKET ACCESS
❖ Basque Government-SPRI: BIND 4.0, EIT Food. ❖ Provincial Councils. ❖ BICs. ❖ City halls. ❖ CAF Ventures, Mondragon Promotion, and other enterprises. ❖ BIOK BEAZ-Telefonica Open Future. ❖ Saiolan. ❖ Tecnalia Ventures. ❖ International Agents and Enterprises (Microsoft, Google, Amazon, Siemens, PlayStation).

INSTITUTIONAL LEADERSHIP, LEGAL AND FISCAL FRAMEWORK
❖ Basque Government. ❖ Lanbide. ❖ SPRI. ❖ BICs. ❖ Provincial Councils. ❖ BEAZ. ❖ City halls.

- ❖ Other institutions.

INVESTMENT AND FINANCIAL FRAMEWORK

- ❖ Self-employment scholarships (EJGV-Lanbide, DDFF, others).
- ❖ Basque Government-SPRI-SGEIC (CR, Ekintzaile XXI, Basque Fondo, Luzaro, Sendotu).
- ❖ DDFF (Seed Capital Bizkaia and Micro, Seed Gipuzkoa, Hazibide).
- ❖ City halls.
- ❖ European, national, and regional agents (CDTI, ICO, EIC Accelerator).
- ❖ Guarantees, loans, and venture capital funds (Elkargi, Geroa, Orza).
- ❖ Financial Entities (Kutxabank, Laboral Kutxa, Sabadell).
- ❖ Societies and Private Capital Funds (Easo Ventures, All Iron Ventures, Kereon, Cardumen, ABE Capital Partners).
- ❖ Pledge Funds (Emprendiza, MicroWave).
- ❖ Industrial Business Capital (Mondragon, CAF, Iberdrola, Velatia).
- ❖ Technological Capital (Tecnalia).
- ❖ Accelerators, incubators, and venture builders (Berriup, Metxa, INIT, Eywa, AIPower, public initiatives, and semi-private initiatives).
- ❖ Business Angels, second-generation entrepreneurs (Crecer +, Coben, Keiretsu).
- ❖ Crowdfunding (Bizkaia Crowdfunding), scholarships, and awards.

SUCCESSFUL CASE DIFFUSION

- ❖ Basque Government.
- ❖ Provincial Councils.
- ❖ BICs.
- ❖ City halls and development agencies.
- ❖ ADEGI, CEBEK, SEA.
- ❖ El Correo, Diario Vasco.
- ❖ Other event and award organizers.

- Specialized networks.

VALUES & ENTREPRENEURIAL CULTURE
❖ Basque Government. ❖ Provincial Councils. ❖ City halls. ❖ Universities (UPV/EHU, UD, MU, BCC & Tecnun). ❖ Innobasque. ❖ International agents. ❖ Kutxa Foundation, BBK, Vital, and other financial agents. ❖ Vocento Group. ❖ Media. ❖ Foundations and Enterprises.

As we can see in all the different segments making up the current Basque Startup Ecosystem, we can highly praise that the Basque region does in fact poses the appropriate infrastructure and an ambitious approach toward improving entrepreneurial venture opportunities in the area. Despite this, as will be explained in the following chapters, there are a considerable range of weaknesses and a lack of proper execution or reference models to make the ecosystem best-in-class at the national level.

6.4. Finnish Practices in the Entrepreneurial Ecosystem Environment

Sustainable and scalable entrepreneurship has long been a global goal, but we are still in the early stages of replicating a building flagship entrepreneurial ecosystems in most European countries and geographical regions and accepting the entirety of the EU as one single interconnected ecosystem model, rather than a cluster of localized, independent, struggling discriminatory startup ecosystems and habitats. The Nordics and Scandinavia are clear examples of different nations working as a collective business ecosystem regardless of cultural differences. In fact, all five nations currently hold as previously stated the top rankings inside Entrepreneurial and Innovation indexes both in Europe and overseas. The Finnish startup ecosystem is currently ranked among the top ten 2023 most economically free countries in the world, continuously producing an impressive portfolio of top startup ventures that trade at a global scale (Startup Stash, 2023). Successful examples of this

include gaming and software companies such as KONE, Rovio, and Supercell. Additionally, Helsinki is the flagship forge of the country's entrepreneurial activity and functions as a hub, being considered one of the most valuable innovation and startup hubs across Europe (Startup Stash, 2023). The biggest business fields in Finland include Health Tech, gaming, software, ICT, and Environmental & Energy industries.

Finland's strong startup footprint is due to a business ecosystem model that supports the birth, emergence, and steady growth of ecosystems. An excellent fruitful environment fueled by policy transparency, digital advancements, and strong infrastructural service packages that allow premium networking and peer support networks (Tampere University of Applied Sciences, 2020). As an ecosystem, it also distinguishes itself for having core actors for international growth (Business Finland, 2023).

Through industry-appropriate policy implementation, Finland makes a remarkable effort for providing multiple government support options, aiming to encourage entrepreneurship and startup initiatives, rather than presenting structural roadblocks that discourage economic growth and innovation (Keap, 2021). A number of public organizations such as Business Finland, Centres for Economic Development, Finnish Enterprise Agency, Enterprise Finland, and Transport and the Environment ensure that Finnish society can thrive on collaborative and innovative initiatives, by fostering a vibrant entrepreneurial ecosystem and supporting startups at all stages of maturity (Forbes, 2020).

Additionally, Finland has set its focus on increasing competitiveness across the Nordic region and Europe. It aims to do this by yearly improving conditions for business and entrepreneurship through implementing new policies that allow easier access to capital and entrepreneurial support through grants and scholarships and by also implementing Entrepreneurship Education Guidelines published by the Ministry of Education and Culture, an ongoing project that has been active since 2017, aims to direct and promote EE at different levels of education.

6.5. Case Study: Ecosystem X (theoretical model-the author's own proposal)

An entrepreneurial or startup ecosystem usually is known for birthing born-for-growth entrepreneurship initiatives and business ventures, hence startups. In practice, startup ecosystems are composed of both current and future entrepreneurs and are formed around individuals, startups, company and venture builder programs, and a wide array of supporting private and public organizations such as public service providers, coworking hubs, and HEIs (Lehtonen, S., 2020).

A culture of inclusion and unity, the sharing of industry know-how, experience, and expertise, a positive can-do attitude, and learning to manage failure, all are typical features successful entrepreneurial ecosystems share to some degree. Helping retain successful entrepreneurship and entrepreneurs while new ventures leverage the mentoring and investment opportunities of seasoned entrepreneurs, that even if not active in their entrepreneurial activities, still can act as influential actors inside said ecosystems (Startup Growth Drivers and Bottlenecks, 2016, 76-77; Startup Ecosystem White Paper, 2020; Lehtonen, S., 2020).

Therefore, the case of a dual entrepreneurial ecosystem model is an ambitious project concept that, if proven successful, could expand and open horizons to a wide range of infrastructure and network opportunities across the globe, by connecting two regional European entrepreneurial ecosystems (Finland and The Basque Country) with access to different global markets and partner ecosystems. Regional advantages and market access opportunities are further described in the following subtopics.

The EE opportunities that this duality could offer, could highly influence the education as well as competitive aspects of Finnish and Basque citizens. Although for the moment just a concept, the initiative fictionally named the *3Bay Alliance* (Helsinki-Basque Country-San Francisco Bay Areas) could build ecosystem networks between these referential entrepreneurial regions, aiming to tackle western, northern, and southern entrepreneurial ecosystems and opening education opportunities in leading educational model references globally.

A best-in-class and first-of-its-kind in the Basque Country approach that could attract foreign investment opportunities and leading startup cultures to the Basque region, allowing entrepreneurship “Made in Basque Country” to grow and expand beyond the Spanish territory. This would allow us to efficiently tackle some of the policy gaps in the Basque ecosystem that will be discussed in the following subtopics and play a key role in designing the conclusive framework of this thesis.

A clear example of a less ambitious project currently active in Finland is *Startup Life* by Aalto Entrepreneurship Society in Helsinki, which connects Finnish Higher Education students with internship opportunities at Silicon Valley and the San Francisco Bay Area, making Finnish graduates, professionals, and entrepreneurs who have gone through this training and learning process some of the key hires and talented actors in the Finnish entrepreneurial ecosystem.

Another entry opportunity towards this alliance would be to expand *Erasmus for Young Entrepreneurs Program* to offer a specific internship or entrepreneurial experience that exclusively targets programs in the designated three ecosystems, dividing the experience in a specific timeframe to be able to train in all three ecosystems respectively, gaining a 360º vision towards the best venture creation and learning by doing approach out there in European standards. Additionally *BIND 4.0 Basque Open Innovation Platform* could be focused on innovating Basque blueprint business models in each Bay Area, not only allowing Basque startups to be born-global ventures but also to be developed under the best real-life simulators in the world, to test out, and develop and market new ideas with 3-angle support.

Therefore, it comes as no surprise that a cross-linked ecosystem model would be beneficial to promote in-house innovation and better allow Basque startups to internationalize and expand with a global brand and mentality.

6.6. Competitive Advantage

There is a widely accepted idea that entrepreneurial ecosystems only apply to Silicon Valley-type startup scenarios. While to an extent it may be true as the region is considered the flagship ecosystem across the world and is where the term initially originated from, the concept nowadays stems far beyond that, as we have already seen in the previous chapters. In contemporary times, Europe is a vibrant example of a complex Entrepreneurial Ecosystem and all its nations share distinctive value propositions to make an efficient common ecosystem work.

Finland is well-known for having the top educational system in the world (Pisa, 2023), and for being advocated for Entrepreneurial Education for all (Gomes, F., 2021). It also ranks as the happiest and most trusted country, in international rankings. The Basque Country on the other hand is well known for its traditions, world-famous for its unique cuisine, and industrial strength. The lively and innovative Helsinki-based entrepreneurial scene is providing innovations in startup culture, bioplastics, sustainable alternatives, gaming industry tiers, and BioTech and FinTech referential enterprises. This has allowed new business opportunities in the Nordic network and other European ecosystems.

With a central technology-focused industry and Nordic blueprint for sustainability, innovation, and overall policy-making regarding, education, equality, minimal to no gender parity, and entrepreneurship, Finland remains a potential asset to consider.

The Basque country, on the other hand, with its strategic geographic positioning, a wide range of industry networks and deep trade partnerships, and companies with international reach and access to the markets of the EMEA (Europe, Middle East, North Africa) region and trade links and ties to Latin America and with the Spanish government having (Expatica, 2023) adopted a pro-free-trade and pro-investment posture by gradually relaxing business regulations and increasing incentives to attract foreign investment at companies at all levels (Wolters Kluwer, 2020), it is safe to say that it plays a major role in shaping the entrepreneurial scene in the Mediterranean and give proper Nordic entrepreneurial models more weight in the future, by not imitating them, but by actively implementing them through a “learn by doing” approach with an ongoing collaboration with northern Europe.

Joining the two forces of potential startup ecosystems and company builders might bring a bright future to the entrepreneurial ecosystem in Europe.

The Nordic region, especially Finland, usually appears in the top rankings in different international indexes about the digital economy and entrepreneurship. The leading role of the Nordic countries -and Finns in particular- is quite evident, in rankings such as entrepreneurial and innovation policies and digitalization. Finland has evolved from a forestry and agricultural economic base to transforming itself into a modern highly diversified, industrialized nation with a per capita GDP that remains among the highest in the EU. Finnish society is above all else, based on healthy and competitive levels of equality of opportunity, a leading education system, solid social security, and an in its majority an export-based economy model (Gomes, F., 2021; Kudel, 2022).

The Basque Country is very different in this regard; economies are still very much focused on industrial development, trade, transport, and social security and entrepreneurship still comes second on the agenda. This fact does not necessarily mean that there is no room for Finnish initiatives and approaches to inspire Basque efforts to build better entrepreneurial policies, networks, programs, and multidimensional innovation. In the EU, Finland remains one of the pioneers in initiatives that we are now implementing collectively in other regions and countries (Gomes, F., 2021; European Commission, 2022).

According to Kudel, Finland is a referential figure nation when it relates to competitive manufacturing and industrial infrastructures, including engineering, electronics, biotechnology, telecommunications, forestry, mechanical engineering, and the promotion of startup ventures, Finland is mainly dependent on the import of components, energy, and raw materials (Gomes, F., 2021; Kudel, 2022).

Additionally, one of the key infrastructures remains to be the Finnish educational model, recognized for decades as one of the most advanced systems in the world. The competitive strength of such a strong educational advantage leads Finland to be one of the utmost competitive economies in the world to date (Swiss Business School, IMD, 2020; Gomes, F., 2021).

Characterized by having one of the most ambitious entrepreneurial targets in the world, especially inside the EU, Finland plans to strengthen its infrastructure to further advance sustainable development initiatives across government terms, through a novel sustainable development strategy. Additionally, the Finnish Ministry has approved a new policy that aims to increase its research and development budget to 4% of the country's GDP by 2030. As of this year, 2023, the expected R&D funding will be roughly 2.3 billion euros. Moreover, the central government's funding package budget contribution to promoting additional R&D initiatives will increase by 350 million euros compared to the baseline (Business Finland, 2023).

In addition to the above, Finland offers a vibrant entrepreneurial environment for young professionals, aspiring entrepreneurs, and startups to create their own ventures, especially focused on companies that introduce new sustainable concepts to the market (Gomes, F., 2021). All over the country, we can see examples of this both in HEIs and other public and private organization initiatives. The 3ES (Laurea, Metropolia, and Haaga-Helia Entrepreneurship Societies) and Aalto Entrepreneurship Society, the largest student-run society in Europe, are clear examples of a strong entrepreneurial infrastructure accessible to all citizens and students, and promoters of Entrepreneurial Education and opportunities for all. All over Finland, we have multiple not-for-profit student-led organizations both integrated at HEIs and as independent organizations, many of which have been the origin point of some of the country's most successful business enterprises (Business Finland, 2023).

The Basque Country has been recognized internationally for its performance in clean and sustainable energy, intelligent industry infrastructure, leading healthcare, and a vibrant and world-class food industry. According to the European Commission and the 2021 Regional Innovation Scoreboard (RIS), the Basque Country ranks high inside a robust innovator group of European regions, showing an innovation performance that has grown by 14.7% since late 2014. In addition to this at the Spanish state level (with relatively moderate innovation), it

is considered the strongest autonomous community in terms of R&D and innovation with 119.0 points in the highest innovation index, securing the leading place ahead of Catalunya and Madrid Autonomous Communities (Bizkaia Talent, 2021).

As previously stated, due to its geographical positioning and with trade key locations such as Bilbao and the Bay of Biscay, the Basque Country has an enormous advantage in access to strong trade routes, international logistics, and a privileged position regarding renewable energy resources within industries, and regional innovation. Easily accessible by sea, both regions are connected by a bay area which breaks down the geographical distance considerably. The two regions, the Basque Country and Finland fill each other's strategic gaps perfectly. Additionally, both countries are synonymous with high trust and quality of life for their inhabitants. The vibrant energy for innovation, entrepreneurial resources, and startups of both European regions, as well as strong technological footprints, can be distinctive and efficient strategies for a more homogeneous, local, and resilient dual entrepreneurial ecosystem (Gomes, F., 2021).

6.7. SWOT Analysis: The Cooperation for a more robust entrepreneurial network.

In this chapter, we will proceed to develop a SWOT Analysis of the competitive advantages of combining entrepreneurial ecosystem strengths between Finland and the Basque Country in order to create a thriving network of entrepreneurial and innovation activity between the northern and the southern European regions.

Table 6 SWOT Analysis: The cooperation for a thriving approach to international reach entrepreneurial ecosystems. Highlighting Basque Entrepreneurial Ecosystem Weaknesses.

STRENGTHS	WEAKNESSES
☑ Both entrepreneurial ecosystems are from the EU. ☑ Both ecosystems have a strong entrepreneurial brand identity and global resources and vision to reach a wider innovative market.	☑ Entrepreneurial resources are still unknown to the wider public. ☑ Lack of proper entrepreneurial education and attitudes at different stages of education.

STRENGTHS	WEAKNESSES
☑ The collaboration brings a long-lasting quality of business networks and direct access to northern and southern ecosystems. ☑ Both ecosystems are flagship forces in their respective areas.	☑ Reliability is mostly in public funding. ☑ The entrepreneurial initiative is mainly pursued by senior professionals, promoting insecurity among less experienced professionals. ☑ Language barrier. (Most Finnish citizens are currently C2 certified in English) ☑ Room for improvement regarding entrepreneurial policies. ☑ Need for a stronger financial network. ☑ Low investment packages per startup. ☑ No presence on prestigious international programs (such as Slush) ☑ Need for expanding regional ecosystems internationally.

OPPORTUNITIES	THREATS
☑ Market growth. ☑ Increase in entrepreneurial attitudes and training of intrapreneurs and entrepreneurs to join both the local and international job markets. ☑ Considerable opportunity for in-house and international innovation and disruption. ☑ Establishment of an international brand presence. ☑ Deepening entrepreneurial culture.	☑ Increased international competition. Especially from other regions in Spain and Southern Europe. ☑ Cultural differences. ☑ Lack of proper policies to improve and foster collaborative strategies and outcomes. ☑ Necessary quantitative financial and infrastructure investment and improvement.

OPPORTUNITIES	THREATS
☑ The young public is highly motivated to pursue alternative career choices. ☑ Strategic geographic positioning. ☑ Chances to disrupt Basque companies and innovate them with more disruptive business models. ☑ Increase organic and inorganic investment opportunities. ☑ Direct access to Silicon Valley & The San Francisco Bay Area. (Ecosystem X) ☑ Possibilities to make the Basque Country the Unicorn Capital of Spain. ☑ Retain and attract talent, through a bi-regional collaborative strategy. A shared know-how proprietary blend.	☑ Strong ecosystems may seem a better choice. ☑ Effects of post-pandemic differences.

This partnership or strategic alliance is born at a time after the covid-19 pandemic and therefore faces political and economic instability. With a recent notorious layoff scene, many seasoned professionals have gravitated towards self-employment and probably pursued entrepreneurship as an alternative full-time career choice given the current state of controversial job market tendencies. Respectively, the entrepreneurial economy has grown which directly translates to entrepreneurial market growth. This comes as no surprise as previously explored in the *Disruption Economy* chapter, innovative ventures tend to be born during economic disruptions, the latter considered as main catalysts. With a recent tendency towards entrepreneurial workforce activity, the amount of individuals seeking entrepreneurial education has experienced remarkable growth, especially focusing on entrepreneurial and intrapreneurial attitudes. This is a clearly highlighted opportunity as it strengthens the local entrepreneurial ecosystem by training professionals in EE and increasing entrepreneurial talent.

To take advantage of this opportunity, it is important to invest in and promote accessible EE initiatives that can be used to reinforce an entrepreneurial mindset locally, lessening the lack of knowledge regarding entrepreneurial resources in the region. This could be sustained through implementing an alliance between the leading Basque universities to offer intensive modules or programs as part of electives in their respective academic curriculum, ensuring that regardless of the field of study, every higher education student has the basic skill set to try entrepreneurship as a viable career choice, rather than a side hustle.

The Basque Country-Finland alliance can reach a public consisting of undergraduates, postgraduates, and professionals who are interested in developing their employability as well as their career portfolio. This collaboration would also be highly beneficial for Basque startups and established companies that could apply Finnish-inspired disruptive and innovative intrapreneurial approaches to their business models and operations, becoming more competitive and increasing their market reach as well as valuation.

It is undoubtedly its main strength and a golden opportunity to learn first-hand from Europe's Unicorn Factory region, either by bringing Finnish employees or strategists to the Basque Bay Area, or by spending a short period of time as Basque entrepreneurial representatives or sponsors in the Helsinki Bay Area, to create a common know-how and share resources for a dual functioning entrepreneurial ecosystem that can make both startup environments better equipped to tackle North and South European markets as well as offer direct access to the US, EMEA and Latin American entrepreneurial ecosystems.

However, as it is a new initiative, it may have difficulties executing and further implementing itself in the described market, due to cultural differences, a considerable language barrier regarding English proficiency, and a competitive landscape that could take the focus away from a Basque collaboration, regardless of its unique and valuable entrepreneurial resources and infrastructure.

The program in essence would still need to win its audience and activate Basque entrepreneurial attitudes among the public to exploit the opportunity to the maximum. Additionally, there is a need for substantial investment to improve the infrastructure locally and differentiate ourselves not only as an in-house innovator region but also as an area with high innovating influence potentially targeting international innovation initiatives and European policies. This branding barrier could be fixed with proper international-level rebranding and marketing strategies conducted on digital platforms and social networks, offering a unique perspective to entrepreneurship "Made in Basque Country". Therefore it is necessary to optimize business relationships between both regions in order to become more competitive and address and fix the main pain points in the current entrepreneurial policy strategy in the Basque Country, helping improve its performance internationally and raise external capital and expand networks.

By being able to reduce the influence of the main weaknesses, and even help mitigate them, it will be possible to fully internationalize our own ecosystem and bring prosperity to Basque entrepreneurship and startup culture, potentially making it the startup capital of Spain.

The current market scenario and the tight political and economic relationship between European nations due to the post-covid landscape and the Ukrainian War, and the fact that Finland is now part of NATO, can be seen as an appropriate chance to further expand collaborative efforts between regions, ecosystems, and countries, to ensure a strong European ecosystem able to withstand market disruption and economical and political distress. Entrepreneurship and digitalization have both had an acceleration during the pandemic and with the current video conference and remote work options, it is safe to say that cross-border collaborations are just the beginning and that entrepreneurial ecosystems are born to proliferate and become more complex hubs of business and innovation.

6.8. Entrepreneurial Policy Strategy: 15 Initiatives to a healthier thriving ecosystem.

In the following chapter, as a final effort to sustain the aforementioned collaborative proposal, we will analyze different entrepreneurially oriented policies that need to be implemented to fix the weaknesses that we currently experience in the Basque entrepreneurial ecosystem. A number of 15 steps or policies are discussed with supporting data points and their impact on contributing to a healthier thriving ecosystem. The policies will be presented as a “policy/ initiative decalogue” to further simplify the framework.

POLICY/ INITIATIVE DECALOGUE (Global Entrepreneurship Monitor CAPV, 2021, 2022; Telefonica, 2022)

- ☑ **Policy Recommendation 1: Proper and tailored policy-making. National entrepreneurial policies should boost regional ones, not just add to them.**

  When it comes to pan-European and Spanish & Basque entrepreneurship policies, the one-size-fits-all approach no longer fits. National and regional policymakers must implement different policies for decentralized and centralized ecosystems. Thus, entrepreneurial policies should be structured in alignment with the local needs, resources, and different stages of development.

  Due to the diversity of the Spanish and Basque startup program landscape, an overly homogeneous initiative might prove counterproductive at worst and ineffective at best. The best approach is to coordinate current policies supporting entrepreneurs and create a table of common indicators that identify the quality and status of each service in real-time, to better adapt to any gaps.

  If necessary top European-level policy models should be replicated, hence Finnish entrepreneurial policies, and adapted where necessary.

- ☑ **Policy Recommendation 2: The source of origin of the money used in the venture creation cycle needs to diversify and strengthen.**

  The European entrepreneurial ecosystem has salient gaps in the startup funding lifecycle. But depending on the country and its respective ecosystem the severity changes. A clear indicator of the financial funding disparity is shown in the density of the type and source of the financial round types. Thus, some national and regional hubs show a very dense seed-stage funding supply while others are highly deficient in early-stage funding.

  Not two ecosystems are equal when it comes to funding needs and gaps. The Spanish and Basque ecosystems need to update their funding options and diversify their access to international and European venture funds. Currently, most funding capital comes from personal savings (78.2%), and bank loans which actively discriminate against any opportunity for young entrepreneurs to start business

ventures of their own. Additionally, crowdfunding (0.8%) and public grants (18.6%), and scholarships are few to none and of a very limited budget. The lack of proper funding networks highly limits these two ecosystems' competitiveness and scope as well as the rate at which successful startups and scaleups are being created.

Despite having an active structure and players in place, the ecosystem is still very fragile, hence the insufficient funding. In this regard, Europe should strengthen its early-stage program policies to secure strong Series A and B seed-funding bases for Spain and The Basque Country.

☑ **Policy Recommendation 3: Entrepreneurial ventures need to be able to offer employment options.**

One of the key factors when identifying the quality of entrepreneurial ecosystems is their ability to create employment. In the Basque ecosystem up to 32.6% of all entrepreneurial endeavours don't add to any new employment, mainly due to being side-hustles rather than companies. Despite this, 29.3% of all endeavours do create employment in the region.

The employment capacity of Basque startups is relatively small, 3.5 people employed per employable startup. Basque entrepreneurial organizations need to promote scaleup business models as well as incentivize startups to create employment through a variety of benefits.

☑ **Policy Recommendation 4: Innovation levels need to increase and diversify.**

Innovative entrepreneurship is highly related to the economic prosperity and development of a region. Making entrepreneurial initiatives hubs of untapped knowledge and market. In the Basque region, around 70% of entrepreneurial initiatives don't innovative in goods or services, and in established enterprises up to 87.9%. The Basque ecosystem needs to expand farther than regional borders to allow innovative strategies to marinate in its startups' business models when exposed to wider markets.

☑ **Policy Recommendation 5: Fostering a more competitive entrepreneurial landscape:**

While the competitive landscape indicates factors regarding a service infrastructure (4.0/5.0), governmental programs (3.3/5.0), commercial and professional infrastructure (3.2/5.0) are at good levels, the lowest ranking ones remain education (primary and secondary-1.9/5.0) and market dynamism (2.4/5.0). Therefore, more resources need to be spent on improving entrepreneurial education and making the market more competitive.

☑ **Policy Recommendation 6: Facilitate connections between universities, business schools, HEIs, hubs, and research institutes and integrate company**

builder programs into a network of interconnected entrepreneurially-inclined organizations.

Policymakers should efficiently allocate up to 50% of the existing funds from the pan-European region to these types of educational networks, as well, as further collaborate between universities and the Spanish and Basque entrepreneurial infrastructures to support efficient funding networks. There is still a need for greater knowledge transfer and information flow. HEIs, Open Innovation and Startup Labs need to be considered not as complementary tools but as key paths to success. This could be achieved by transforming business schools universities and into business and innovation hubs. Additionally, all of Europe, Spain, and the Basque Country have unique endowments that could be used more efficiently.

☑ **Policy Recommendation 7: End the over-promotion of generalist programs.**

Policymakers should focus on boosting sector-specialized programs by relocating at least 50% of available European funds. A quantitative effort must be made to create an equal balance between generalist and specialized venture programs. The European Commission is planning to allocate a €100 million fund towards 20 startup accelerator programs all across Europe. Therefore, Spain and The Basque country should focus on promoting their respective specialized and generalist accelerator programs to receive investment with competitive unique value propositions.

☑ **Policy Recommendation 8: European leaders should take decisive steps to lessen country borders to foster free entrepreneurial activity and allow ventures to roam and expand easily across the region.**

The full single European market, with 28 nations, 507 million inhabitants, and a 12 trillion euro annual gross domestic product, should be accessible for every new and established business venture regardless of their home country and should be able to operate within Europe as addressing one single market through their business operations rather than single tailoring their business approach to each of the 28 markets (Telefonica, 2022). This would highly benefit the Basque entrepreneurial ecosystem and would help it access new European markets and attract larger and more complex investment networks.

☑ **Policy Recommendation 9: Improve the regional entrepreneurial activity.**

It is an undeniable fact that by Basque startups securing an international approach and reach, the European business density would balance itself in both Northern and Southern regions and further contribute to a gradual development of a single market.

Moreover, taking into account the entrepreneurial infrastructure already present in the region, but that it still lags behind to produce the desired outcomes, a specialized network of sponsors and counselors could be established to leverage experience from successful ecosystems within Europe and help Basque entrepreneurs and startups internationalize and “Europeanize” themselves. Another approach would be

to incentivize the globalization of Basque accelerators and incubators by promoting around Europe and the globe its unique startup-building advantages, marketing the region as a prosperous place for entrepreneurship.

☑ **Policy Recommendation 10: Strengthen Entrepreneurial Education initiatives in Spain and the Basque region.**

Foster the creation of university spin-offs, university labs, and acceleration programs inside HEIs to help promote overall entrepreneurial culture, and help reduce fear of failure while making entrepreneurship a valid career choice. Build role model networks or initiatives through old university alumni networks and successful entrepreneurs or business professionals, so that aspiring professionals can have referential and inspiring models within the ecosystem and internationally, fostering “can-do” attitudes.

Another way to strengthen EE in the Basque Country is to modify education models and systems in universities so that every curriculum can have entrepreneurial modules or courses not as electives, but as part of the ongoing compulsory curriculum. Introducing subjects such as Introduction to Venture Building, Entrepreneurial Finance, and Ecosystem Strategy, among others could better prepare students to tackle the obstacles of tomorrow while fostering creativity and innovative ideas. Additionally, universities could build ongoing partnerships with SMEs and start-ups and organize events, public speaking sessions, and conventions to create a stronger entrepreneurial community and diversify professional career choices as soon as starting university.

☑ **Policy Recommendation 11: Policymakers should focus on reducing bureaucracy internationally, and regionally and facilitate startups to access different markets across Europe, making market-entry strategies and barriers easier to implement and avoid.**

☑ **Policy Recommendation 12: Solve the lack of knowledge about entrepreneurial infrastructures and the information gap.**

European, Spanish, and Basque policymakers should increase transparency by making relevant data regarding each region more widely available to the general public, improving the median knowledge about how and where to look for entrepreneurial opportunities and support. This comes as an essential factor considering that Basque entrepreneurship is mostly limited to senior professionals over the age of 40 as the median age profile and while there is a recorded 50% of seniority with entrepreneurial knowledge and skills, the fear of failure still ranks at 65.6%, having directly affected opportunity perceptions regarding entrepreneurship, currently at 16.5% against 40,1% in 2021. Therefore, it is safe to assume that entrepreneurship is seen more of a luxury career or a career choice fueled by the lack of employment in the area (70,3%).

☑ **Policy Recommendation 13: Activate technical and regional talent and help them to get involved in entrepreneurial ventures at all maturity stages, using startup ecosystems and programs as coordinating agents (See Ecosystem X chapter).**

☑ **Policy Recommendation 14: Improve entrepreneurial capacity.**

Begin measuring all aspects of the socio-economic impact that the ecosystem and its startups are causing in the Basque region and nationally, to provide greater transparency and to allocate resources to the top-ranking indicators. Therefore, increasing entrepreneurial activity, is a by-product of the awareness of the vital role that startups play in creating, promoting, and sustaining prosperity.

☑ **Policy Recommendation 15: Improve social and cultural barriers (See Ecosystem X Chapter).**

7. CONCLUSION.

7.1. General framework of main results and recommendations.

Since its conception, the entrepreneurship revolution has gradually changed business and influenced world-class business networks known as entrepreneurial ecosystems becoming part of the daily lives of individuals and organizations alike. Ecosystems have long come beyond their biological concept and now is an indicator of the economic, political, and innovative well-being of entire countries and regions. Due to post-pandemic market disruptions and undesirable output, the need for a strong ecosystem that can withstand market volatilities and instabilities is of utmost demand. In addition, the main disparity between the amount and efficiency of company builder programs, funding networks, and access to proper capital, the weaknesses of some entrepreneurial policy implementations, and proper execution of adequate and proven-to-work ecosystem models, are challenges that different European ecosystems face to remain scalable and competitive against the competition. Faced with this problematic scenario, several experts see, the Nordic and Scandinavian ecosystem models, as well as the political and economic policies that add to them being leaders globally, as a way to create value for entrepreneurial stakeholders, improve their international reach, and brand, remain competitive and offer a structure that meets their respective needs.

As previously mentioned in the literature review segment, entrepreneurial ecosystems exist wide and across the world, each with its respective set of strengths and weaknesses, although the latter overtake in some regions affecting proper functionality. Being entrepreneurial policies and financial networks the main antagonist or problematic factors influencing entrepreneurial ecosystems and the main actors in the change toward better results.

Entrepreneurship has the power to define and modify values, shape markets, and build a future of growth not just influence change. It recalls, renews, and recovers concepts, and systems of belief, at the same time evidences variations in current states of mind, signaling political, social, cultural, economic, and environmental changes. Therefore it is a reliable indicator of the past, present, and future. The present work shows how and why entrepreneurship is born, how it revolutionizes the market, the different types of recorded entrepreneurship in literature as well as the birth, development, maturity, and death of some of the actors that inhabit these complex entrepreneurial ecosystems and what makes them thrive despite the predatory competition and disparities in a variety of success factors. Therefore, to stand out from a deeply complex global, national, and regional network of ecosystems and sub-ecosystems, an alliance between Finland and the Basque Country, allied to ecosystem building and cultural disparities, becomes important for the proposed brand, which must always remain abreast of current weaknesses on entrepreneurial ecosystem models and the policies that support them. People are no longer concerned about securing a job and having a career but are looking for meaningful career choices, to drive and influence change and make countries, regions, and markets thrive. Entrepreneurs are no longer an alternative segment of self-employed collectives, but ideators, future builders, market disruptors, born to be innovators and a remarkable indicator that there is a need for reverse engineering the past to build a better future. Therefore, it is the duty of

organizations across the globe as well as political agents to contribute directly or indirectly to the well-being of the ecosystem actors and factors that make entrepreneurship possible and that with adequate infrastructure in place can bring long-lasting, fruitful change to international cooperation.

Due to the ambitious nature of the project and the complexity of pan-European, national, and regional policies as well as the extensive scope of the proposed solution, this project may not seem or prove realistic or feasible, but the digitalization and progression of entrepreneurship and ecosystems actors as well as their international reach, it seems to remain relevant and executable with the right approach. The financial investment, as well as regulatory aspects, not explored in this work but highly important in the prosperity and proliferation of competitive ecosystems, will play a decisive and salient role in the future of collaborative and dual entrepreneurial ecosystems, with shared know-how, influenced by multiple regions and cultures.

7.2. Usefulness of the analysis

Suggestions in the form of personal opinions as well as contrasted policy recommendations remain relevant to the countries, regions, programs, and companies discussed in the previous chapters as they were built according to multiple collected data and models.

Entrepreneurial practices and ecosystems are crucial for the future and part of a profitable global business model. Particularly, in the case of global operations and innovation. The commercialization of regional, national, and international in-house or other nature innovations is key to further propel and market multiple countries and their respective ecosystems. Therefore, it is important to continuously and gradually optimize and promote cooperation practices across all levels and markets.

7.3. Research validity and reliability

The data present in the paper was collected from primary as well as secondary data. Thus, the research relies on pre-conducted interviews available online, seminars, publications, articles, webpages, and personal observation. The interviews were all available online in written and audio formats. Due to the newness of this topic especially in the Basque region a wide range of articles and data needed to be analyzed and key indicators differentiated. The research is extensive and dense from multiple perspectives, cultural backgrounds, and reference points. Some points of the research have more in-depth analysis approaches due to the extensive scope of said factors and actors.

7.4. Future research.

According to the results extracted and all that has already been mentioned in the different chapters of the thesis, it is now imperative to share some recommendations for future more extensive research, considering that research papers such as this one can more comprehensively focus on a single or a dual ecosystem analysis in order to deepen them

rather than centering around various regions simultaneously. The collaborative union of ecosystems, markets, practices, and countries can accelerate the growth of such ecosystems and additionally propel adequate and up-to-date entrepreneurial education. It would also be considered interesting for further research the choice of other relevant indicators and factors for entrepreneurial behavior that could be studied, with the objective of also concluding if through indirect or direct pathways they influence the intention to become entrepreneurs and if they are related to some extend to some factor inherent to the cultural influence of even if entrepreneurs are born not made. It is also important to explore, for example, the current development of entrepreneurial ecosystems in the metaverse and how this could be implemented to develop current non-virtual reality-based ecosystems, and how it would affect future entrepreneurial endeavours.

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