

Article

# Unlocking Value Co-Creation in Entrepreneurial Ecosystems: The Vital Role of Institutions

Yuko Inada

Business Design Department, St. Andrew's University, Osaka 545-0011, Japan; yukoin@andrew.ac.jp

**Abstract:** The entrepreneurial ecosystem is quite complicated because of the presence of numerous stakeholders and the inclusion of multicultural and social elements in diverse communities. The role of entrepreneurship education in developing entrepreneurial skills and aptitude has evolved. The collaboration between universities, companies, and organizations in the collaborative online international learning (COIL) approach plays an important role in the entrepreneurial ecosystem to enhance value co-creation. To extend the limited literature on value creation through entrepreneurship education among stakeholders and analyze the entrepreneurial ecosystem from a micro perspective, this study investigated why companies and organizations support universities at the individual, organizational, and institutional levels to foster entrepreneurial ecosystems. Following a global career course using the COIL approach, semi-structured interviews were conducted in person or via Zoom with four representatives of the Embassy of Canada to Japan, Ernst & Young, and Manulife from April to May 2022. The modified grounded theory approach was used to analyze the responses from three institutions. The results showed that students were provided with the opportunity to solve actual issues that the three institutions faced and the students' perspectives were considered to identify and develop high-quality proposals at the individual, organizational, and institutional levels. The institutional philosophy, organizational engagement and development, and personal development of the representatives of these institutions effectively create values within universities while also forming entrepreneurial ecosystems at Japanese and Canadian companies, organizations, and universities to help build the next generation of leaders. This study has important implications through its contribution to society and the development of an entrepreneurial ecosystem in collaboration with the academic, industrial, and public sectors.

**Keywords:** entrepreneurial ecosystem; entrepreneurship education; value co-creation; collaboration online international learning (COIL); higher education



**Citation:** Inada, Yuko. 2024. Unlocking Value Co-Creation in Entrepreneurial Ecosystems: The Vital Role of Institutions. *Administrative Sciences* 14: 82. <https://doi.org/10.3390/admsci14050082>

Received: 17 January 2024  
Revised: 8 April 2024  
Accepted: 8 April 2024  
Published: 24 April 2024



**Copyright:** © 2024 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

Entrepreneurship education has progressed remarkably over the last 30 years (Kuratko 2005). The definition of entrepreneurship includes personal development, creativity, self-reliance, resourcefulness, and dynamism (Lackéus 2015). It also applies to recognizing opportunities, business development, self-employment, creative ventures, and growth as an *entrepreneur* (Mahieu 2006; Fayolle and Gailly 2008; Quality Assurance Agency for Higher Education 2012). Entrepreneurship aims to foster entrepreneurial mindsets, attitudes, and skills (Fayolle and Gailly 2008) and involves the practices of creation, experimentation, play, empathy, and reflection (Neck et al. 2015).

Kourilsky (1995) stated that entrepreneurship education requires the development of entrepreneurs, their supporters, and those who understand entrepreneurial activities. Gibb (1993) explained that collaborative learning is important in entrepreneurship education because students' interactions, discussions, debates, and hands-on problem-solving experiences facilitate self-exploration and learning from failures and uncertainty. Scholars such as Schön (1983) and Murata (2018) stated that continuous reflection-in-action is important for improving the effectiveness of students' learning.

The research on entrepreneurship education has been conducted in North America and Europe (Bruton et al. 2008; Hägg and Kurczewska 2022). According to Katz (2003), entrepreneurship education was introduced in 1947 at Harvard Business School. In 1958, an entrepreneurship course was offered for the first time at the Massachusetts Institute of Technology. Business schools across the United States began to teach it in the early 1970s; the number of business schools that offered entrepreneurship courses increased from 210 in 1985 to 351 in 2011, an increase of 67% (Zhang 2011, p. 186). The popularity of entrepreneurship education was driven by economic growth and job creation (Wong et al. 2005). In an increasingly globalized, uncertain, and complex society, businesses and organizations need entrepreneurial aptitude (knowledge, abilities, and attitudes), which is imparted by entrepreneurship education (Gibb 2002).

Sreenivasan and Suresh (2023) showed the trend of entrepreneurship education from 2002 to 2022 using a bibliometric analysis. Since 2002, the number of research papers on entrepreneurship education has steadily increased to 800 by 2022. In 2017 and 2018, researchers mainly from the United States, the United Kingdom, Malaysia, and other Western countries were publishing, but starting from 2019, China was at the top of the list, followed by researchers from Indonesia. Southeast Asian countries such as Bangladesh, India, and Indonesia are also expected to come out on top in terms of publications in the future. Inter-country collaborations are active in China and the United Kingdom, China and the United States, the United Kingdom and Spain, the United States and the United Kingdom, and Finland and Sweden. Furthermore, a topic of future research would be the increased demand for online entrepreneurship education.

According to the European Private Equity and Venture Capital Association (2005), Europe has the potential to compete globally in establishing an ecosystem, training excellent leaders, and promoting industry–academia collaborations, technology transfers, and entrepreneurship development. Therefore, entrepreneurship education is being actively incorporated into the European education system. The European Commission (2019, pp. 8–10) reports on higher education capture collaborations with students, faculty, educational institutions, and external partners, and the aspects of internationalization and diversity.

In Asia, the trend of entrepreneurship education was adapted from Western countries. Japan began promoting entrepreneurship education much later than Europe and the United States. Science-based industries, such as semiconductors, biotechnology, and information technology (IT), have become core to the Japanese economy since the latter half of the 1980s. Engineering that applies and embodies scientific knowledge and business administration in methods to develop aptitude contributes to success in the market. Entrepreneurship education has emerged as a social necessity (Ministry of Education, Culture, Sports, Science and Technology 2017). In recent years, the Japanese government and universities have actively promoted entrepreneurship education.

The policy of entrepreneurship education by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) (Ministry of Education, Culture, Sports, Science and Technology 2021) proposed the concept of entrepreneurship education, which is essential for recognizing diverse values and achieving a better society. Furthermore, according to Japan's Ministry of Economy, Trade and Industry (2016), action (autonomy, influencing abilities, and execution abilities), critical thinking (problem-solving skills, planning, and creativity), and teamwork (communication, attentive listening, flexibility, team building, discipline, and resilience) are the requisite abilities needed to cope with diversified individuals in organizations and society. MEXT believes that basic entrepreneurial competencies are necessary for students to gain knowledge, skills, attitudes, and learning experiences, and develop creative thinking skills. It expects students to adapt to rapid social changes and create value. Specifically, students must identify the existing issues in society, empathize, pursue opportunities beyond their resources even in a highly uncertain environment, and execute problem-solving actions for value creation. The three stages of the policy include EDGE (2014–2016), EDGE-NEXT (2017–2021), and start-up and ecosystem support

(2021–2025). In the first stage, MEXT focused on a human resources program for young researchers or graduate students who attempted an innovative start-up. In the second stage, it supported practical programs for young researchers, graduate and undergraduate students, and workers to initiate a small business and create a network. MEXT financially supported universities and collaborative institutions for the courses, business contests, and overseas workshops. A total of 135 start-ups were created through EDGE and EDGE-NEXT. In the third stage, MEXT focused on start-ups and their associated ecosystems. University start-ups collaborated with core cities, companies, other universities, and world ecosystems to create a more practical entrepreneurship program with venture capital.

Findings from a recent survey (2021) by Japan's MEXT indicated that approximately 27% of the 598 Japanese private and public universities (that responded) offered entrepreneurship courses. From January to March 2021, MEXT sent the survey to 1007 private and public universities, including junior colleges. Overall, 598 institutions responded (response rate of 59.4%). The responses illustrated that most courses focus on acquiring knowledge about management strategy, marketing, idea generation, managing growth, organization, design thinking, and business plan creation. The teaching method is mainly lecture-based. Only 7% of all entrepreneurship programs have practical courses, targeting the skills development of students and include hypothesis verification and the interview process during business plan creation. Overall, these findings highlight the lack of empirical research in entrepreneurship education.

As entrepreneurship has a relatively limited academic history and covers multiple disciplines, there is a shortage of educational programs, educators, and researchers in this field in Japan (Harada 2010). Hill and O'Connell (1998) highlighted that very few studies have investigated the effects of entrepreneurship education. Hägg and Kurczewska (2022) mentioned that the challenge of entrepreneurship education is to foster entrepreneurial citizens, especially entrepreneurial thinking for both educators and learners and lead to business opportunities and venture creation and personal development for learners through practical and collaborative work.

Kolb (1984) demonstrated an experiential learning cycle based on concrete experience; reflective observations in reviewing experiences; active experimentation; and abstract conceptualization in learning from experience. Deardorff (2015) stated that education requires long-term learning support not only in school but also throughout students' careers. Entrepreneurship also affects students' and employers' education (Surlemont 2007) and their work lives (Amabile and Kramer 2011). Furthermore, such learning improves creativity, motivation, and well-being (Diener and Suh 2003; Goss 2005; Amabile and Khair 2008; Amabile and Kramer 2011). Additionally, it is useful in resolving important social issues (Rae 2010). Entrepreneurship education can thus empower employers, businesses, and organizations to create social value for the public good (Austin et al. 2006; Wilson et al. 2009).

Hägg and Kurczewska (2022) mentioned that an entrepreneurial ecosystem of universities–industry–government emerged in the 1990s. Theodoraki et al. (2018) showed that universities are key participants in the knowledge ecosystem. Rideout and Gray (2013) suggested that the key components of a university-based entrepreneurial ecosystem (UBEE) include entrepreneurial education, engagement with alumni entrepreneurs, incubators, seed funding, academic research, and other support services. Brush (2014) proposed that the concept of an "entrepreneurship education ecosystem" is a central component of a UBEE, outlining the dynamic network–actor interactions that support entrepreneurial education. Although recent studies have positively linked the development of student entrepreneurial intention and entrepreneurial behavior to UBEEs and entrepreneurship education ecosystems, they advise that elements within the ecosystem be tailored to meet students' learning needs (Morris et al. 2017; Ferrandiz et al. 2018). Theodoraki et al. (2018) showed the importance of social capital dimensions to UBEEs. Network ties, configurations, stability in structure, shared goals and language, shared narratives in terms of cognition, trust, norms, obligations, and identification in relationships are quite important factors.

According to Skute et al. (2019), the individual, organizational, and institutional levels of university and industry collaborations constitute an entrepreneurial ecosystem. The university and industry collaborators recognize the importance of the relationship between individuals who are involved in collaborative projects and their activities at the individual level. Industrial partners focus on collaborating with academic partners at the organizational level, as well as the regional economic and social development from the perspective of the ecosystem at the institutional level.

The entrepreneurial ecosystem is very complex because of the multilevel collaborations between stakeholders such as universities, businesses, and local governments, which promote knowledge transfer and commercialization (Wright et al. 2006). Research on entrepreneurial ecosystems has revealed the overall concepts as well as stakeholders and their activities in entrepreneurial ecosystems (Robertson et al. 2020; Velt et al. 2020; De Brito and Leitão 2021; Fernandes and Ferreira 2022; Theodoraki et al. 2022; Mohammadi and Karimi 2022; Thai et al. 2023; Trabskaia et al. 2023). However, Hemmert and Kim (2021) emphasized the importance of the analysis of micro and macro perspectives in entrepreneurial ecosystems. The research is still limited to the topics of what individual participants acquire in the collaborative projects (Filippetti and Savona 2017), why organizations in institutions join university and industry collaborations, and the benefits of participating in an ecosystem at the individual, organizational, and institutional levels (Skute et al. 2019). This study examined how university partners contribute to the creation of an entrepreneurial ecosystem at the individual, organizational, and institutional levels.

The remainder of this paper is structured as follows: Section 2 provides a literature review of the main concepts of the entrepreneurial ecosystem. Section 3 provides a brief explanation of the analytical methodology used. Sections 4 and 5 describe the results and discussion, while Section 6 provides the conclusion.

## 2. Theoretical Background and Literature Review

### 2.1. The Overview of Entrepreneurial Ecosystems

Bibliometric analyses of entrepreneurial ecosystems have been published (Robertson et al. 2020; Velt et al. 2020; De Brito and Leitão 2021; Fernandes and Ferreira 2022; Theodoraki et al. 2022; Mohammadi and Karimi 2022; Thai et al. 2023; Trabskaia et al. 2023). They mainly defined entrepreneurial ecosystems, and showed the trends in publications, countries, and institutions, distribution of research disciplines, publishing journals, authors, thematic clusters relevant to entrepreneurial ecosystem research, and so on. Cohen (2006) highlighted the entrepreneurial ecosystem as an interconnected group of actors; elements of interaction (Daniel Isenberg 2011); economic, social, institutional, and other important factors (Qian et al. 2013); and a set of interconnected entrepreneurial actors (Mason and Brown 2013). Mack and Mayer (2016) mentioned the components of entrepreneurial systems, and Audretsch and Belitski (2017) defined institutional, organizational, and other systematic factors. Stam and Spigel (2016) integrated the entrepreneurial actors and factors, and physical and non-physical elements of Theodoraki and Messeghem (2017), efforts to create environments of Kuratko et al. (2017), the multidimensional set of interactions of Bruns et al. (2017), and the complex and regional integration of entrepreneurial practices of Kuckertz (2019).

In detail, Mason and Brown (2014, p. 5) defined an entrepreneurial ecosystem as “a set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organizations (e.g., firms, venture capitalists, business angels, and banks), institutions (universities, public sector agencies, and financial bodies), and entrepreneurial processes (e.g., the business birth rate, numbers of high growth firms, levels of “blockbuster entrepreneurship”, number of serial entrepreneurs, degree of sell-out mentality within firms, and levels of entrepreneurial ambition), which formally and informally coalesce to connect, mediate, and govern the performance within the local entrepreneurial environment”. Spigel and Stam (2017) defined an entrepreneurial ecosystem as “a set of interdependent actors and

factors coordinated in such a way that they enable productive entrepreneurship within a particular territory”.

Additionally, [Mohammadi and Karimi \(2022\)](#) showed the publication trends for entrepreneurial ecosystem research between 1993 and 2019. It started in 1993 and has grown rapidly since 2015 and reached the highest level in 2019. The highest number of research papers originated from the USA, UK, and Germany. Entrepreneurship ecosystems fall under the business and economics disciplines. The thematic clusters were the entrepreneurial ecosystem, academic entrepreneurship, innovation ecosystem, and institutional entrepreneurship. Entrepreneurship ecosystems are used as a platform for entrepreneurial activities in a specific region or industry ([Cantner et al. 2021](#)) and covers the importance of digital technology ([Elia et al. 2020](#)), the assisting role of facilitating organizations ([Clayton et al. 2018](#); [van Rijnsoever 2020](#)), and their associations with economic development ([Martínez-Fierro et al. 2019](#)).

## 2.2. Role of Universities, Firms, and Policymakers in the Ecosystem

The challenges and obstacles of entrepreneurial ecosystems include a lack of financing, bureaucracy, talent shortage, and access to global markets for entrepreneurial activities ([Hemmert and Kim 2021](#)). Entrepreneurial ecosystems include multiple stakeholders in a start-up community ([Mason and Brown 2013](#)) and the activities of these multilevel stakeholders are complex ([Wright et al. 2006](#)) because they include micro, meso, macro level processes among them and there are many stakeholders’ interactions involved in developing ecosystems ([Spilling 1996](#); [Motoyama and Knowlton 2017](#); [Roundy et al. 2018](#)).

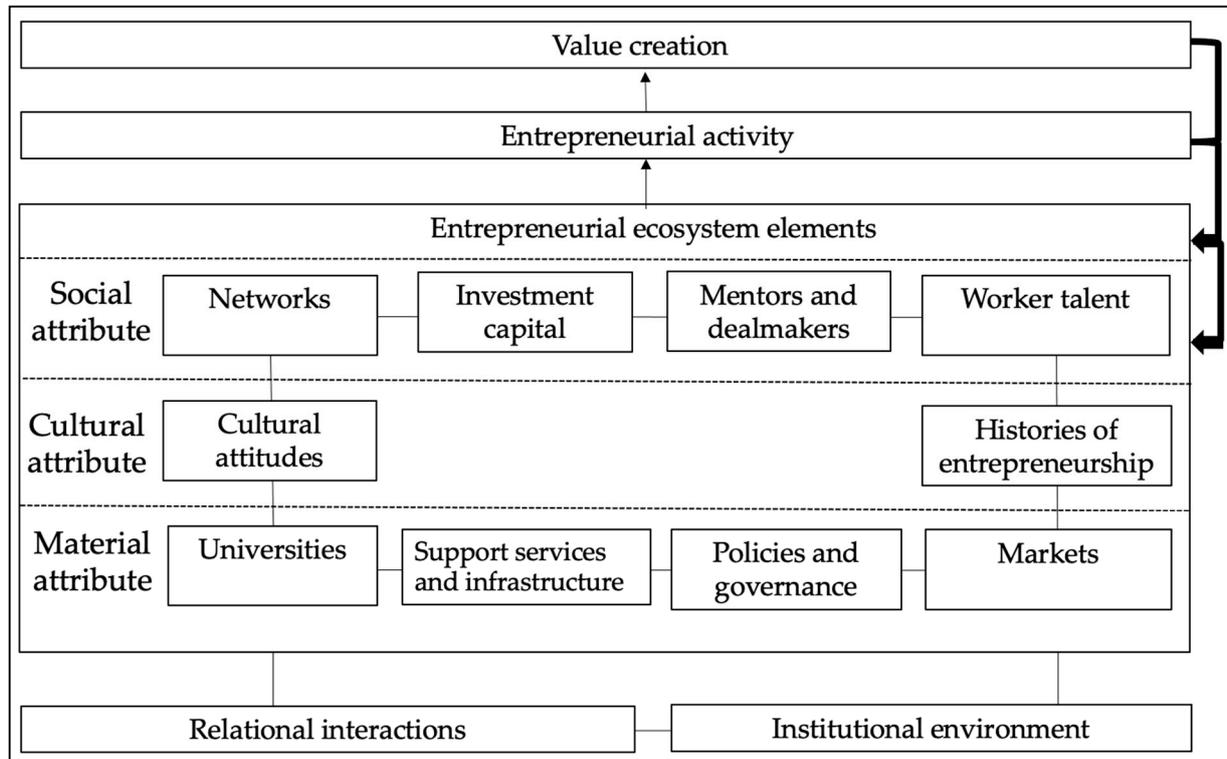
An entrepreneurial ecosystem’s success is determined by its access to capital, technical support, business culture, favorable government policies, and an innovation infrastructure. Daniel [Isenberg \(2010\)](#) emphasized six ecosystem components—finance, culture, policy, human capital, support, and markets. Human capital includes labor and educational institutions. The impacts of the entrepreneurial ecosystem on economic growth, job creation, technological innovation, and social development in the communities in which it operates are remarkable. [Moore \(1993\)](#) mentioned the existence of a business ecosystem in which firms create cooperative networks with business partners, suppliers, financiers, and customers. Firms collaborate and compete to create products that satisfy customers. [Hemmert and Kim \(2021\)](#) showed that well-developed co-creation in entrepreneurial ecosystems, which includes the collaboration of start-ups, SMEs, large companies, public sectors (local and central government), and educational institutions, leads to strong economic and technological progress and advances business culture and policies. [Wright et al. \(2006\)](#) emphasized that multilevel stakeholders such as universities, businesses, and local governments should exchange knowledge to boost economic growth. [Thai et al. \(2023\)](#) mentioned that stakeholders in entrepreneurial ecosystems should be identified for an effective entrepreneurial ecosystem because they are key drivers of performance at the individual, organizational, and regional levels. An entrepreneurial ecosystem’s outcomes at the individual level include an increase in technology, culture, and business based on the entrepreneurial orientation and intention ([Olutuase et al. 2018](#)), while organizational-level outcomes are reflected in business performance.

Entrepreneurial ecosystems positively affect regional entrepreneurial activity ([Levie and Autio 2008](#)) and venture creation due to competition and cooperation ([Romeo-Matinez and Montoro-Sanchez 2008](#)). [Belitski and Heron \(2017\)](#) stated that entrepreneurial ecosystems have become efficient at engaging with business communities and transferring knowledge among universities, firms, and policymakers to create value in society.

Entrepreneurship education, which is at the center of entrepreneurial ecosystems, is a mix of education, coaching, consulting, and research, and guides local governments, existing entrepreneurs, potential entrepreneurs, students, scientists, and businesses. For start-ups, networks are essential for exchanging ideas, knowledge, and finances. Although most universities have alumni clubs and networks, many of them do not use these hu-

man resources efficiently to validate new products or experimental services, raise funds, exchange knowledge, and promote job placements.

Stam (2015), Spigel (2017), and Shwetzter et al. (2019) indicated that entrepreneurial ecosystem elements such as social, cultural, and material attitudes, along with relational interactions and institutional environments, bring about entrepreneurial activity and promote value creation (Figure 1).



**Figure 1.** Composition and interactions of entrepreneurial ecosystems. Adapted from Stam (2015), Spigel (2017), Shwetzter et al. (2019).

### 2.3. COIL

Knight (2003) stated that international education includes transnational education, borderless education, and cross-border education in the 21st century. The term “collaborative online international learning” (COIL) was coined in 2006 for broader university engagement (Rubin 2017). In this approach, geographically distant instructors and students from diverse backgrounds can communicate and collaborate via online communication tools. It supports cross-cultural communication and students’ academic and personal engagement with a global network of classmates (Guth 2013). The COIL projects were cooperations between universities in different educational mandates, with different course designs, teaching styles, assessments, academic calendars, and time zones. COIL introduced the idea of studying abroad without great financial cost or investment of time while helping students prepare for their global careers (Rubin 2017). During the COVID-19 pandemic, the COIL approach had a big influence on universities, firms, and policymakers in the ecosystem. The Sunny COIL Center<sup>1</sup> provided a faculty guide for COIL to ensure smooth course progress and ending. It described how to check the content and institutional resources, obtain and develop a university’s partnerships, exchange contact information, determine course settings (including language and schedule and technology), content, and assessments, as well as providing administrative and international program support. Some researchers emphasized the significant effectiveness of the COIL course (Appiah-Kubi and Annan 2020; Inada 2022, 2023). Asojo et al. (2019) mentioned that the COIL experience enriched students and faculty members for collaboration. However, they emphasized the

challenges of using the technology and helping people overcome the frustration when it does not work. Furthermore, it is important to plan the details of the collaborative teaching structure, assignments, and methods. Meanwhile, [Ramírez \(2020\)](#) reported the difficulty of schedule conflicts, unfamiliar topics, and different teaching methods in US and Mexican COIL courses. [Rubin \(2016\)](#) posited that the challenge of COIL could be the administrative and institutional support. Professors have to exert too much effort in connecting universities and designing the courses. Therefore, professors and their students should be supported during university collaborations and other activities. [Gray et al. \(2021\)](#) added the importance of pedagogy, technology, and cross-cultural training in COIL. [Baildon \(2022\)](#) insisted on the importance of professors meeting to design courses and in-class activities. The COIL course has benefits and challenges and it is still in progress.

#### 2.4. Value Creation

Value creation is enhanced by inter-organizational collaborations, in which, stakeholders cooperate to improve strategic efficacy and meet their mutually beneficial multifarious goals through co-created value ([Gummesson and Mele 2010](#); [Nenonen and Storbacka 2010](#); [Gide and Shams 2011](#); [Gronroos 2012](#); [Aarikka-Stenroos and Jaakkola 2012](#); [Jaakkola and Hakanen 2013](#); [Hsiao et al. 2015](#); [Iyanna et al. 2015](#); [Shams 2015, 2016](#)). Co-creation can be defined as “[. . .] an interactive, creative and social process. [. . .], co-creation activities are a form of collaborative innovation and facilitated social interaction” ([Roser et al. 2013](#), p. 23). [Fyrberg and Rein \(2009\)](#), [Håkansson et al. \(2009\)](#), [Jaakkola and Hakanen \(2013\)](#), [Vargo and Lusch \(2008\)](#), and [Petrescu \(2019\)](#) showed the value of co-creation on the individual, the relationship, and network levels in the collaborative process. At the individual level, it revives resources, participants interact and collaborate at the relationship level, and connections between participants create a network. [Petrescu \(2019\)](#) showed the micro, meso, and macro levels of value creation. The micro level includes the private value in the ecosystem. The meso level has collective value for organizations and the macro level shows collective social value. Furthermore, [Petrescu \(2019\)](#) introduced value co-creation in the service ecosystem of higher education. The seven stakeholders were students, the university administration, faculty, public, public administration, policymakers, and employers. Each stakeholder provides knowledge, feedback, resources, skills, arrangements, demands, or supplies.

[Nielsen and Stovang \(2015\)](#) suggested that students develop creativity, analytical skills, and synergies in divergent, convergent, and co-creation processes, respectively. Through co-creation processes, students develop their creative capabilities in divergent processes and analytical skills in convergent processes. [Gabora \(2010, pp. 2, 4\)](#) explained divergent processes as associative thoughts to defocus attention to identify insights or unusual connections, and convergent processes as analytic thoughts to focus attention to analyze relationships of cause and effect in a creative way. [Nielsen and Stovang \(2015\)](#) also combined divergent and convergent thinking and the synergies between them. Consequently, stakeholder relationships and interactions in a network, and flourishing opportunities from such stakeholder networks, become crucial for entrepreneurs to co-create value to survive and prosper ([Shams and Kaufmann 2016](#)). [Cohen \(2006\)](#) identified formal and informal networks, highlighting the importance of physical infrastructure and culture for successful entrepreneurial ecosystems.

[O’Brien et al. \(2019\)](#) highlighted three fields of study—entrepreneurial education, university–community engagement, and inclusive entrepreneurship—for communities in entrepreneurial ecosystems. Entrepreneurial ecosystems also require six concepts—teaching and learning, multidisciplinary approaches, culture, resources, stakeholders, and infrastructure—and includes three outcomes—personal development, economic development, and social inclusion. [Quillinan et al. \(2018\)](#) advocated the importance of co-creation between universities and communities, emphasizing that the interaction between universities and community members creates value for society. Universities are one of the key stakeholders within entrepreneurial ecosystems. [O’Brien et al. \(2019\)](#) indicated that stakeholders

in entrepreneurial ecosystems are willing to engage in entrepreneurial activity. Hechavarria et al. (2016) insisted that human capital is essential for the sustainable development of entrepreneurial ecosystems. Universities play an important role (Van de Ven 1993; Hsu et al. 2007; Feld 2012; McKeon 2013; Siegel 2013; Hechavarria et al. 2016; O'Brien et al. 2019) in connecting creative individuals and facilitators for network building, providing intellectual knowledge to develop empathy and support for entrepreneurship (Feld 2012; Siegel 2013), creating value for an entrepreneurial society (Peterman and Kennedy 2003; Honig 2004), and developing positive feedback loops (Isenberg 2013) in entrepreneurial ecosystems. Additionally, the existence of alumni entrepreneurs is a considerably important factor in entrepreneurial ecosystems (Åsterbro and Bazzazian 2011; Roberts and Eesley 2011).

Many researchers recognize the need for learning the effects of entrepreneurship education (Gibb 1987; Curran and Stanworth 1989; Block and Stumpf 1992; Storey 2000). Jones et al. (2017) found that entrepreneurship education enables students to acquire entrepreneurial knowledge through specialized research and helps their career development. Despite the importance of entrepreneurial ecosystems in education, there is little discourse regarding their role; the partnerships between universities, industries, and governments (Clarysse and Moray 2004; Azagra-Caro et al. 2006; Caiazza et al. 2015); how universities support entrepreneurial activity within entrepreneurship education (Pirnay et al. 2003; Algieri et al. 2013; O'Brien et al. 2019); and value co-creation (Madichie and Gbadamosi 2017). The relationship between entrepreneurship in universities and co-creation is unclear in the literature (Madichie and Gbadamosi 2017). Sheriff and Muffatto (2015) emphasized the importance of country-specific empirical research on entrepreneurial ecosystems. The current study aimed to discover the reasons why companies and organizations are willing to provide support to universities in entrepreneurial ecosystems and clarified the benefits of participating in entrepreneurial ecosystems at the individual, organizational, and institutional levels.

### 3. Materials and Methods

#### 3.1. History of Collaborative Education among Companies, Organizations, and Universities

In 2020, Kwansei Gakuin University (KGU) in Japan celebrated the 110th anniversary of its historical relationship with Canada and the 10th anniversary of its collaborative cross-cultural exchange program with Canadian universities<sup>2</sup>. The global career seminar in the program is a collaborative educational project jointly run by KGU, Canadian universities (King's University College at Western University, Mount Allison University, Queen's University, University of Toronto), and international partner companies and organizations. During COVID-19, the course was provided by COIL. The course aimed to enable students from Canada and Japan to identify and discuss global problems from various perspectives and create business plans to address these problems. Students are world citizens and will become leaders who can contribute to the growth and sustainability of the world through a cross-cultural understanding and communication skills. Some partner institutions in the 2021 course were institutions at the Embassy of Canada to Japan, Ernst & Young, and Manulife<sup>3</sup>. The Embassy of Canada to Japan and Manulife participated in June 2021 and Ernst & Young joined in November 2021. A total of 34 participants (15 from the Canadian universities and 19 from KGU) in June, and 45 (22 from the Canadian universities and 23 from KGU) in November attended the course. In June and November, the course participants were 74% and 71% women, respectively: 32% and 49% were in their sophomore year, 47% and 29% were in their junior year, and 21% and 22% were in their senior year, respectively. Approximately 30% in June and 27% in November belonged to business-related disciplines (commerce, economics, and management). The remaining students were from law, politics, international studies, human welfare studies, and policy studies.

The course is divided into two parts: an online individual lecture series and a collaborative series. In the first part, students gain basic knowledge of the business framework via online lectures. This course introduces some contemporary business frameworks and topics and provides students with an opportunity to analyze and find practical solutions

for actual business issues, which were provided by representatives from companies and organizations. In the second part, students from different backgrounds spend a week together with their peers, meet representatives, pose questions, and receive feedback. After their final presentation, students receive feedback from the representatives for a better solution. All the discussions were conducted in English. The individual assignments in the first part were an SWOT analysis, business model canvas, and business plan. The collaborative series included an SWOT analysis, business model canvas, business plan presentation as a group, and an individual reflection report. All students attended the intensive online synchronous and asynchronous seminar sessions, worked on a group project with students from other participating universities, and presented their final group findings to the representatives of the companies or organizations via Zoom. In the collaboration part, the students and instructors in the Japanese universities had early morning courses, and the Canadian students had an evening course in synchrony. Inada (2022, 2023) showed that students using the COIL approach significantly improved in the five main elements of knowledge, problem-solving skills, communication skills, cross-cultural understanding and teamwork skills, and confidence and motivation after the courses compared with before. Although most students did not have any business background, they understood the basic framework for a business plan in the asynchronous sessions in the first part and conducted research on a company or organization and considered the tasks and solutions through self-study in preparation for the collaboration part. The collaboration between a diverse group of students with different ways of thinking and communication styles was challenging at first, but their instructor and the representatives of the host companies and organizations helped them adapt to their differences and produce a stronger collaboration in business development. Considering the budget and accessibility, the students' learning outcomes in COIL had a positive effect on global career education.

### 3.2. Participants

Semi-structured interviews were conducted with four representatives from the Embassy of Canada to Japan, Ernst & Young, and Manulife. The representatives were chosen because they were all involved in the projects as presenters, commentators, or evaluators. The project was led by a representative of the Canadian embassy in Japan and Manulife. The Ernst & Young representatives were the leader and a team member, who explained the industry, company, or organization, answered questions, and gave feedback and evaluations of the proposal in the course. The interview period was from April to May 2022. The semi-structured interviews were conducted for three hours. All the participants provided informed consent. They were requested to provide information regarding their reasons for taking the course, and their opinions on the Q&A session, business proposal, course experience, and the online approach compared with physical classrooms.

### 3.3. Analytical Method

Gartner and Birley (2002) suggested a qualitative methodology for a deeper understanding of entrepreneurship research encompassing a wider variety of cases. The interview transcripts were analyzed using the modified grounded theory approach (M-GTA) proposed by Kinoshita (1999, 2003, 2007). The representative analytical worksheet includes the concept of findings including its definition, a variation as a concrete example, and a theoretical memo. It categorizes the concepts, uses diagrams to interpret the phenomenon, and focuses on the contents of the participants' viewpoints instead of coding each word. The analytical process in the present study involved transcribing the interview data, collecting similar examples in a variation of the analysis worksheet, and using theoretical notes to remember and collect questions and ideas. After generating and defining the concept from the results, a category presenting the entire picture was derived.

Table 1 shows an example of an analytical worksheet. The concrete examples from the survey presents concepts and definitions with a theoretical memo. Consider the following example, the concept, "Satisfied with the quality of the solutions to their assignments",

and the definition, “The companies and organizations were very satisfied with the ideas, analysis, and presentation of solutions to their issues from the students”.

**Table 1.** Analytical worksheet.

Concept	Satisfied with the Quality of the Solutions to Their Assignments
Definition	The companies and organizations were very satisfied with the ideas, analysis, and presentation of solutions to their issues from the students.
Variation	<ul style="list-style-type: none"> <li>■ A: We got a good result.</li> <li>■ A: Both answers are strong and there was a lot of interesting information. We are super happy to do it.</li> <li>■ A: The content was interesting. Both teams came up with interesting aspects. Therefore, we were impressed.</li> <li>■ A: Both teams put a lot of thought and did a lot of analysis. Therefore, we are very pleased.</li> <li>■ B: The output of the group was excellent.</li> <li>■ B: I see how great their output is. I was amazed at how insightful the students were.</li> <li>■ B: I am honest that I am always impressed with the quality of presentation and participation. They do a great job.</li> <li>■ B: It is always of high quality.</li> <li>■ B: In terms of quality, it is always ready and high quality. They all produce high quality.</li> <li>■ C: The level of Q&amp;A and presentation was very high.</li> </ul>
Theoretical memo	<ul style="list-style-type: none"> <li>■ Companies/organizations are surprised by the content of student solution proposals.</li> <li>■ Companies/organizations are positive about student outcomes from presentations, analysis, and class participation.</li> <li>■ Companies/organizations are satisfied with the results from the students.</li> </ul>

Note. Embassy of Canada to Japan (A), Ernst & Young (B), and Manulife (C).

In terms of variation, A mentioned a good result, a lot of interesting information and aspects, and concluded that they were happy, impressed, and pleased. B mentioned a lot of thoughts and analysis, excellent output, participation and insights, and a high quality of the presentations, and was amazed and impressed. C recognized the level of the Q&A and presentations was very high. In terms of theoretical memos, the companies and organizations showed positive comments toward the process of the students tackling the theme and outcomes of the proposal.

The categories, concepts, and definitions derived from the M-GTA analysis are shown in Table 2. Six categories were extracted. The first category—creating value with the corporate and organizational support of universities in a society—comprised four concepts: importance of collaboration between Japan and Canada, significance of educational support in a society, importance of involvement of students, and positive participation. The second category—assigning the students a company/organization and the issues that they face—was derived from three concepts: course assignment as an internal theme, intent of the assignment, and consideration of the way the assignment is presented, and the students’ responses to questions from other students. The third category—evaluate the students’ attitudes when tackling challenges and solutions—was derived from three concepts: evaluating students’ positive attitudes, new ideas and views of diversity, and satisfaction with the quality of solutions to their assignments. The fourth category—considering students’ ability to notice and learn issues—was extracted from “success in online class approach”, “awareness and learning”, “utilize student perspectives to solve problems”, and “share student suggestions with supervisors and teams”. The fifth category—interacting with students for personal growth and enjoyment—was extracted from “personal growth” and “feel joyful and blessed with student interaction”. The sixth category—global engagement to form strong ties between companies/organizations, universities, and students after graduation—was extracted from the following concepts: “considering students’ development in the future”, “encouraging deeper students’ learning”, “verifying the effectiveness of students’ learning”, and “global engagement mechanisms”.

**Table 2.** Categories, concepts, and definitions.

Category	Concept	Definition
Create value with the corporate and organizational support of universities for society	Importance of collaboration between Japan and Canada	Companies and organizations believe that cultural collaboration between Canada and Japan is important.
	Significance of educational support in a society	Companies/organizations consider educational support as valuable to society.
	Importance of involvement of students	Companies/organizations do not have many contacts with students; thus, it is important for them to actively interact with students.
	Positive participation	Companies/organizations have been positively participating in this course for many years.
Assigning the students a company/organization and the issues that they face	Course assignment as an internal theme	The company/organization has set the issues facing the company/organization as the course assignment.
	Intent of the assignment	The company/organization is clear about the intent of the assignment.
	Consideration of the way the assignment is presented and the students' responses to questions from other students	The company/organization is careful in the way it presents the assignment to the students and explains the assignment to the students in response to their questions.
Evaluate the students' attitudes when tackling challenges and solutions	Evaluating students' positive attitude	The companies/organizations appreciate the students' proactive approach.
	New ideas and views of diversity	The company/organization recognizes that they gained new ideas and views on diversity in Canada and Japan from students in the course.
	Satisfaction with the quality of solutions to their assignments	The companies and organizations were very satisfied with the ideas, analysis, and presentation of solutions to their issues from the students.
Consider the students' ability to notice and learn the issues	Success in online class approach	The companies/organizations perceive that the final presentation describing the presentation of the assignment, Q&A, and problem solving was accomplished although it was online.
	Awareness and learning	The company/organization recognizes that there was awareness and learning through participation in the course.
	Utilize student perspectives to solve problems	The company/organization values and utilizes students' perspectives on issues faced by the company/organization.
	Share student suggestions with supervisors and teams	The companies/organizations shared the solutions to the challenges presented by the students with their supervisors and teams.
Interact with students for personal growth and enjoyment	Personal growth	The person in charge of the company/organization has personal growth through class participation, from the way they communicate with the students, answer questions, and listen to the students' passionate and professional presentations.
	Feel joyful and blessed with student interaction	Company/organization personnel enjoy interacting with students.

Table 2. Cont.

Category	Concept	Definition
Global engagement to form strong ties between companies/organizations, universities, and students after graduation	Considering students' development in the future	The company/organization considers the students' development in the future.
	Encouraging deeper students' learning	Companies/organizations encourage in-depth student learning.
	Verifying the effectiveness of students' learning	The company/organization indicates the importance of verifying class effectiveness to measure the students' learning.
	Global engagement mechanisms	Companies/organizations are encouraged to create a long-term university policy of global engagement with students to support university activities after graduation.

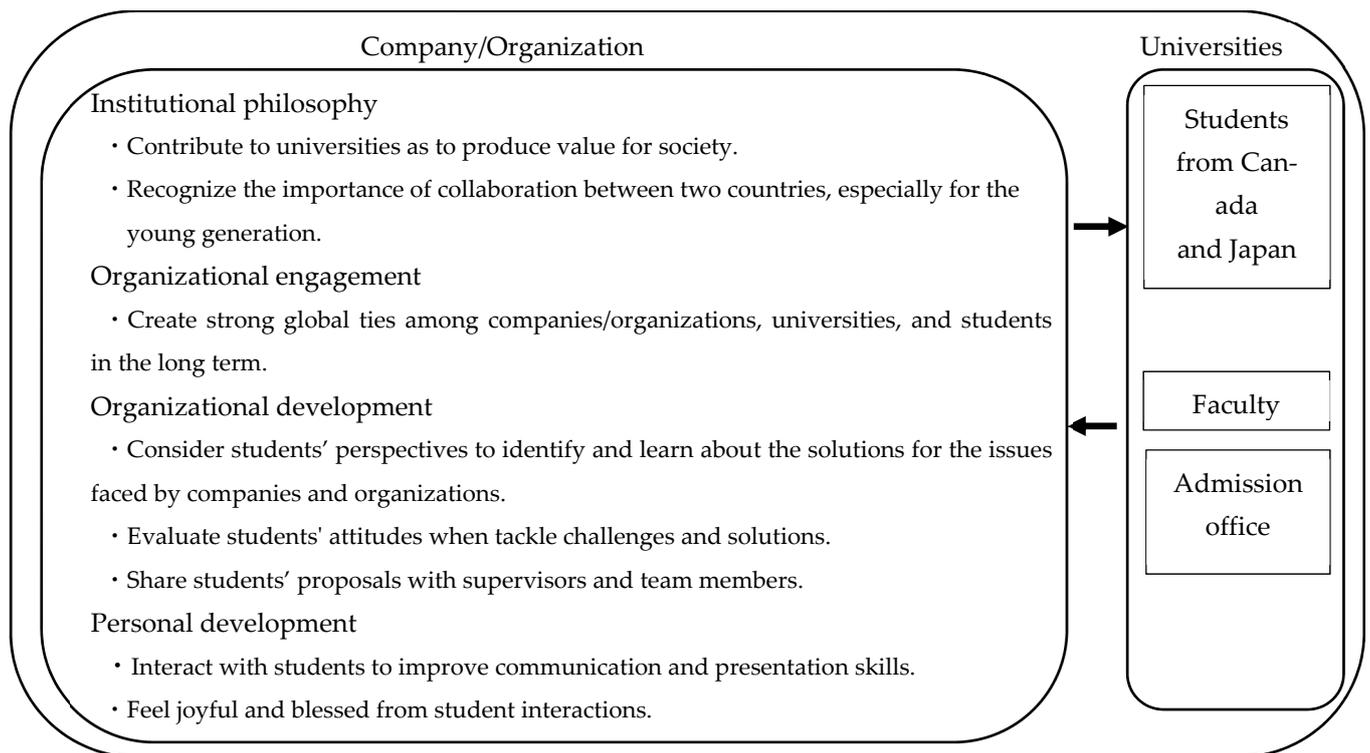
#### 4. Results

Figure 2 illustrates the course benefits from the companies' and organizations' perspectives. The companies and organizations developed an institutional philosophy, and experienced organizational engagement and development; the representatives experienced personal development during the course. At the institutional level, the companies and organizations followed their institutional philosophy, which focuses on building a better society for global citizens. They participated and contributed to the program in the course, aligned with the institutional mission and values. They devoted their time to supporting education and entrepreneurship as a social value. With this recognition, the companies and organizations were willing to participate in this course and provide students with well-prepared assignments to prepare them for future changes. All three institutions are Canada- and Japan-based and served as a bridge between the two countries. They recognize the importance of collaboration between two countries, especially for the young generation. The course involved students from Canada and Japan.

At the organizational level, the company and organization experienced organizational engagement and development during the course. They had positive interactions and feedback from educators and students and created strong global ties—organizational engagement in the form of industry–university–government collaborations. The institutions considered the students' perspectives and identified and share possible solutions to the problems confronting the institutions. After the course, they shared the students' proposals with their supervisors and team members, revealing the progress in organizational development.

At the personal level, during the course, the representatives of the institutions enjoyed interacting with the students and were impressed by their communication and presentation skills, which motivated them to improve those skills. With these experiences, the representatives recognized the students' personal development. Although the course has ended, the institutions hope to maintain their relationship in the future and make progress for both countries.

After conducting Q&A sessions and listening to the students' proposal, the representatives reported liking the students' perspectives and identified and shared possible solutions to the problems. Furthermore, they shared the students' insights in a proposal with their supervisors and team members. This was a good learning cycle for the organizations and the representatives also improved their personal growth through explanations, presentations, and coaching, and enjoyed personally interacting with the students. Despite working at a distance by using the COIL approach, the organizational engagement and development and the representatives of these institutions developed positively and created value for the universities while also forming entrepreneurial ecosystems at Japanese and Canadian companies, organizations, and universities to help build the next generation of leaders.



**Figure 2.** The benefits of the course from companies' and organizations' perspectives.

## 5. Discussion

UBEEs have become efficient in engaging with business communities. However, the empirical research from outside of universities is scarce. This study examined why companies and organizations are willing to offer education that fosters universities' entrepreneurial ecosystems. After analyzing the results of the interviews of students from three institutions, I found that there was organizational engagement and development, as well as personal development through the academia, industry, and public collaboration in the entrepreneurial ecosystem. This research supports [Belitski and Heron's \(2017\)](#) notion that it is important to engage with business communities and transfer knowledge among universities, firms, and policymakers to create value for society. The contents and specific learning processes of entrepreneurship education as observed in this study are discussed below.

The Embassy of Canada to Japan strongly supports the collaborative cross-cultural exchange program in the long term and believes that their support is valuable for students, institutions, and society. From the interview of the representative of the Embassy of Canada to Japan, a cross-cultural college is important for promoting student input and collaboration as a symbol of Canada's and Japan's cooperation.

The intention of the assignment and questions were straightforward. They aimed to propose valuable suggestions for the assignment to address challenges. As part of the public sector, the Embassy of Canada to Japan considered a balance for the answers, especially for students from Canada and Japan. Since it recognizes students as fresh and optimistic, and having great ideas, the representative did not directly reject their proposal to prevent them from becoming depressed and unhappy. They attempted to focus on the positive aspects of the proposal and on their actions.

During the course, the representatives received the students' fresh inputs from their diverse perspectives and significant consideration and analyses were conducted. The representatives enjoyed the students' perspectives and how Japanese and Canadian students worked together using different cultural aspects and study approaches. After hearing the students' voices, they admitted that the course was meaningful. All three members of the

Embassy of Canada to Japan participated in this online course and were satisfied with their results. Additionally, they were impressed by the involvement of all members, the professional responses, the presentation quality, and the significant amount of interesting information. Furthermore, this study demonstrated another way to perform SWOT analyses and a more structural format to improve the course and create an alumni program.

Ernst & Young has a long history of as part of the program and strongly believes that supporting universities as a global firm creates value for society. Ernst & Young representatives mentioned that one of the company's main goals is to promote education and entrepreneurship. The program is aligned with the company's goal to support education. Furthermore, it shares the company's goals and values. The company recognized that this program cannot be run by itself and the program provided them with a good opportunity to observe the younger generation and understand what is important and relevant for them, as well as the essence of cross-country collaborations and cultural understanding and insights.

The Ernst & Young representatives carefully provided an interesting assignment for the students. They received a learning experience from the program and enjoyed observing the dynamics and passion in the students' performances, the exposure to the insights and diverse perspectives, and the collaboration between Canada and Japan during the course. They enjoyed connecting with the students, listening and responding to numerous questions, and observing the excited students' reactions while directly interacting with them. The students were very curious about the business world and engaged with the questions and feedback. In terms of outcomes, the representatives were amazed to see what the students observed and listened to their high-quality presentations and insightful output. They expressed enthusiastic participation and gave high-quality presentations. Furthermore, the representatives shared the students' practical proposals with their bosses and considered how they could implement them. In the long term, they were satisfied with the students' performances because they noticed that all students worked hard and contributed and had faith in the project consistently throughout the year.

Overall, the representatives were willing to participate in the program although it took time to prepare for the course. They suggested more reflective feedback and global mindset discussions and an invitation to an actual office. The students could have a panel interview on how they perceive cross-cultural collaboration with workers. As such, students could have an opportunity to hear from the organization and learn what a global mindset is, why a global mindset and engagement are important for a company, and how to engage on a global scale. This could be used as an actual reference for the presentation.

Manulife is a very well-known insurance company in Canada. The assignment followed the same business theme, and its objective was to increase Manulife's awareness while using digital tools in the Japanese market. Since the Canadian students knew about Manulife but the Japanese students did not, the representative of Manulife thought it would be worthwhile to work together. He believed that communication is a very versatile skill and ability. Branding collectively as a company and as an individual and attracting fans by doing business based on people's feelings and memories through communication with customers is quite important. Customers need to get to know a company or an individual and have trust to buy things, and being recognized by people is important in every way. Business is about gaining recognition and trust.

Manulife recognized the importance of collaboration between Japan and Canada and the involvement of students. Additionally, the course assignment was based on an internal theme and intended to build trust through communication. Manulife evaluated the students' positive attitudes and new ideas and views of diversity and was satisfied with the high level of the question-and-answer session and final solution. The representative enjoyed the students' positive responses during the course. He admitted that it was challenging to apply his teaching process to college students, but he found the right direction and realized the theory was there. Furthermore, he realized that he needed diversity because it was not a good idea to interact with the same type of people. He believed that the students'

proposals were trustworthy. These results provided us with an opportunity to expand the branding strategies. He stated that “It made adults realize that they know what color the sole of a shoe is, but by looking at it from the back, they can see that it is white”. He further clarified the importance of awareness and learning from students’ perspectives.

Regarding the COIL approach, the representative also suggested that the company and students needed to improve their online communication skills to present effectively. He introduced a proposal and his conclusions from this project to his team. In terms of personal growth and joy, he noticed that the program could be used for employee education. For him, it was very important to present in English to brush up on his language skills and it was quite fun to see the students’ progress and how they absorbed his recommendations. He is very happy to be involved in the growth of a team or an individual. He added that he would love to be in a mentoring and coaching role because he had a very good impression of someone who taught him when he was young. He knew that a good attitude is beneficial for students in a social community.

For global engagement and creating strong ties among stakeholders in entrepreneurial ecosystems, he advocated that universities should focus on global engagement, networks, and communities, for example, online tea parties and free talks because students often listen to companies and organizations after they have presented their business plans. Furthermore, he suggested that there needs to be support for the students after they graduate. The little things add up. What he provided to the students was not just for going through the classes and absorbing the information. As such, he believes it is necessary to instill loyalty in our entrepreneurial communities to foster their love for the university.

Scholars have utilized the concept of an entrepreneurship ecosystem as a foundation for entrepreneurial activities within specific regions and industries (Cantner et al. 2021). By emphasizing the significance of digital technology (Elia et al. 2020), prior research highlighted the supporting role of facilitating organizations (Clayton et al. 2018; van Rijnsoever 2020) and explored the connections between ecosystems and economic development (Martínez-Fierro et al. 2019). Hemmert and Kim (2021) showed well-developed co-creation in an entrepreneurial ecosystem involving the collaboration between universities, industry, and the government, which can bring about strong economic and technological progress and move the business culture and policies forward. This study focused on the voices of the representatives of companies and organizations at the personal, organizational, and institutional levels and investigated what they learned from the program and their contribution to the entrepreneurial ecosystem. In this study, which utilizes the COIL approach, the collaboration project between Canada and Japan represents an advanced usage of digital technology. The economic impact of this project remains unclear because of the current training in social and business knowledge, skills, and attitudes of the young generation; however, it will positively impact the creative culture among all stakeholders and provide economic benefits in the future.

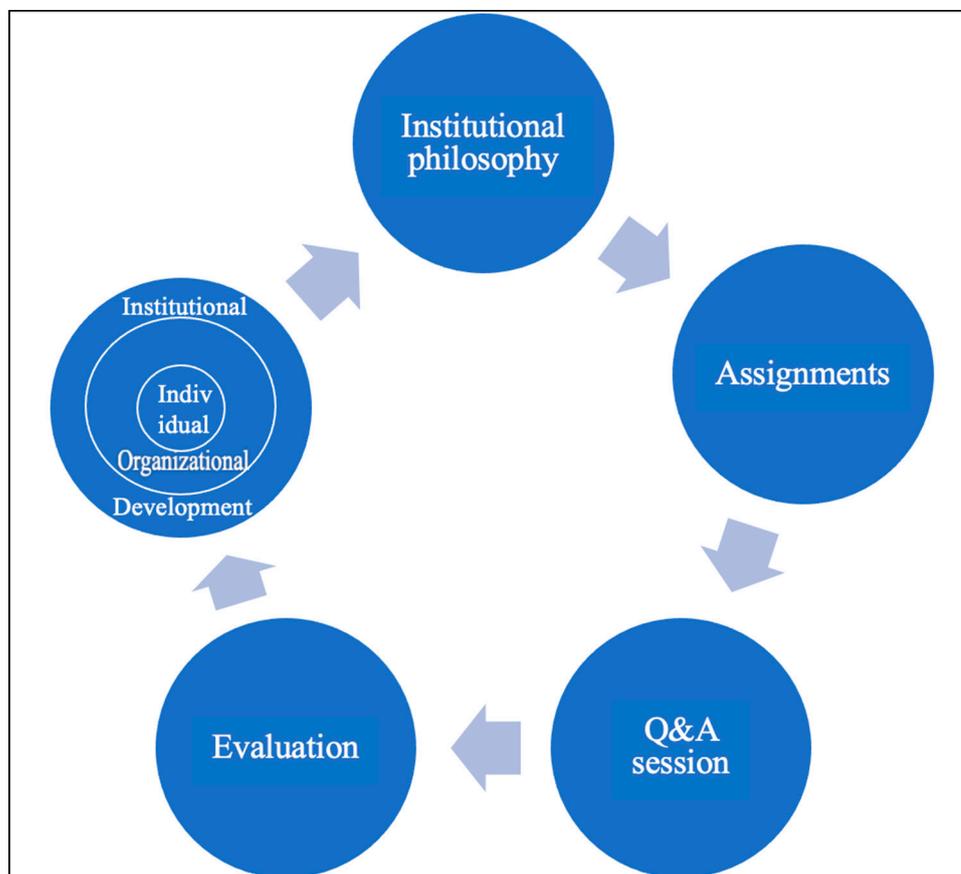
Levie and Autio (2008) stated that entrepreneurial ecosystems positively affect regional entrepreneurial activity. The importance of co-creation between universities and communities should also be reiterated (Quillinan et al. 2018). Universities are key stakeholder in entrepreneurial ecosystems (O’Brien et al. 2019). Universities should identify and meet students’ needs and requirements by tailoring the elements within the ecosystem to accelerate value co-creation with the industries and policymakers in the entrepreneurial ecosystem, as advised by Morris et al. (2017) and Ferrandiz et al. (2018). Furthermore, based on Rideout and Gray’s (2013) insights on UBEEs, Brush’s (2014) dynamic network-actor interactions and Mason and Brown’s (2014) set of entrepreneurial stakeholders, entrepreneurial organizations (such as firms), institutions (such as universities or the public sector), and entrepreneurs should maintain entrepreneurial activities over the long-term in entrepreneurial ecosystems. As social, cultural, and material attitudes as well as relational interactions and the institutional environment in the entrepreneurial ecosystem generate entrepreneurial activities and promote value creation (Stam 2015; Spigel 2017; Shwetzzer et al. 2019), firms and organizations collaborating with universities provide an

entrepreneurial culture and network to students and contribute toward entrepreneurial activity and value creation in society, which also benefits them. [Petrescu \(2019\)](#) mentioned the value of private, organizational, and collective social values. Analyses of entrepreneurship education as a determinant of socioeconomic development necessitate an in-depth review of its dimensions and attributes.

[Skute et al. \(2019\)](#) mentioned the importance of individual-, organizational-, and institutional-level university and industry collaborations in entrepreneurial ecosystems; their study also showed the details of these levels. [Figure 3](#) illustrates the course process and benefits from the companies' and organizations' perspectives on three levels. In this study, at the institutional level, the institutions participated in this project because their institutional missions and social values aligned with their institutional philosophy. At the organizational level, the actual problems faced by these organizations were provided as details of the assignments. All the assignments were very professional, with well-structured concepts and well-guided explanations for the students with data. In the Q&A sessions and final presentations from the students, the representatives focused on the students and cared about their voice, motivation, and reactions. The students utilized the lessons and created a business plan to find business opportunities and learn theory and practice in entrepreneurship education. Moreover, the representatives provided the students with the skills to contribute to society by creating value, building human networks through the classes, and experiencing engagement and development. They evaluated the students' business proposals and provided valuable feedback and comments for improvement. The output from the students was shared with the organizations. During this process, trusting and collaborative university–industry–government partnerships were established and maintained for the long term. At the individual level, the representatives were personally impressed with students' active participation, engagement, and contribution. They enjoyed interacting with students they did not usually interact with in the workplace, even though the sessions were conducted online. Overall, they were satisfied with the students and their outputs, which provided diverse perspectives and insights, and engagement. The value of the feedback was highlighted to the members of the company or organizational network. The company and organization recognized the mission, benefit, and importance of collaboration and co-creation among the universities, companies, and organizations. High-quality inputs, active participation, contributions, and engagement during the process as well as insightful outputs are key success factors for entrepreneurial ecosystems. They build trust among stakeholders, which has accumulated over the years. Therefore, the companies and organizations repeatedly participated in and contributed to the program by engaging with stakeholders and enhancing value co-creation in entrepreneurial ecosystems.

[Theodoraki et al. \(2018\)](#) showed the importance of social capital dimensions—network ties, configurations, structural stability, shared goals and language, shared cognitive narratives, trust, norms, obligations, and relational identification—for UBEEs. Similarly, this study showed the importance of strong network ties; trustful relationships; obligations and identifications; norms among firms, organizations, and universities in the long term; structural course design; common goals and language for a better society; and the development of future leaders. Trust is important after university and industry collaboration can gradually develop ([Skute et al. 2019](#)). This study highlighted that the university networks utilized by students eventually personally benefit the representatives and socially benefit the institutions, especially in Japan and Canada, thus reflecting the key role of the representatives of firms and organizations in entrepreneurial development. All stakeholders in the course effectively contributed to the project. Although the faculty members of the university designed the course and prepared the space for collaboration, the companies and organizations designed the assignment and undertook the coaching and evaluations. Thus, this study resulted in value co-creation among the stakeholders. Moreover, this research showed the importance of the contributions of companies and organizations and how engagement and development can establish trust in the long term. [Hägg and Kurczewska \(2022\)](#) emphasized the importance of entrepreneurship education for fostering

entrepreneurial citizens. Specifically, they focused on entrepreneurial thinking and outlined that more practical and collaborative communities, which utilize a longitudinal approach with international collaboration in entrepreneurship education within the entrepreneurial ecosystem, are needed for a better society.



**Figure 3.** The course process and its benefits from companies' and organizations' perspectives on three levels.

## 6. Conclusions

This study aimed to conduct a detailed analysis of why companies and organizations support universities to foster entrepreneurial ecosystems. The macro level overview of the entrepreneurial ecosystem was clear in terms of the definition of entrepreneurial ecosystems and trends in publications, countries and institutions, distribution of research disciplines, source journals, authors, and thematic clusters for entrepreneurial ecosystem research. However, the details of the roles and contributions of institutions at the individual, organizational, and institutional levels is unclear.

Support from companies and organizations is important for enhancing value co-creation in higher education and to develop entrepreneurial ecosystems. The development of an entrepreneurial ecosystem involves collaboration and co-creation among universities, companies, and organizations. All stakeholders should recognize the importance of the mission, benefits, and trust to actively participate, contribute, and engage in the collaborative project. In the COIL approach, it is important to consider the institutional philosophy, organizational engagement and development, and personal development when creating value for the collaboration between universities, industry, and government.

At the institutional level, companies and organizations are aligned with the institutional philosophy, working toward building a better society. The representatives actively contributed to the program, considered the institutional mission and values, and recognized the importance of collaboration between Canada and Japan, especially for the young

generation. At the organizational level, the companies and organizations experienced organizational engagement and development. The positive interactions with and feedback from educators and students resulted in the creation of strong global ties, thus fostering industry–university–government collaboration for the long term. The institutions valued the students' perspectives and proposals and shared possible solutions for the problems the institutions faced in their organizations. At the individual level, the representatives of the institutions enjoyed interacting with students and were impressed with their communication and presentation skills, which motivated the students to improve those skills. Based on these experiences, the representatives recognized the students' personal development. With this process, trust was established, value co-creation flourished, and a supportive culture took root in the entrepreneurial ecosystem.

As noted above, our study contributes to future education and research programs as it provides a better conceptual understanding and practical entrepreneurship education program based on the COIL approach for entrepreneurial ecosystems. Thus, the results of our study have both theoretical and practical implications. The results confirm the findings of previous research, which demonstrate the importance of value co-creation between universities, industries, and policymakers in entrepreneurial ecosystems (Stam 2015; Spigel 2017; Morris et al. 2017; Quillinan et al. 2018; Ferrandiz et al. 2018; Shwitzer et al. 2019), digital technology (Elia et al. 2020), and trust as a key factor for university and industry collaborations (Skute et al. 2019). The roles and contributions of the institutions at the individual, organizational, and institutional levels in the micro perspective of the entrepreneurial ecosystem facilitate the creation of a win–win loop and trusting relationship for all the ecosystem members in the COIL entrepreneurship program. Although the institutions had to devote time to proposing a clear assignment, answering questions regarding the assignment, and evaluating the students' business plans, they can benefit on those three levels (see Figure 3). This framework provides managerial implications for institutions to understand the overall contributions of the course as one of the stakeholders in entrepreneurial ecosystems. The students' passion and motivation and a program design by a university should be considered as a prerequisite for joining the program. Universities can encourage stakeholders to explain the framework and engage in relationships with ecosystem members to optimize the resources for entrepreneurial support within a region. In the future, regional economic development may be enhanced by those students within the framework conditions.

The main limitations of this study are that it was based on the voices of firms and organizations in the entrepreneurial ecosystem of higher education in Japan and Canada, and the sample size was relatively small. Thus, the conclusions cannot be generalized to other countries.

Future studies should be conducted on similar entrepreneurship programs with larger sample sizes using the same methodology. Additionally, the current study focused on the role of partners with a university. However, the ecosystems also consist of actors such as incubators, policymakers, and business leaders outside of universities that contribute toward value creation through business community engagement and knowledge transfer among universities, firms, and policymakers. Considering these actors would facilitate a better understanding of the mechanisms of entrepreneurial ecosystems and develop them from a broader perspective.

**Funding:** This work was supported by JSPS KAKENHI Grant Number JP20K13919.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The raw data supporting the conclusions of this article will not be made available.

**Conflicts of Interest:** The author declares no conflict of interest.

## Notes

- <sup>1</sup> The Sunny COIL Center. Faculty Guide for Collaborative Online International Learning Course development. [https://www.ufl.edu/uap/forms/coil\\_guide.pdf](https://www.ufl.edu/uap/forms/coil_guide.pdf), accessed on 3 March 2023.
- <sup>2</sup> Kwansai Gakuin University (KGU) has had a historical relationship with Canada since 1910 when the Canadian Methodist Church operated in Kwansai Gakuin. C.J.L. Bates, a missionary from the Canadian Methodist Church, became the fourth president of Kwansai Gakuin. KGU received funding from the Ministry of Education, Culture, Sports, Science, and Technology in Japan (MEXT) under the Ministry's 'Top Global University Project (2014–2023)', and exchanged students, faculty, and staff to enable the cultivation of world citizens. By 2023, KGU planned to send more than 2700 students overseas while accepting 1500 students a year to accelerate internationalization. (Cross-Cultural College, Kwansai Gakuin University; <https://ciec.kwansai.ac.jp/study/shortprograms/ccc/pdf/KGU%20Cross-Cultural%20College%20Brochure-English.pdf>, accessed on 3 March 2023).
- <sup>3</sup> The Embassy of Canada to Japan works for the public sector. It connects and does business with the government and engages with indigenous people in a variety of industries including education sectors (<https://www.canada.ca/en.html>, accessed on 3 March 2023). Ernst & Young (EY) provides consulting, assurance, tax, and transaction services that help solve clients' challenges and build a better working world for all ([https://www.ey.com/en\\_ca](https://www.ey.com/en_ca), accessed on 3 March 2023). Manulife is a very well-known insurance company in Canada. It cares about people's life moments, especially in terms of education, healthcare, investment, or planning for retirement (<https://www.manulife.com>, accessed on 3 March 2023).

## References

- Aarikka-Stenroos, Leena, and Elina Jaakkola. 2012. Value co-creation in knowledge intensive business services: A dyadic perspective on the joint problem-solving process. *Industrial Marketing Management* 41: 15–26. [CrossRef]
- Algieri, Bernardina, Antonio Aquino, and Marianna Succurro. 2013. Technology transfer offices and academic spin-off creation: The case of Italy. *The Journal of Technology Transfer* 38: 382–400. [CrossRef]
- Amabile, Teresa M., and Mukti Khaire. 2008. Creativity and the role of the leader. *Harvard Business Review* 86: 142. Available online: <https://hbr.org/2008/10/creativity-and-the-role-of-the-leader> (accessed on 20 April 2024).
- Amabile, Teresa M., and Steve J. Kramer. 2011. *The Progress Principle: Using Small Wins to Ignite Joy, Engagement, and Creativity at Work*. Boston: Harvard Business Review Press. Available online: <https://www.hbs.edu/faculty/Pages/item.aspx?num=40692> (accessed on 20 April 2024).
- Appiah-Kubi, Philip, and Ebenezer Annan. 2020. A review of a collaborative online international learning. *International Journal of Engineering Pedagogy* 10: 109–24. [CrossRef]
- Asojo, Abimbola Oluwatoni, Yuliya Kartoshkina, Babatunde Jaiyeoba, and Amole Dolapo. 2019. Multicultural Learning and Experiences in Design through Collaborative Online International Learning (COIL) Framework. *Journal of Teaching and Learning with Technology* 8: 5–16. [CrossRef]
- Åsterbro, Thomas B., and Navid Bazzazian. 2011. Universities, entrepreneurship and local economic development. In *Handbook of Research on Entrepreneurship and Regional Development*. Edited by Michael Fritsch. Cheltenham: Edward Elgar, pp. 252–33. Available online: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1533360](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1533360) (accessed on 20 April 2024).
- Audretsch, David B., and Maksim Belitski. 2017. Entrepreneurial ecosystems in cities: Establishing the framework conditions. *The Journal of Technology Transfer* 42: 1030–51. [CrossRef]
- Austin, James, Howard Stevenson, and Jane Wei-Skillern. 2006. Social and commercial entrepreneurship: Same, different, or both? *Entrepreneurship Theory and Practice* 30: 1–22. [CrossRef]
- Azagra-Caro, Joaquín, M., Fragiskos Archontakis, Antonio Gutiérrez-Gracia, and Ignacio Fernández-de-Lucio. 2006. Faculty support for the objectives of university-industry relations versus degree of R&D cooperation: The importance of regional absorptive capacity. *Research Policy* 35: 37–55. Available online: <https://EconPapers.repec.org/RePEc:eee:respol:v:35:y:2006:i:1:p:37-55> (accessed on 20 April 2024).
- Baildon, Martin. 2022. Implementation of COIL programmes for English courses in tertiary education: An instructor's perspective for participation. *Academia. Literature and Language* 112: 151–66. [CrossRef]
- Belitski, Maksim, and Keith Heron. 2017. Expanding entrepreneurship education ecosystems. *Journal of Management Development* 36: 163–77. [CrossRef]
- Block, Zenas, and Stephen A. Stumpf. 1992. Entrepreneurship education research: Experience and challenge. In *The State-of-the-Art of Entrepreneurship*. Edited by Donald L. Sexton and John D. Kasarda. Boston: PWS-Kent Publishing Company, pp. 17–42. Available online: <https://link.gale.com/apps/doc/A14864743/AONE?u=anon~833ff915&sid=googleScholar&xid=80ae1692> (accessed on 20 April 2024).
- Bruns, Krista, Niels Bosma, Mark Sanders, and Schramm Marc. 2017. Searching for the existence of entrepreneurial ecosystems: A regional cross-section growth regression approach. *Small Business Economics* 49: 31–54. [CrossRef]
- Brush, Candida G. 2014. Exploring the concept of an entrepreneurship education ecosystem. In *Innovation Pathways for University Entrepreneurship in the 21st Century*. Bingley: Emerald Group Publishing Limited, vol. 24, pp. 25–39. Available online: <https://EconPapers.repec.org/RePEc:eme:aseizz:s1048-473620140000024000> (accessed on 20 April 2024).

- Bruton, Garry D., David Ahlstrom, and Krzysztof Obloj. 2008. Entrepreneurship in emerging economies: Where are we today and where should the research go in the future. *Entrepreneurship Theory and Practice* 32: 1042–2587. [CrossRef]
- Caiazza, Rosa, Aileen Richardson, and David Audretsch. 2015. Knowledge effects on competitiveness: From firms to regional advantage. *The Journal of Technology Transfer* 40: 899–909. [CrossRef]
- Cantner, Uwe, James A. Cunningham, Erik E. Lehmann, and Menter Matthias. 2021. Entrepreneurial ecosystems: A dynamic lifecycle model. *Small Business Economics* 57: 407–23. [CrossRef]
- Clarysse, Bart, and Nathalie Moray. 2004. A process study of entrepreneurial team formation: The case of a research-based spin-off. *Journal of Business Venturing* 19: 55–79.
- Clayton, Paige, Maryann Feldman, and Nichola Lowe. 2018. Behind the scenes: Intermediary organizations that facilitate science commercialization through entrepreneurship. *Academy of Management Perspectives* 32: 104–24. [CrossRef]
- Cohen, Boyd. 2006. Sustainable valley entrepreneurial ecosystems. *Business Strategy and the Environment* 15: 1–14. [CrossRef]
- Curran, James, and John Stanworth. 1989. Education and training for enterprise: Problems of classification, evaluation, policy and research. *International Small Business Journal* 7: 11–23. [CrossRef]
- Deardorff, Darla K. 2015. *Demystifying Outcomes Assessment for International Educators: A Practical Approach*. Sterling: Stylus Publishing. Available online: <https://styluspub.presswarehouse.com/browse/book/9781620361283/Demystifying-Outcomes-Assessment-for-International-Educators> (accessed on 20 April 2024).
- De Brito, Sónia, and João Leitão. 2021. Mapping and defining entrepreneurial ecosystems: A systematic literature review. *Knowledge Management Research & Practice* 19: 21–42. [CrossRef]
- Diener, Edward Diener, and Eunkook M. Suh, eds. 2003. *Culture and Subjective Well-Being*. Boston: MIT Press. Available online: <http://cognet.mit.edu/book/culture-and-subjective-well-being> (accessed on 20 April 2024).
- Elia, Gianluca, Alessandro Margherita, and Passiante Giusepping. 2020. Digital entrepreneurship ecosystem: How digital technologies and collective intelligence are reshaping the entrepreneurial process. *Technological Forecasting and Social Change* 150: 119791. [CrossRef]
- European Commission. 2019. Erasmus and Higher Education Impact Study. Available online: <https://op.europa.eu/en/publication-detail/-/publication/94d97f5c-7ae2-11e9-9f05-01aa75ed71a1> (accessed on 1 November 2022).
- European Private Equity and Venture Capital Association. 2005. *Private Equity and Venture Capital: An Engine for Economic Growth, Competitiveness and Sustainability*. Belgium: EVCA Public Policy Priorities. Available online: [https://www.gvpartners.com/web/pdf/EVCA\\_Policy\\_Paper.pdf](https://www.gvpartners.com/web/pdf/EVCA_Policy_Paper.pdf) (accessed on 20 April 2024).
- Fayolle, Alain, and Benoit Gailly. 2008. From craft to science: Teaching models and learning processes in entrepreneurship education. *Journal of European Industrial Training* 32: 569–93. [CrossRef]
- Feld, Brad. 2012. *Startup Communities: Building an Entrepreneurial Ecosystem in Your City*. Hoboken: Wiley. [CrossRef]
- Fernandes, Ana Joana, and Joao J. Ferreira, 2022. Entrepreneurial ecosystems and networks: A literature review and research agenda. *Review of Managerial Science* 16: 189–247. [CrossRef]
- Ferrandiz, Julia, Pilar Fidel, and Andrea Conchado. 2018. Promoting entrepreneurial intention through a higher education program integrated in an entrepreneurship ecosystem. *International Journal of Innovation Science* 10: 6–21. [CrossRef]
- Filippetti, Andrea, and Maria Savona. 2017. University–industry linkages and academic engagements: Individual behaviours and firms’ barriers. Introduction to the special section. *The Journal of Technology Transfer* 42: 719–29. [CrossRef]
- Fyrberg, Anna, and Jürjido Rein. 2009. What about Interaction? Networks and Brands as Integrators within Service-Dominant Logic. *Journal of Service Management* 20: 420–32. [CrossRef]
- Gabora, Liane. 2010. Revenge of the “neurds”: Characterizing creative thought in terms of the structure and dynamics of memory. *Creativity Research Journal* 22: 1–13. [CrossRef]
- Gartner, William, and Sue Birley. 2002. Introduction to the special issue on qualitative methods in entrepreneurship research. *Journal of Business Venturing* 17: 387–95. [CrossRef]
- Gibb, Allan A. 1987. Enterprise culture—Its meaning and implications for education and training. *Journal of European Industrial Training* 11: 1–38. [CrossRef]
- Gibb, Allan A. 1993. Enterprise culture and education: Understanding enterprise education and its links with small business, entrepreneurship and wider education goals. *International Small Business Journal* 11: 11–34. [CrossRef]
- Gibb, Allan A. 2002. In pursuit of a new ‘enterprise’ and ‘entrepreneurship’ paradigm for learning: Creative destruction, new values, new ways of doing things and new combinations of knowledge. *International Journal of Management Reviews* 4: 233–69. [CrossRef]
- Gide, Ergun, and Riad Shams. 2011. The use of e-CRM database to promote a value-breeding bond network: The case of hawthorn football club of Australian rules. *Procedia Computer Science* 3: 1083–88. [CrossRef]
- Goss, David. 2005. Schumpeter’s legacy? Interaction and emotions in the sociology of entrepreneurship. *Entrepreneurship Theory and Practice* 29: 205–18. [CrossRef]
- Gray, Marzell I., Abimbola Asojo, Jeff Lindgren, Nolan Daniel, and Amy Versnik Nowak. 2021. COIL: A global experience for everyone. *Journal of Higher Education Theory and Practice* 21: 64–79. [CrossRef]
- Gronroos, Christian. 2012. Conceptualising value co-creation: A journey to the 1970s and back to the future. *Journal of Marketing Management* 28: 1520–34. [CrossRef]
- Gummesson, Evert, and Cristina Mele. 2010. Marketing as co-creation of value through network interacting and resource integration. *Journal of Business Market Management* 4: 181–98. [CrossRef]

- Guth, Sarah. 2013. The Coil Institute for Globally Networked Learning in the Humanities. The SUNY Global Center. Available online: <https://hcommons.org/deposits/objects/hc:12406/datastreams/CONTENT/content> (accessed on 12 December 2021).
- Harada, Kikuko. 2010. Entrepreneurship education based on partnership between schools, business and communities, and its effect. *The Journal of Economic Education* 29: 81–83. [CrossRef] [PubMed]
- Hägg, Gustav, and Agnieszka Kurczewska. 2022. *Entrepreneurship Education: Scholarly Progress and Future Challenges*. New York: Routledge. [CrossRef]
- Håkansson, Hakan, David I. Ford, Lars-Erik Gadde, Ivan Snehota, and Alexandra Waluszewski. 2009. *Business in Networks*. Chichester: Wiley & Sons.
- Hechavarria, Diana M., Amy Ingram, and Justin Heacock. 2016. Entrepreneurial ecosystems and entrepreneurship education: The role of universities in fostering ecosystem development. In *Annals of Entrepreneurship Education and Pedagogy*. Edited by Michael H. Morris and Eric W. Liguori. Cheltenham: Edward Elgar, pp. 305–22. Available online: <https://www.e-elgar.com/shop/gbp/annals-of-entrepreneurship-education-and-pedagogy-2016-9781784719173.html> (accessed on 20 April 2024).
- Hemmer, Martin, and Jae-Jin Kim. 2021. *Entrepreneurship in Korea: From Chaebols to Start-Ups*. Oxford: Routledge.
- Hill, Shane, and Barra O’Cinne’ide. 1998. Entrepreneurship education: Case studies from the celtic tiger. In *Proceedings of the Enterprise and Learning Conference*. Reading: University of Aberdeen.
- Honig, Benson. 2004. Entrepreneurship education: Toward a model of contingency-based business planning. *Academy of Management Learning and Education* 3: 258–73. [CrossRef]
- Hsiao, Chan, Yi-Hsuan Lee, and Wan-Jun Chen. 2015. The effect of servant leadership on customer value co-creation: A cross-level analysis of key mediating roles. *Tourism Management* 49: 45–57. [CrossRef]
- Hsu, David H., Edward Roberts B, and Charles Eesley E. 2007. Entrepreneurs from technology-based universities: Evidence from MIT. *Research Policy* 36: 768–88. [CrossRef]
- Inada, Yuko. 2022. Collaborative online international learning classes to enhance co-creation in Canada and Japan. *Journal of Education and Learning* 11: 15–30. [CrossRef]
- Inada, Yuko. 2023. A comparative study of physical versus online classrooms: Co-creation in industry-academia collaborative education. *Review of Integrative Business and Economics Research* 12: 97–117.
- Isenberg, Daniel. 2010. How to start an entrepreneurial revolution. *Harvard Business Review* 88: 40–50. Available online: <https://hbsp.harvard.edu/product/R1006A-PDF-ENG> (accessed on 20 April 2024).
- Isenberg, Daniel. 2011. *The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economy Policy: Principles for Cultivating Entrepreneurship*. Babson Park: Babson Entrepreneurship Ecosystem Project, Babson College.
- Isenberg, Daniel. 2013. *Worthless, Impossible and Stupid: How Contrarian Entrepreneurs Create and Capture Extraordinary Value*. Cambridge: Harvard Business Review Press.
- Iyanna, Shilpa, Heidi Winklhofer, and James Devlin. 2015. A framework to measure the co-created concept of value. In *Marketing Dynamism & Sustainability: Things Change, Things Stay the Same. Developments in Marketing Science: Proceedings of the Academy of Marketing Science*. Edited by Robinson Leroy. Bosto: Springer. Available online: <https://www.ellibs.com/book/9783319109121/marketing-dynamism-amp-sustainability-things-change-things-stay-the-same> (accessed on 20 April 2024).
- Jaakkola, Elina, and Taru Hakanen. 2013. Value co-creation in solution networks. *Industrial Marketing Management* 42: 47–58. [CrossRef]
- Jones, Paul, David Pickernell, Rebecca Connolly, and Celia Netana. 2017. A tale of two universities: Graduates perceived value of entrepreneurship education. *Education and Training* 59: 689–705. [CrossRef]
- Katz, Jerome A. 2003. The chronology and intellectual trajectory of American entrepreneurship education. *Journal of Business Venturing* 18: 283–300. [CrossRef]
- Kinoshita, Yasuhito. 1999. *Grounded Theory Approach: Rebirth of Qualitative Empirical Research*. Tokyo: KoUundo. Available online: <https://www.koubundou.co.jp/book/b156427.html> (accessed on 20 April 2024).
- Kinoshita, Yasuhito. 2003. *Practice of Grounded Theory Approach: Innovation to Qualitative Research*. Tokyo: Koubundo. Available online: <https://www.koubundou.co.jp/book/b156903.html> (accessed on 20 April 2024).
- Kinoshita, Yasuhito. 2007. *The Live Lecture on M-GTA: The Practical Qualitative Research Methodology, All Modified Grounded Theory Approach*. Tokyo: Koubundo. Available online: <https://www.koubundou.co.jp/book/b157204.html> (accessed on 20 April 2024).
- Knight, Jane. 2003. Updated internationalization definition. *International Higher Education* 33: 2–3. [CrossRef]
- Kolb, David A. 1984. *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs: Prentice-Hall. Available online: <http://academic.regis.edu/ed205/Kolb.pdf> (accessed on 20 April 2024).
- Kourilsky, Marily L. 1995. *Entrepreneurship Education: Opportunity in Search of Curriculum*; Kansas: Ewing Marion Kaffman Foundation. Available online: <https://eric.ed.gov/?id=ED389347> (accessed on 20 April 2024).
- Kuckertz, Andreas. 2019. Let’s take the entrepreneurial ecosystem metaphor seriously! *Journal of Business Venturing Insights* 11: e00124. [CrossRef]
- Kuratko, Donald F. 2005. The emergence of entrepreneurship education: Development, trends, and challenges. *Entrepreneurship Theory and Practice* 29: 577–97. [CrossRef]
- Kuratko, Donald F., Greg Fisher, James M. Bloodgood, and Jeffrey S. Hornsby. 2017. The paradox of new venture legitimation within an entrepreneurial ecosystem. *Small Business Economics* 49: 119–40. [CrossRef]
- Lackéus, Martin. 2015. *Entrepreneurship in Education: What, Why, When, How*. Entrepreneurship 360 Background Paper. OECD. Available online: [https://www.oecd.org/cfe/leed/BGP\\_Entrepreneurship-in-Education.pdf](https://www.oecd.org/cfe/leed/BGP_Entrepreneurship-in-Education.pdf) (accessed on 20 April 2024).

- Levie, Jonathan, and Erko Autio. 2008. A theoretical grounding and test of the GEM model. *Small Business Economics* 31: 235–63. [CrossRef]
- Mack, Elizabeth, and Heike Mayer. 2016. The evolutionary dynamics of entrepreneurial ecosystems. *Urban Studies* 53: 2118–33. Available online: <https://www.jstor.org/stable/26151186> (accessed on 20 April 2024). [CrossRef]
- Madichie, Nnamdi O., and Ayantunji Gbadamosi. 2017. The entrepreneurial university: An exploration of ‘value-creation’ in a non-management department. *Journal of Management Development* 36: 196–216. [CrossRef]
- Mahieu, Ron. 2006. Agents of Change and Policies of Scale: A Policy Study of Entrepreneurship and Enterprise in Education. Ph.D. thesis, Umeå Universitet, Umeå, Sweden.
- Martínez-Fierro, Salustiano, José María Biedma-Ferrer, and José Ruiz-Navarro. 2019. Impact of high-growth start-ups on entrepreneurial environment based on the level of national economic development. *Business Strategy and the Environment* 29: 1007–20. [CrossRef]
- Mason, Colin, and Ross Brown. 2013. Creating good public policy to support high-growth firms. *Small Business Economics* 40: 211–25. [CrossRef]
- Mason, Colin, and Ross Brown. 2014. Entrepreneurial Ecosystems and Growth-Oriented Entrepreneurship. Background Paper Prepared for the Workshop Organized by the OECD LEED Programme and the Dutch Ministry of Economic Affairs on Entrepreneurial Ecosystems and Growth Oriented Entrepreneurship, November, Hague. Available online: <https://www.oecd.org/cfe/leed/Entrepreneurial-ecosystems.pdf> (accessed on 20 April 2024).
- McKeon, Thomas K. 2013. A college’s role in developing and supporting an entrepreneurship ecosystem. *Journal of Higher Education Outreach and Engagement* 17: 85–90. Available online: <https://openjournals.libs.uga.edu/jheoe/article/view/1055> (accessed on 20 April 2024).
- Ministry of Economy, Trade and Industry. 2016. Essential Competencies. Available online: <https://www.meti.go.jp/policy/kisoryoku/index.html> (accessed on 1 February 2022).
- Ministry of Education, Culture, Sports, Science and Technology. 2017. MOT Education Core Curriculum. Available online: [https://www.mext.go.jp/component/b\\_menu/shingi/toushin/\\_icsFiles/afieldfile/2017/06/13/1386737\\_2.pdf](https://www.mext.go.jp/component/b_menu/shingi/toushin/_icsFiles/afieldfile/2017/06/13/1386737_2.pdf) (accessed on 1 February 2022).
- Ministry of Education, Culture, Sports, Science and Technology. 2021. Current Entrepreneurship Education. Available online: [https://www.mext.go.jp/content/20210728-mxt\\_sanchi01-000017123\\_1.pdf](https://www.mext.go.jp/content/20210728-mxt_sanchi01-000017123_1.pdf) (accessed on 1 February 2022).
- Mohammadi, Navid, and Asef Karimi. 2022. Entrepreneurial ecosystem big picture: A bibliometric analysis and co-citation clustering. *Journal of Research in Marketing and Entrepreneurship* 24: 23–38. [CrossRef]
- Moore, James. 1993. Predators and Prey: A New Ecology of Competition. Harvard Business Review. Available online: <https://hbr.org/1993/05/predators-and-prey-a-new-ecology-of-competition> (accessed on 1 February 2022).
- Morris, Michael H., Galina Shirokova, and Tatyana Tsukanova. 2017. Student entrepreneurship and the university ecosystem: A multi-country empirical exploration. *European Journal of International Management* 11: 65–85. [CrossRef]
- Motoyama, Yasuyuki, and Karren Knowlton. 2017. Examining the connections within the startup ecosystem: A case study of St. Louis. *Entrepreneurship Research Journal* 7: 1–32. [CrossRef]
- Murata, Akiko. 2018. *Promoting Multicultural Experimental Learning in Higher Education: Visualizing Multicultural Learning in and beyond Japan*. Tokyo: Nakanishiya. Available online: <http://www.nakanishiya.co.jp/book/b357078.html> (accessed on 20 April 2024).
- Neck, Heidi M., Patricia G. Greene, and Candida G. Brush. 2015. *Teaching Entrepreneurship: A Practice-Based Approach*. Cheltenham: Edward Elgar. Available online: <https://www.e-elgar.com/shop/gbp/teaching-entrepreneurship-9781782540557.html> (accessed on 20 April 2024).
- Nenonen, Suvi, and Kaj Storbacka. 2010. Business model design: Conceptualizing networked value co-creation. *International Journal of Quality and Service Sciences* 2: 43–59. [CrossRef]
- Nielsen, Suna L., and Pia Stovang. 2015. DesUni: University entrepreneurship education through design thinking. *Education and Training* 57: 977–91. [CrossRef]
- O’Brien, Emma, Thomas M. Cooney, and Per Blenker. 2019. Expanding university entrepreneurial ecosystems to under-represented communities. *Journal of Entrepreneurship and Public Policy* 8: 384–407. [CrossRef]
- Olutuase, Samuel, Pradeep Brijlal, Bingwen Yan, and Elizabeth Ologundudu. 2018. Entrepreneurial orientation and intention: Impact of entrepreneurial ecosystem factors. *Journal of Entrepreneurship Education* 21: 1–14.
- Peterman, Nicole E., and Jessica Kennedy. 2003. Enterprise education: Influencing students’ perceptions of entrepreneurship. *Entrepreneurship Theory and Practice* 28: 129–44. [CrossRef]
- Petrescu, Maria. 2019. From marketing to public value: Towards a theory of public service ecosystems. *Public Management Review* 21: 1733–52. [CrossRef]
- Pirnay, Fabrice, Bernard Surlemont, and Frederic Nlemvo. 2003. Toward a typology of university spin-offs. *Small Business Economics* 21: 355–69. [CrossRef]
- Qian, Haifeng, Zoltan J. Acs, and Roger R. Stough. 2013. Regional systems of entrepreneurship: The nexus of human capital, knowledge and new firm formation. *Journal of Economic Geography* 13: 559–87. [CrossRef]
- Quality Assurance Agency for Higher Education. 2012. *Enterprise and Entrepreneurship Education: Guidance for UK Higher Education Providers*. Gloucester: Quality Assurance Agency for Higher Education.
- Quillinan, Bernie, Eileen McEvoy, Ann MacPhai, and Ciara Dempsey. 2018. Lessons learned from a community engagement initiative within Irish higher education. *Irish Educational Studies* 37: 113–26. [CrossRef]

- Rae, David. 2010. Universities and enterprise education: Responding to the challenges of the new era. *Journal of Small Business and Enterprise Development* 17: 591–606. [CrossRef]
- Ramírez, Carmen King. 2020. Influences of academic culture in collaborative online international learning (COIL): Differences in Mexican and U.S. students' reported experiences. *Foreign Language Annals* 53: 438–57. [CrossRef]
- Rideout, Elaine C., and Denis O. Gray. 2013. Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education. *Journal of Small Business Management* 51: 329–51. Available online: <https://www.tandfonline.com/doi/full/10.1111/jsbm.12021?scroll=top&needAccess=true> (accessed on 20 April 2024). [CrossRef]
- Roberts, Edward B., and Charles Eesley. 2011. Entrepreneurial impact: The role of MIT. *Foundations and Trends in Entrepreneurship* 7: 1–149. [CrossRef]
- Robertson, Jeandri, Pitt Leyland, and Ferreira Caitlin. 2020. Entrepreneurial ecosystems and the public sector: A bibliographic analysis. *Socio-Economic Planning Science*. Elsevier 72C. [CrossRef]
- Romeo-Matinez, Ana Maria, and Angeles Montoro-Sanchez. 2008. How clusters can encourage entrepreneurship and venture creation. Reasons and advantages. *International Entrepreneurship and Management Journal* 4: 315–29. [CrossRef]
- Roser, Thorsten, Robert Defillippi, and Alain Samson. 2013. Managing your co-creation mix: Co-creation ventures in distinctive context. *European Business Review* 25: 20–41. [CrossRef]
- Roundy, Philip T., David A. Harrison, Susanna Khavul, Liliana Perez-Nordtvedt, and Jeffrey E. McGee. 2018. Entrepreneurial alertness as a pathway to strategic decisions and organizational performance. *Strategic Organization* 16: 192–226. [CrossRef]
- Rubin, Jon. 2016. The collaborative online international learning network. In *Online Intercultural Exchange in the State University of New York Network of Universities: Policy, Pedagogy, Practice*. New York: Routledge, pp. 263–70.
- Rubin, Jon. 2017. Embedding collaborative online international learning (COIL) at higher education institutions: An evolutionary overview with exemplars. *Internationalization of Higher Education* 2: 27–44.
- Schön, Donald A. 1983. *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books. Available online: <https://www.sopper.dk/speciale/arkiv/book49.pdf> (accessed on 20 April 2024).
- Shams, Riad. 2015. Stakeholders' perceptions and reputational antecedents: A review of stakeholder relationships, reputation and brand positioning. *Journal of Advances in Management Research* 12: 314–29. [CrossRef]
- Shams, Riad. 2016. Branding destination image: A stakeholder causal scope analysis for internationalisation of destinations. *Tourism Planning & Development* 13: 1–14. [CrossRef]
- Shams, Riad, and Hans Ruediger Kaufmann. 2016. Entrepreneurial co-creation: A research vision to be materialized. *Management Decision* 54: 1250–68. [CrossRef]
- Sheriff, Michael, and Moreno Muffatto. 2015. The present state of entrepreneurship ecosystems in selected countries in Africa. *African Journal of Economic and Management Studies* 6: 17–54. [CrossRef]
- Shwetter, Claudia, Alex Martiz, and Quan Nguyen. 2019. Entrepreneurial ecosystems: A holistic and dynamic approach. *Journal of Industry-University Collaboration* 1: 79–95. [CrossRef]
- Siegel, Donald S. 2013. Academic entrepreneurship: Lessons learned for university administrators and policymakers. In *Creating Competitiveness: Introduction and Overview*. Edited by David B. Audretsch and Mary Lindenstein Walshok. Cheltenham: Edward Elgar, pp. 116–35. [CrossRef]
- Skute, Igors, Kasia Zalewska-Kurek, Isabella Hatak, and Petra de Weerd-Nederhof. 2019. Mapping the field: A bibliometric analysis of the literature on university–industry collaborations. *The Journal of Technology Transfer* 44: 916–47. [CrossRef]
- Spigel, Ben. 2017. The relational organization of entrepreneurial ecosystems. *Entrepreneurship Theory and Practice* 41: 49–72. [CrossRef]
- Spigel, Ben, and Erik Stam. 2017. Entrepreneurial ecosystems. In *Handbook for Entrepreneurship and Small Business*. Edited by Robert Blackburn, Dirk De Clercq and Jarna Heinonen. London: Sage, pp. 407–22. [CrossRef]
- Spilling, Olav R. 1996. The entrepreneurial system: On entrepreneurship in the context of a mega-event. *Journal of Business Research* 36: 91–103. [CrossRef]
- Sreenivasan, Aswathy, and Ma Suresh. 2023. Twenty years of entrepreneurship education: A bibliometric analysis. *Entrepreneurship Education* 6: 45–68. [CrossRef]
- Stam, Erik. 2015. Entrepreneurial ecosystems and regional policy: A sympathetic critique. *European Planning Studies* 23: 1759–69. [CrossRef]
- Stam, F. C., and Ben Spigel. 2016. Entrepreneurial ecosystems. USE Discussion paper series. *Utrecht School of Economics* 16: 1–18.
- Storey, David J. 2000. Six steps to heaven: Evaluating the impact of public policies to support small business in developed economies. In *The Blackwell Handbook of Entrepreneurship*. Edited by Donald Sexton and Hans Landstrom. Oxford: Blackwell, pp. 176–93. [CrossRef]
- Surlemont, Bernald. 2007. Promoting enterprising: A strategic move to get schools' cooperation in the promotion of entrepreneurship. In *Handbook of Research in Entrepreneurship Education: Contextual Perspectives*. Edited by Alain Fayolle. Cheltenham: Edward Elgar, pp. 255–65. Available online: <https://www.e-elgar.com/shop/gbp/handbook-of-research-in-entrepreneurship-education-volume-3-9781848440968.html> (accessed on 20 April 2024).
- Trabskaia, Lullia, Gorgadze Aleksei, Raudsaar Mervi, and Myrskylainen Heidi. 2023. A bibliometric analysis of social entrepreneurship and entrepreneurial ecosystems. *Administrative Science* 13: 75. [CrossRef]

- Thai, Quoc Hoang, Ngoc Mai Khuong, and Thanh Tung Do. 2023. An evolution of entrepreneurial ecosystem studies: A systematic literature review and future research agenda. *Sage Open* 13: 215824402311530. [\[CrossRef\]](#)
- Theodoraki, Christina, and Karim Messeghem. 2017. Exploring the entrepreneurial ecosystem in the field of entrepreneurial support: A multi-level approach. *International Journal of Entrepreneurship and Small Business* 31: 47–66. [\[CrossRef\]](#)
- Theodoraki, Christina, Karim Messeghem, and Mark P. Rice. 2018. A social capital approach to the development of sustainable entrepreneurial ecosystems: An explorative study. *Small Business Economics* 51: 153–70. [\[CrossRef\]](#)
- Theodoraki, Christina, Léo-Paul Dana, and Andrea Caputo. 2022. Building sustainable entrepreneurial ecosystems: A holistic approach. *Journal of Business Research* 140: 153–70. [\[CrossRef\]](#)
- Van de Ven, H. 1993. The development of an infrastructure for entrepreneurship. *Journal of Business Venturing* 8: 211–30. [\[CrossRef\]](#)
- van Rijnsoever, Frank. 2020. Meeting, mating and intermediating: How incubators can overcome weak network problems in entrepreneurial ecosystems. *Research Policy* 49: 103884. [\[CrossRef\]](#)
- Vargo, Stephen L., and Robert F. Lusch. 2008. Service-Dominant Logic: Continuing the Evolution. *Journal of the Academy of Marketing Science* 36: 1–10. [\[CrossRef\]](#)
- Velt, Hannes, Lasse Torkkeli, and Laine Igor. 2020. Entrepreneurial Ecosystem Research: Bibliometric mapping of the domain. *Journal of Business Ecosystems* 1: 43–83. [\[CrossRef\]](#)
- Wilson, Karen E., Shai Vyakarnam, Christine Volkmann, Steve Mariotti, and Daniel Rabuzzi. 2009. Educating the next wave of entrepreneurs: Unlocking entrepreneurial capabilities to meet the global challenges of the 21st century. In *World Economic Forum: A Report of the Global Education Initiative*. Rochester: SSRN. [\[CrossRef\]](#)
- Wong, Poh Kam, Yuen Ping Ho, and Autio Erko. 2005. Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics* 24: 335–50. [\[CrossRef\]](#)
- Wright, Mike, Andy Lockett, Bart Clarysse, and Martin Binks. 2006. University spin-out companies and venture capital. *Research Policy* 35: 481–501. [\[CrossRef\]](#)
- Zhang, Lili. 2011. Comparative study of China and USA's colleges entrepreneurship education from an international perspective. *Journal of Chinese Entrepreneurship* 3: 185–94. [\[CrossRef\]](#)

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.