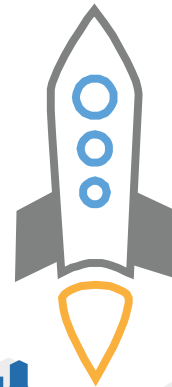




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RESULT 1.1A CORPORATE ENTREPRENEURSHIP APPROACHES

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CORPORATE ENTREPRENEURSHIP APPROACHES

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EXECUTIVE SUMMARY

The competitive landscape in Europe is changing. Technological development and changes in the markets disrupt industries across all sectors. In order to stay ahead of the competition, corporates are constantly looking for new innovative ways to reinvent themselves.

Collaboration with external (startup) partners and adoption of the startup way of working are emerging as a means for corporations to respond to the change. Internal incubators and accelerators in established corporations have been the first response to the increasing need for innovations. This is only just the start - corporations are constantly searching for new ways to innovate and adopt new technologies in order to fulfill customer needs and demands and further, to solve customers' problems. Collaboration with the external innovation partners, such as startup companies or universities, is considered a way to answer to this challenge.

For this report, we studied what is the state-of-the-art knowledge on corporate entrepreneurship (CE). Our intention was to find out what has already been done in the field, and what are the most controversial and topical issues regarding corporate entrepreneurship at the moment. We examined academic research literature as well as various practitioner-oriented surveys and reports. We also interviewed actors involved in corporate entrepreneurship - innovation executives, startup companies, universities - in different European countries.

What we found out was that corporate entrepreneurship captures a wide range of different activities and has various meanings. We also identified that corporate entrepreneurship is actively in use in corporations, and it is something that corporations consider important. However, there is still much variety on how corporate entrepreneurship activities are implemented within companies, and how the goals for CE are defined and put into practice.

It has been criticized by prior studies and some practitioners that sometimes collaboration between corporates and startups is just an "innovation theatre" or an "executive entertainment" for corporates. From a more positive perspective, collaboration between these two actors is seen by prior research as a genuinely important way for corporates to stay on top of the rapid changes in the industry.

Corporate entrepreneurship goals varied from corporate image building to talent acquisition, and from renewing corporate culture to taking advantage of the newest technologies when entering new markets. Therefore, there was also a wide variety of practices in use.

From the perspective of startups, collaboration with corporations may be challenging. Genuine collaboration is affected by longer decision making times, commitment to the collaboration, and different expectations as well as changing people in the corporation. Universities are seen as potential innovation partners, but there is still room for improvement from collaboration perspective.

1. INTRODUCTION

This report is an outcome of the Erasmus+ funded *The Corporate EDUpreneurship - Benefitting Start-ups, Universities and Corporates across Europe* -project, which sets out to establish a joint language between corporations, startups and universities to successfully exploit the full potential of corporate entrepreneurship across sectors and industries.

This report aims to give a state-of-the-art view on the innovation in corporations with their ecosystem partners from the perspective of corporate entrepreneurship. The purpose is to provide easily understood information based on literature and expert interviews. The aim of this report is not to act as an academic journal article, although we have used academic literature also as our source material; instead, the purpose is to offer a publication that provides practitioners a view on corporate entrepreneurship and related themes.

Our intention is to view corporate entrepreneurship from the point of view of different stakeholders, although corporate perspective is the most dominant one. The purpose of this report is to especially stress the collaborative character of open innovation and corporate entrepreneurship.

The report is divided into four separate chapters. First, we give an introduction to the topic of corporate entrepreneurship. Second, we explain our methodology. Third, we present our findings and insights. Fourth, we present a summary of our findings and offer some tips and hints for successful collaboration.

1.1 WHAT IS CORPORATE ENTREPRENEURSHIP?

Corporate entrepreneurship (CE) *"is a term used to describe entrepreneurial behavior inside established midsized and large organizations"* (Kuratko & Morris, 2018:42). Corporate entrepreneurship strategy (CE strategy) is another related term, defined as *"a vision-directed, organization-wide reliance on entrepreneurial behavior that purposefully and continuously rejuvenates the organization and shapes the scope of its operations through the recognition and exploitation of entrepreneurial opportunity"* (Ireland et al. 2009). Another related term, open innovation, is characterised as a two-way process in which companies bring in ideas, technologies, and other resources in order to develop their business, and similarly sell out or out-license their own (Lindegaard, 2010 as cited in Huff et al. 2013:5).

Recently, established companies have started to invest also internally in new ventures. In order to boost innovation, corporations have set up corporate accelerator programs. Corporate accelerator programs are *"company-supported programs of limited duration that support cohorts of startups during the new venture process via mentoring, education and company-specific resources"* (Kohler 2006: 348). Through these programs corporations aim at both increase the innovativeness within the company, and also take advantage of the external talent in order to capture entrepreneurial opportunities.

In general, corporate entrepreneurship activities can be divided into internal activities taking place inside the company boundaries, and external activities, happening with the external partners, such as startups or universities. These activities can be for instance idea competitions, hackathons, incubation programs or seed investments for early stage startups. Collaboration with the wider startup ecosystem is seen as a cornerstone for open innovation.

1.2 WHY CORPORATE ENTREPRENEURSHIP?

Constant innovation is pivotal for organizational renewal. Corporations face accelerating pace of change, increasing uncertainty and major global disruptive changes (e.g. robotization, climate change) that challenge the patterns of value creation in both large and small organizations. Similarly, universities and other higher education institutions are facing a new reality. Thus, there is an increasing need for genuine collaboration across organization boundaries.

Corporations are searching for new ways to boost innovation. Attention has been turned towards startups, which are seen as models for constant rapid innovation. Practitioner research suggests that corporations could enhance their innovation process by adopting a startup way of working, which supports this view. For instance, widely read best-sellers *The Start-up Way: How Modern Companies Use Entrepreneurial Management to Transform Culture and Drive Long-term Growth* (Ries 2017) and *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Christensen, 2015), promise the shorter lead times and accelerated pace of innovation within corporations.

Collaboration with startups also provides cues for the decision-makers in corporations on where the markets are heading next. Similarly, the expectation is that startups benefit from the collaboration with corporations. The startup ventures benefit for instance from the distribution channels and existing customer base of large organizations and look for opportunities to scale their businesses through the contacts with corporates. Universities may provide new knowledge and novel ideas into the process. In an ideal scenario corporate entrepreneurship brings benefits to all involved parties.

2. METHODOLOGY AND MATERIAL

This report relies on two sources of information. *First*, we conducted desk research on the topic of corporate entrepreneurship and open innovation. We searched for prior reports, publications and practitioner journals to understand the state of the art knowledge in the field. We also conducted light literature review on academic research on the topic of corporate entrepreneurship and open innovation. Through these two approaches, we formed a state-of-the art perspective on the corporate entrepreneurship.

Second, we identified that there is a lack of research and literature on the latest developments of CE field. Therefore, we also conducted interviews with a clear focus on the practitioner view. We interviewed people from both startups and corporations, and in addition, higher education institutions, accelerators, incubators and other members from the startup ecosystem.

2.1 DESK RESEARCH

We conducted the desk research by reviewing latest reports, surveys, and materials published. We used:

- Governmental publications
- EU reports
- Reports conducted by private consultancies
- Reports conducted by think tanks
- Industry reports and reviews

Desk research was done by researching and analyzing the latest reports and studies in the field of corporate entrepreneurship and open innovation. Both practitioner-oriented reports were used (e.g.,

World Economic Forum, European commission, and consultancies such as Accenture and Deloitte). In addition, academic literature and studies were used to capture the complexities of corporate entrepreneurship and open innovation. We used top listed journals (e.g., Entrepreneurship, Theory and Practice; Journal of Business Venturing) to create an understanding about the phenomenon

The research process advanced through identifying relevant literature, summarizing major findings, and listing the key findings in a matrix. We concluded the analysis by analyzing the findings and summarizing the outcomes.

2.2 INTERVIEWS

In this research, we conducted semi-structured interviews with a sample of participants, who represented higher education institutions, corporations, startups, and accelerators in three European countries. Altogether 12 persons were interviewed (see appendix). They were conducted either face-to-face, Skype or via phone call. As the interviews were semi-structured, they were conducted with a list of questions and topics that needed to be covered, but there was room left for the interviewee to ask additional questions. Therefore, the interviews followed their own path but the themes stayed the same. Either the interviews were recorded, or the interviewer took extensive notes during the interview. The interviewees had the possibility to do the interview in their mother tongue or in English.

The interviews were carried out with startup entrepreneurs, corporate representatives and representatives from the universities and higher education institutions. The findings are organized according to the identified central features of open innovation instead of actors. Yet, when appropriate, we highlight the perspectives from different actors.

We made summaries of all the interviews and the ones that were not in English were later translated to English. The interview material was dealt with confidentiality and the respondents stayed anonymous.

3. FINDINGS AND INSIGHTS FROM THE LITERATURE AND INTERVIEWS

This section presents our findings, results, and insights. Findings and insights are based on both desk research and interviews in order to capture different aspects of corporate entrepreneurship.

3.1 OVERVIEW

Corporate entrepreneurship is a concept used to describe both activities and attitudes aimed to boost innovation and renewal in corporations. Due to its widespread use, the term has various meanings. Sometimes terms such as intrapreneurship or corporate venturing are used interchangeably with the term corporate entrepreneurship. We use the term corporate entrepreneurship in this report.

The need to adopt an entrepreneurial mindset within the corporations comes from outside, as companies face increasing need to keep up with the accelerated pace of change in their business environment. In addition, innovation landscape is changing. The future challenges will require intelligent, living organizations where the focus moves from routine tasks to innovations, from individual work to teamwork, from functionally organized work to projects, from top down control to control between colleagues and from the power of management to the customer power.

In order to respond to these challenges, established companies are looking for novel ways to speed up their innovation processes. Startup entrepreneurship and lean startup methods have emerged as tools for testing assumptions, building prototypes, and learning at a rapid pace. Consequently, the new ways to innovate have taken place in the established companies under various terms, such as open innovation or corporate entrepreneurship. Especially innovation across the company boundaries has become increasingly important.

The overview of corporate entrepreneurship reports and academic research literature shows the vastness of the different approaches and angles how corporate entrepreneurship can be approached.

Practitioner-oriented reports (Table 2 in appendix) show that collaboration between startups and corporations is recognized as an important way to boost innovation within corporations. In general, the variety of approaches is highlighted in the reports, and the need to fit suitable model to suit each organization's context specific goals is considered important.

We also conducted a small-scale literature review on corporate entrepreneurship based on academic articles in entrepreneurship journals (Table 3 in appendix). The focus seems to be typically on the management, processes, resources, activities and individual mental models inside the corporation instead of company borders crossing collaboration. Most of the articles are conceptual or quantitative.

As a result of combining knowledge from practitioner reports and academic literature, we identified the following actors involved in CE activities:

Top management

The support of top management to foster individuals' entrepreneurial behavior and innovations play a critical role. It shows in practice e.g. through organizational rewards designed to encourage risk taking and innovation. The champion in the top management team ensures that innovation and corporate entrepreneurship activities gain a legitimate role in top management team discussions.

Middle managers

Middle managers often find themselves in a dual role while implementing entrepreneurial projects in an organization. On one hand, they are expected to follow organizational rules and procedures, whereas on the other, they are in a key position to initiate change in the organization. Therefore, it is critical that also middle managers have incentives to develop practices and to enhance innovation culture within the company.

Individual experts

In an ideal scenario, individual experts have psychological ownership of the corporate entrepreneurship activities within their company, and they remain alert to new opportunities. They learn entrepreneurial capabilities through organizational learning processes where knowledge is jointly created and shared. An example could be an engineer adopting a more business-oriented mental model, broadening the perspective from the quality of the products to the value it brings to the customers.

Startup platforms and external partners

Internal startup accelerators, incubators or corporate venturing programs are platforms or activities used in companies to enhance innovation. In addition, most companies also collaborate with external startups or accelerators. Corporate entrepreneurship is not only considered as a number of activities executed within the company borders, but rather as a mechanism involving several participating organizations. The digital era has brought the technology-driven platforms that enable the collaboration.

Despite the differing approaches related to corporate entrepreneurship, innovation seems to be the common element for all types of corporate entrepreneurship approaches.

3.2 EVOLUTION OF CORPORATE ENTREPRENEURSHIP

Corporate entrepreneurship (CE) is pivotal in the organizational renewal, and it has been extensively researched academically. Prior literature (see appendix) on CE discusses e.g. several conceptualizations and models of CE, distinguishes key constructs of CE, benefits and motivations of CE and different types of CE. There is empirical research on CE at different levels of organization and in different contexts like e.g. family businesses. Academic research has dominantly approached CE conceptually and through quantitative methods. The literature has also evolved from focusing on the positive impact of CE in terms of financial performance towards literature focusing on the knowledge creation and organizational renewal.

Despite the differing approaches related to corporate entrepreneurship, innovation seems to be the common element for all types of CE approaches. Recently the viewpoints of open innovations have increased the interest in the collaboration perspective in the CE discussion. Referring to the growing interest in open innovation and collaboration perspectives this report suggests there is a need to understand the dynamics and interplay between different actors - corporates, startups and higher education institutes - and approach CE holistically utilizing qualitative methods.

The journey from corporate entrepreneurship practices to open innovation may contain different evolutionary phases characterized by different types of activities and different characteristics of organizational mindset and culture. Each of the phases contains different opportunities and challenges.

Based on our literature review we already know that corporate entrepreneurship is a multi-dimensional phenomenon. This means that *environmental factors* such as increased competition and technological changes force companies to change. We also know that *top management* support plays a crucial role, engagement of *middle management* is critical, and individual employees *entrepreneurial cognition* (their beliefs, attitudes, and values) are important. We also know that organizational factors such as structure, culture, and practices such as reward systems all play critical roles.

The characteristics of the companies that utilize corporate entrepreneurship mechanism are often risk-taking, proactiveness and innovativeness. Moreover, decentralized decision-making and low formality in the organizational structures seem to advance corporate entrepreneurship. Besides, organizational culture supports entrepreneurship when mistakes and failures are accepted and the organization reflects upon them and learns from mistakes.

Although we understand corporate entrepreneurship from corporate point of view, corporate entrepreneurship approached from internal incubator, joint innovation or ecosystem innovation perspective is still relatively scarcely studied.

3.3 COLLABORATION BETWEEN STARTUPS, CORPORATIONS, AND UNIVERSITIES

Collaboration forms the cornerstone for open innovation. There are different ways to approach collaboration, depending on the goals, practices, and the degree of how well these practices are integrated in the corporation's innovation processes.

3.3.1 Goals for collaboration

Goals for collaboration are important, as they define eventually practices and measures for the successful partnership. Therefore, corporations should have clear understanding internally across the business units on collaboration goals. Also, there should be unanimous understanding of the collaboration goals between the collaborating partners as startups, corporations, and universities may have different understanding regarding the purpose of collaboration.

Indeed, one of the major tensions involved in CE are different expectations towards the collaboration goals. Therefore, goals for the collaboration should be shared and clearly discussed between the collaboration partners. Especially startups see the success of the collaboration in a much more negative terms compared to corporations.

While it may sound trivial, it seems that there is a plethora of goals for collaboration. The list below highlights the variety of goals that corporations have for corporate entrepreneurship:

- Develop employees
- Shake current worldview
- Create entrepreneurial culture
- Acquire talent
- Innovation through startups
- Seeing future market opportunities
- Seeing future technological opportunities
- Increase motivation through offering startup mentorship
- Entering new markets
- Offering new solutions for customers
- Identifying new opportunities together

The goals for startups are, for instance:

- Accessing new clients
- Opportunity to acquire new sales channels
- Economies of scale
- Access to resources (financial and non-financial)
- Opportunity to grow inside/next to the corporation

For the corporation, rough division can be drawn between internal and external goals. This means for example goals that help companies to drive innovation and foster entrepreneurial mindset amongst the employees, and goals that focus on entering new markets and adopting new technologies.

One startup interviewee explains: There should be ongoing discussions with the involved parties. If the project does not seem to be successful, it should be terminated immediately. Learning should be on-going, and if the collaboration does not prove to be fruitful, energy should not be wasted on projects that are not successful, because startups have limited financial resources.

Internal goals

Fostering innovation within the corporation is one of the main goals for corporate entrepreneurship activities from a corporate perspective. This means for instance acquiring and retaining talented individuals and teams. Especially advanced technological expertise is sought after. It also means shaping the organizational culture towards innovation by cultivating entrepreneurial mindsets of the experienced employees.

In order to boost innovation within the company, corporation may create partnerships with universities and higher education institutes who provide students with ideas or early-stage startups (often established by students). Bringing new, innovative, bold, daring and sometimes naive ideas into a corporation can be seen as a way to reshape mental models of tenured experts.

As corporations build their competitive advantage increasingly on human capital, the goal of corporate entrepreneurship can also be talent acquisition. Collaboration and presence in the startup ecosystem and events are also one way for polishing corporate brand. This helps in recruiting the top talents and rising stars. Collaboration with the startups provides a way to screen the most potential startup teams. Sometimes this leads to acquisition of those teams. Collaboration therefore strengthens the competence base of the corporation.

External goals

One major goal for collaboration with startups is the need to stay ahead in the development of markets and technologies. Collaboration with startups provides information to the corporation regarding the latest developments in the markets and technologies. Through collaboration, corporations have state-of-the-art knowledge on the present and future opportunities that potential new technologies (e.g., artificial intelligence, augmented reality, blockchain) provide.

Corporate interviewee explains that open innovation is one of their company's key strategic values, and it is the reason why they decided to look at startups, and not only look at innovation within the corporation. With startups, they are sure that they will be able to provide additional value to their customers because the startups will help them to be more innovative, to find new ways of working, to find new solutions and to help them transform the way they are working in the construction sector.

Serving customers even better is one clear driver for collaboration with the startups. For instance, providing new technologically advanced solutions for customers can be done through partnering with technologically advanced startup. It can mean that startup provides artificial intelligence technology, which is combined with corporation's already existing solution for customer, upgrading the service level for its customers.

3.3.2 Collaboration practices

Internal goals require different practices than external goals. If the focus is on the creation of innovation culture or creating entrepreneurial mindset, then internal hackathons, pitching competitions or incubation programs may be suitable. If the focus is on solving customer problems with the help of advanced technology, then access to the network of startups and advanced sourcing practices are important.

Corporate interviewee explains how they collaborate with startups: Our company has launched the Startup Accelerator Program in June 2018. The objective of the program is to accelerate mature startups in the ConTech and the PropTech sectors. We are looking for these startups worldwide. The main characteristic of the program is the Virtual Acceleration Program. It is a tailor-made program because the needs of each startup are totally different. It is a qualitative, not a quantitative one. The purpose is to have an average of 10 startups per year in the program. And we are able to provide support during 12 months for each startup. What is really important for us as well is that the program is totally free. We are not taking any equity. We provide all types of support to accelerate and boost the business of these startups.

Another corporate interviewee explains their way to collaborate with startups:

We collaborate through our own incubator/accelerator. We also attend a lot of startup events and we have partnerships with universities and business schools. We have an innovation boards where we can decide on internal innovation projects. We also do innovation sprints and we do experiments.

The list below highlights different types of practices for corporate entrepreneurship:

- Hackathons
- Startup or idea competitions
- Mature startup partnerships
- Incubation program
- Acceleration program
- Innovation competitions
- Sharing resources such as free tools and co-working spaces
- Strategic partnerships: product co-development, procurement
- Acquisitions
- Corporate venturing
- Corporate accelerator
- External accelerator
- Internal champion network
- External startup network
- External digital platform

Practices fostering innovation

For instance, hackathons or idea competitions are ways to boost innovation culture and to identify solutions for customer problems. In a hackathon corporation *itches* a challenge they have identified that needs to be solved. Audience, which can consist of university students or personnel, startups, external professionals or corporation employees, has then two to three days to provide a solution for corporation's problem. Often tools and methods such as design thinking or service design are used to narrow down the identified problem and to find the solution. For corporations it is an easy way to collaborate with external (startup) ecosystem.

In addition, other practices to enhance innovation within the corporation are incubation and accelerator programs. These are sometimes organized under the internal innovation center or innovation lab. There can be a designated incubator lead, or innovation manager role assigned for leading the corporate entrepreneurship activities. They can also be more informal programs.

The benefits for internal incubation programs are that they are a way to induce startup thinking into a corporation. There are various ways to implement incubator or accelerator programs.

One of our corporate respondents described their venture program. They have separate unit to support internal startup activities and innovation inside the corporation. Venture building process starts with raw ideas that corporation's employees can present in a special Demo days events, which are organized every month and which are open to everyone. Innovation champion network then evaluates the ideas and gives feedback whether it is in line with corporate strategy. Innovation champion network consists of experts from different fields and from different hierarchical positions. The purpose is to start from a quite raw ideas, making the program easily approached. As the viable ideas mature, more resources are given to develop them. One of the major goals of the program is to foster innovation within the corporation.

Practices focused on customer problems

Practices focusing on customer problems provide another perspective for corporate entrepreneurship. The focus is on the customer and their problem. An example is collaboration with global startup community through using a digital platform for sourcing the best potential startup partners to complement the corporation's offering to its customers. This can also mean close informal collaboration with a local ecosystem through events and other activities. The idea is however the same: sourcing the best candidates for supporting corporation to create value to their clients.

For instance, one of our interviewees describes how their corporation has different ways to stay innovative. They have internal startup programs which are linked to their core business areas. Corporate innovation unit discusses internally with business area managers on the potential future needs, and they actively search for potential startups around the globe for collaboration. They then draft a contract with the startups and expect results during the next 3-6 months. Another way is to contact specific startup directly, and ask their willingness to collaboration. Benefits are shared learning experiences; this means for startup an access to broad customer base and for corporation serving the customers even better. Interviewee adds that third way how they work with startups is through acquisition of talent.

The expertise startups bring to collaboration is not necessarily always digital technology. It can be some other technological innovation that responds to the changing needs in the markets.

One of our corporation interviewees explained how they want to test new and emerging solutions for serving customers even better. An example was new packaging material developed by a startup company, which is more environmental friendly and reflects circular economy ideals. By trying new solutions that fit into customers' environmental values through reducing waste corporations may gain competitive advantage vis-a-vis their competitors.

3.3.3 Corporate entrepreneurship vs. open innovation

The line between between corporate entrepreneurship and open innovation activities is vague. Both of the terms are rather loosely defined, and used in different contexts. Often the literature on corporate entrepreneurship approaches the need for innovation and renewal from corporate perspectives, whereas literature on open innovation takes a step towards more open, ecosystem perspective. This is important, as in order to succeed in collaboration also startup or university perspectives should be taken into account.

Our interviewee from university explained how they organize common events with their partners. The goal for university perspective can be for instance fostering an entrepreneurial mindset of students with various science backgrounds. Partners include corporations and NGOs. These events are usually focused on a specific theme, or social challenges such as climate change or environment. Collaboration with the big corporations increases visibility of the events, and participation of the well-known corporations increases the attractiveness of the events.

One startup interviewee adds:

The role of the universities in research is central and it benefits the whole startup ecosystem in Finland. It is publicly funded and it should be open to everyone.

Division can be made between open and predetermined goals. If the goal for collaboration is predetermined by the corporation, the nature of partnership between startups or universities is different, compared to more open goals. In our interviews we identified both of these approaches to collaboration between corporations and startups.

One corporate interviewee explained how it was crucial to first identify customer problems, and then select a suitable startup with a matching technological expertise (e.g., artificial intelligence) from a pool of startups. This reflects the finding that goals can be predetermined, meaning that corporations search for startup or university partners to complement their competence in order to solve an already identified customer problem.

On the other hand, goals can also be open. This means that both startups and corporations jointly identify problems they continue to solve together. This requires more trust and familiarity between the collaboration partners.

One of our startup interviewees explained how they had worked together with a large organization, and focused on solving joint problems together. Startup brought with them their technological competences already during the early stages to innovation process, so that the novel market opportunities could be solved together with their collaboration partners. This approach is leaning more towards open innovation.

3.3.4 Level of integration of collaboration practices

The practices of corporate entrepreneurship may vary from what we call here non-integrated practices to highly integrated ones. The non-integrated practices are characterized by being loose or separate, non-recurring activities. Even if they are recurring, they may remain non-integrated from the core activities of the company. The non-integrated approach requires neither jointly agreed goals nor long-term partnerships. They are easy to facilitate and do not require an advanced innovation system.

An example of non-integrated practices is to organize hackathons and give a challenge. Startups or e.g. entrepreneurship students from the higher education institution or aspiring startup entrepreneurs provide solutions to the challenge. These kinds of practices are also safe options since there is a low level of risk. An organization that wishes to move towards more integrated practices, should also be tolerant to risk and failure.

The collaboration practices can also be applied in a systematic way. Integrating collaboration into the corporation's internal innovation processes creates structure and volume for the collaboration.

Corporate interviewee explained how they collaborate with startups. From the perspective of the innovation, the first focus is on the current businesses and ways to improve them. The second one is on the future within 3-5 years and how the business looks then. Third one is a long term perspective, ten years into the future. The startup collaboration aims to give clues on the second horizon - how to serve customers better in the near future. Startup collaboration is part of the innovation strategy.

The large and mid-sized companies that wish to collaborate with startups seem to face the dilemma of differing planning cycles and level of formality. The large companies struggle to find the balance between formal planning and flexibility. The latter is the very characteristic of open innovation but paradoxically against the operation mode of large companies. However, if the corporates are having a hard time by not knowing how to handle the collaboration to foster innovation, it is not easy for startups either to collaborate with large companies.

One of the interviewees reported that successful collaboration requires a clearly defined common big goal, minimizing formal planning, continuous dialogue and information exchange and the ability to give up a plan if it is not bringing meaningful results. The last point includes the need for follow-up. It needs to be defined, what is the measure for successful collaboration. Especially for startups with limited resources it is essential that projects may be terminated if they seem to be leading nowhere. However, they may still not be failures in long-term perspective.

3.3.5 Four domains of corporate entrepreneurship

We classified corporate entrepreneurship activities roughly under four separate domains. Depending on whether the goals are more open or more predetermined and whether the focus of the corporate entrepreneurship activities can be found inside the corporation or outside the corporation models of corporate entrepreneurship can be classified.

Table 4. Four domains of corporate entrepreneurship

	Goal	Practices & models	Example
<i>Predetermined goals - external focus</i>	Advanced technological solutions to a customer challenge	Digital sourcing platforms Startup network	Startup brings AI technology to collaboration with corporation in order to provide novel solutions for customers
<i>Open goals - external focus</i>	Open innovation	Collaboration between public sector, universities, startups, corporations and other actors	Startups, corporations and universities aim to develop new environmentally friendly energy solutions
<i>Predetermined goals- internal focus</i>	Boost innovation; foster entrepreneurial mindsets of employees	Hackathons Idea competitions Internal innovation champion network Agile coaches	Innovation hackathon for employees; idea competitions; idea incubator
<i>Open goals - internal focus</i>	Create value through internal venturing	Internal accelerator program	Accelerator program to create new innovative solutions

- First domain refers to the case where corporation has quite clearly defined goal for startup collaboration or startup has specific technological competence. The focus is on the outside of the corporation.
- The second domain refers to the case where cluster of actors come together to innovate around a certain theme. The process starts with defining the goal together.
- Third domain refers to the case where corporation aims to boost innovation within the company. The focus is on the internal innovation and changing corporate culture.
- Fourth domain refers to the case where company aims to create new capabilities to enter new markets in the future. This can mean setting up accelerator program or internal venturing.

3.3.6 Practical example: Startup perspective

A short introduction to the company

Fluves is an expert engineering company operating in water and utility markets. Fluves delivers end-to-end services for water and asset management by linking computing skills to cutting-edge photonics and sensor knowledge. The company's mission is to make the world more sustainable by optimising water and energy flows through innovation (www.fluves.com)

The corporates Fluves is collaborating with, and the context of these collaborations

Parkwind, a subsidiary of Colruyt and *Besix*. With *Parkwind*, it is a joint venture = *Marlinks*. Fluves and *Parkwind* decided to combine their knowhow and experience in cable monitoring in a joint venture.

Fluves brought in its technique of continuous burial depth measurement, which the company developed during a research project on onshore measurement. As the tool evolved, they noticed it would also be applicable in the offshore industry. *Parkwind*, a company that develops, finances, builds and operates offshore wind farms, recognized the value of this technique. Both businesses decided to combine their strengths in a mutual research project to investigate the use of the same technique for offshore power cables, and thus improving the risk monitoring in offshore wind operating. The successful program was transformed into a joint venture. *Marlinks* was established in 2017.

Regarding *Besix*, Fluves participates this year (as from April 2019) in their Unleash Start-ups Accelerator Program which is a worldwide acceleration program targeting mainly mature start-ups active in the ConTech or PropTech sectors in all countries where BESIX Group is operating (20+ countries) and the whole of Europe.

The Accelerator program targets start-ups having the willingness to find new business opportunities and speed up their growth. It is definitely a superb opportunity for Fluves.

In which way these collaborations add value to their business?

Thomas Van Hoestenberghen, Fluves' Managing Director shares that the company's experience of collaborating with corporates is very positive. Not only does Fluves receive excellent support from the top management, but also precious guidance on the projects Fluves is operating on. It is, according to Thomas, a privilege to get the opportunity to collaborate with well established companies and have the chance to receive their advice.

While Fluves is challenged by operating within a risk-averse sector, the company adds a value to corporates with their sustainable and innovative approach towards optimizing water and energy flows.

3.3.7 Practical example: Corporate perspective

Most industries are characterized by disruptive changes and see the need to innovate faster and to be more agile to succeed. One way of doing this is to work with various stakeholders in the company, such as suppliers, customers and employees.

Meanwhile, more and more companies are working together with young start-ups. Different Corporate Startup Programs, Accelerators and Incubators are founded to work together with startups on future success. At the same time, there is always the question why companies work with founders? Don't corporates have their own ideas that they can successfully implement themselves?

In the following, we would like to briefly answer this question and highlight various aspects and hurdles in working with start-ups. In addition, a practical example of the medium-sized company AVL List GmbH will be given.

Advantages and Learnings

In principle, start-ups have a different culture than grown companies because they must cope with different prerequisites and framework conditions. This usually results in a different way of working, which can seem chaotic, but is characterized by a high degree of agility. Agility in this form is more difficult for large companies and is often not conducive to the organizational process.

Startups have the disadvantage that they often have to test a new solution on a new market with little money. The advantage of this is, however, that startups usually work according to a lean approach and are forced to enter the market with their first MVP and thus receive their first feedback from the market very quickly. Innovations can thus be developed faster and brought to market with appropriate customer feedback. Established companies are often under pressure to meet existing customer expectations in advance and therefore often bring a finished product to market that includes all features. The advantage of cooperation can therefore be that joint developments with start-ups often serve new markets and are not subject to the same pressure.

At the same time, contact with the innovation culture of startups creates a new spirit in the company and helps to develop new solutions, products, services or even business models that the company has not considered before.

New, lean ways of working and innovation techniques and perspectives are easier to understand and to apply and try out in cooperation projects with start-ups.

AVL – Creators Expedition:

By creating a startup acceleration program, we think it is very important to first set the focus of the program. Do we want to optimize existing products and services, or do we want to make radical changes? Should the activities of the accelerator support the core business, or completely new businesses. How strong do we want to interact with our company? Do we want to interact with internal departments or create a rather independent accelerator?

Within Creators Expedition we wanted to create an accelerator, which closely relates to the company. Therefore, we created a program, which strongly interacts with our inhouse business units and engage our key stakeholders. We see the early involvement of relevant internal key stakeholders as an essential success factor for our innovation activities.

The Creators Expedition is a program focusing on the interaction and connection of internal departments with startups. A non batch driven program was set up, in order to have the possibility to scout all around the year. Startups have the possibility to apply, then they are checked by the startup initiative department and a first call is set up. Within the first meeting we do the first verification round. After the startup passes the first verification round, an internal project manager is needed. Therefore, the startup initiative is looking for an internal key stakeholder, willing to work on a Proof-of-concept (PoC) and see the future potential of the collaboration.

If the internal key stakeholder is interested in working with the startup, a PoC is defined and pitched in front of the management. The management decides if the project will be started. After the final go from the management, the PoC phase starts. Normally this takes 4-8 months and is accompanied by a business modelling phase, where both parties work together on a joint business model for future collaboration.

The main goal of the proof-of-concept phase is to develop and validate the previously selected use cases. By fully incorporating our internal experts into this phase, functional pilots are developed. The internal sponsor supports the project by advocating its realization within the organization together with the team of the Creators Expedition. Engaging the right facilitators to guide the teams and coaching them, helps to create value within the cooperation.

Within the PoC phase, both parties get to know each other and see if a future collaboration is a worthwhile instrument for the company and the startup. Working on a joint collaboration model is a key success factor within the PoC phase and a crucial point for the further development of the cooperation between a startup and a company.

To push the project, the internal team and the startup present a final pitch in front of the management. The aim is to present the outcomes and the future collaboration and business model for both sides. After the presentation, a follow-up is defined and the post acceleration phase starts.

3.4 INSIGHTS AND DIRECTIONS FOR THE FUTURE

3.4.1 Technology versus culture

The literature and research interviews demonstrate that the attitude towards corporate entrepreneurship and open innovation may vary heavily. It requires full commitment of the top management, continuous efforts at all levels of organizations and several good practices to run a successful change towards an entrepreneurial culture. Yet, open innovation is often considered through technological innovation rather than a major cultural shift in the whole organization.

There is a tension between two contradicting goals for corporate entrepreneurship. The renewal of corporate culture means integration of the corporate entrepreneurship into the core of the corporation's processes. Boosting the adoption of entrepreneurial mindset amongst experts - some of them who may have worked several years in the same corporation - is a massive task. Ad-hoc types of startup events or collaboration with the universities may light the spark, but it requires top management team support, agile and enabling management practices, and willingness to put resources on corporate culture renewal. It is much faster to use external startup ecosystem to acquire new technologies. On the other hand effects on the corporate culture may then be more modest.

The emotional aspects of the startup-corporation partnerships or corporate entrepreneurship approaches in general receive relatively little attention. Whether it is partnership with external startup or mentoring internal startups there are a lot of emotions involved. Building the trust for instance in the open innovation process inherently involves emotional aspects. Similarly, mentoring internal startup within a corporation in early stages of its development requires appreciative approach. Sometimes these internal innovations require extra effort from the employees on top of their daily work load. Fostering this kind of entrepreneurial mindsets in the corporation require focus also on the "soft side" of the innovation.

3.4.2 Towards ecosystems approach

Innovation ecosystems are interdependent networks of relations, which are more than typical co-operative or even collaborative agreements. The higher the 'level of trust' and the 'level of shared value', the closer the collaboration is to the innovation ecosystem. In order to reach that position it requires long-term orientation from all the involved parties. In turn, focusing on quick wins and image-led advantages shows in the strong focus on attempts to gain visibility and e.g. organize recurring or non-recurring events.

The motivations may also differ among the participating organizations leading to a mismatch between the expectations. A larger company may participate in the activities with recruitment needs as a major motivating factor. In that case it is not fully engaged in enhancing open innovation in an ecosystem which is characterized by a high level of openness and the actors share common goals but aim to avoid too formal planning in the implementation. Utilizing digital platforms and ad hoc type of orchestration may enhance the potential to reach unexpected results.

The higher education institutions, in turn, may play a key role by building bridges as intermediaries between different actors. The higher education institutions should, thus, not settle for one-time projects but aim actively at taking the role of a bridge builder in innovation ecosystems.

An incubator interviewee states: We believe that it will become more and more important to have qualitative services in terms of offers for startups and also services for corporations. This means that the government and other legal entities have to change the way they treat startups - meaning like a random company - and offer more benefits, cuts, investments, training, support, etc. Also on the other hand, the corporations should get more support in collaborating with startups, receiving support, training and counselling.

Depending on the industry, the role of public sector partners and non-profit organizations may play a key role in innovation ecosystems. Consequently, the picture of the key players may be more versatile than the three key players defined above. The role of the customer is at the heart of co-creation and iterative development. Both corporates and startups wish to have the end customers in the innovation processes from the very beginning.

4. SUMMARY

This report sheds lights to corporate entrepreneurship approaches, especially from the perspective of open innovation. We focused especially on collaboration between corporates, universities and startups.

We find that there already exists many different ways to implement corporate entrepreneurship in corporates, and that the concept of corporate entrepreneurship itself is not new. However, we identified that there are various ways to understand corporate entrepreneurship, and there are as many ways to implement management practices enhancing it. There are different means of collaboration including internal corporate venturing, incubators and accelerators, joint innovation and ecosystem innovation. In our interviews we were able to identify means of collaboration at the interfaces of startups/corporates, startups/higher education institution and higher education institution/corporate. Yet, it seems to be uncommon to have examples of all three key players being involved.

Concisely, one can say that the question "what does corporate entrepreneurship mean" is largely already explored, but the question of "how corporate entrepreneurship is implemented in companies" still requires more studies.

To answer partly on that question we identified different goals, types, means, and practices when different actors talk about corporate entrepreneurship.

The role of public sector is usually missing from the discussion related to the corporate entrepreneurship. Taking a more holistic ecosystem perspective the role of cities, governmental agencies and other stakeholders becomes increasingly important and their role should not be neglected.

Value creation in complex, disruptive environments and the demand to renew themselves drives companies to implement practices enhancing corporate entrepreneurship. The organizational structure and

culture of a large corporate do not necessarily support the agile ideating, prototyping and testing which is dominant operating mode in startups. Therefore, it is a challenge to implement corporate entrepreneurship successfully.

4.2 TIPS AND HINTS FOR STARTUPS, CORPORATES AND UNIVERSITIES

4.2.1 Corporates

1. Top management team support

There should be a champion in the top management team that ensures that open innovation is taken seriously and that practices enhancing innovation are transformed from hype to actual management practices. Check if open innovation, corporate entrepreneurship, or collaboration with startups become part of management teams' agenda.

2. Management practices in line with the open innovation goals

Management practices that support innovation, collaboration and entrepreneurship are important enablers for corporate entrepreneurship. If company policies and practices are not in line with open innovation agenda, it is likely not to survive. Goals, rewards and incentive structures should be designed so that they support corporate entrepreneurship.

3. Create concepts and operating models for collaboration

Clear goals for collaboration make it easier to create trust from the beginning. Openness means also openness towards open innovation partners. When the rules are clear for all of the parties it is easier to focus on the customer problems and collaboration to solve those.

4. Define goals for collaboration for yourself

Know why are you collaborating with startups or universities. Are you building capabilities for solving customers problems through using technological expertise of external partner? Is collaboration a mean to hire expert workforce in competitive recruiting market through acquisitions? Do you want to shape your own company's innovation culture?

5. Define the level of openness

Open innovation in its purest means that the customer problems to be solved are jointly defined with the different actors in open innovation network. This openness can create challenges for corporates, as they are not always ready to share their knowledge and expertise, as it can be seen as a means to lose competitive advantage. Identifying already from the beginning of the collaborations the level of openness enhances the chances for successful collaboration.

4.2.2 Startups

1. Identify collaboration goals

Try to be open in your goals with the corporate. Do you need corporate to get access to new customer segments? Do you expect them to use their channels to boost the sales of your products? Is it special technology (e.g., artificial intelligence) that your startup is providing for your collaboration partner to aid solving customer problem?

2. Get to know corporate you are collaborating with

Who are corporate customers, what kind of value your collaboration partnerships provide to their customers? What is your startup's role in that value chain? It is essential to understand the needs of corporates. Even if a corporate is not interested, it is critical to understand why. In any case, startups must ensure that they are talking to the right person and/ or department who is empowered to make decisions.

3. Recognize the different realities startups and corporations live in

Corporations are not necessary used to make fast decisions. Remember; they may also learn how to collaborate with startups and do not necessarily understand the shorter history and the need for fast decisions. They may have decades of history of specific field, and may reflect their decisions according to that.

4. Build a relationship based on trust

Keep every promise you make and only make promises you can keep. Be honest about your business maturity and stay realistic about what your startup can and cannot do. This attitude will save a lot of time and energy to both parties.

5. Avoid becoming paranoid when it comes to IP

Be straightforward about who will own IP from collective work, and take needed steps to protect your IP if this is core to your business.

4.2.3 Universities and higher education institutions

1. Create a vision for partnership with the wider ecosystem

Especially business schools are often rather well connected to the local industries. However, changing markets also mean that universities should have clear vision on their position in the local ecosystem. Who are the members of your local ecosystem? Why it would be good to collaborate with them? How would partnerships help you to better serve students, society, and other stakeholders?

2. Create platform for collaboration

It is often hard to see collaboration opportunities from outside the university. Make your goals visible and set up a platform for collaboration (e.g., entrepreneurship center, institution, or startup-incubator) to enhance collaboration with students, staff, and local startup and business communities. Naturally, the role of platform should reflect your goals for collaboration.

3. Take advantage of digital opportunities

Use digital tools to communicate your offering to partners outside your organization and to enable interaction.

4. Facilitate bottom-up innovation

Support student-led activities. In addition to the commercialization of research, students play critical role in future novel innovations.

Student-led organizations such as entrepreneurship societies cultivate entrepreneurial mindsets amongst the students, and they are also often well-connected with the startup-ecosystem. Open doors and provide financial support if possible.

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APPENDIX

Table 1. Interview information

Organization	Industry	Country
Startup 1	Education; Artificial intelligence	Finland
Startup 2	Artificial intelligence	Finland
University 1	Research	Finland
Corporation 1	Financial services	Finland
Corporation 2	Food	Finland
Corporation 3	Consulting	Finland
Corporation 4	Financial services	Belgium
Corporation 5	Construction	Belgium
Corporation 6	Technology; Manufacturing	Austria
Accelerator 1	Technology	Austria
Incubator 1	Technology	Austria
Incubator 2	Technology	Austria

Table 2. Reports on corporate entrepreneurship

Name of the report	Organization	Finding/Suggestion 1	Finding/ Suggestion 2	Finding/Suggestion 3	Finding/ Suggestion 4
Collaboration between Startups and Corporates – A Practical Guide for Mutual Understanding	World Economic Forum	<p>Benefits for Startups: Revenue, success story for future sales, scalable customer base, riskless internationalization, attractive retail channel, access to proprietary assets, market knowledge and mentoring</p> <p>Benefits for corporates: External innovation and disruption, more innovative suppliers, customer focus, entrepreneurial and more agile culture, staying on – top of market developments, new revenue streams and business lines</p>	<p>Risks for startups: need for revenue, getting engulfed by one customer, delayed projects, waste of resources, premature scaling, losing the startup spirit</p> <p>Risks for corporates: reputational damage, lost investment, misaligned employees, unsure outcome, misalignment</p>	<p>Challenges for startups: duration of sales cycle, client’s protective middle management, insufficient resources, chasm between proof of concept and real projects, trust without references, top-down approach</p> <p>Challenges for corporates: not invented here problem, managerial support, siloed approach, understanding change, innovative organization</p>	Various models for collaboration (ie. Direct Sourcing, Internal innovation Unit, Corporate Incubator model, External subsidiary, Entrepreneurial Co-Creation model)
Harnessing the Power of Entrepreneurs to Open Innovation	Accenture	<p>Journey of Open innovation:</p> <p>Corporate Ventures -> Incubators/Accelerators -> Joint Innovation -> Ecosystem Innovation</p> <p>In the future emphasis on the latter.</p> <p>Need of trust increases, shared value increases</p>	<p>Ecosystem innovation: actions for corporates</p> <p>visible embrace collaboration top-down, clearly define success, budget for success, seed an intrapreneurship culture, facilitate access, create a network effect, collaborate – don’t compete – with government and peer corporates in supporting startups</p>	<p>Ecosystem innovation: actions for entrepreneurs</p> <p>align to the market, adapt culture, adopt mentors, time it well</p> <p>Ecosystem innovation: actions for bridge makers open up access to supply chains, accelerate the network effect of role models and mentors, bridge the cultural gap, provide shared spaces, connect the ecosystem to support specialized clusters</p>	<p>Ecosystem innovation: actions for governments</p> <p>participate: immerse government officials in the startup world, facilitate: develop co-financing models, incentivize: incent collaboration between large companies and startups, adapt data policy: balance data sharing with privacy and security concerns, broaden access: enable alternative financing, create more inclusive funding: facilitate early-stage financing mechanisms for young, high-growth firms</p>

<p>Winning together – a Guide to Successful Corporate-Startup Collaborations</p>	<p>Nesta</p>	<p>Ten lessons for corporates: Designing your program Consider objectives carefully, select program according to objectives, board-level support Measuring your program Develop KPIs, capture feedback continuously Implementing your program Select program leaders with entrepreneurial mindset, internal champion with decision-making and budget power, visible access point for startups, scout internationally, make it easy for startups to work with you</p>	<p>Clarify your objectives: Rejuvenating corporate culture, Innovating big brands, Solving business problems, expanding into future markets</p>	<p>Consider options: one-off events, sharing resources, business support, partnerships, investments, acquisitions</p>	<p>Connect resources: cash, employee time, products, intangible assets</p>
<p>From Tech to Deep Tech – Fostering collaboration between corporates and startups</p>	<p>Boston Consulting Group / Hello Tomorrow</p>	<p>Challenges deep-tech startups (sample 400) face: lengthy time to market (40%), high capital intensity (25%), technology risk and complexity (17%), yet-to-be developed commercial applications (14%) Addressing challenges requires: funding (80%), market access (61%), technical expertise (39%), business expertise (26%)</p>	<p>Corporations should define clear mandate for the startup collaboration (agility, top management involvement, business unit involvement). Collaboration platform can be dedicated function or simple set of adapted processes and KPIs.</p>		

Five Insights into Intrapreneurship – A Guide to Accelerating Innovation within Corporations	Deloitte Digital	<p>Insight 1: Intrapreneurship describes a people-centric, bottom-up approach to developing radical innovations in-house</p> <p>Insight 2: Intrapreneurship pays off many times over in terms of company growth, culture, and talent</p> <p>Insight 3: it's not about creating intrapreneurs, it's about finding and recognizing them</p> <p>Insight 4. intrapreneurs know the rules and break them effectively</p> <p>Insight 5: intrapreneurship requires a different management approach</p>			
Incubators, Accelerators, Venturing and More	BCG Henderson Institute	<p>Multiple tools enhancing innovation:</p> <p>Business incubation Venturing Strategic Partnerships M&A Internal R&D</p> <p>Proximity to core business differs from Core, to adjacent and to new</p> <p>Time to impact for business unit ranges from 1-3, to 4-7 to 7-10 years</p>	<p>Each tool have their own advantage:</p> <p>Early stage innovation with incubators and accelerators</p>	<p>Two models for incubators and accelerators:</p> <p>Tight-focus model strengthens the core of the business (incubator located near R&D facilities)</p> <p>Wide-angle model focuses on new business model (accelerator in start-up hot spot cities)</p>	<p>Five success factors for high-performance innovation</p> <p>Strategic alignment Collaboration between internal and external innovation centers Strong company backing Effective organization design Effective leadership</p>

Table 3. Academic literature on corporate entrepreneurship

Journal*	Author(s)	Year	Name of the article	Purpose	Method	Findings
ETP	Borch et al.	1999	Resource Configuration, Competitive Strategies and Corporate Entrepreneurship: An empirical examination of small firms	CE approach to study small business instead of entrepreneur perspective	Quantitative survey	Created four firm clusters. The study indicates a link between resource configurations and strategic entrepreneurial direction.

ETP	Covin & Miles	1999	Corporate Entrepreneurship and the Pursuit of Competitive Advantage	Theoretical exploration on the construct of CE	Conceptual	Innovations are a single underlying common theme for all types of CE. A typology of CE forms.
ETP	Finkle	2011	Corporate Entrepreneurship and Innovation in Silicon Valley: The Case of Google, Inc.	How to increase CE and innovation in the economic recession	Case study	Identified success factors: Top management support, corporate culture and employees, self-managed small teams, reward structure.
ETP	Floyd & Woolbridge	1999	Knowledge Creation and Social Networks in Corporate Entrepreneurship: The Renewal of Organizational Capability	Modelling CE as a capability development process	Conceptual	An explanatory model how organizations overcome inertia in the capability development process. The model suggests bringing CE to the managerial mainstream.
ETP	Heller	1999	Loosely Coupled Systems for Corporate Entrepreneurship: Imagining and Managing the Innovation Project/Host Organization Interface	Explores the concept of loosely coupled systems as an image representing the interface between innovation projects and host corporations	Exploratory case study	The study revealed eight mechanisms linking innovation and routine organizational systems. Tools to manage the interface of an emerging and an existing organization.
ETP	Hunt et al.	2018	Bringing it All Back Home: Corporate Venturing and Renewal through Spin-Ins	Examine the effectiveness of spin-ins	Quantitative	Spin-Ins outperform the non-spin-ins.
ETP	Ireland et al.	2009	Conceptualizing Corporate Entrepreneurship Strategy	Conceptualize CE strategy as a focal point to integrate and synthesize key elements of CE intellectual domain	Conceptual	A CE strategy model consisting of antecedents, elements of CE and outcomes of CE strategy.
ETP	Kellermanns & Edlestone	2006	Corporate Entrepreneurship in Family Firms: A Family Perspective	CE is under researched in the family firm literature, which forms the research gap for the study.	Quantitative survey	Willingness to change and technological opportunity recognition are positively related to CE in family firms.

ETP	Kuratko et al.	2005	A Model of Middle Level Managers' Entrepreneurial Behaviour	Develop a conceptual model and explore antecedents, actions and outcomes with the focus on middle managers' perspective to CE	Conceptual	Enactment of CE is favorable for organizations and individuals, the paper argues the engagement of middle level managers is critical.
ETP	Marvel et al.	2007	Examining the Technical Corporate Entrepreneurs' Motivation: Voices from the Field	Examining the sufficiency of the existing knowledge in terms of motivation related to CE	Multiple case study	The study reveals the rewards, management support, resources, organizational structures and risk acceptance are applicable but additional dimensions (work design and intrinsic motivation) need to be added as well as the disparity between the perceptions of technical entrepreneurs and hr people.
ETP	Monsen et al.	2010	Beyond Simple Utility: Incentive Design and Trade-Offs for Corporate Employee-Entrepreneurs	To develop a model to understand the individual participation in the CE projects	Conjoint field experiment	Participation in new venturing is not just financial utility maximization. Incentives, risk and effort are integrated in the model.
ETP	Zahra et al.	1999	Corporate Entrepreneurship, Knowledge, and Competence Development	Focus on knowledge creation in terms of CE instead of market or financial performance	Conceptual	Emphasizes knowledge creation and organizational development as outcomes of CE activities.
SEJ	Eckhardt et al.	2018	Open innovation, information, and entrepreneurship within platform ecosystems	Testing and developing information-based theory within platform ecosystems	Quantitative	Product specific information is associated with the commercialization, no evidence for the relationship between market related information and commercialization.
SEJ	Ketchen et al.	2007	Strategic entrepreneurship, collaborative innovation and wealth creation	Combining strategic entrepreneurship and collaborative innovations and applying four theoretical lenses	Conceptual	Both small and large firms may benefit from collaborative innovation and it may enable them to overcome their respective challenges i.e. liability of smallness and ability to continuously seek for opportunities.
SEJ	Nambisan et al.	2018	On open innovation, platforms and entrepreneurship	To fill the gap of limited understanding in terms of OI and platformatization	essay (special issue)	Discusses key issues in OI and platforms: openness, collaboration and the sharing of risks. Discusses constraining and facilitating factors in open innovation environments.

ISBJ	Fini & Toschi	2016	Academic logic and corporate entrepreneurial intentions: A study of the interaction between cognitive and institutional factors in new firms	A comparative study of enactment of corporate entrepreneurial intentions among academic and non-academic entrepreneurs	Quantitative	The results show that academic entrepreneurs (compared to non-academic ones) are better able to leverage their awareness of technical competencies and their entrepreneurial self-efficacy and awareness of managerial skills considerably less.
JBV	Horn-sby et al.	2009	Managers' corporate entrepreneurial action: Examining perception and position	To examine the organizational support for entrepreneurial action at different managerial levels	Quantitative	Senior and middle manager level make more of organizational factors supporting entrepreneurial activity.
JBV	Horn-sby et al.	2002	Middle managers' perception of the internal environment for corporate entrepreneurship: assessing a measurement scale	Developing measures of the firm's internal factors for corporate entrepreneurship	Quantitative	Documents five stable factors that should be recognized within an organization: rewards, management support, resource availability, organizational structure, risk taking and tolerance for failure.
JBV	Kelley et al.	2009	Intra-organizational networking for innovation-based corporate entrepreneurship	This paper focuses on how networks are created and leveraged within an organization	A comparative case study in 12 industry leading corporations	The importance of the extension beyond the current networks.
JBV	Parker	2011	Intrapreneurship or entrepreneurship	Exploring factors that determine, whether entrepreneurial opportunities are exploited through intrapreneurship or entrepreneurship	Quantitative	Findings suggest that individual, organizational and product characteristics all affect decisions, whether to exploit opportunities through entrepreneurship or intrapreneurship
JBV	Phan et al.	2009	Corporate entrepreneurship: Current research and future directions	Highlight contributions on CE in the papers of the special issue and suggest future research directions	Review article in a special issue	Suggestions for future research cover processes, knowledge.-based resources and contextual heterogeneity.

*ETP=Entrepreneurship, Theory and Practice, SEJ=Strategic Entrepreneurship Journal. ISBJ=International Small Business Journal, JBV=Journal of Business Venturing