Excubation Platforms: Enabler of Digital Entrepreneurship Support?

1 Introduction

Digital Platforms (DPs) and Multi-Sided Platforms (MSPs) gained significant research interest in recent years (e.g. Abdelkafi et al., 2019; Hagiu & Wright, 2015; Täuscher & Laudien, 2018). In the context of open innovation and entrepreneurship, they are evaluated as drivers of value creation or as specific components of business models (BMs) (e.g. Helfat & Raubitschek, 2018; Nambisan et al., 2018; Nambisan et al., 2019). Besides the increasing importance of such platforms in general, they received an additional boost during the COVID-19 pandemic (JHCRC, 2021; Zhu et al., 2020) due to the need to switch towards digital and online formats (see, for example, Dwivedi et al., 2020; Kuckertz et al., 2020).

However, while these potentials of DPs and MSPs as part of the outcome of entrepreneurial activities are increasingly being discussed (e.g. Cenamor et al., 2019; de Oliveira & Cortimiglia, 2017; Srinivasan & Venkatraman, 2018), we argue that their role as connectors between entrepreneurs and their supporters (coaches, incubators, etc.) in the entrepreneurial ecosystem has received insufficient attention so far. This is in line with Elia et al. (2020) arguing that more research is needed on the digital organization of entrepreneurial ecosystems’ design and implementation. Especially in times of the current COVID-19 pandemic, where many entrepreneurship support programs based on physically coming together in incubator spaces are deprived of their working basis, the relevance of digital solutions is increasing (e.g. EBN, 2020; Giones et al., 2020; Lose, 2020). In this context, we are currently experiencing a shift from primarily physical incubators with accompanying digital programs to a holistic accompaniment of entrepreneurs that often runs digitally only and supports the entire entrepreneurial lifecycle. Such programs are often referred to as excubators (Carman, 2013; Deeb, 2014), an approach that has been in practice for about a decade but seems to not playing a role in the academic debate yet (see Scopus, 2021).

Consequently, this paper aims to provide a first conceptualization of excubation platforms (XPs) as a new infrastructure enabling entrepreneurial ecosystems, thereby exploring the question how an XP can create value for the actors within these ecosystems. Therefore, we develop a model depicting the key components and actors of an XP based on the DP, MSP and entrepreneurial ecosystem literatures. We then illustrate how an XP could look like in practice by discussing its current and future role in the Norwegian entrepreneurship ecosystem. We thus contribute to the ongoing academic debate on entrepreneurial ecosystems by providing a conceptualization of how the XP as a novel digital platform solution can organize the support of entrepreneurs in a better and more comprehensive manner.
2 Background

2.1 About Platforms

When discussing platforms in the context of business or entrepreneurship, we typically refer to digital platforms (DPs) and Multi-Sided Platforms (MSPs). DPs can broadly be defined as “technical elements (of software and hardware) and associated organizational processes and standards”, while MSPs add the notion of “mediating different groups of users, such as buyers and sellers” (de Reuver et al., 2018, p. 127). Investigating what DPs and MSPs do, Parker et al. (2016) describe that they enable the interaction among third-party producers of complementary goods and services, thereby seeking to create value for all participants. The participants can be distinguished in several kinds of actors – typically platform owners and platform providers, complementors and consumers – together forming the platform ecosystem (Abdelkafi et al., 2019; de Reuver et al., 2018; Van Alstyne et al., 2016).

Van Alstyne et al. (2016) illustrate this using the example of the Android platform: Google (today Alphabet) is the owner of the platform, mobile devices running the Android system are the platform provider, third party app developers are the complementors, creating complementary, digital products for this platform and the users of the mobile devices are the consumers not only using the devices themselves, but also the apps offered via the platform. This underlines that these platforms create value for the involved actors, by enabling goods to be exchanged and by creating matches among different users.

In the entrepreneurial context, we see that DPs and MSPs are frequently discussed as an outcome. For instance, platforms are described as parts of new ventures’ business models (de Oliveira & Cortimiglia, 2017; Hagiu & Wright, 2015), as local enablers of entrepreneurial activity (Freire-Gibb & Lorentzen, 2011) or entrepreneurship itself is described as a platform for contributing to the solution of societal challenges (Markman et al., 2016). More generally, the role of digital transformation is discussed in the context of entrepreneurial ecosystems (Elia et al., 2020; Sussan & Acs, 2017), an aspect that is further elaborated in the following section of this paper.

However, despite the multitude of governmental programs using significant resources on the support of entrepreneurial activity (Dahle et al., 2020), few studies seem to investigate the use of platforms to organize such support. Here, the excubator could deliver a foundation for a particular kind of platforms addressing this challenge. Carman (2013) distinguish excubators from accelerators and incubators stating that while these would “typically lasts for just three months of the year, the excubator is designed to support startups from the very beginning with ideation to the very end of what hopes to be a successful exit”.

2.2 Entrepreneurial Ecosystems

Entrepreneurial ecosystems gained substantial popularity during the last years. After its introduction by Isenberg (2010) and Feld (2012), the concept was widely adopted outside of academia, leading to “a situation where research is led by policy rather than policy being
guided by rigorous academic research (Stam & Bosma, 2015; Stam & Spigel, 2018) (Wurth et al., 2021, p. 1). This development is summarized in a recent, comprehensive literature study and research agenda by Wurth et al. (2021). They highlight that the concept of entrepreneurial ecosystems has the potential to synthesize a variety of research streams in the field and that future ecosystem research should specifically discuss how it could be an enabler of entrepreneurship.

The purpose of entrepreneurial ecosystems is to provide a fruitful environment to support the growth of start-ups (Spigel & Harrison, 2018). The key actors within the ecosystem include individual entrepreneurs as well as entrepreneurship supporters providing resources including trainings, networks, talented workers and financing. Further actors include academic institutions, financial institutions, existing firms and the government (Brown & Mason, 2017; Spigel & Harrison, 2018). According to Spigel and Harrison (2018), successful entrepreneurial ecosystems are characterized by engaged entrepreneurs who benefit from the resources in the ecosystem and who use opportunities to interact with other actors in the ecosystems. Hence, a well-functioning interplay of entrepreneurship supporters and entrepreneurs is crucial for the entrepreneurial ecosystem’s success. In the last two decades, various highly specialized entrepreneurship supporter types have emerged to address the diversity of entrepreneurial needs, e.g., along the entrepreneurial life cycle, pre-seed, seed and growth phases (investors, incubators, accelerators).

Yet, due to the specialization of entrepreneurship supporters, there is a challenge for them to find the right entrepreneurs for the programs they offer. Additionally, entrepreneurs can struggle to find the right support program for their needs at a certain development stage of their initiatives. This indicates a need for better coordination of how actors within the entrepreneurial ecosystem communicate and find each other to cooperate. Digital entrepreneurial ecosystems can enable a more efficient connection of actors and activities within the ecosystem (Elia et al., 2020). This is linked to the idea of XPs, which represent a specific digital organization of an entrepreneurial ecosystem and thus can be a significant driver of entrepreneurship support. For instance, an XP could improve the interactions among the actors in an entrepreneurial ecosystem by providing an overarching platform to connect a variety of different support offerings, making it easier for entrepreneurs to find the right helpers for the stage they are in and making it easier for the entrepreneurship supporters to find the right entrepreneurs who would benefit most from the support they offer. The following section expands on these thoughts by providing a comprehensive conceptualization of XPs and their role within the entrepreneurial ecosystem.

3 Conceptualization of an Excubation Platform

We define an XP as a digital and multi-sided platform that can be used by entrepreneurship supporters for offering comprehensive support programs to entrepreneurs throughout the whole lifecycle of entrepreneurial initiatives. To conceptualize the role of XPs within the entrepreneurial ecosystem, we use the concept of entrepreneurial activity systems (Amit &
It describes the activity of entrepreneurs from a systems perspective distinguishing three main system elements: The governance, describing the actor who carries out the activity, the content, describing what the activities involve and the structure, describing how one activity is interrelated with one or several others.

Regarding the governance, we can identify the essential roles of platform actors highlighted in section 2.1 for XPs in the entrepreneurial ecosystem. The institution governing the respective XP (e.g. a regional government) is the platform owner. Its task is to strategically plan how, where and for what purpose the XP is offered. The platform provider would typically be a consortium of technology providers selected to develop the XP. Their responsibility is the technical and methodical development and provision of the XP as well as the operational support of all processes that are handled via the platform. Entrepreneurship supporters (e.g. incubators, accelerators, etc.) are the complementors of the XP, offering concrete programs that help entrepreneurs in developing their initiatives, founding their businesses etc. Finally, the entrepreneurs are the consumers, participating in programs selected via the platform.

Regarding the content and structure, we can identify several activities for each actor in the system that are interrelated when going through an XP. This is set out in Figure 1.

**EXCUBATION PLATFORM**

Platform Owner: Strategy development and content directions

![Diagram of EXCUBATION PLATFORM](image)

Figure 1: EPs in the Entrepreneurial Ecosystem

Here, all complementors design their support program before the platform provider (on behalf of the platform owner) quality assure and then publish the program. The consumers then apply to a subset of the programs available on the platform before the platform provider assign the consumer to the most relevant program. The complementors and the consumers
accept the match before the program is set up and delivered. Finally, the consumers finish the program with an exam, which is evaluated by the complementors. If the consumers graduate from one program, they can apply for the next level of programs. The evaluation of the program, together with the activities performed, is analyzed by the platform provider as a starting point for improvements to be made jointly with the complementors.

4 Illustrating the Excubation Platform – The case of Norway

4.1 State of Play – Norway’s Entrepreneurial Ecosystem today

National, regional, and local levels of the Norwegian government spend millions of Norwegian Kroner annually on a multitude of different government support programs for entrepreneurs (e.g. MTIF, 2016). In addition to this, commercial actors like consultancy firms, banks, investors, and co-working spaces provide entrepreneurial support, and academic institutions have their own offerings in the form of special courses, technology transfer offices and makerspaces. Together, all these programs provide funding, financial grants, incubation, mentoring, education and networking for entrepreneurs in all stages of their development.

Examples of complementors providing such programs would be Innovation Norway\(^1\), that provide funding for high-growth entrepreneurs, SIVA (Norwegian Association for Industrial Growth) that manages more than 150 incubators of various kind across Norway, The Norwegian Culture Council providing entrepreneurship support for Arts Entrepreneurs, 356 municipalities responsible for the initial support of start-ups and 10 regions coordinating the entrepreneurship support in their areas.

As highlighted in Section 2.2, entrepreneurial ecosystems can be defined as “a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory” (Stam & Spigel, 2018, p. 407). Consequently, we argue that the sum of all these support organizations and the entrepreneurs using them jointly constitute the Norwegian Entrepreneurial Ecosystem (NEE).

4.2 Observed Challenges regarding the Norwegian Entrepreneurial Ecosystem

The NEE undeniably provides significant value to entrepreneurs, making Norway an attractive location for entrepreneurial venturing. Still, there is clear room for improvement, causing Innovation Norway to take the initiative for a further coordination of the different actors in the Ecosystem in 2021 (Innovation Norway, 2021). We identify four specific and practical areas of potential improvements for the NEE in the future:

1. It could be easier for the individual entrepreneurs to find the program most suited for them, depending on their vertical industry, life phase and special need – while the programs struggle to recruit the right entrepreneurs for their individual programs.

\(^1\) The national innovation support organisation of Norway
(2) The programs could be better coordinated. This means that they would benefit from having better communication between each of them, and also that the business development methodology the different programs used could be more similar. This would enable a smoother transition of entrepreneurs between the programs, and a better division of tasks between different programs.

(3) There is a need for a better effect measurement and quality control for the programs, enabling the allocation of resources to the programs benefiting entrepreneurs the most.

(4) There could be a more structured exchange of competence and experience between the individual entrepreneurs, creating better entrepreneurial networks.

4.3 Piloting the Excubation Platform Concept

We argue that the XP conceptualized in section 3 of this paper constitutes a suitable tool to implement these improvements. The new role of Innovation Norway as a coordinator within the NEE suggests that they could act as the potential platform owner, developing a strategy for enabling entrepreneurship in Norway by means of an XP connecting the multitude of individual support offerings (then complementors) in the ecosystem. A chosen consortium of technology providers could develop the platform, supporting Innovation Norway in the process. Finally, the Norwegian entrepreneurs would take the role of the platform's customers receiving a better-coordinated and more comprehensive support on their way through the individual phases of the entrepreneurial process.

In the context of its role as a coordinator in the NEE, Innovation Norway funded an initial pilot program to develop a platform supporting Norwegian entrepreneurs, taking the anticipated role of the platform owner. Therefore, a coordination of the programs from five different complementors is currently being set up. The platform provider for this particular pilot is a Norwegian methods and tech provider within the entrepreneurship space. In addition to the complementors offerings, the platform provider is setting up a residual program to create an offering for entrepreneurs not fitting into the other programs. Table 1 provides an overview of the support programs in this pilot.

The services provided within this platform pilot include the 1) program marketing and recruitment for all six programs as well as an automatic assignment to one of the six platforms based on geography, life phase, vertical industry, and entitlement to support, 2) the application and an automated approval for the assigned program, 3) the program design and implementation utilizing an Entrepreneurship Management System (EMS), 4) the program evaluation and analysis based on both the input in the EMS and the direct feedback from the consumers and the complementors and 5) in-cohort communication as well as in-program and in-ecosystem communication, enabling the consumers and the complementors to interact with each other and share experiences and knowledge.
Table 1: Entrepreneurship Support Programs in the Excubation Pilot

<table>
<thead>
<tr>
<th>Complementor</th>
<th>Program</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture Complementor</td>
<td>Program 1</td>
<td>30-week virtual program for Arts Entrepreneurs.</td>
</tr>
<tr>
<td>General Complementor</td>
<td>Program 2</td>
<td>36-week virtual program that allows unemployed people to develop an entrepreneurial initiative while keeping their benefits.</td>
</tr>
<tr>
<td>Regional Complementor 1</td>
<td>Program 3</td>
<td>4-week hybrid program for startups, combining grants, mentoring and training</td>
</tr>
<tr>
<td>Regional Complementor 2</td>
<td>Program 4</td>
<td>4-week hybrid program for startups</td>
</tr>
<tr>
<td>Regional Complementor 3</td>
<td>Program 5</td>
<td>8-week hybrid program for startups</td>
</tr>
<tr>
<td>Financial Complementor</td>
<td>Program 6</td>
<td>12-week hybrid program for growth phase companies</td>
</tr>
<tr>
<td>Innovation Norway</td>
<td>Program 7</td>
<td>Virtual incubation program utilizing only MOOC-based learning.</td>
</tr>
</tbody>
</table>

4.4 Indications for Value Creation from a Pre-Study

We are accompanying the design of the XP for the pilot program initiated by Innovation Norway, supporting this process from an academic perspective. In the current phase, we are aiming to identify suitable indicators for the entrepreneurs' level of engagement in the course of the support programs, to reason whether the XP can add value by addressing the challenges described in Section 4.2. Therefore, we measure the number of interactions for three programs that will be part of the complementors in the XP but have previously cooperated individually with a digital platform provider. Thus, there is data on entrepreneurs' engagement before the introduction of the XP. These three programs are Program 1 (run by a Culture Complementor), Program 3 (run by regional complementor 1) and Program 4 (run by regional complementor 2). The number of cases, i.e. entrepreneurial initiatives supported and captured via the digital platform, is 317 from Program 1, 405 from Program 3, and 92 from Program 4, adding up to 814 cases. The measured, average number of interactions per case is set out in Table 2.

Table 2: Entrepreneurs Interactions before the Pilot Platform

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Program 1</th>
<th>Program 3</th>
<th>Program 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>14</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Business Idea</td>
<td>16</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Business Model</td>
<td>30</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Objectives</td>
<td>41</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Tasks</td>
<td>20</td>
<td>11</td>
<td>14</td>
</tr>
</tbody>
</table>

As soon as the pilot program of Innovation Norway described in Section 4.3 has been running for a sufficient time, we plan to measure this number of interactions again. The hypothesis is that the increased quality control within the programs, the improved consumer-program match and the increased interaction among the platform participants will drive up the
average number of interactions within each of the three programs. This empirical study on
the XP concept will be a part of our future research on the subject.

5 Conclusion and Future Research

This paper conceptualizes how excubation platforms (XPs) can support the interaction among
the actors in entrepreneurial ecosystems contributing to 1) an improved matchmaking
between entrepreneurs and entrepreneurship supporters, 2) a better coordination of the
multitude of support programs available, 3) novel approaches for quality control enabled by
one digital solution used by all actors and 4) a more structured exchange of competence and
experience between the individual entrepreneurs.

On this basis, we derive three propositions: We propose that entrepreneurs as consumers of
an XP will display a continuum of ability and willingness to engage with their ecosystem, which
will affect their ability to benefit from the resources it provides. Moreover, we propose that
entrepreneurship supporters contributing to an XP will be enabled to develop novel services,
advance servitization and co-create with other complementors to develop new solutions.
Finally, we propose that governmental bodies acting as platform owners of an XP will benefit
from the opportunity to store data on the supported cases for quality control and continuous
improvement and that they are enabled to create scalable systems with an improved
coordination of the support process.

We contribute to the academic debate by framing the role of Digital Platforms (DPs) and Multi-
Sided Platforms (MSPs) beyond the outcome of entrepreneurial activities as part of
entrepreneurship support within the entrepreneurial ecosystem. We therefore transfer the
excubation approach widely used in entrepreneurship practice to an academic foundation in
a platform context by defining the XP concept. We discuss and illustrate the potential effects
and procedures of implementation for such XPs in the context of the Norwegian
entrepreneurial ecosystem, thereby providing a basis for further investigation of holistic and
digital entrepreneurship support approaches.

For entrepreneurship practice, we highlight opportunities for entrepreneurship support
beyond physical meetings and map their potentials and challenges. We show how
entrepreneurship supporters can enhance the engagement of their customers (the
entrepreneurs) using digital platforms and comprehensive accompaniment throughout the
entire entrepreneurial lifecycle by means of the XP concept.

As this paper is conceptual in nature, setting out the fundamental structures and potentials
of XPs, future research should explore further use cases and seek empirical evidence for the
potentials of value creation through these kinds of platforms in the entrepreneurial
ecosystem. As set out in section 4.3, our own research will involve the empirical investigation
of a respective initiative in Norway that is currently in an early stage of development.
References


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