# European Trends in Business Incubation Through Open Innovation Approach

Iveta Cirule BIORGANIK5 Ltd, Latvia

Inga Uvarova ArtSmart ltd.; BA School of Business and Finance of Latvia

### **Ginta Caune**

RISEBA University, Latvia

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The open innovation (OI) is the actual framework for exploiting external resources and wider networks in doing innovation instead of just operating with in-house resources. Business incubators ensure networking and facilitate OI collaborations both inside the incubator among entrepreneurs and outside with external stakeholders.

The purpose of the qualitative study is to identify the European trends in business incubation through OI approach by setting two main tasks – 1) identify business incubation trends and 2) validate these theoretical findings by conducting the empirical study in Latvia business incubators and 3) draw the conclusions for business incubation practitioners in order to improve business incubation from OI perspective.

The qualitative research methods applied – 1) literature review on business incubation trends, OI approach in business incubation such as service provision, online and onsite incubation, tenant OI competences and strategies, co-creation and collaboration and 2) the empirical qualitative research in Latvia business incubators by conducting incubator management (13) interviews.

The results proved that the main national trends dominant and present in Latvian business incubation are corresponding to the European trends, namely, 1) incubators are serving as OI partners and are recognized by tenants as access providers to external resources ands networks; 2) networking as facilitating activity of the inside-out and outside-in OI strategies; 3) tenants' OI strategies and motivation as well as variety of OI partners (experts, mentors, clients, companies, researchers, universities) promote the better incubation results in terms of ideas validated, product developed, companies created and innovation implemented. These results are in line with the main findings on European trends from a literature review perspective.

This article provides national findings on OI application in business incubation as the empirical novelty for business incubation practitioners, academia, entrepreneurship support policy makers and tenants internationally detecting the crucial role of OI activities applied in business incubation and incubators as OI partners. Business incubation trend analysis through Open innovation approach is a novelty of this research.

**KEYWORDS:** open innovation, open innovation strategies, business incubator, business incubation trends, value co-creation.

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## Abstract

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## Introduction

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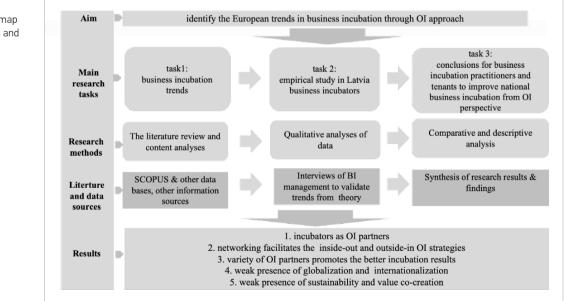
The open innovation (OI) is the actual framework for exploiting external resources and wider networks in doing innovation instead of just operating with in-house resources (Vanhaverbeke et al., 2018). Instead of playing a mere passive role, incubators now facilitate OI for their inhabitants by providing relevant services (Grama-Vigouroux and Royer, 2020). New business creation is frequently related to innovation and business incubators have a unique position of knowledge transfers in this innovation and entrepreneurship ecosystem (Mian et al., 2016). The OI theory addressing business incubation has been popular since 2015. OI is the new model of doing innovation (Chesbrough, 2003) and it includes specific strategies (such as inside-out and outside-in activities) (Gassmann & Enkel, 2004). In order to use these strategies, a nascent entrepreneur needs specific competencies, named OI competencies (Du Chatenier et al., 2010), (Fukugawa, 2013) motivation and partners.

The purpose of the qualitative study is to identify the European trends in business incubation through OI approach by setting two main tasks – 1) identify business incubation trends; 2) validate these theoretical findings by conducting the empirical study in Latvia business incubators and 3) draw the conclusions for business incubation practitioners in order to improve business incubation through OI perspective. Business incubation trend analysis through Open innovation approach is a novelty of this qualitative research.

The two research questions are proposed:

- » RQ1: Are national business incubation trends corresponding to European trends in business incubation through the Open Innovation approach?
- » RQ2: Is the Open Innovation approach present in the national business incubation trends?

The qualitative research methods applied – 1) literature review on business incubation trends, OI approach in business incubation such as service provision, online and onsite incubation, tenant OI competences and strategies, co-creation and collaboration and 2) the empirical qualitative research in Latvia business incubators by conduction incubator management (14) interviews in 1) Latvia Investment and Development Agency incubators funded by national Business Incubation programme and 2) University-led incubators funded by public and private higher education



## Figure 1

Methodological roadmap of the research tasks and results establishments. The key results proved that the main national trends dominant and present in Latvian business incubation are corresponding to the European trends, namely, 1) incubators are serving as OI partners and are recognized by tenants as access providers to external resources ands networks; 2) networking as facilitating activity of the inside-out and outside-in OI strategies; 3) tenants' OI strategies and motivation as well as variety of OI partners (experts, mentors, clients, companies, researchers, universities) promote the better incubation results in terms of ideas validated, product developed, companies created and innovation implemented. These results are in line with the main findings on European trends from a literature review perspective.

This article provides national findings on OI application in business incubation as the empirical novelty for business incubation practitioners, academia, entrepreneurship support policy makers and tenants internationally detecting the crucial role of OI activities applied in business incubation and incubators as OI partners.

The literature review reveals the main findings about actual trends in business incubation through the Open innovation approach, which is a novelty of this research. The following European trends are identified – 1) incubators as OI Partners (e.g., Grama-Vigouroux & Royer, 2020; Carayannis et al., 2021; 2) networking as important inside-out and outside-in OI strategies (e.g., Klofsten et al., 2020; Barile et.al., 2020); 3) tenant OI competences, motivation, partners, difficulties (e.g., Vanhaverbeke et al., 2018; Bøllingtoft, 2012; Du Chatenier, et al., 2010); 4) Globalization and Internationalization facilitated by OI strategies/ activities/ actors/ artifacts (Tsai et.al., 2009; Zykienė et.al., 2021); 5) Sustainability and shared value creation promoted through OI (e.g., Hull et al., 2021; Barile et.al., 2020), particularly recently promoted by the green course of EU agenda (European Commission, 2019) and Sustainable Development Goals globally (UN, 2021; Halkos & Gkampoura, 2021).

The concept of OI offers new strategies and practices for using not only in-house resources in the innovation process, but also to gain knowledge, new ideas and expertise from outside in order to advance in the innovation (outside-in), or to share ideas and knowledge with others (inside-out). Both outside-in and inside-out OI activities contribute to advance in the value creation and capturing (Chesbrough, 2006). OI practice envisages the creation of new knowledge and ideas in the collaboration with other stakeholders, for instance, government organizations, consultants, research centers and universities, customers, society and non-governmental organizations or other private companies considered as the triple, quadruples and Penta helix cooperation (Carayannis et al., 2021; Uvarova et al., 2021). Currently the concept of Living Labs combines the OI framework (Lapointe & Guimont, 2015), which should be considered in further development of incubators.

OI requires the specific strategies, such as inside-out and outside-in activities, but also some coupled activities, which suppose a combination of those two (Cirule et.al, 2017). Outside-in activities are supposed to involve external and internal parties of the business to accelerate internal innovation. Inside-out activities include new ways of commercializing the unused technology and patents. The outbound dimension of OI refers to "earning profits by bringing ideas to market, sell-ing IP, and multiplying technology by transferring ideas to the outside environment". It focuses on external paths to commercialize innovations that have been developed internally (Vanhaverbeke et al. 2018).

Scholars previously have proved that "innovation capabilities might not reside exclusively inside firms, but could be co-created relationally with other parties in the business ecosystem" (Giudici et.al, 2018 - p.1369). This is an important conclusion which motivates the investigation of the future perspective and trends of the adaptation of the open innovation approach within the busi-

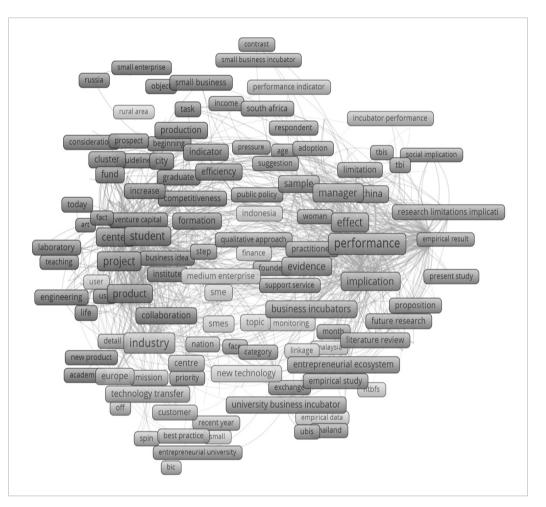
### Literature review

ness incubators. In total 1214 publications were selected in the SCOPUS database using keywords "business incubation" or "business incubator". Using the VOSviewer, the content analysis was conducted within the selected publications to identify main keywords or phrases that appear with the highest frequency within these scientific publications. Given keywords or phrases, show the main research trends of scholars regarding the business incubation (See Figure 2). The size of the keywords or phrases reflect the frequency of co-occurrence of these words within the scientific publications. The content analyses do not recognize the open innovation concept in this field of research, but there are some other important keywords associated with the open innovation, such as collaboration, clusters, university business incubators, spinoffs. This initial content analysis proves the novelty of the business incubator development using an open innovation approach.

### Figure 2

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The network visualization of co-occurrence of keywords "business incubator" or "business incubation" based on articles of the SCOPUS database



### Source: Authors

After the initial content analysis, we conducted a more detailed search of the literature and selected within the SCOPUS database the scientific publications with more narrow focus using keywords ("business incubators" OR "business incubation" AND "open innovation"). In total 94 publications were collected and their abstracts analyzed to identify most relevant publications for the detailed analyses. Furthermore after the abstract analyses 54 publications were kept for the more detailed analyses of the full text of publications. During the detailed literature review additional information sources were added using the reverse selection of already cited sources within the previously selected articles.

Researchers have defined in the past that accelerators, living labs, open labs and other similar forms of cooperation and value co-creation are essential initiatives for promoting open innovation, not only in business sectors, but also in different non-commercial and social spheres (De Silva & Wright, 2019). Within such collaboration forms actors may create business model innovations, but also other ideas for the sustainable transition. This is previously defined by scholars as the shared value which requires the development of the business model in the way that it combines the business needs (profit making) with the positive social and environmental impact (Porter, 2021). Addressing sustainability issues is an essential issue not only for the governments and policy makers, but also for the business society. Thus it influences as well the role and functions of business incubators to facilitate the pro-environmental and sustainable behavior among start-ups and entrepreneurs, also stimulating the creation of sustainable business ideas and business models (Theodoraki et.al., 2018).

During the last 10 years the scholar community has been increasingly discussing the promotion of the sustainable and circular business model innovations and new ventures (Geissdoerfer et.al., 2017). Some researchers have investigated the circular economy or green business incubators that recently are seen as important contributors to the sustainable transition and achievement of the sustainable development goals (Hull et.al., 2021).

The Table 1 "Business Incubation Trends through OI approach" demonstrates the main literature review findings and respective scholars in this field.

Trend code	Business Incubation Trend through Open Innovation (OI) approach, <i>label title</i>	Literature review, authors	
T1	<ul> <li>Incubators as OI partners:</li> <li>Incubators as value co-creation spaces and platforms</li> <li>Incubators as access to networks</li> <li>Customer or user-centric innovation</li> <li>Living labs, Do-it-yourself labs, Open labs</li> </ul>	Grama-Vigouroux & Royer, 2020; Carayannis et al., 2021; Claussen and Rasmussen, 2011; Lapointe & Guimont, 2015; Klofsten et al., 2020; Barile et.al., 2020; De Silva & Wright, 2019; Ngongoni & Grobbelaar, 2017	
T2	<ul> <li>Networking as inside-out and outside-in Open Innovation strategies</li> <li>From infrastructure to networking</li> <li>Growing importance of networking</li> <li>Networking services in Bl promoting outside-in Open Innovation activities such as knowledge at- traction from mentors, experts, researchers</li> <li>Ol Inside -out strategy</li> <li>Ol Outside-in strategy</li> </ul>	Theodorakopoulos et al., 2014; Hausberg & Korreck, 2020; Bank et al., 2017; Mian, et al., 2016; Giudici et.al, 2018; Vanhaverbeke et al., 2018	
T3	Tenant OI competences, motivation, partners, difficulties >> OI Partners (experts, crowd, clients, universities, co-opetitors instead of competitors) >> OI Competences	Chesbrough et.al., 2018; Vanhaverbeke et al., 2018; Bøllingtoft, 2012; Du Chatenier, et al., 2010; Fukugawa, 2013; Grama & Royer, 2013; Grama- Vigouroux & Royer, 2020	

### Table 1

Business Incubation Trends through OI approach

Trend code	Business Incubation Trend through Open Innovation (OI) approach, label title		
T4	Globalization and Internationalization facilitated by OI strategies/ activities/ actors/ artifacts Expanding industrial and geographical borders of cooperation between business incubators, business incubation tenants and other stakeholders > hackathons combining international teams > cross border teams > virtual incubation	Tsai et.al., 2009; Zykienė et.el., 2021; Gao et.al, 2021; Musteen et.al., 2014	
Τ5	<ul> <li>Sustainability and shared value creation</li> <li>Shared value creation within the business model</li> <li>Facilitation to the sustainable transition and contribution to SDGs</li> </ul>	Hull et al., 2021; Barile et.al., 2020; Del Vecchio et al., 2018; Fichter & Hurrelmann, 2021; Porter, 2021; Klofsten & Bienkowska, 2021	

### Source: Authors

Summarizing the main findings from the literature review, the conclusions are:

- 1 Business incubators are important OI partners as the value co-creation spaces and platforms providing access to networks and external resources;
- 2 Networking as inside-out and outside-in Open Innovation strategies manifestation;
- 3 Tenants possessing the OI competences and motivation could improve innovation capacity and performance by choosing co-opetition instead of competition;
- 4 Globalization and internationalization expande industrial and geographical borders of cooperation among business incubators, business incubation tenants and other stakeholders, particularly facilitated by hackathons and cross-border entrepreneurial activities;
- 5 The promotion of sustainability and value co-creation in business modeling facilitate the transition to sustainability and contribution to SDGs achievement.

## Empirical research method and design

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The main aim of the empirical research was to validate the findings from literature review on business incubation trends' analyses through Open Innovation approach by conducting the empirical qualitative research in Latvia business incubators with incubator top management - Heads of incubators, in total 13 interviews in a year 2020. The research environment - 1) Latvia Investment and Development Agency (LIDA) incubators, funded by national Business Incubation programme, total 11 interviews, and 2) University-led incubators funded by public and private higher education establishments, total 2 interviews. The sample size of LIDA business incubators in this time period was 11 regional business incubators and 1 Creative and Culture Industry incubator in the capital city Riga (total 12) and 4 University-led incubators. The interviews were conducted remotely, reaching 11 out of 12 LIDA Heads of incubators (91,6%) and 2 out of 4 University incubator Heads (50%), representing the majority of business incubation top managers nationally.

The authors have set geographical and professional competence limitations - the research was conducted nationally in Latvia business incubators by interviewing only top managers (Heads of incubator) as the main interview expert selection criteria. These incubation professionals have been working in national incubation for a certain period (at least 5 years) and are well-recognized professionals. The interview sample size of a total 16 national top managers in a country is an objective limitation of research.

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Trend code	Question	OI Outside-in (inbound) strategy	Ol Inside -out (outbound) strategy	OI competences and motivation	01 partners	OI difficulties	Туре
T1	What are the current trends and challenges in business incubators?	Х	Х	х	Х	Х	Open
T2	How could you improve your job as an incubator manager?			Х	Х	Х	Open
Т3	What improvements would you like to see in the operation of the incubator?	Х	Х	Х	Х	Х	Open
T4	What other services would you like to see in incubators (tangible / intangible)?	Х	Х	Х	Х		Open
T1	How do you think it would be possible to run the incubator more conveniently / agilely?			Х	Х	Х	Open
T1	How do you think public, university and industry / private incubators differ?	Х	х	Х	Х	Х	Open
T3	To what extent do incubated companies use the networking services provided by incubators?	Х	Х	Х	Х		Enough Not enough
T2	What is the role and importance of mentors / business coaches, consultants?				Х		Important Partly important Not important
Т3	Does physical space matter to achieve a faster result?	Х	Х	Х	Х		Yes No Partly
T4	What, in your opinion, is the motivation of the incubated tenants?			Х	Х		Open
T4	What difficulties do you think incubated companies face during incubation and after leaving the incubator program?					Х	Open

## Table 2

Business incubator managers' interview structure

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Source: Authors

The interview questions were structured to answer the two main research questions:

- 1 Are national business incubation trends corresponding to European trends in business incubation through the Open Innovation approach?
- 2 Are national business incubation trends revealing the Open Innovation approach?

The interview questions were structured in three main scales – 1) the current situation analyses, 2) future improvements and 3) tenants' and management OI competences, strategies. motivation, partners and difficulties. The main aim of interview questions was to detect the presence of the current trends in business incubation through OI perspective. The table below demonstrates the interview structure - trend label from literature review identified by the authors, questions created by the authors, correspondence to the OI dimensions (strategies, competences, motivation, partners, difficulties), answer type – open or structured.

## Results and discussion

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The interview results were structured to answer the two main research questions:

RQ1: Are national business incubation trends corresponding to European trends in business incubation through the Open Innovation approach?

RQ2: Is the Open Innovation approach present in the national business incubation trends?

The Tables 3 and 4 below demonstrate the main interview results. Majority of BI managers admitted the presence of three (T1, T2, T3) European trends in the the national BI, namely, 1) incubators are serving as OI partners and are recognized by tenants as access providers to external resources ands networks (T1, total 12 managers); 2) networking as facilitating activity of the inside-out and outside-in OI strategies (T2, 13 managers); 3) tenants' OI strategies and motivation

Trend code	Business Incubation Trend through Open Innovation (OI) approach, <i>label title</i>	RQ1: European BI trends in the national BI Numeric results (No of interviews, total 13)
T1	Incubators as OI Partners	12
T2	Networking as inside-out and outside-in OI strategies	13
Т3	Tenant OI competences, motivation, partners, difficulties	10
Τ4	Globalization and internationalization facilitated by OI strategies/ activities/ actors/ artifacts	7
T5	Sustainability and shared value creation promoted through OI	4

as well as variety of OI partners (experts, mentors, clients, companies, researchers, universities) promote the better incubation results in terms of ideas validated, products developed, companies created and innovation implemented (T3, 10 managers).

These results corresponds with the the main findings from literature review such as Grama-Vigouroux & Royer, 2020 and Carayannis et al., 2021 on OI partners; Vanhaberke, 2018 and Hausberg & Korreck, 2020 on networking; Du Chatenier, et al., 2010 and Bøllingtoft, 2012 on OI competences and motivation. The results on the trend T4 Globalization and Internationalization facilitated by OI strategies/ activities/ actors/ artifacts (T4, 7 managers) and trend T5 Sustainability and shared value creation promoted through OI (T5, 4 managers) revealed the weak presence of these European trends in the national BI. This could be explained by the recent appearance of

## Table 3

European BI trends in the national BI, interview results

RQ2: OI approach presence in the national BI trends	Numeric results OI approach presence (No of interviews, total 13)
Ol outside-in (inbound) strategy	13
OI inside -out (outbound) strategy	11
Tenants' OI competences	10
Tenants' OI motivation	11
OI partners	12
OI difficulties, mainly, tenants do not recognize the OI approach	13

Source: Authors

sustainability and SDGs related issues on the national entrepreneurship support system agenda after European Green Deal introduction in 2020 and a new EU funding planning period priorities of 2021 -2027 (EC, 2019).

The Table 4 below demonstrates the results of interviews regarding the second research question. The majority (at least 10 of 13) incubator managers agreed that the OI outside-in approach as defined by OI researchers is dominant. This corresponds with Markovic et al., 2020 stating that in the current, highly competitive business environment, outside-in OI has become a popular phenomenon. Outside-in OI consists of purposefully bringing external knowledge (i.e., insights and ideas of external partners) into internal innovation processes (Vanhaverbeke et al., 2020). OI outside-in approach is mainly promoted through business consultancy and infrastructure service, whereas, inside-out approach is observed through networking services.

The interviews prove that the OI approach is applied and utilized in BI but not fully recognized by tenants. Tenants mostly do not value the networking, co-creation and collaboration as the OI manifestation as all 13 managers stressed this as the main OI difficulty.

Finally, analyzing the development trends of the business incubators in the context of open innovation from the literature review perspective, it can be seen that incubation functions, meaning and even the way incubators operate are changing. Although they are characterized by artifacts associated with open innovation, for instance, collaboration, societal involvement, user perspective, co-creation, involvement of users and others, there are various designations and names used recently.

The analysis highlights two major development trends in the evolution of business incubators in the context of the open innovation approach. One of the directions within this evolution is the traditional development and operational model, where incubators focus on the continuation of the provision of the pre-incubation, incubation and post-incubation services, just adapting the particular services according to actual needs of the tenants of business incubators. In such, the business incubator continues to play an important role within the innovation and start-up ecosystems. Such business incubators are mostly managed by e.g. national or regional business support agencies, also, financed or supervised by public bodies.

The other pattern of the transformation of business incubators puts them outside of the traditionally used operation models and responsibilities. In this development model of business incubators, the open innovation is accumulated not only between tenants but also actively used in the business incubator management. This model requires adaptation of the open innovation approach as an important part of the business incubator strategy, requiring wide collaboration with various stakeholders beyond the start-up ecosystem. In such a role business incubators

### Table 4

OI approach presence in the national BI trends

become the important actors of development of a particular city, region or rural communities. Business incubators are participating in the development of a given area. ess models. Business incubators facilitate the development initiatives to address various socio-economic challenges by stimulating the creation of new businesses in these areas. Within the collaboration with

ian	Types	Main characteristics and services	Authors
ation buld be business	Open Labs and community based "do it your-self" labs facilitate the development, testing, adoption of new technologies	Services: laboratory equipment, order-ready materials, accessible scientific or professional knowledge or consultations Characterized with: the open cooperation beyond the boundaries of particular public, scientific and business organizations Associated with co-working spaces, sand box, hack labs Aiming at: improving collaboration, transdisciplinary knowledge sharing and social communication within the laboratory work in order to discover and create innovative solutions In Europe the major geographical locations: in United Kingdom, Germany, France, Netherlands, Belgium, Italy, Sweden, Austria and Spain Novelty: Stimulates public engagement within R&D, open science and technological development	Sarpong et.al., 2020 You et.al., 2020 DIYbiosphere (n.d.) Do Nascimento et.al., 2014
	Living Labs facilitate interaction between different stakeholders, customers and users in order to identify their needs and behaviors	Services: co-creation at the early stage of the product, process, technological, organizational and other innovation Characterized with: social innovation space, collaborative platforms for sustainable and smart transition, physical or virtual collaborative ideation workshops Aiming at: interaction between different stakeholders and users for ideating, prototyping, validating and assessing complex solutions or products. In Europe the major geographical locations: mostly in western European countries in the southern, central and northern part of Europe. Less recognised within eastern european countries, but already have some signs of such initiatives. Novelty: the societal involvement, the user-centric participatory approach and OI. Exploiting quadruplex helix collaboration model	Dell'Era & Landoni, 2014 Edwards-Schachter& Alcántara, 2012 Vallance et.al., 2020 Hasche et.al., 2020 Zavratnik et.al., 2019 ENoLL (n.d.)
	Hackathons eventual activities for fast idea generation, verification, prototyping and presentation	Services: forming teams (also international) for the co- creation of business ideas, business models or business solutions. Characterized with: time limitations (usually non-stop 24h, 48h or other); intensive and well structured work to set-up teams, generate a number of new ideas or solutions, as well as stimulate their commercialisation. Hackathons are designed to offer financial or non-financial incentives in order to stimulate teams to innovate multiple new ideas or solutions. In Europe the major geographical locations: throughout Europe Novelty: Within the OI context civic engagement and cooperation between various stakeholders is an important issue, also known as entrepreneurial citizenship.	Johnson& Robinson, 2014 Irani, 2015 Zukin & Papadantonakis, 2017

Table 5

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The Open Innovation initiatives that could be adopted within business incubators various stakeholders business incubators promote the co-creation of the shared value with the economic, social and environmental impact. These can be private or community lead business incubators or university business incubators.

It can be observed that such factors as the legal status and ownership of the business incubator, financial sources (private or public) can influence the transformation of business incubators. The autonomy of the business incubator management to make decisions and lead changes, as well as dynamic capabilities of the business incubator managers may influence the ability to assume and adopt the open innovation approach.

Further research should be carried out on the causal relationship between these factors mentioned above and the ability to adopt open innovation strategies within the business incubation management.

The analysis shows that the transformation of business incubators is inevitable towards more open collaboration within and beyond the boundaries of the business start-up ecosystem. The following table shows three types of initiatives that can already be used as a basis for further development of business incubators using the OI approach.

The results of this study revealed that:

- The main national trends dominant and present in Latvian business incubation are corresponding to the European trends, namely, 1) incubators are serving as OI partners and are recognized by tenants as access providers to external resources ands networks; 2) networking as facilitating activity of the inside-out and outside-in OI strategies; 3) tenants' OI strategies and motivation as well as variety of OI partners (experts, mentors, clients, companies, researchers, universities) promote the better incubation results in terms of ideas validated, product developed, companies created and innovation implemented. The recommendation for BI managers and tenants is to promote practical OI activities in BI, such as involving customers directly in the innovation process, indirectly by using third parties to intercept creativity and knowledge from the Internet; actively participating in other innovation projects. Tenants may be more aware of the OI's nature, as well as the benefits of co-creation and collaboration, as a result of the practical OI activities.
- » Networking as an inside-out and outside-in OI strategies tool is dominant in Latvian business incubation. The OI outside-in approach purposefully bringing external knowledge into internal innovation processes, is particularly dominant in national business incubation. The recommendation for BI managers and tenants is to exploit also the inside-out strategy or knowledge sharing by tenants and teams with external partners, e.g., participation in others' innovation projects and sharing or selling innovation invented inside team, which will not not be implemented due to some obstacles, like, lack of resources (time, finance, human capital).
- The literature review highlights the new perspective of business incubators facilitating the development initiatives to address various socio-economic challenges by stimulating the creation of new businesses and business in these areas; in cooperation with various stake-holders business incubators promote the co-creation of the shared value with the economic, social and environmental impact. The recommendation for national BI policy makers is to support the Open Labs and community based "do it-your-self" labs in order to facilitate the development, testing, and adoption of new technologies.

The results of the present research are supporting the latest theoretical findings regarding the trends in business incubation through OI approach. It is also notable that two trends - Globalization and Internationalization facilitated by OI strategies/ activities/ actors/ artifacts, and Sus-

## Conclusions and recommendations

tainability and shared value creation, revealed the weak presence of these European trends in the national BI.

The authors are aware of this study having a geographical limitation - the research was conducted nationally in Latvia business incubators by interviewing only top managers (Heads of incubator) as the main interview expert selection criteria, even though authors have reached the valid sample size (91%), the certain number of incubators on the national scale and limited number of top managers are reality in Latvia. The enlarged and diversified sample of incubator management representatives from the duty perspective, e.g., mentors, business coaches, external experts, may create new findings in the future research. Authors hope that this empirical research in Latvia business incubators would contribute to the current international business incubation research scene focusing on the Open Innovation approach.

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## About the authors

### **IVETA CIRULE**

Dr. sc. administr. BIORGANIK5 Ltd

### **Fields of interests**

Open Innovation, Business Incubation, Innovation ecosystem, Entrepreneurial competences

#### Address

Veca Bikernieku 9-16, Riga, LV-1079, Latvia, +37129189748 biorganik3@gmail.com

### **INGA UVAROVA**

### PhD Candidate

ArtSmart Ltd., Management Department, BA School of Business and Finance, Latvia

#### **Fields of interests**

Sustainable business models, Business model Innovations, Start-up support ecosystem, Quadruplex helix

### Address

Stepini, Aizkraukles pag., Aizkraukles nov., LV-5101 +371 26434730 inga.uvarova@ba.lv

### **GINTA CAUNE**

**RISEBA University** 

### Fields of interests

Open Innovation, Business Incubation, Social Capital

### Address

Meza street 3, Riga, LV-1048, Latvia +37126068307 ginta.lejina@inbox.lv



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