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The “open incubation model”: deriving community-driven value and innovation in the incubation process[†]

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Abstract

Globalization, increasing technological advancements and dynamic knowledge diffusion are moving our world closer together at a unique scale and pace. At the same time, our rapidly changing society is confronted with major challenges ranging from demographic to economic ones; challenges that necessitate highly innovative solutions, forcing us to reconsider the way that we actually innovate and create shared value. As such the linear, centralized innovation models of the past need to be replaced with new approaches; approaches that are based upon an open and collaborative, global network perspective where all innovation actors strategically network and collaborate, openly distribute their ideas and co-innovate/co-create in a global context utilizing our society's full innovation potential (Innovation 4.0 - Open Innovation 2.0). These emerging innovation paradigms create “an opportunity for a new entrepreneurial renaissance which can drive a Cambrian like explosion of sustainable wealth creation” (Curley 2013). Thus, in order to materialize this entrepreneurial renaissance, it is critical not only to value but also to actively employ this new innovation paradigms so as to derive community-driven shared value that stems from global innovation networks.

This paper argues that there is a gap in existing business incubation model that needs to be filled, in that the innovation and entrepreneurship community cannot afford to ignore the emerging innovation paradigms and rely upon closed incubation models but has to adopt an “open incubation” (Ziouvelou 2013). The open incubation model is based on the principles of open innovation, crowdsourcing and co-creation of shared value and enables individual users and innovation stakeholders to strategically network, find collaborators and partners, co-create ideas and prototypes, share their ideas/prototypes and utilize the wisdom of the crowd to assess the value of these project ideas/prototypes, while at the same time find connections/partners, business and technical information, knowledge on start-up related topics, online tools, online content, open data and open educational material and most importantly access to capital and crowd-funding. By introducing a new incubation phase, namely the “*interest phase*”, open incubation bridges the gap between entrepreneurial need and action and addresses the wantpreneurial needs during the innovation conception phase. In this context one such ecosystem that aligns fully with the open incubation model and theoretical approach, is the VOICE ecosystem. VOICE is an international, community-driven innovation and entrepreneurship ecosystem based on open innovation, crowdsourcing and co-creation principles that has no physical location as opposed to traditional business incubators. VOICE aims to tap into the collective intelligence of the crowd and turn their entrepreneurial interest or need into a collaborative project that will result into a prototype and to a successful “crowd-venture”.


Keywords

Open incubation, Open innovation, Incubation models, Closed incubation model, Open incubation model, Virtual collaborative incubation ecosystem, VOICE ecosystem

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1. INTRODUCTION

Globalization, increasing technological advancements and dynamic knowledge diffusion are moving our world closer together at a unique scale and pace. At the same time, our rapidly changing society is confronted with major challenges ranging from demographic to economic ones; challenges that necessitate highly innovative solutions, forcing us to reconsider the way that we actually innovate and create shared

value. As such the linear, centralized innovation models of the past are slowly being replaced with new approaches; approaches that are based upon an open and collaborative, global network perspective where all innovation actors strategically network and collaborate, openly distribute their ideas and co-innovate/co-create in a global context utilizing our society's full innovation potential (Innovation 4.0 - Open Innovation 2.0).

Thus, in order to tackle our society's top priority challenges such as the acceleration of innovative start-ups, amongst others, it is critical not only to value but also to actively employ this new innovation paradigm so as to derive shared value via the community/crowd capital that stems from these global collaborative innovation networks. So how can we actually accelerate start-ups and instigate a global, vibrant base of creative and innovative entrepreneurs under this emerging innovation model? The answer lies in the notion of **"open incubation"**. That is the creation of *virtual, open and collaborative incubation ecosystems*; that are based on the principles of open innovation, crowdsourcing and co-creation, while enabling the individual users and all the different stakeholders to strategically network, find collaborators and partners, co-create ideas and prototypes, share their ideas/prototypes and utilize the wisdom of the crowd to assess the value of these project ideas/prototypes, while at the same time find connections/partners, business and technical information, knowledge on start-up related topics, online tools, online content, open data and open educational material and most importantly access to capital and crowd-funding.

Such ecosystems will strategically network all relevant innovation actors (i.e., b2c (individuals, students, graduates, etc.); b2b (i.e., universities, investors, VCs, industries etc.) and b2g (i.e., regional and national governments, etc.) communities along with the crowd that is the broader civil society – Quadruple helix innovation¹) so as to bridge the gap in the broader entrepreneurial development process by enabling individuals that aspire to become entrepreneurs –namely "wantpreneurs"– to tap into the collective intelligence of the crowd and turn their entrepreneurial interest or need into a collaborative project that will result into a prototype and to a successful "*crowd-venture*". Wantpreneurs are defined as individuals that

have the inner drive and need to be an active part of the entrepreneurial ecosystem either by creating their own startup, by co-creating one with other community members, or by contributing for the success of an innovative start-up as a member, however they tend to abandon their desire due to the lack of some entrepreneurial ingredient such as domain knowledge and business/technical skills, collaborators and business partners, lack of time and/or capital to explore their ideas further or even due to the lack of an innovative business idea or perseverance to pursue an idea and experiment (Ziouvelou 2013).

The aim of this paper is to describe this emerging innovation paradigm in the context of business incubation and to present it in a real life context by analysing the case of once such distinct ecosystem, the VOICE ecosystem. The structure of this paper is as follows. Section 2 provides an overview of the notion of business incubation and describes the model of "closed incubation" as well as the "open incubation" model. Section 3 presents the case of the VOICE ecosystem as a prominent example of the notion of open incubation and provides an overview of the envisioned strategy for meeting stakeholders' needs and requirements as they evolve in this fast changing innovation environment. Finally section 4 concludes this paper.

2. THE BUSINESS INCUBATION CONCEPT

Micro and small enterprises constitute the single largest job creation segment of our global economy, although it is generally recognized that only a few make it through their first years (Cupl 1990; Sherman and Chappell 1998). More specifically, micro, small and medium enterprises make up over 95 percent of enterprises in OECD economies (out of which 30 to 60 per cent can be characterised as innovative) and account for 60 to 70 percent of jobs in most OECD countries (OCED 1998); making them truly "entrepreneurial economies" (Audretsh and Thurik 2001). Furthermore, economic evidence indicates the importance of age, rather than size, in job creation; that is "young firms generate more than their share of employment" (OCED 1998). As such despite the fact that startups have a high mortality rate², during the first years of their existence, they tend to create the vast majority of new jobs. As

¹ The Quadruple helix innovation goes beyond the traditional triple helix model, which describes the crossing of three worlds, namely: academia, business and government (Asplund 2012), and integrates the civil society as the key component.

² Studies indicate that the lack of managerial skills and/or access to high-risk capital are key to micro and small business failure (Allen and Rahman 1985; Smilor and Gill 1986; OECD 2002) in addition to ineffective team and competitor aggression and so on.

specified by Mitchell (2011), that examined job creation vs. job loss across the US economy by firm age rather than firm size, during most years, virtually all net new jobs in the United States were created by companies in their first five years of existence or, according to the latest study, by start-ups in their very first year.

Business incubators play a key role in this process and thus have a long history in supporting research and development based start-ups from academic and research institutes and across local and regional ecosystems. Incubation is a process that essentially “nurtures “would-be” entrepreneurs to think over and further develop their business idea and transforming it into a viable and sustainable activity” (EC 2010: p.5). Research indicates that “business incubators guide starting enterprises through their growth process and as such they constitute a strong instrument to promote innovation and entrepreneurship” (Aerts et al. 2007). In particular, incubation has a direct impact on the evolution process of the individual tenants not only during the incubation period but also throughout the life-time of the start-up, which has an indirect effect upon the longevity of these enterprises. Thereby, incubation is widely accepted as an effective vehicle for new venture creation (Campbell et al. 1985), job creation (Abetti 2004), high technology industrial development (Oakey 2012) and sustainable economic growth.

Existing research in the area indicates that incubation constitutes a systematic approach to enhancing business activities of firms in their early stages of development increasing this way their survival rates. However, although numerous research orientations exist in the incubation literature such as: incubator development studies, incubator configuration studies, incubatee development studies, and incubation impact studies one can identify a few studies devoted to theorizing about the incubation process (Hackett and Dilts 2004b). This latter research orientation has to date attracted the least attention with most of the existing studies being “atheoretical” in nature (Mian 1994; Mian 1996). As such there is an on-going need “on grounding future research in theory and developing new theory” in the area of business incubation (Hackett and Dilts 2004a: p.74). The sections that follow aim to provide an overview of the emerging theoretical framework in the context on business incubation, namely the notion of “open incubation”, that is rooted in the business incubation science and innovation theory (Ziouvelou 2013).

2.1 The Closed Incubation Model

Business incubators have grown significantly during the last thirty years (Lalkaka 2001). Traditional business incubators vary in a number of ways from the services they deliver and the clients they serve as well as their organizational structure and funding mechanism among others³. More specifically, incubators provide a range of valuable services ranging from advisory and supporting services (business and technical), access to physical and financial resources and access to their network, among technical others. Furthermore, incubator schemes are established by public, private and non-profit entities and are funded by diverse government levels, research institutes, trade associations and the private sector (OECD 2002). In addition, incubator studies provide an extensive research and knowledge regarding the potential incubator categorization, ranging from non-profit and for-profit; technology-oriented and university linked; brick and mortar and virtual (internet-based); general and sector-specific; and located within the incubator premises and outside located, etc. (Atherton and Hannon 2006).

The incubator-incubation science (Hackett and Dilts 2004b) dates back to 1984 with early studies of the national business incubator profiles (Temali and Campbell 1984). Since then numerous studies examine the notion of business incubation. Existing studies indicate that existing business incubation process generally involves three distinct phases (Bizzotto 2003; EC 2010) namely: (i) pre-incubation, (ii) incubation and (iii) post-incubation. These distinct phases involve all incubation stakeholders and align with the life cycle of a venture (i.e., start-up creation, early stage and expansion). During these phases newly established ventures have different needs, as such different incubation services are provided in every phase. As such the variation of the nature and range of incubation services can be attributed to the model and the objectives of the incubator investors as well as the phase of the incubation process.

- **Phase 1 - Pre-Incubation:** this relates to the planning phase of business operations, during which idea owners become future entrepreneurs and they: prepare a business plan, a budget plan and an implementation plan and in some case a product prototype. Services: business, budget planning, business modelling tools, innovation assessment, etc.

³ See Lalkaka (2001) for an overview of the incubation process.

- Phase 2 - Incubation:** entrepreneurs that successfully pass the pre-incubation phase are considered members of the incubator with which they formally have an incubator agreement (for the maximum period of two years). Services: The incubator offers: premises and facilities to each company as well as business consulting services and individual counselling for the incubation period, access to finance, additional services may include monthly target and follow-up meetings, tailored training and coaching services; incubatees benefit from co-operation and networking between incubator tenant companies and have access to consulting services in patent and intellectual property rights issues as well as financial and marketing issues.
- Phase 3 - Post-Incubation:** Companies that successfully pass the incubation phase can enter the post-incubation phase which consists of a mentoring service for each company, aiming to support their establishment outside the incubator infrastructure. Service: A mentor advises the company and provides guidance in finding business related solutions. The mentor can serve either as advisor to the company, as an outside advisor to the board, or as a member of the board.

The traditional business incubation process involves a range of generic services that can be classified into business and technical ones, aiming to support in-house incubatees during innovation creation and innovation implementation and address a country specific market via a single physical location (Ziouvelou 2013). However, this model is based on the notion of the closed innovation paradigm, which relies purely on internal innovation activities and does not allow outside innovation to be integrated.

As such this “**closed incubation model**” involves a linear incubation process which is purely centralized and maintained within the business incubator boundaries, while communication with the exterior occurs only via well-defined channels and processes” <Fig. 1> (Ziouvelou 2013). In this model innovation and entrepreneurship occurs in a closed environment, both internally and externally and it is often performed by individuals or groups in isolation. Furthermore, in this model, traditional business incubators generally address either all three incubation phases (i.e., pre-incubation, incubation, post-incubation), or specialise in a single phase (i.e., pre-incubators specialise in the pre-incu-

bation phase of incubation, post-incubation phase specialisation is often provided by accelerators).

However, a number of deficiencies exist in the traditional closed incubation model (Ziouvelou 2013). Firstly, in this model, the incubation process is performed in a “closed” and self-sufficient way, where the incubator is responsible for the selection process of innovative ideas, that once selected enter the formal incubation cycle. Secondly, none of the traditional business incubators addresses all incubation phases (i.e., pre-incubation, incubation, post-incubation). Usually, the pre-and post-incubation phases are addressed by different incubators (i.e., pre-incubators, accelerators). Thirdly, in the closed incubation model a gap exists between the innovation phases, namely “*innovation conception*” and subsequent “*innovation creation*” and “*innovation implementation*” (Ziouvelou 2013) <Fig. 2a>. This implies that only a few of the potential user-generated business ideas reach the formal incubation process and are actually submitted as project proposals to traditional physical business incubators. As such, in this incubation model only a fragment of submitted project/start-up proposals reach the evaluation process by a small group of experts who select the future incubator tenants. Consequently, the closed incubation paradigm excludes the whole innovation conception phase, which has a central role in the innovation and entrepreneurial process as it relates to the conception and exploration of new ideas. This creates a “*chasm*” between the early ideas or entrepreneurial need of “*wantpreneurs*” and the actual project proposals that finally reach the incubators screening process (Ziouvelou 2013).

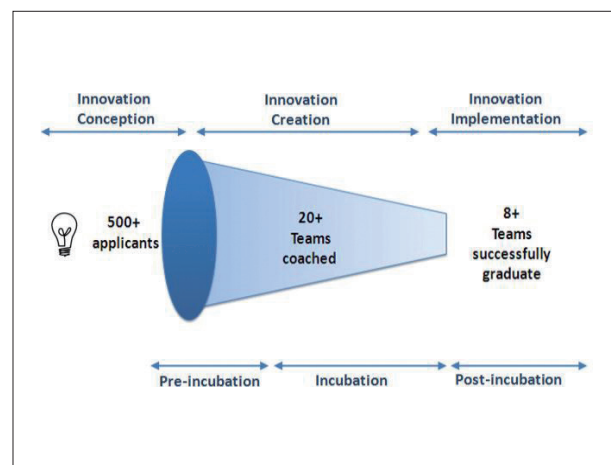


Fig. 1. The traditional business incubation process (Ziouvelou 2013)

Wantpreneurs are defined as individuals that want to become entrepreneurs, to innovate and explore their ideas but within the current incubation process they tend to abandon their desire due to personal or procedural reasons (Ziouvelou 2013). Personal reasons relate to the individual's lack of one or some of the entrepreneurial ingredients such as knowledge and business/technical skills, collaborators and business partners, time and/or capital to explore their ideas further or even business idea, among others (Ziouvelou 2013). Procedural reasons relate to the fact that in order for individuals to enter the formal incubation process (i.e., closed incubation model phases) they need to have formalised their business idea and team in addition to a business plan, a budget plan and an implementation plan. In some cases even an early prototype is needed in order to enter the pre-incubation phase of a traditional incubator. As such despite the fact that wantpreneurs have the inner drive and need to be an active part of the entrepreneurial ecosystem either by creating their own startup, by co-creating one with other community members, or by contributing for the success of an innovative start-up as a member, they are rarely integrated in the entrepreneurial arena.

2.2 The open incubation model

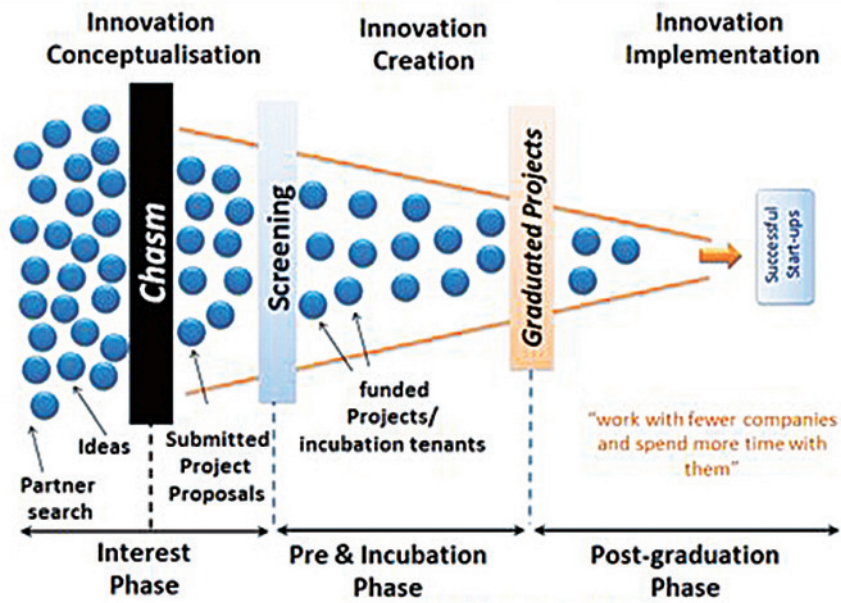
This market inefficiency is addressed by the "introduction of a new incubation phase, namely the "Interest phase" which bridges the gap between entrepreneurial need and action" (Ziouvelou 2013). This phase addresses the needs during the innovation conception phase. That is the requirement of the individuals who have "the need" to become entrepreneurs, to innovate, to find collaborators and/or contribute to existing projects – "wantpreneurs". The proposed "open incubation model" (Ziouvelou 2013) amalgamates numerous innovation paradigms <Fig. 2b>. More specifically, open incubation is based upon the principles of collective-intelligence and crowdsourcing as well as mass-collaboration, collaborative innovation and co-creation of shared value. The proposed model leverages the notion of open innovation (OI) (Chesbrough 2003), which proposes the usage of external sourcing of ideas in addition to internal ideas and internal and external paths to market (Chesbrough 2003), but it goes beyond the linear, company-centric OI view and adopts an ecosystem-centric view of innovation

that aligns fully with the open innovation 2.0 (OI 2.0) paradigm (Curley and Salmelin 2013). As in the OI 2.0 model (described by the EU Open Innovation Strategy and Policy group (OISPG)), open incubation integrates a wider spectrum of stakeholders including the civil society which joins forces with the business, academic and government segments (quadruple helix innovation) in a global, open and collaborative network. Central to this ecosystem, is the co-creation of shared value and capital by all innovation actors who strategically network and collaborate, openly distribute their ideas and co-innovate/co-create in a global context utilizing our society's full innovation potential (Innovation 4.0 - Open Innovation 2.0).

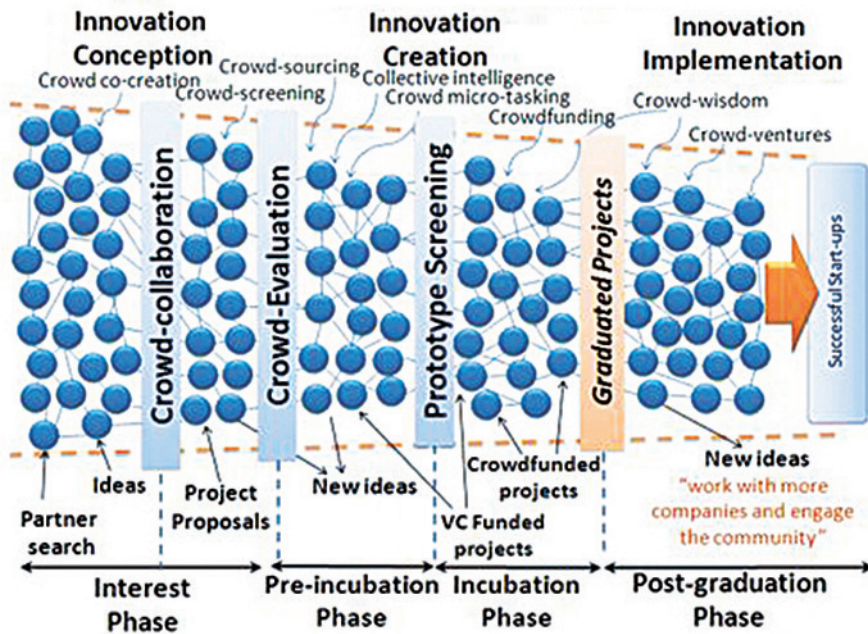
The proposed model integrates the benefits that can be derived from the widely distributed knowledge and collective intelligence of the global community, and the crowd-resources and capital that stem from it. These elements compose a virtual, open, collaborative crowd innovation and entrepreneurship ecosystem that facilitates the collaborative ideation, development and rapid commercialization of user- and crowd-generated business ideas and prototypes; forming this way, virtual-collaborative start-ups, that is "crowd-ventures"⁴ (Ziouvelou 2013). The open incubation paradigm advocates that our society can no longer afford to tackle the acceleration of innovation and entrepreneurship in isolation but rather via community-driven shared value (Ziouvelou and Giannaka 2013). This essentially implies that individuals that want to become entrepreneurs cannot afford to rely entirely on their own research and limited capabilities; employees within large corporations who want to turn their ideas into profitable ventures cannot afford to rely upon their intra-organizational processes; incubators cannot afford to rely entirely on their own, linear, internal idea screening processes; venture capitals and investors cannot afford to rely entirely on their evaluation and innovation identification processes to determine potential value; governments cannot afford to rely upon a closed national innovation context.

In the "open incubation model", a collaborative network is established amongst all innovation collaborators (Innovation 4.0) and the broader community which is actively involved in the value creation process via a number of crowd-driven mechanisms such as: crowd-evaluation, crowd-wis-

⁴ The term "crowd venture" describes the idea of virtual and collectively development of social start-ups, composed by individuals who network online, pool their own resources and collaborate in order to collectively initiate a company based on a crowd initiated and/or developed idea and/or product (Ziouvelou, 2013).



a. Closed incubation model



b. Open incubation model

Fig. 2. The closed incubation model (a) versus the open incubation model (b) (Ziouvelou 2013)

dom, crowd-funding and crowd-sourcing both generic and crowd-sourcing of micro-tasks to the user-community amongst others. This creates an open, crowd-driven, collaborative ecosystem in which potential entrepreneurs can turn their entrepreneurial interest or need into a collaborative research project with other members of the community, co-create, experiment, co-develop a prototype and establish a successful start-up/or utilise the wisdom of the crowd to revise/enhance the initial idea into a successful one.

3. A VIRTUAL, COLLABORATIVE, OPEN INCUBATION ECOSYSTEM IN THE ICT SECTOR: THE CASE OF VOICE ECOSYSTEM

Having discussed the notion of open incubation, in the context of incubation design and from a theoretical perspective, we now present an implementation of this model in the context of the broader ICT market. More specifically, this section will detail the case of the VOICE ecosystem, a “Virtual, Open Incubation Ecosystem” in the ICT market. VOICE is an international, community-driven ecosystem, innovation and entrepreneurship ecosystem based on open innovation, crowdsourcing and co-creation principles that has no physical location as opposed to traditional business incubators. Unlike traditional location-specific incubators that adopt a linear incubation process, which is purely centralized and maintained within the business incubator boundaries, VOICE targets the global entrepreneurial community as an example of the open incubation paradigm.

The VOICE ecosystem aims to strategically network all relevant innovation actors at a global level such as the b2c (individuals, students, graduates, etc.); b2b (i.e., universities, investors, VCs, industries etc.) and b2g (i.e., regional and national governments, etc.) communities along with the crowd that is the broader civil society (Quadruple helix innovation). VOICE helps to bridge the gap in the broader entrepreneurial development ecosystem by providing an online, open, community-driven environment that will support in addition to the standard incubation phases, a key phase that is currently unaddressed in the incubation process, namely the “*interest phase*”; the phase where the individual has the need to be actively involved in entrepreneurial activity, but does not have any business idea or business partners or special expertise about how to proceed. VOICE can thus be seen as an open

incubation ecosystem that facilitates the creation of new community-driven shared value through innovation, while it bridges the gap in the broader entrepreneurial development process by enabling individuals that aspire to become entrepreneurs (wantpreneurs) to tap into the collective intelligence of the crowd and turn their entrepreneurial interest or need into a collaborative project that will result into a prototype and to a successful “crowd-venture”.

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The service categories that VOICE will provide include (a) *innovation exposure services* (i.e., an innovation and entrepreneurship map and an Innovation Exposure room for successful start-ups and best practices), (b) *training and mentorship services* (i.e., virtual training and consulting services, etc.), (c) *content-related services* (i.e., informational content, open data, open repositories), (d) *VOICE tool-set* (i.e., entrepreneurial toolkit and an investor’s toolkit), (e) *social networking and crowd-matching services*, (f) *virtual marketplace* (i.e., funding and financing, online marketplace, crowdsourcing marketplace, crowd-funding mechanism), (g) *community services* (i.e., crowd-wisdom, crowd-evaluation and voting) and finally (h) *innovation observatory services* (i.e., guidelines and trends, participatory community-driven policy formulation mechanism, a research observatory, etc.) <Fig. 3>.

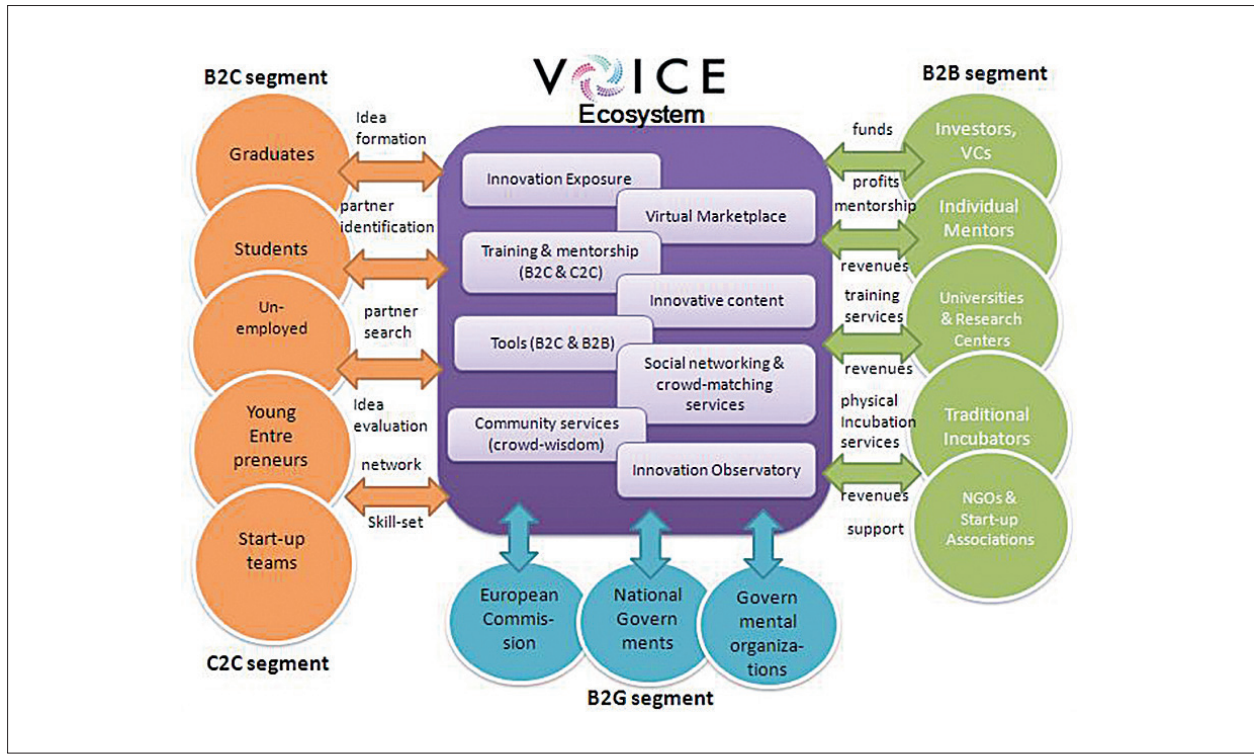


Fig. 3. The VOICE ecosystem

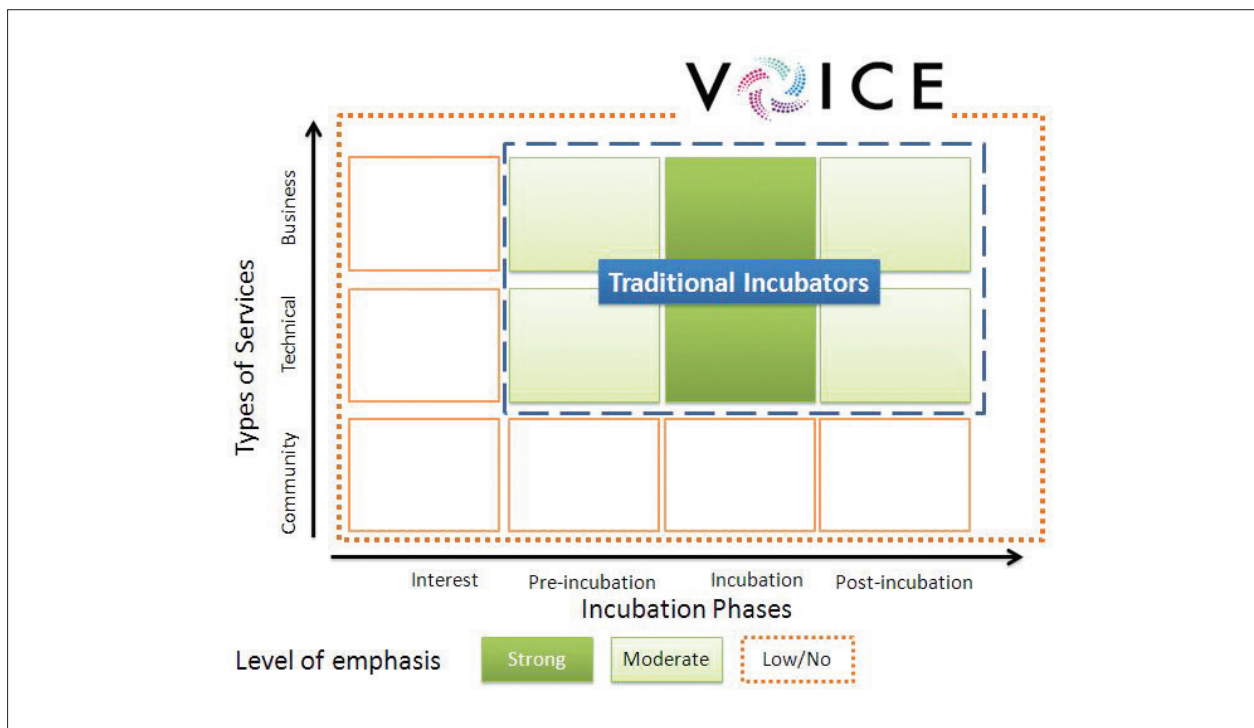


Fig. 4. Business Incubation Competitive Landscape (Ziouvelou 2013)

As such, VOICE is an end-to-end innovation and entrepreneurship ecosystem that aims to provide community-driven shared value, not only by addressing all four incubation phases, but also via the provision of an inclusive set of services <Fig. 4>. These services extend beyond the business and/or technical ones offered by traditional closed incubators, and integrate community (i.e., crowd-intelligence-ideation, crowd-evaluation & crowd-testing, crowd-matching, co-creation –idea and/or prototypes, crowdfunding, etc.) as well innovative services (i.e., innovation observatory, innovation exposure among others).

Even though the need to provide stakeholders with a wide and meaningful set of services is of course essential to the VOICE ecosystem, it is also critical to understand the actual user needs within such an ecosystem while at the same time assess the extent to which the envisioned services capture the

stakeholders requirements throughout the innovation process. In this direction, having identified the importance of a successful strategy for meeting stakeholders’ needs as they evolve in this fast changing field, VOICE defines four major phases for requirements gathering, elicitation, specification and assessment.

The four phases of the VOICE strategy towards identifying and addressing stakeholders’ needs are organized in four iterations <Fig. 5>, as follows:

- **Phase 1 - Analyzing the VOICE environment:** During this phase it is essential to clearly define VOICE stakeholders and receive their feedback on the envisioned system through structured interviews. For the success of this phase, stakeholders need to be introduced to the VOICE concept and paradigm (i.e., via a detailed presentation of

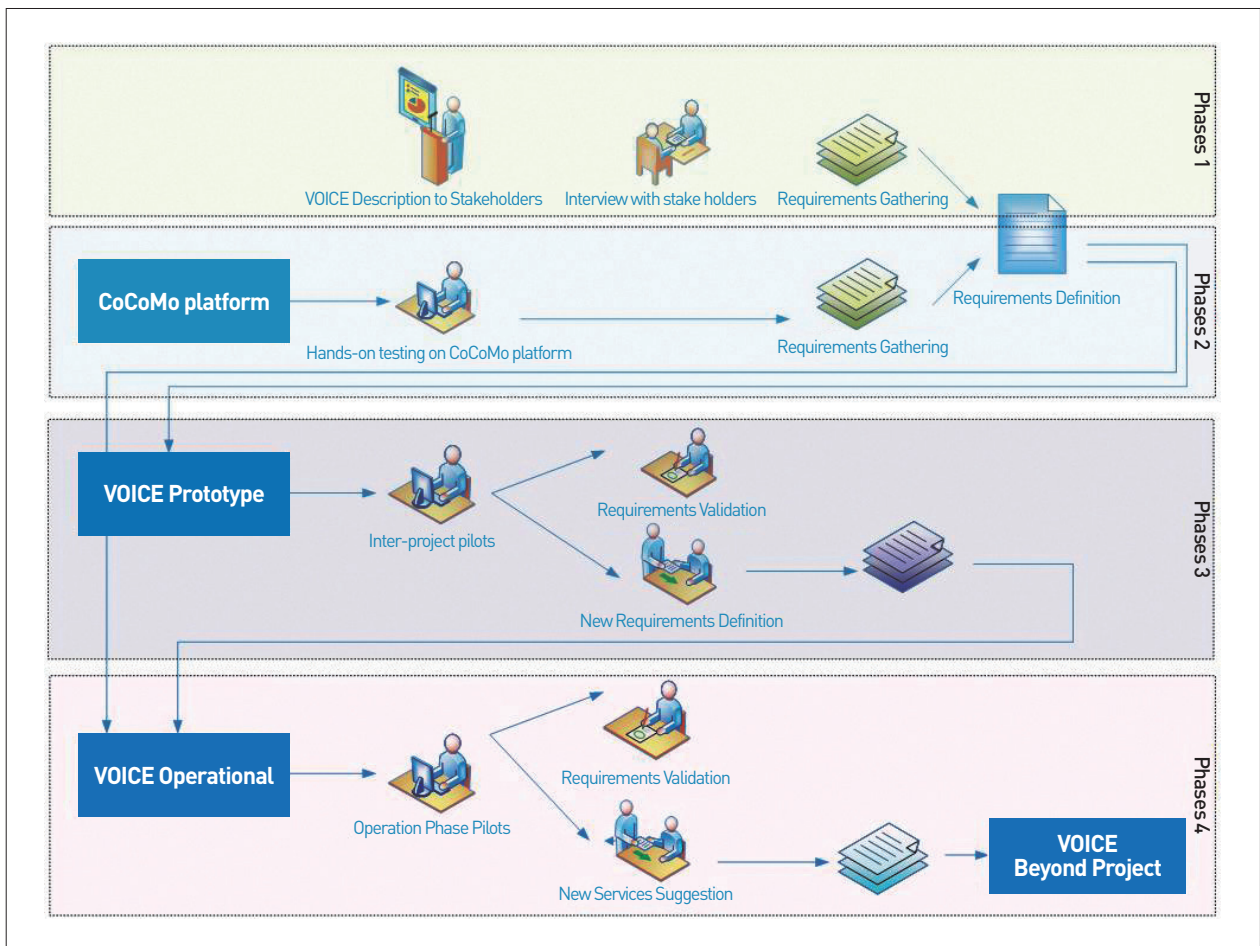


Fig. 5. VOICE Strategy towards Meeting Stakeholders’ Needs

the ecosystem, its concepts and vision). The input gathered from the stakeholders at this phase can provide insights on the relationships and interactions both among stakeholders of the same and different classes, the processes within the class and towards external classes, the services used as well as important feedback on those that can be improved and suggestions for the way that VOICE could achieve such improvements. Furthermore, desired and missing processes of stakeholders' activities can be defined that can significantly improve the life-cycle of the activities they perform.

- **Phase 2 - Shaping the VOICE platform:** After collecting stakeholders' processes and relationships along with their views on the envisioned VOICE ecosystem, the step that follows is an additional round of needs' gathering through stakeholders' hands-on experience with the underlying infant system. In this direction, at least one stakeholder from each of the identified stakeholder sectors is selected in order to address the needs of all sectors. Each of the stakeholder classes is requested to register in the system and perform a complete list of activities for the whole life-cycle of the incubation process. For the existing components and the envisioned services, stakeholders are requested to provide feedback regarding their needs, concerns and requirements based on the what each service should perform, in terms of the stakeholders' needs, activities and preferences along with a list of customizations required for this service in order to meet the objectives of the VOICE ecosystem from a business, technical or usability point of view.
- **Phase 3 - Micro Needs Validation:** After requirements gathering and elicitation through stakeholders' feedback the step that follows is the requirements validation and redefinition (if found necessary) through small-scale pilots. The validation aims at answering two important questions, "Does the ecosystem do the right things?", which addresses the adequacy of the system for its intended goal, thus requiring an evaluation by its intended users, and "Does the ecosystem do the things right?" which stresses the need to validate its behaviour from the viewpoint of performance and of correctness of results. For gathering users' input a feedback mechanism will be used along with a template that will map assessment results to VOICE ecosystem components (both business

and technical) for matching gathered assessment input to recommendations for the appropriate parts of the ecosystem. This will ensure that assessment can produce concrete results without the risk of misconceptions.

- **Phase 4 - Macro Needs Validation:** One of the main objectives of the VOICE is to ensure the sustainability of the VOICE ecosystem. Aiming to continuously enhance the VOICE ecosystem based on user and community needs and the ongoing technological and business advancements, VOICE incorporates an on-going evaluation process mechanism for addressing all user (B2C, B2B and B2G) needs as they evolve. Therefore, the input received by the stakeholders (in terms of needs, concerns, requirements, etc.) after the macro needs validation phase will be the starting point for the self-sustained era of the VOICE ecosystem.

The selection of different phases and the continuous iterations provide the ecosystem with the advantage of being able to refine decisions with respect to stakeholders' and evolving market's needs.

4. CONCLUSIVE REMARKS

The major socio-economic and demographic challenges of our times necessitate highly innovative solutions, forcing us to reconsider the way that we actually innovate and create shared value. As such the linear, centralized innovation models and even Open Innovation 1.0 of the past need to be replaced with new approaches; approaches that will take us to beyond the organizational boundaries by embracing new open and collaborative, crowd-based models of shared value, and adopting a global network perspective where all innovation actors strategically network and collaborate, openly distribute their ideas and co-innovate/co-create in a global context utilizing our society's full innovation and entrepreneurial potential.

These emerging innovation paradigms such as Open Innovation 2.0 and Innovation 4.0 create "an opportunity for a new entrepreneurial renaissance which can drive a Cambrian like explosion of sustainable wealth creation" (Curley 2013). Thus, in order to materialize this entrepreneurial renaissance, it is critical not only to value but also to actively employ this new innovation paradigms so as to derive community-driven

shared value that stems from end-to-end, global innovation networks.

This paper argued that there is a gap in the existing business incubation model (closed incubation model) that needs to be filled, in that the innovation and entrepreneurship community cannot afford to ignore the emerging innovation paradigms and rely upon closed incubation models but has to adopt an “open incubation” perspective (Ziouvelou 2013). This emerging theoretical framework in the context on business incubation is rooted in the business incubation science and innovation theory (Ziouvelou 2013). The open incubation model is based on the principles of open innovation, crowdsourcing and co-creation of shared value and enables individual users and innovation stakeholders to strategically network, find collaborators and partners, co-create ideas and prototypes, share their ideas/prototypes and utilize the wisdom of the crowd to assess the value of these project ideas/prototypes, while at the same time find connections/partners, business and technical information, knowledge on start-up related topics, online tools, online content, open data and open educational material and most importantly access to capital and crowd-funding. In addition, open incubation addresses the inefficiencies of the traditional closed incubation model and bridges the gap between entrepreneurial need and action by introducing a new incubation phase, namely the “*interest phase*” which addresses the want-preneurial needs during the innovation conception phase. Furthermore, open incubation integrates a wider spectrum of stakeholders including the civil society which joins forces with the business, academic and government segments (quadruple helix innovation) in a global, open and collaborative network.

Having discussed the notion of the open incubation model from a theoretical perspective, this paper presented the VOICE ecosystem as an implementation of this model in the ICT sector. The VOICE ecosystem, a virtual, open and collaborative incubation ecosystem is an example the open incubation model, with an end-to-end approach, incorporating all actual crowd-driven developments within a more and more “shared economy” (Rifkin 2014). VOICE is an international, community-driven innovation and entrepreneurship ecosystem based on open innovation, crowdsourcing and co-creation principles that has no physical location as opposed to traditional business incubators. One of the key factors for the success of the VOICE ecosystem is its strategy to meeting the stakeholders’ needs, aiming to remain on top of the ever changing needs of this

fast-evolving market. VOICE aims to tap into the collective intelligence of the crowd and turn their entrepreneurial interest or need into a collaborative project that will result into a prototype and to a successful “crowd-venture”.

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