

BUSINESS MODELS WITHIN BUSINESS MODELS: TWO INCUBATOR CASE STUDIES

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ABSTRACT

Global statistics suggest the number of incubators being established continues to increase. Some researchers have classified incubators according to a business model type under headings such as university, regional, commercial, company internal or virtual. We have observed an increase in the number of commercial incubators established by entrepreneurs, and we have explored one Australian and one Dutch example in some detail, considering the innovative business models that make sense to such enterprises. We have observed this includes a separate business running in parallel with the incubator that is like an engine for the incubator, in a similar way that a university or a government might provide the strategic direction and funding for the establishment and sustainment of an incubator. But the nature of that business also establishes a synergistic relationship with the incubator clients. The literature implies that a particular incubator may focus on one stage in the development of a startup client. In the cases we examined there was evidence of support over multiple development stages.

Keywords: Incubator, Business Model, Innovation

1. INTRODUCTION

The globalisation of business, technological change and demographic changes impact specific regions in different ways, but a common response to emergent conditions is to encourage the establishment of new businesses, facilitated by some form of incubator. This kind of activity has been observed in our respective regions, where there is both government support for new business creation to stimulate local employment and a pool of experienced entrepreneurs interested in stimulating early growth stage businesses. Access to the knowledge of these entrepreneurs is seen as a strong motivator for start-ups to engage with their associated incubator. Whilst incubator facilities may be established by university or government actors, our particular interest is in independent commercial incubators, and in business model innovations they introduce to enhance their economic sustainability.

Some studies (e.g. Bruneel et al, 2012) have suggested that further research is needed to look beyond incubator service provision to also consider conditions shaping incubator business model rationale and the extent to which incubator value proposition and tenant profiles are aligned. Taking up those suggestions, in this conceptual paper we consider two research questions:

1. What kinds of innovative business model might sustain a regional commercial incubator?

2. How does the incubator business model support the business models of their tenants?

We describe findings from two incubator case studies, each of which may be viewed as an innovative startup.

2. PURPOSEFUL ENTERPRISE INCUBATION

Individuals and enterprises start a new business for a variety of reasons. Some aim to commercialize an innovative idea or technology, however to be successful they need to identify an appropriate business model (Chesborough, 2010). For many individuals, starting their own enterprise may be the only way of gaining employment, or they may prefer self-employment, or they may wish to pursue a social mission (e.g. Maritz, 2004, 2015). Whatever the driver may be, these entrepreneurs have to identify a competitive business model to be economically sustainable. Engagement with an incubator can help support them to both identify and test appropriate business models.

2.1 A TYPOLOGY OF INCUBATORS

Hannon (2003) observed that entrepreneurs needed different kinds of support as their enterprise grew from a fragile startup to one with significant growth potential, and that some kinds of incubator are specialized in supporting a particular stage:

1. Germinator stage (early or pre-incubation, ideas and teams are nurtured),
2. Incubator stage (prepare a business plan, newly trading business),
3. Cold frame stage (support for moving out, growing business), and
4. Accelerator stage (stimulating potential high growth business)

Drawing on an extensive literature review, Bruneel et al (2012) characterized five incubator business model archetypes: (a) the university incubator, (b) the independent commercial incubator, (c) the regional business incubator, (d) the company-internal incubator, and (e) the virtual incubator.

The combination of these two typologies would suggest 4X5 possible types of incubator, each with particular aims and service offerings, as illustrated in Table 1.

Type of Business Model	Stage of Enterprise Development Supported			
	1. Germination	2. Incubation	3. Cold Frame	4. Acceleration
(a) University	e.g. Volsey et al 2013			
(b) Commercial				e.g. Pauwls, 2016
(c) Regional				e.g. Pauwls, 2016
(d) Company-internal				e.g. Pauwls, 2016
(e) Virtual				

Table 1. An incubation process typology

It is beyond the scope of this paper to provide examples of all of the combinations shown in Table 1, however a few examples follow. In one example of the university – germinator combination (1a above), a longitudinal study by Volsey, Jones and Thomas (2013)

reported that over a ten year period, of the 360 businesses registered, 54 were still currently registered for support, 52 had ‘graduated’ and were still trading, and 160 new jobs were created. Whilst all of this is positive, it would probably not make business sense as a self-funding business operation. At the other end of the spectrum Pauwels et al (2016) studied 13 accelerators across Europe, and observed three different focus areas:

- The “ecosystem builder” is an accelerator typically set up by large companies to develop a network of customers and stakeholders around their company and support an open innovation strategy (combination 4d).
- The “deal-flow maker” accelerator that has the primary aim of identifying investment opportunities for its supporting investors (combination 4b).
- The “welfare stimulator” accelerator typically supported by government agencies with the aim of stimulating economic growth within a specific region or within a specific technological domain (combination 4c).

These kinds of incubators had a clear business focus, and represent three of the combinations in our 4X5 matrix.

2.2 THE EVOLUTION OF INCUBATOR SERVICES

Mian et al (2016) reviewed 149 articles relating to technological business incubation, observing three evolutionary stages over a 30-year period. There was an early focus on facilities, followed by an additional focus on professional services and networking. Most recently, there is an increasing focus on access to intangible assets (e.g. practical knowledge and experience) and finances to accelerate growth. Science parks featured in some way in all stages, providing physical space and professional management administering entry and exit policy. A mix of business support and professional services, networking, and university resources were progressively integrated, with mentoring and seed capital being introduced via accelerators from the 2000’s. They also observed that the technology parks and incubators were part of and embedded in a dynamic innovation ecosystem. Cantù (2015) explored a new generation incubator business model recognizing that knowledge transfer was a key function and that co-location may not be a necessary requirement. They suggested that facilitating both internal and external networking was part of the incubator service.

2.3 THE ECONOMIC SUSTAINABILITY OF INCUBATOR OPERATIONS

Drawing on interviews with 41 incubation and R&D managers, Von Zedtwitz (2003) provided examples of the five kinds of incubator business model referred to earlier. He also observed that the expectations of an incubator should not be exclusively financial or short-term, as the real value of a start-up is only realized many years after its creation. He suggested whether for profit or not, incubators should be run like a business. A common theme across different business model types was that three kinds of actors interact in a variety of ways with a focus on economic exchange, as illustrated in Table 2. The shaded areas highlight the interactions Von Zedtwitz (2003) suggested as attributes of a generic incubator business model. We have added comments in the un-shaded cells based on the existence of bodies of literature about each topic, e.g. exploring regional investor ecosystems.

From	To		
	Investor(s)	The Incubator	The Start-ups
Investor(s)	Investors may be Business Angels, Venture Capitalists or Institutional Investors, and there may be some trading between them	Venture Capital, sponsor or investor who supported the incubation activities financially	Institutional investors in particular may directly invest in start-ups independent of the incubator, particularly when start-ups are ready to “graduate”
The Incubator	Returns on investment from incubator operations and seed investments	Different kinds of incubators may cooperate, and may compete for resources, as they are all part on a broader innovation ecosystem.	Seed money leverage based on the timely and effective deployment of the full range of incubation services
The Start-ups	Investors are always seeking new “deals”, and start-ups may offer investment opportunities directly to investors independent of their involvement with an incubator	Proceeds from operations (e.g. rent)	Synergy between startups through collocation or segmentation of entrepreneurs with similar problems and goals.

Table 2. Some Generic Interactions Between Incubator-Engaged Actors

2.4 SOME INDUSTRY OBSERVATIONS

The academic literature has suggested that incubators are being established at an increasing rate, and that new forms of incubator are emerging. We briefly searched the internet looking for some emergent themes. One theme observed was large enterprises stimulating both internal and external innovation ecosystem development. An example is Google (2014) who have outlined 5 ingredients for fostering a thriving startup ecosystem in a publicly accessible white paper. The ingredients were (a) talent, (b) density (facilitating a multiplicity of interactions), (c) community and enterprise culture, (d) ‘experienced’ capital providers that can help coach founders, and (e) a regulatory environment that supports business establishment, IP protection and associated government investment (e.g. in R&D). Another theme (also evident in the Google case) was a focus on a particular industry or technology sector. Meijers (2015) noted an increase in the number of incubators related to the food sector and briefly described fifteen examples launched in 2014. Some operated in a traditional way, but some offered access to intensive five or six week accelerator support programs leading to the development of a business growth plan. BC (anon) (2015) identified ten exemplar programs in the Sydney, Australia region. In one case a number of experienced entrepreneurs established a “startup studio’ where they worked together to establish new ventures, bring in a manager for each venture, then selling off the venture once it was viable. Another offered technical expertise to non-technical entrepreneurs. Yet another followed a strategy of linking startups having complementary capabilities in a co-working space housing 185 people. Accountants, marketers and technical specialists could interact to help each other and serve as each other’s initial clients. Another group provided access to a global network of incubators, helping startups with complementary interests collaborate.

2.5 *IN SUMMARY*

There is increasing variety in the nature of incubators being established, however all need to identify economically sustainable business models to support long-term operations. Such business models that are based on the provision of a bundle of services bring together three direct stakeholders: investors, incubator operators and start-up enterprises and require interaction between them. Christensen, Bartman and Van Bever (2016) have suggested there is a need to understand how a business model develops over stages in the evolution of a business, noting that different kinds of support are needed at different stages. We suggest this applies to both the incubators themselves and to their clients.

Some types of incubators (e.g. university and regional business types) have been studied to a greater extent than others, and there are emerging incubator business model variants. In this paper, our focus is on smaller scale commercial incubators and what might make them viable, as this seems to be an emerging trend. All incubators help their client firms establish viable business models, and we wish to make an initial exploration of the influence of incubator – client synergies on such models.

3. THE RESEARCH APPROACH

In view of the variety of factors to be considered, we have adopted a multiple case study strategy with the unit of analysis being an incubator, as according to Yin (2014), this is appropriate when investigating a contemporary phenomenon.

For the purposes of this paper, we report on two relatively new commercial incubator operations of similar size and focus, both supporting IT sector start-ups, and both attracting some form of local government support. The selection of the particular cases (one Australian and one Dutch) was influenced by our ability to assemble rich data sets. Data was collected from interviews, site visits and publicly available data covering key events over the years since establishment. Questions asked sought to clarify antecedent conditions leading up to the establishment of the incubators, attributes of the incubator business model, and some insights into how this impacted the business models being pursued by their clients. The services-oriented business model attributes used were based on previous research (Berendsen and Beckett, 2017), suggestions by Grimaldi and Grandi (2003) about some key attributes of an incubator, and the “front stage” and “back stage” perspectives on service systems design outlined by Glushko and Tabas (2009). The topics explored were as follows:

1. What stimulated establishment of the incubator and who is the innovation champion (s)
2. What is the value proposition offered and how does it enable clients to create value,
3. Who are the intended beneficiaries, who are the stakeholders,
4. How is value delivered to the clients and extracted by the incubator –
 - a. What are the financial arrangements?
 - b. What ‘front office’ arrangements facilitate stakeholder engagement, and
 - c. What ‘back office’ arrangements manage core capabilities and partner networks?

We established an on-line wiki where we could accumulate and share data related to each case on separate pages, with child pages showing the business model, and other child pages as needed. We added our respective comments as needed, and recorded skype calls to capture our thoughts as the research progressed.

4. TWO ILLUSTRATIVE CASE STUDIES

The two cases chosen provided services representing some combination of types (b)1 and (b)2 in Table 1. The business models of the case study incubators themselves were still evolving.

4.1 *OUTCOME.LIFE – AN AUSTRALIAN COMMERCIAL INCUBATOR*

Outcome.Life is located at the edge of the Melbourne CBD adjacent to a large University of Technology. Industrial design students from that university helped design the incubator facility, with a large proportion of it devoted to networking space in the style of a café and lounge. The firm was originally established in 2014 as a kind of employment agency specialising in the placement and management of international student internships on behalf of some educational institutions. It currently manages around 1000 internships p.a. The two founders both had a background in accounting, with one having prior experience in supporting startups, whilst the other had previously launched several startups. In working with the international students, most of whom had undertaken Masters degrees in accounting or IT, they found that a proportion were interested in starting their own business or completing their internship in a startup company. In 2016 Outcome.Life opened its co-located incubator facility, which now hosts a variety of international student and local entrepreneur startups. The founders provide financial advice and connections with potential financiers, and a part-time IT mentor provides expert guidance related to digital technologies. This expert oversight also meets a formal internship academic requirement for student placements.

4.2 *INDIETOPIA - A DUTCH COMMERCIAL INCUBATOR*

Founded in 2014 by an entertainer / entrepreneur, Indietopia has provided a game development hub that now includes an incubator, accelerator and in-house publisher. Indietopia aims to: connect indies (small independent computer game developers), help indies grow from a startup to a professional studio, provide visibility under the Indietopia label, provide affordable office space for developers, provide one professional agent for serious game customers, publishing of entertainment and serious games. After starting out with 2 companies and 5 interns, Indietopia grew to host 20 companies and 15 interns within one year. Indietopia moved out of a temporary office and into a premium location in The ‘Digital City’ of Groningen. Indietopia has helped spawn over 26 game development studios, of which some have started their own hub, based on Indietopia's founding principles. In 2016 the founder was joined by another entrepreneur experienced in different facets of the entertainment sector, and hired another experienced entrepreneur for the role of Director.

5. EMPIRICAL OBSERVATIONS FROM THE CASES

Both incubators were established by experienced entrepreneurs wanting to support university graduates in their region, particularly those who could not easily find work that fully utilized their skills. These entrepreneurs could draw on their personal networks to obtain direct investor support, but both also accessed regional government support. Both were embedded in compatible business ecosystems. In the Outcome.Life case, the Melbourne region of Victoria hosts about 175,000 international students each year, and the State Government wants to draw on linkages with its large immigrant population to

facilitate export activities. It has a program that provides funding support for incubator establishment. In the Indietopia case, its host city of Groningen aspires to be a ‘digital city’ and supports IT industry growth, e.g. in 2018 hosting the worlds largest blockchain hackethon.

5.1 SOME INCUBATOR BUSINESS MODEL ATTRIBUTES

5.1.1 FINANCIAL ARRANGEMENTS

A modest tenant fee is charged for rental and supplementary services in both cases. In the Indietopia case, a share of 10% of a company’s future profits could be exchanged for free accommodation or the company could rent a desk for €50 per month. And to keep the rental costs low, tenants played a role in housekeeping and group supportive activities for 10% of their time. Outcome.life received investment support from an external group of investors and a State Government grant from a scheme to stimulate the establishment of incubators in multiple industry sectors. This grant was also used to develop a portal that helped match international student entrepreneurs with Victorian startups. The Indietopia founder drew on personal funds was provided with access to a government-owned building to set up their incubator with heavily subsidized rent. Associated ‘back office’ activities facilitated cash flow.

5.1.2 ‘FRONT OFFICE’ ARRANGEMENTS

In the outcome life case, linkages with some 1000 international students each year and several hundred companies that hosted them as interns created a social network of potential new incubator tenants and potential clients for those tenants. The bulk of the international students were either studying accounting or information technology specializations, and this influenced the nature of the start-up firms they might launch. Indietopia had a clear focus on the computer gaming market, and represented the incubator at industry events to build brand presence. A PR and communications function has been established, and regular series of community events organized, including weekly drop-in events to encourage engagement with potential new tenants or employees. Facebook and twitter are used as marketing channels.

5.1.3 ‘BACK OFFICE’ ARRANGEMENTS

In both cases, whilst there were some administrative arrangements to be supported, the most important back office activity was the established business ‘engine’ that preceded establishment of the incubator. This could provide both cash flow and potential market access. In the Outcome.Life case, its intern host organisations could be potential clients of the startups hosted in the incubator. In the Indietopia case, the founder offered access to games publishing and distribution services. Two different approaches to providing tenant access to supplementary expertise were observed, one involving a bartered exchange of services, and the other part-time external 'mentors in residence

5.2 INCUBATOR – TENANT SYNERGIES

In both cases, synergies were created through networking. In the Outcome.Life case, there was an emphasis on social networking that linked together established Victorian business communities and immigrant communities, with an emphasis on finding complementarities. In the Indietopia case, everything was about gaming – the focus of the tenant business models, the promotion of the incubator brand as a games publisher, and the engagement with like-minded regional and European entrepreneurs. Different people could collaborate at different stages of game development. In both cases, the

incubator founders became investors in some of their tenant firms, also taking positions on the Board to help guide those firms.

5.3 STAGES OF DEVELOPMENT AND CONTINUOUS INNOVATION

We observed that both germination and incubator stages (Table 1) were supported in both cases. Some Indietopia startups had moved out of the co-working space, having established their own studios (cold frame stage), and some of them still retained links to facilitate marketing their products. In 2018, Indietopia launched an accelerator inviting companies to compete for ten available places. Successful applicants can access a risk-free business loan of 20k EUR including one on one business and marketing coaching over one year (provided by Venturelab North). The applicant also has to pass a selection based on criteria like ambition, business model, attitude and readiness for coaching. Part of the deal is also that the applicant accepts coaching from the senior partners within Indietopia. This has been introduced after the launch of Indietopia Accelerator and based on lessons learned from the beginning in 2014. The tenants showed a lack of entrepreneurship and business knowledge. Coaching in this field is assumed to be necessary to enhance the success rate of the tenants.

6. DISCUSSION AND CONCLUDING REMARKS

In this conceptual paper we are considering two research questions:

1. What kinds of innovative business model might sustain a regional commercial incubator?
2. How does the incubator business model support the business models of their tenants?

In relation to question 1, drawing on the literature, we first introduced the theoretical concept that the business model adopted by a particular incubator facility could depend on who was driving its formation and what stage in the evolution of a startup was supported, as illustrated in table 1. Viewing our case study incubators as startup enterprises themselves, we drew parallels with a longitudinal study of four European biopharmaceutical startups by Sabatier et al (2010). They observed the firms modified their business models (described as business recipes) as the commercialization of their innovative idea moved from proof of concept through clinical trials to market. Along the way they were engaged with different networks of actors. They did not necessarily abandon a business model that evolved at a particular stage, instead assembling a portfolio of business models. We suggest this practice is observed in our case study incubators. They offered services at the germination and incubation stages (1b and 2b in table 1, and in the Indietopia case, in the later stages too (3b and 4b in table 1).

In relation to question 2, our case study incubators were established by senior entrepreneurs drawing on minimal financial resources but providing rich knowledge resources. Whilst this is in contrast to an emphasis on incubator physical resources observed elsewhere, the combination allows tenants to adopt business models that minimise cost and facilitate faster operational development. The founders had established independent commercial sources of income, and by linking a social mission with their incubator (in our cases generating targeted regional employment opportunities), they were able to attract some regional government support. Again, drawing on the literature, we introduced a financial actor interaction concept (table 2) as key to the

sustainable operation of an incubator. In the cases presented here, we observed that the entrepreneurs who established the incubators played multiple roles, investing personally in the incubator, and co-locating their parallel businesses with the incubator.

GEM data (e.g. Besma and Levie, 2010) suggests that entrepreneurs most frequently start a commercial business after they have gained some years of experience, and this was the case with the founders of the incubators described here. However this was not the norm with the incubator tenants observed in our cases. The incubators we studied hosted young people with limited experience who were stimulated to start businesses, particularly in the IT sector, in concert with regional social drivers. Both incubators had established university student internship programs, which provided those students with a germination phase experience. Their business models evolved as they moved through the stages suggested by Christensen et al (2016), and at each stage they sought different kinds of support from our case study incubators. Reflecting on these observations we present a third concept, shown in Figure 1, which represents the kinds of tenant – incubator interactions that might be expected.

Viewpoint	Evolutionary Stage			
Incubation service perspective (e.g. Hannon, 2003)	Germination: ideas and teams nurtured	Incubation: business plan development, commencement of trading	Cold frame: support for moving out, growing the business	Accelerator: stimulating high growth opportunities
Tenant Business Model perspective (e.g. Christensen et al, 2016)	Creation stage – a focus on value creation and resources, market-creating innovations		Sustaining innovation stage – a focus on process development	Efficiency innovation stage – a focus on profit formula enhancement

Figure 1 The interaction of incubation and business model literature support perspectives in the evolution of a startup firm

Viewing incubators through a business model lens drew together a number of theoretical perspectives (e.g. resource-based, stakeholder and social network theories). We observed some interplay between the incubator and a parallel business that supported economic sustainability, providing evidence of a hybrid model. Whilst this may be inferred in some incubator business models (e.g. a university or private company incubator), the nature of connections between the two elements seems to be under-researched. In contrast with reports by others, local universities had a limited direct influence on incubator establishment and operation in the cases presented here.

Observations made regarding the supporting innovation ecosystem in the two cases presented here resonated with the five ingredients suggested in a white paper by Google (2014). These were:

- (a) Talent (see also Bosma et al, 2004) - in both cases, whilst universities did not interact directly with the incubators, they helped provide a flow of candidate entrepreneurs that were identified in conjunction with internship programs
- (b) Density (facilitating a multiplicity of interactions - see also Chang, 2004) - observed in both cases
- (c) Community and enterprise culture (see also Hopp and Stephan, 2012) - both incubators were started by experienced entrepreneurs, and there was community support for starting up new ventures

- (d) ‘Experienced’ capital providers that can help coach founders (e.g. Heuven and Groen, 2012). - Our case incubator founders invited in some of their tenant startups and had established linkages with a network of investors.
- (e) A regulatory environment that supports business establishment, IP protection and associated government investment (e.g. Bruton, Ahlstrom and Singh, 2002). - In both our cases there was direct regional government support available.

Whilst we have noted studies related to each element, we suggest that the interact between these five ingredients is a topic for future research.

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