Alternatives for the eco-innovation of business models: a conceptual reference to valueholders

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ABSTRACT

Most of what we have seen to date related to eco-innovation of business models (Schaltegger, Lüdeke-Freund and Hansen, 2012; Boons and Lüdeke-Freund, 2013; Bocken et al., 2014; Morioka, Evans and de Carvalho, 2016) shows the importance of stakeholders. But we are living a renovated search for quick-and-stable-economic results. And this “search” may be conflicting our bet for building more sustainable business models.

Lean Startup (LS) takes into consideration the needs of every stakeholder. It explores and prioritizes the stakeholders concentrating first on the “valueholders” to produce swift iterations and pivots of the original business model, aiming for its sustainability.

With this conceptual paper we contribute to the extant literature on eco-innovation of business models presenting LS as a methodology that can provide speed and urgency to sustainable business modeling. And we open new options for research using LS as framework for sustainable business model innovation.

Key words: Lean Startup; business model eco-innovation; environment; social

RESUMEN

Por lo que hemos visto hasta la fecha en relación a la eco-innovación de modelos de negocio (Schaltegger, Lüdeke-Freund and Hansen, 2012; Boons and Lüdeke-Freund, 2013; Bocken et al., 2014; Morioka, Evans and de Carvalho, 2016) todo muestra la importancia de los ‘stakeholders’. Pero vivimos una vuelta a la prioridad de los resultados económicos rápidos y estables. Y estos resultados pueden entrar en conflicto con nuestra apuesta por la creación de modelos de negocio sostenibles, que atiendan las necesidades de todos los stakeholders.

Lean Startup (LS) tiene en cuenta las necesidades de los stakeholders. Los explora y prioriza, empezando por los ‘valueholders’, y produce pivotes e iteraciones del modelo original buscando su sostenibilidad.

Con este artículo conceptual contribuimos a la literatura existente sobre eco-innovación de modelos de negocio con una metodología que introduce velocidad y urgencia. Y abrimos nuevas líneas de investigación para innovar sosteniblemente aquellos modelos.

Palabras clave: Lean Startup; eco-innovación de modelos de negocio; entorno; social
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1. Introduction

In the middle of the turmoil produced by the dismissal of Jeff Immelt as head of GE, or the potential change of strategy towards corporate innovation in P&G (Blank, 2017), to cite just two recent examples, it seems there is a turnaround for short-term economic indicators as the most desirable metrics to assess the success of an incumbent firm. Consequently, startups and corporate new ventures that look up to established and successful firms may neglect other metrics that would help the new business models achieve sustainability. This startup behavior reminds of the long-told story that most startups had followed until recently, and which has produced a very painful rate of business failures and resource waste. Adapting Blank’s famous saying (Blank and Dorf, 2012): A new business model is not the youngest, smallest sister of an established, successful one.

But we need to acknowledge that the “activist investors” may have a solid base for their position against incumbent firms concentrating on innovation strategies, and forgetting about immediate returns. Even them recognize business model innovation as a source of competitive advantage, but losing sight of the basic principles of eco-innovation make corporations and startups fall in the current opposition to company-wide innovation programs.

In other words, eco-innovation is being addressed extensively, from stakeholder engagement and long-term sustainability (based on the triple bottom line; Elkington, 2013) to regulations of public and private governance in how corporations should integrate it in their strategies (most of them from a supply-side, He et al., 2017). But the reviews on eco-innovation have not noted the relationship between it and new business model development as worth mentioning. The speed (time) and urgency (priority) demanded by owners and stockholders in achieving economic returns for the actions and efforts of their companies are neither considered of importance in the extant literature. That means that the most relevant eco-innovation papers and authors connect their constructs with the development of goods, services, processes and even organizations to improve corporate competitiveness, but disconnect eco-innovation from the ways a relevant portion of stakeholders demand organizations to create, deliver and capture new value, and to prevent leaving value uncaptured (Yang et al., 2017). Moreover, the authors (Evans, Bocken, or Geissdoerfer to name some of the most
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Prolific) connecting sustainable innovation and business models concentrate on theorizing and properly integrating those eco-innovated products, services, processes with working business models to achieve a healthy triple bottom line. But to the best of our knowledge, to date, there is a vacuum in the literature if we would consider eco-innovation as driven by stakeholders’ needs and interests (activist investors included), speed and urgency, and not solely by products.

This document is a first approach at answering the following research question: How Lean Startup (LS) helps innovators create sustainable business models with speed and urgency? To answer this question, we have used mixed methodological techniques in support of the three case studies we have researched. With the cases we attempt to present how LS is being used to effectively integrate sustainable goals and eco-innovation since the inception of these new business models. This is of importance since conventional business model innovation methodologies address sustainability late in their processes and always from a product perspective, which results in high rates of failures (Geissdoerfer, Savaget and Evans, 2016).

After this introduction, this document presents the methodology we followed to build the case studies and support their eco-innovation efforts from an environmental perspective, as well as social and economic. Part 3 presents a discussion shedding light on the grounds of LS as a business model eco-innovation method. We argue that this methodology can help new business models achieve economic growth with speed and prioritizing environmental and social outcomes. And in Part 4 we draw our conclusions and suggestions for future research lines.

2. Materials and methods

To answer our research question, we firstly searched WOS and Proquest databases for peer-reviewed papers in English containing the words “Lean Startup” in their titles or abstracts. After an initial selection of 43 papers matching those criteria, which the authors read in all cases, we conducted a series of interviews with the heads and employees of 20 corporate innovation programs to detect how LS was being used to develop new business models in incumbent firms. Using the insights from the corporate interviews and the practitioner experiences of the coauthors of this...
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Document, we reviewed the 43 papers and selected those which were devoted to properly explaining LS methodology and showed connections between it and the eco-innovation concepts, reducing the number of papers to 12. To complete the literature references, we used backward and forward reference searching techniques (by reference and by author) complemented with references cited by our interviewees and five additional experts in LS. In total, we gathered 16 references (whether peer-reviewed or not) helping us understand LS as a business model innovation method.

Similarly, we conducted a review of the literature (using the same databases, and filters) with the strings “business model innovation” AND eco-innovation in titles or abstracts. Out of the resulting 61 papers, 14 dealt with how business models were eco-innovated and provided us with a deep understanding of the concepts, relationships and key elements we needed to frame the conceptual connection between LS and eco-innovation of business models.

2.1. Eco-innovation of business models literature

The environment and eco-innovation are closely linked, as some of the most cited definitions of the latter assess. For matters of this paper we adhere to the definition of eco-innovation from Carrillo-Hermosilla, Del Río and Könnölä (2010) which stresses the idea of it being the innovations that “reduce the environmental impact caused by consumption and production activities”. And building on that definition, eco-innovations “improve sustainability performance”, expanding the traditional economic performance criteria to improve environmental and social metrics (Boons et al., 2013).

Eco-innovation and its relationship with business models have been subject of several studies (Schaltegger, Lüdeke-Freund and Hansen, 2012). Whether building business cases ‘for’ (voluntary), or ‘of’ (as a reaction to regulations) sustainability, companies have for quite a while integrated the effects on the society and/or the natural environment in their regular innovation activities aiming at improved economic outcomes.

These activities aiming at developing new business models for new sustainable value traditionally depart from the enhancement of the existing value propositions, and/or the efforts aimed at complementing the existing value propositions with new ideas (Carrillo-Hermosilla, Del Río and Könnölä, 2010; Geissdoerfer and Jan Hultink, 2016). Those activities have been mapped by Geissdoerfer et al (2016) in a series of phases.
combining into a comprehensive process named the Cambridge Business Model Innovation Process (CBMIP).

The CBMIP is well documented and sets a conceptual framework for grouping activities and challenges selected by companies and startups when conventionally embarking into eco-innovating their business models.

2.2. Lean Startup Literature

**Business model innovation perspective**

Since its inception as a methodology to develop new business models (Ries, 2008) LS addressed 2 key ideas: (1) A new business model should not resemble or model the characteristics of incumbents, or established and growing businesses (Blank and Dorf, 2012); and (2) a new business model initial steps are plagued by uncertainties (Ries, 2008) which in most cases result in knowing nothing about the elements forming the business model, nor how those elements interrelate with each other (whether supporting, contradicting or being neutral to each other). Both ideas are at the root of what Blank, Dorf, Ries and Maurya, the authors that gave empirical consistency to LS, consider a fallacy that deeply affects founders and entrepreneurs: These types of innovators believe true the hypothesis they build after modeling established companies, and disregard the uncertainties and disconnections these hypotheses are plagued with.

With that in mind, Ries named and designed a new methodology called ‘Lean Startup’ in 2011 (Ries, 2011) grounding it in Blank’s customer development process, agile software development (Dybå and Dingsøyr, 2008, Brown, 2008), and design thinking (Eisenmann, Ries and Dillard, 2011). It was then a methodology by practitioners and for practitioners, with little to no academic grounding. Since then, and given its success as a method to develop new business models, some attempts have been made to establish the theoretical foundation of the methodology. Blank (2013), Mansoori (2017) or Frederiksen et al. (2017) have, in our opinion, successfully explained most of the theory behind the method. But there are still some gaps that need to be addressed that mostly relate to the complexity of the process of building a new business model if it is to become economically, socially and environmentally sustainable.
Concepts of LS favoring sustainability

To introduce the concepts of LS, Blank, Dorf, Ries and Maurya concentrated on describing how LS approach favors experimentation over planning, customer feedback and stakeholder data over intuition, and iterative design over traditional business planning (Rasmussen and Tanev, 2016). Our qualitative research on LS seems to point out that practitioners and scholars approaching LS without having tested the methodology tend to think of LS as “old wine in a new bottle” (Eisenmann, Ries and Dillard, 2011), but there are certainly differences with the conventional, product-centric business model innovation (Eisenmann, Ries and Dillard, 2011):

LS approaches the creation of business models since the inception of the business idea, and not as one of the final steps of the development of that business idea, when the idea is rounded up and ready to be launched (marketed or commercialized).

To realize the creation of a business model at such an early state of the development of the business idea, LS must adopt speed, urgency, flexibility (through a tactic called pivoting), and experimentation (through another two tactics called ‘minimum viable product’, or MVP, and validated learning). And those usually result in the development of several business models at the same time (even contradicting, or radically different from, each other) serving the same business vision, not just one (as in ‘one-size fits all’).

There has always been a concern among practitioners and scholars about how to form the founder’s vision (each business model ultimate purpose). Conventional wisdom refers to a ‘reality distortion field’ as the grounds for the innovators’ efforts, and the reason of the final success/failure (Blank and Dorf, 2012). LS is about testing and reformulating that vision continually, based on market feedback (Eisenmann, Ries and Dillard, 2011).

LS addresses success based on a very simple conceptual premise, which in turn is very hard to put into practice. Growth, the measure LS uses for success, is based on how sustainable the new business model is. In other words, the business model will grow if it can create, deliver and capture value from its valueholders. As the business model is able to repeat, and speed-up that cycle, growth would follow as a consequence (for different reasons, this growth is temporary and usually demands other complementary business models).
The ‘valueholder’ concept is our name for a reality we have witnessed in our research. It is based on the ‘stakeholder’ concept (Geissdoerfer and Jan Hultink, 2016) and they are those groups the new business model “creates, delivers, captures, and exchanges sustainable value and collaborates with” to achieve growth. When considering the impact (importance) of each group of stakeholders at each stage of the development of the new business model then the stakeholder concept may become less important, and only those stakeholders (valueholders) relevant to succeed at each stage will be considered. At each stage then, the corresponding valueholders probably force the evolution of the business model, and following a referencing process, the once valueholders will give room to the next set of valueholders initiating a new stage, usually with unique needs to address, different channels to be accessed, or different price tags, to name a few. Figure 1 shows an example of valueholders for the Customer Discovery cycle, within the Customer Development process (Blank and Dorf, 2012).

LS addresses valueholders by design, with speed and urgency, as the validity of each valueholder group is temporary and limited. By means of its validated learning, and
departing from the initial hypotheses about the business model, LS process quickly discovers different valueholder groups. Table 2 shows a summary of the valueholders for a B2B startup Customer Discovery cycle. And as validation progresses, both new valueholders and refinement of the original produce the evolution of the initial business model design (through pivots and iterations) and the upsurge of other designs and differing business models.

Table 1. Summary of valueholders in S3 of our case studies for the first instances of their new business model construction (cold production).

<table>
<thead>
<tr>
<th>Customer Discovery pass</th>
<th>Valueholder group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st pass. Company internal competition</td>
<td>Corporation jury (formed of execs and external advisors)</td>
</tr>
<tr>
<td>2nd pass. Company incubation program</td>
<td>Corporation startup board (CEO and top execs) Startup founders</td>
</tr>
<tr>
<td>3rd pass. Customer discovery</td>
<td>First potential customers (ice producers for consumers) Partners of corporation affected by S3 operations</td>
</tr>
<tr>
<td>4th pass. Customer discovery</td>
<td>Second potential customers (cold storage logistic platforms)</td>
</tr>
<tr>
<td>5th pass. Supply chain links</td>
<td>Suppliers of infrastructures to move cold to logistic platforms</td>
</tr>
</tbody>
</table>

3. Discussion

3.1. LS as a sustainable business model innovation methodology

As a first step towards defining LS as a sustainable methodology to build business models, and following Geissdoerfer, Savaget and Evans (2016), we identified the characteristics that a methodology or a process has to have to qualify as a sustainable way to innovate a business model. In their words:

“... [We] define sustainable business model innovation as the analysis and planning of transformations to a more sustainable business model or from one sustainable business model to another. This comprises both the development of an entirely new business model and the transformation of an existing business model.” (Geissdoerfer, Savaget and Evans, 2016)
Secondly, Schaltegger, Lüdeke-Freund and Hansen (2012) have extensively described the relationship between the new business model activities and their triple bottom-line objectives. This connection has helped structuring the CBMIP conceptual framework into ‘Activities’ and ‘Challenges’. Similarly, Customer Development stages, phases and cycles (the process at the root of LS) can also be described as economic, planet and social Activities and Challenges.

Thirdly, we grouped the goals and trade-offs that form the Challenges of each LS phase using the dimensions defined by Carrillo-Hermosilla, Del Río and Könnölä (2010) to clarify how LS addresses sustainability precepts, building “more sustainable business models”, from a ‘Challenges’ perspective, to begin with.

3.2. Detailed description of each Lean Startup challenges using the Eco-innovation Dashboards

Carrillo-Hermosilla, and colleagues (2010) developed their own typology of eco-innovations, focusing on “the nature of produced technological change”, as one perspective of eco-innovations. In this document we are extending their framework, complementing it with those eco-innovations that are business-model centered, or that change/create new business models.

But the complexity of the field of study regarding business models is large (Geissdoerfer and Jan Hultink, 2016), and Geissdoerfer and colleagues tried to shed some light on how to organize it. With the CBMIP they described and explained each of the stages a new business model founding team should follow to achieve success from a sustainable, environmental perspective. They organized their descriptions in two major focus areas: Activities, and Challenges.

LS method is conceptually lacking such structured sustainable developments. The most structured process describing the multilinear process that LS follows to innovate business models is from Blank and Dorf (2012) who depicted the Customer Development process as the center-piece of LS (Ries, 2011; Blank, 2013). To integrate sustainable concepts into LS, our proposal is based on the contributions from Carrillo-Hermosilla et al (2010) and Geissdoerfer et al (2017). LS benefits from them organizing the Activities and Challenges to address the full range of valueholders’ interests, organized by eco-innovation dimensions. Table 2 shows then our proposal for a framework that can turn
Customer Development (and LS) original design into an explicit sustainable business model innovation process.

**Table 2. Proposal for new business model development using Customer Development original design (developed from Blank, 2006; Geissdoerfer, Savaget and Evans, 2016).**

<table>
<thead>
<tr>
<th>Stage of Customer Development</th>
<th>Customer Discovery</th>
<th>Customer Validation</th>
<th>Customer Creation</th>
<th>Company Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To integrate the eco-innovation perspective into LS, and using the framework in Table 3 we decided to concentrate on the Challenges (Geissdoerfer, Savaget and Evans, 2016) as they reflect the problems the new sustainable business faces when trying to address the needs, interests or jobs-to-be-done (Ulwick, 2016) from its valueholders. These challenges also drive the actions and activities, and their priorities of each development stage. The eco-innovation dimensions summarize the challenges, or “internal and external factors influencing the innovation process” (Carrillo-Hermosilla, Del Río and Könnölä, 2010). Table 3 organizes the challenges a lean startup faces, from an eco-innovation perspective, using those dimensions and their relevance to those challenges in the Customer Discovery stage (first stage of the Customer Development process).
Table 3. Challenges following the dimensions of eco-innovation in the
Customer Discovery stage of a lean startup business model development (Carrillo-Hermosilla, Del Rio and Könnölä, 2010; Blank and Dorf, 2012).

<table>
<thead>
<tr>
<th>Eco-innovation aspects</th>
<th>Eco-innovation dimensions</th>
<th>Eco-innovation dimension challenges in Customer Discovery stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Component addition</td>
<td>Some related to the product/market fit and MVP development</td>
</tr>
<tr>
<td></td>
<td>Sub-system change</td>
<td>Some related to the basic development of the first hypotheses of the initial business models</td>
</tr>
<tr>
<td></td>
<td>System change</td>
<td>Few related to founding team, funding and compliance with regulations/norms</td>
</tr>
<tr>
<td>User</td>
<td>User development</td>
<td>Many to know their needs and jobs to be done</td>
</tr>
<tr>
<td></td>
<td>User Acceptance</td>
<td>Critical at the end of this stage to address repeatability of sales</td>
</tr>
<tr>
<td>Product/service</td>
<td>Change in product service deliverable</td>
<td>Some to build first get-keep-grow cycles</td>
</tr>
<tr>
<td></td>
<td>Change in product service process</td>
<td>Some to integrate agility/cascade production Some to control for technical debt</td>
</tr>
<tr>
<td>Governance</td>
<td>Government-level changes</td>
<td>Critical to address sustainability (particularly social and environmental issues) Legality and illegality</td>
</tr>
<tr>
<td></td>
<td>Company-level changes</td>
<td>Few related to organization building and founding team consolidation</td>
</tr>
</tbody>
</table>
4. Conclusions

With this document we have firstly approached a novel way of developing new business models like LS from a sustainable perspective. LS is frequently understood as just an alternative to the conventional way of innovating business models. Blank and others have presented LS as a faster, more focused and less wasteful methodology to build new businesses. But to this date, LS has not been treated as an alternative method to produce new sustainable business models.

LS-like methodologies could help business model innovators search for the relevant valueholders, learn from them, and accordingly choose the right Challenges to begin the business modelling process. Once selected, LS would guide the innovators through relentless learning cycles, where older Challenges are replaced by new ones, keeping the connection between planet, social and economic outcomes. Organizing these Challenges using the eco-innovation dimensions of Carrillo-Hermosilla, and colleagues (2010) we could effectively see to which extent each new business model addressed the sustainable Challenges imposed by its valueholders, and how that translated into its ability for capturing sustainable value.

We believe we have contributed to the existing literature on business models’ eco-innovation by presenting the first evidences on how LS might be used to develop new sustainable value, starting at the Challenges selection. We have also presented LS as an alternative to find ways of addressing sources of value uncaptured which can help speed up a new business model’s growth.

Being this a first approach to how LS can build sustainable business models more effectively, there seems to be a relevant research field in this direction. It should firstly focus on confirming our conceptual outcomes in terms of Challenges, using case studies and a more quantitative approach. We also acknowledge there is need of qualitative and quantitative evidences that help understand who valueholders are, and how they really affect the Challenges definition of LS business models, if these are to be successful in terms of sustainable growth.
References


Ries, E. (2011) The Lean Startup: How today’s entrepreneurs use continuous innovation to create radically successful businesses. 1st edn. CROWN BUSINESS.

Ulwick, A. W. (2016) The jobs to be done. Theory to practice. IDEA BITE PRESS.


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