Positioning Research on e-Entrepreneurship in Emerging Economies:
A study of Latin American Digital Ventures

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And the Latin-American dot-coms???
Introduction

The terms “emerging economies”, “emerging countries”, or “developing economies” are used interchangeably and refer to the list of countries named as such by the International Monetary Fund (IMF, 2013).
Objectives

**Digital Ventures**: New businesses born in the internet exclusively to sell digital products/services online

- **Focus**:
  - Academic literature on e-Entrepreneurship.
  - Pilot Research with seven interviews

- **Objectives**
  - Discover whether existing academic research can explain the lifecycle of Latin American DVs and their barriers for growth.
  - Justify the need for future research on e-Entrepreneurship to address current knowledge gaps in the context of emerging economies\(^1\) in general and of Latin America specifically.

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(1) The terms “emerging economies”, “emerging countries”, or “developing economies” are used interchangeably and refer to the list of countries named as such by the International Monetary Fund (IMF, 2013)
Research Questions

Research Problem: There are very few examples of Latin American Digital Ventures that have grown from SME into a large enterprise.

1. Can the current frameworks on e-Entrepreneurship explain the lifecycle of DVs in the context of emerging economies, and specifically of Latin-America?

2. What are the barriers for growth that DVs face in Latin America at different stages of their lifecycle, and how are they facing them?
Literature Research

- Sources: Google Scholar, ProQuest, Business Source Premier, and Emerald.
- No filter was applied in respect to the year of publication
- 250 documents including journals, conference proceedings, professional publications, and e-books were downloaded.
- A total of 122 resources based on the following criteria:
  i. Related to a theoretical framework of a wider academic discipline from which more specialized papers have drawn
  ii. Relevant to the use, and adoption of ICTs in new businesses
  iii. Focus on internet-based businesses
  iv. Accessible and available in electronic format to be coded and analyzed through computer based analysis software (Nvivo)
Literature Research Results

- Themes were codified and then grouped in seven categories.
- Categories allowed for the mapping of the relationships.
- Categories converged around the term e-Entrepreneurship.
Theoretical Frameworks

- Morris et al., (2001) Entrepreneurship Framework of Frameworks (FoF)
Theoretical Frameworks

- Foster and Heeks, (2013) refer to Systems of Innovations (SoI) framework to explain Innovation in emerging economies.

Example of SoI conceptualization (OECD, 1999, p. 23) in Foster and Heeks, (2013)
Theoretical Frameworks

- Wirtz et al., (2010) present a model to explain Web 2.0 success factors
## Theoretical Frameworks

### Building Blocks and phases of development for Ventures in the Digital Economy by Kollman, (2006)

<table>
<thead>
<tr>
<th>E-Venture - Activities</th>
<th>E-Venture - Building block</th>
<th>E-Venture - Idea</th>
<th>E-Venture - Development</th>
<th>Financing - steps</th>
<th>Financing - tools</th>
<th>Financing - sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Product / Marketing concept</td>
<td>• Online - start</td>
<td>• Idea finding</td>
<td>• Pre-Seed</td>
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<td>• Market / Competition analysis</td>
<td>• Market entrance</td>
<td>• Idea formulation</td>
<td>• Seed</td>
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<td>• Basic development</td>
<td>• Adjusting business model</td>
<td>• Idea realisation</td>
<td>• Start-up</td>
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<td>• Business concept / model</td>
<td>• Conducting cooperation</td>
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<td>• Establishing the company</td>
<td>• Creation of internal processes</td>
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<td>• Development of business model</td>
<td>• Usage of multipliers</td>
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<td>• Traditional USP</td>
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<td>• High market penetration</td>
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<td></td>
<td>• Stable customer relationship</td>
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<td></td>
<td>• Comprehensive controlling</td>
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<td>• High efficiency in core processes</td>
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<td>• Modification of business model</td>
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<tr>
<th>Management (+++), Product (+++), Finance (+++)</th>
<th>Management (++)</th>
<th>Product (++)</th>
<th>Finance (++)</th>
<th>Market access (+++)</th>
<th>Processes (+++)</th>
</tr>
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<tbody>
<tr>
<td>Idea intensification</td>
<td>Idea continuation</td>
<td>Idea diversification</td>
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<tr>
<td>Early Stage</td>
<td>Expansion Stage</td>
<td>Later Stage</td>
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<td>Pre-Seed</td>
<td>2nd Round</td>
<td>Bridge IPO / MBO</td>
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<tr>
<td>Seed</td>
<td>3rd Round</td>
<td>Venture Capital Outside finance</td>
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<td>Start-up</td>
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<td>Public subsidies</td>
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<td>Venture Capital</td>
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<td>Strategic investors</td>
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<td>Loan program / house bank</td>
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<td>Business Angels</td>
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<td>Private investor</td>
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<td>House bank</td>
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<td>IPO</td>
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Literature Research Findings

- Entrepreneurship FoF, SoI, Web 2.0 4 Factors Model and the Building Blocks, and Phases of Development for DVs frameworks are Level I Theories that provide valuable perspectives on e-Entrepreneurship.

- Research in SME e-Commerce adoption shows that constructs for mature and emerging economies vary.

- Lack of an empirically grounded theory of e-Entrepreneurship in the context of developing economies, calls for the revision of existing theoretical frameworks to explain the phenomenon of DVs in Latin America.
Pilot Research Design

- A semi-structured interview format was used with predefined open-ended questions aligned with the research question.

- Seven interviews were done with:
  - Four e-Entrepreneurs. Two accelerated (Brazil and Argentina) and two non-accelerated (Argentina and Brazil)
  - Two Accelerator Owner/Partners (Argentina and Brazil)
  - One VC Partner/Manager (Argentina)

- Researchers have successfully used GTM in building new theories in new fields of information Systems such as e-Entrepreneurship (Urquhart, 2013).

- Interviews were transcribed and coded for qualitative analysis following the Grounded Theory Method (GTM).
Developing a Level II e-Entrepreneurship Theory

Interrelationships among Theory Types by Gregor, (2006)
Interviews
• E-Entrepreneurs
• Incubators
• Customers
• VCs

Qualitative Research
Pilot Research Findings

Lifecycle is erratic

Ecosystem Barriers

Stage Barriers

Business Model Barriers
Future Research

- Available theoretical frameworks should inform and support any future research, but the lack of a commonly accepted theory of e-Entrepreneurship leaves enough room open for the creation of new frameworks within an emerging economies context.

- An empirical approach would be better suited to ground such new frameworks and cover existing gaps.

- A 12 month multi-country longitudinal research is proposed to capture the changes of barriers that DVs face in Latin America during the “Early” and “Expansion” stages, as described in Kollmann (2006).
Expected Contributions

1. Develop a Theoretical Framework that explains the lifecycle of DVs in Latin America.

2. Identify barriers that DVs face at different stages.

   - E-Entrepreneurs will be able to anticipate.
   - Ecosystem will have a model to improve coordination.
   - Policy makers will be able to improve program effectiveness.
Back-up Slides
Digital Economy

- Innovation in eBusiness Models
- Innovation in ICT
- Business Models
- eBusiness Models
- Innovation
- Cloud
- Social 2.0
- Big Data
- Mobile Apps
- M2M
- e-Entrepreneurship
- Incubators
- Entrepreneurship
Digital Economy

- Attributes of the Digital Economy, introduced by Tapscott (1996)
  - Knowledge, digitization, virtualization, molecularization, internetworking, disintermediation, convergence, innovation, presumption, immediacy, globalization, and discordance

- Digital economic activity must be measured differently (Brynjolfsson and Kahin, 2000)

- Digital Ventures are not subject to the constraints of the physical, or traditional, economy (Gopal et al., 2003)

- e-Commerce and e-Business are terms commonly used interchangeably: “a business transaction that is executed electronically” (Wall et al., 2007)

- Therefore a digital enterprise, or a digital business, is usually understood as the entity executing e-business transactions.
e-Business

- e-Business as an alternative to a traditional way of doing business for existing enterprises.

- Authors recognized the opportunity that e-commerce opened for SMEs to enter new markets and to level the playing field with their larger counterparts, but adopted at a slow pace.
  - (Fariselli et al., 1999, Taylor and Murphy, 2004, Fillis et al., 2004)

- Existence of a new category of digital enterprise purely digital since its inception.
  - (Taylor and Murphy, 2004, Barnes et al., 2004, Lockett and Brown, 2000, Wall et al., 2007)
SMEs & e-Commerce

- Research emerged to better understand ICT and e-commerce adoptions barriers in SMEs.

- Relevant to the study of Digital Ventures, because they provide an initial framework to understand possible barriers for entrepreneurs to use ICTs as a vehicle for new e-business creation.

- The literature could be divided in two periods:
  - 2002-2006: more interested in understanding the barriers and Critical Success Factors (CSF) for SMEs to adopt e-Commerce.
  - 2007-2012: attention shifted towards understanding how SMEs were using e-Commerce, what applications have already been implemented with a certain level of success, and what opportunities still remained for SMEs to further leverage e-Commerce.
## SME & e-Commerce

### Literature on e-Commerce and SMEs:

<table>
<thead>
<tr>
<th>Literature</th>
<th>Topic</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Al-Weshah and Al-Zubi, 2012)</td>
<td>e-Business enablers and barriers in SMEs</td>
<td>Barriers/CF/SF/Adoption/Application</td>
</tr>
<tr>
<td>(Hanafizadeh et al., 2012)</td>
<td>Internet marketing adoption and SMEs</td>
<td>Adoption/Application</td>
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<tr>
<td>(Ghobakhloo et al., 2011)</td>
<td>Adoption of e-commerce applications in SMEs</td>
<td>Adoption/Application</td>
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<tr>
<td>(Li et al., 2011)</td>
<td>Factors for the Adoption of Online Direct Sales among SMEs</td>
<td>Adoption/Application</td>
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<tr>
<td>(Woon Kian et al., 2011)</td>
<td>B2B Critical Success Factors framework for SMEs</td>
<td>Barriers/CF</td>
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<tr>
<td>(Wymer and Regan, 2011)</td>
<td>Factors in adoption of E-Business and E-Commerce by SMEs</td>
<td>Adoption/Application</td>
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<tr>
<td>(Zakaria and Janom, 2011)</td>
<td>Readiness of Inter-organizational e-Commerce on SMEs</td>
<td>Adoption/Application</td>
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<tr>
<td>(Alzougool and Kurnia, 2010)</td>
<td>SMEs e-Commerce Adoption</td>
<td>Adoption/Application</td>
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<tr>
<td>(Awa et al., 2010)</td>
<td>Uptake of e-Commerce by SMEs</td>
<td>Adoption/Application</td>
</tr>
<tr>
<td>(Wielicki and Arendt, 2010)</td>
<td>ICT Implementation Barriers in SMEs</td>
<td>Barriers/CF</td>
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<tr>
<td>(Mohamad and Ismail, 2009)</td>
<td>e-Commerce Adoption in SME</td>
<td>Adoption/Application</td>
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<tr>
<td>(Chitura et al., 2008)</td>
<td>Barriers to e-Commerce Adoption in SMEs</td>
<td>Barriers/CF</td>
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<tr>
<td>(Hamilton and Asundi, 2008)</td>
<td>Technology usage and innovation effect on SMEs</td>
<td>Adoption/Application</td>
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<tr>
<td>(Chong and Pervan, 2007)</td>
<td>Factors influencing deployment of e-Commerce for SMEs</td>
<td>Barriers/CF/Adoption/Application</td>
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<tr>
<td>(Elia et al., 2007)</td>
<td>B2B e-commerce initiatives in SMEs</td>
<td>Adoption/Application</td>
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<tr>
<td>(Kartiwi and MacGregor, 2007)</td>
<td>e-Commerce Adoption Barriers in SMEs</td>
<td>Barriers/CF</td>
</tr>
<tr>
<td>(Stockdale and Standing, 2006)</td>
<td>SME e-commerce adoption initiatives</td>
<td>Barriers/CF/Adoption/Application</td>
</tr>
<tr>
<td>(Fernando Alonso and Fitzgerald, 2005)</td>
<td>A multidimensional framework for SME e-business</td>
<td>Barriers/CF/Adoption/Application</td>
</tr>
<tr>
<td>(Fillis and Wagner, 2005)</td>
<td>e-Business Development in SMEs</td>
<td>Barriers/CF</td>
</tr>
<tr>
<td>(Gengatharen and Standing, 2005)</td>
<td>Success factors for e-marketplaces for SMEs</td>
<td>Barriers/CF</td>
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<tr>
<td>(Heeks et al., 2005)</td>
<td>e-Commerce for SME Development</td>
<td>Barriers/CF</td>
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<tr>
<td>(Kaynak et al., 2005)</td>
<td>Factors affecting adoption of e-Commerce by SMEs</td>
<td>Barriers/CF</td>
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<tr>
<td>(Grandon and Pearlson, 2004)</td>
<td>e-Commerce adoption of SMEs</td>
<td>Barriers/CF</td>
</tr>
<tr>
<td>(Houghton and Winklhofer, 2004)</td>
<td>Effect of website and e-Commerce adoption on SMEs</td>
<td>Adoption/Application</td>
</tr>
<tr>
<td>(Jennex et al., 2004)</td>
<td>e-Commerce Infrastructure Success Factors for SMEs</td>
<td>Barriers/CF</td>
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<tr>
<td>(MacGregor, 2004)</td>
<td>Strategic Alliances in e-commerce in SMEs</td>
<td>Adoption/Application</td>
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<td>(Simon, 2004)</td>
<td>Critical Success Factors for electronic services in SMEs</td>
<td>Barriers/CF</td>
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<td>(Simpson and Docherty, 2004)</td>
<td>e-Commerce adoption in SMEs</td>
<td>Barriers/CF</td>
</tr>
<tr>
<td>(Stockdale and Standing, 2004)</td>
<td>Benefits and barriers of e-marketplace in SMEs</td>
<td>Barriers/CF</td>
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<tr>
<td>(Taylor and Murphy, 2004)</td>
<td>SMEs and e-business</td>
<td>Barriers/CF</td>
</tr>
<tr>
<td>(Grandon and Pearlson, 2003)</td>
<td>Strategic value and adoption of e-Commerce in SMEs</td>
<td>Adoption/Application</td>
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<td>(Matlay and Addis, 2003)</td>
<td>Adoption of ICT and e-commerce in SMEs</td>
<td>Barriers/CF</td>
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<tr>
<td>(Daniel et al., 2002)</td>
<td>Adoption of e-commerce by SMEs</td>
<td>Barriers/CF</td>
</tr>
<tr>
<td>(Fariselli et al., 1999)</td>
<td>e-Commerce in SMEs</td>
<td>Barriers/CF/Adoption/Application</td>
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</table>
There are common Barriers/CSFs in developed and developing economies, but there are significant differences also (ie. Infrastructure plays a more important role as a barrier in developing countries)

Barriers/CSF among developing economies fairly consistent.

Thus, it is anticipated that such differences and similarities exist between Digital Ventures in developed and developing economies.

Literature with different levels of focus in Latin America:

<table>
<thead>
<tr>
<th>Latin American countries</th>
<th>Latin America region</th>
<th>Developing Economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Knight, 2011) Brazil</td>
<td>(Rohm et al., 2004)</td>
<td>(Simon, 2004)</td>
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<tr>
<td>(Grandon and Pearson, 2003) Chile</td>
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</table>
Business Models

- Differences in the scope of the definitions.
  - Timmers (1998) defines a business model as follows: “[i)] An architecture for the product, service and information flows, including a description of the various business actors and their roles; and [ii)] A description of the potential benefits for the various business actors; and [iii)] A description of the sources of revenues.”
  - Sako (2012) states that “a business model articulates the customer value proposition; it identifies a market segment; it specifies the revenue generation mechanisms; it describes the positioning within the value network or ecosystem; and it also elaborates on competitive strategy by which the firm gains and holds advantage over rivals.”
  - There are additional differences between brick-and mortar and e-business models (Weill and Woerner, 2013, Berman, 2012).
e-Business Models

- Variety of definitions in the literature makes it difficult to evaluate the role Business Models may play in Digital Ventures; however, there are some coincidences:
Entrepreneurship
Entrepreneurship

- Entrepreneurship as an academic discipline was born in close connection with the study of Innovation (Bhupatiraju et al., 2012):
  - (Cantillon, 1755) -> (Marshall, 1890) -> (Schumpeter, 1934) ->
    (Schumpeter, 1939) -> (Rogers, 1962)

- Historical evolution and disagreement on the definition of the term (Shailer, 1994, Morris et al., 2012):
  - Taking risks with the purpose of creating a business (Cantillon, 1755, Marshall, 1890).
  - Entrepreneur is conceived as the one who undertakes the innovation process with the purpose of creating business value (Schumpeter, 1934, Gartner, 1990).
  - Creation of a company by small business owner whether innovation is involved, or not Shailer (1994).
Recent studies in the context of technology adoption agree that innovation is indeed part of technology-based entrepreneurship:

<table>
<thead>
<tr>
<th>Literature</th>
<th>Findings</th>
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<tbody>
<tr>
<td>(McDaniel, 2000)</td>
<td>Entrepreneurship definition is linked to innovation as a function of technology change/development. The entrepreneur is different from a small business owner, or capitalist.</td>
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<tr>
<td>(Miller and Garnsey, 2000)</td>
<td>Place the entrepreneur as the unit of analysis within a technology diffusion framework to better understand technology advance.</td>
</tr>
<tr>
<td>(Klepper, 2001)</td>
<td>Propose an evolutionary based theory to explain the creation of employee high-tech start-ups.</td>
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<tr>
<td>(Morris et al., 2001)</td>
<td>Presents a comprehensive theory of entrepreneurship through the integration of different frameworks.</td>
</tr>
<tr>
<td>(Hindle and Yencken, 2004)</td>
<td>Propose that entrepreneur’s culture and knowledge derived from research are the keys to technological innovation and the creation of New Technology Based Firms (NTBFs).</td>
</tr>
<tr>
<td>(Doganova and Eyquem-Renault, 2009)</td>
<td>Suggests that business models are market devices that allow entrepreneurs to communicate with stakeholders enabling the economic network necessary for technology innovation.</td>
</tr>
<tr>
<td>(Martinez and Williams, 2010)</td>
<td>Explore institutional policies and entrepreneurial activity in the adoption of e-commerce concluding that institutions are a strong driver, while entrepreneurship is a weak one.</td>
</tr>
<tr>
<td>(Chandra and Leenders, 2012)</td>
<td>Through a study of user innovation and entrepreneurship in a virtual context, the authors justify proposition that link their findings to real world entrepreneurial theories.</td>
</tr>
<tr>
<td>(Soriano and Huarng, 2013)</td>
<td>Summary of 2012 Global Innovation and Knowledge Academy conference papers. ICT innovations are considered essential instruments of knowledge based entrepreneurship.</td>
</tr>
<tr>
<td>(McDaniel, 2000)</td>
<td>Entrepreneurship definition is linked to innovation as a function of technology change/development. The entrepreneur is different from a small business owner, or capitalist.</td>
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</table>
Entrepreneurship & Incubators

- Incubators play a role in the creation, development and growth of technology ventures and follow different models depending on whether they are funded by private or public funds, or whether they are based on developed or developing countries.
  

- **Five Archetypes of Incubation**
  Carayannis and von Zedtwitz (2005)

  “Incubators are in the business of facilitating entrepreneurs and early-stage start-up companies; and compete with consulting firms, real-estate agents, and other companies for the most interesting and valuable start-ups. Incubators differentiate themselves through their particular competitive scope, strategic objective, and service package.”
Innovativeness in technology based ventures:

- Whether technological, or business model based, is regarded as a determinant variable that reduces risk and increases the potential of returns (McDaniel, 2000).

- Innovation weighs heavily in the decision making process of capital allocation (Carayannis and von Zedtwitz, 2005).

- A key element of an incubator support is directed towards the creation of a business model based on innovation differentiation (Facet, 2011).

Hence, it could be expected that incubated Digital Ventures show more innovativeness from either a technology or a business model perspective, than their not incubated counterparts.
Innovation
“Innovation is the specific function of entrepreneurship, whether in an existing business, a public service institution, or a new venture started by a lone individual in the family kitchen. It is the means by which the entrepreneur either creates new wealth-producing resources or endows existing resources with enhanced potential for creating wealth” (Drucker, 2002).

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**Literature timeline on Technology Innovation**

- Bhupatiraju et al. (2012)
- Cantillon, 1755
- Marshall, 1890
- Rogers, 1962
- Koenig and Schwartz, 1982
- Tornatzky and Fleischer, 1990
- Utterback, 1990
- Acs and Audretsch, 1990
- Fishman, 1999
- Drucker, 2002
### Timeline of Technology Innovation

#### Theoretical Frameworks

<table>
<thead>
<tr>
<th>Author</th>
<th>Frameworks</th>
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</thead>
<tbody>
<tr>
<td>(Cantillon, 1755, Marshall, 1890)</td>
<td>Innovation as technology change that provided a creative solution to a particular need resulting in the creation of wealth and economic growth.</td>
</tr>
<tr>
<td>(Schumpeter, 1934)</td>
<td>Invention implied the making of something new that had the potential to generate economic value, innovation was the process of actually using an invention with a business purpose, and an entrepreneur was the person who actually carries out innovations through the enterprise.</td>
</tr>
<tr>
<td>(Rogers, 1962)</td>
<td>Diffusion of Innovations framework through which people learn about, and decide whether to adopt innovations. The following characteristics of innovation that influence its rate of adoption: relative advantage, compatibility, complexity, trialability, and observability.</td>
</tr>
<tr>
<td>(Utterback, 1971)</td>
<td>Three step process of technical innovation: idea generation, problem solving, and implementation, possibly followed by diffusion. Introduced a Theoretical Framework of Technology Innovation as a function of three factors: (1) characteristics of the firm’s environment, (2) internal characteristics of the firm itself, and (3) flows between the firm and its environment.</td>
</tr>
<tr>
<td>(Kamien and Schwartz, 1982)</td>
<td>Theory of Market Structure and Innovation in which innovation was also considered a function of the firm’s market context.</td>
</tr>
<tr>
<td>(Tornatzky and Fleischer, 1990)</td>
<td>Innovation empirical contextual framework called Technology Organization Environment (TOE) that is composed of three constructs: the external environmental context, the technological context, and the organizational context.</td>
</tr>
<tr>
<td>(Acs and Audretsch, 1990)</td>
<td>Refocused previous innovation research towards small firms and strengthened the interconnection between Innovation and SME Entrepreneurship studies.</td>
</tr>
<tr>
<td>(Fichman, 1999)</td>
<td>ICT diffusion and assimilation theories, and provided a framework to classify their key constructs.</td>
</tr>
<tr>
<td>(Drucker, 2002)</td>
<td>Innovation should not be understood as the result of a “flash of inspiration”, as he called it, but as a process “to be managed as other corporate functions.” Sources of innovation and proposed the following seven: unexpected occurrences, incongruities, process needs, industry and market changes, demographic changes in perception, and new knowledge.</td>
</tr>
</tbody>
</table>
Typology of Innovation

- Differences between incremental, radical and disruptive innovations (Latzer, 2009), may provide an additional guide for the classification of Digital Ventures by type of innovation.

<table>
<thead>
<tr>
<th>Radical Innovations</th>
<th>Incremental Innovations</th>
<th>Disruptive Innovations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Discontinuous (with or without predecessor; substantial, non-linear improvement)</td>
<td>• Continuous (linear improvement in the value received by customers)</td>
<td>• Inferior performance, cheaper, fast improving</td>
</tr>
<tr>
<td>• Based on new technology</td>
<td>• Based on old technology</td>
<td>• Leading customer rejection</td>
</tr>
<tr>
<td>• Leads to new dominant design</td>
<td>• Dominant design unchanged</td>
<td>• Performance overshooting of established technology</td>
</tr>
<tr>
<td>• Can lead to paradigm shift</td>
<td>• Does not lead to paradigm shift</td>
<td>• Lower profits until a new business model is found</td>
</tr>
<tr>
<td>• Involves great uncertainty</td>
<td>• Involves low uncertainty</td>
<td>• Emerging market success (in isolated niches)</td>
</tr>
<tr>
<td>• Entire new set of performance features</td>
<td>• Feature improvements</td>
<td>• Intersecting trajectories lead to invasion of the incumbent’s market;</td>
</tr>
<tr>
<td>• Need for re-education, new organization and skills</td>
<td>• Existing organization and qualifications are sufficient</td>
<td>• First-mover advantages</td>
</tr>
<tr>
<td>• Attributed to chance, not to necessity; might be influenced by R&amp;D policy</td>
<td>• Result of rational response, of necessity</td>
<td></td>
</tr>
<tr>
<td>• Driven by technology push (important in early phase of technology)</td>
<td>• Driven by market pull (important in late phase of technology)</td>
<td></td>
</tr>
<tr>
<td>• To achieve economic long-term goals</td>
<td>• To achieve economic short-term goals</td>
<td></td>
</tr>
</tbody>
</table>
The literature reveals that existing Innovation theoretical frameworks have been used in, and have been adapted to both developing economies and Latin American contexts.

<table>
<thead>
<tr>
<th>Author</th>
<th>Frameworks</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| (Lastres and Cassiolato, 2000) | • National Systems of innovations.  
  • Technology Diffusion. | • Information/Knowledge Economy challenging traditional economies of Developing countries.  
  • How can Developing countries take advantage of new ICT paradigm.  
  • Foster local and national innovation and learning policies to incorporate developing economies into the Learning Economy. |
| (Daude, 2010)          | • Development Accounting.  
  • Technology Diffusion.          | • Latin American countries growing slower than other developing economies.  
  • Barriers to innovation and technology adoption.  
  • Latin American innovation is low-tech in general. |
| (Hilbert, 2010)        | • Income Distribution and Technology Diffusion | • Digital divide among developed countries and developing countries result in lower innovation and productivity. |
| (Crespi and Zuñiga, 2012) | • CDM Structural Recursive Model of Innovation and Productivity | • Lack of significance of innovation for productivity in Latin America.  
  • In many Latin American economies, firms’ innovations consist basically of incremental changes with little or no impact on international markets, and are mostly based on imitation and technology transfer |
Information and Communication Technology (ICT)
Why ICTs?

- ICTs are the raw materials of Digital Ventures, the structure over which these are built.
- Technology has been closely linked in academic research with innovation and entrepreneurship for many years (Bhupatiraju et al., 2012)
- The use of the term “Technology Based Firms” exemplifies this interdisciplinary dependencies (Groen et al., 2008, Hindle and Yencken, 2004).
- Two ICTs were chosen based on their high potential impact on Digital Ventures:
  - Cloud Computing
  - Web 2.0 (Inclusive of Social Networks and Wiki’s)
Cloud and SMEs

- Literature indeed revealed the existence of research on both the relationship between emergent ICTs and innovation on SMEs e-business models (Ojala and Tyrvainen, 2011, Barnes et al., 2012, Lee et al., 2008)

- Research suggests that SMEs are potentially a beneficiary of Cloud services, but that SMEs have slowly adopted them.

- None of the studies included examples in developing economies
Web 2.0 and SMEs

- Research suggests there are significant potential benefits for SMEs using Web 2.0 technologies to design e-business models.
- None of the Web 2. studies included examples in developing economies

<table>
<thead>
<tr>
<th>Literature</th>
<th>Focus of Study and Findings</th>
</tr>
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<tbody>
<tr>
<td>(Barnes et al., 2012)</td>
<td>Studied the way SMEs use Web 2.0 and concludes that: “Benefits from the use of Web 2.0 are categorized as lifestyle benefits, internal operational efficiency, enhanced capability, external communications and enhanced service offerings.”</td>
</tr>
<tr>
<td>(Lee et al., 2008)</td>
<td>Study of the potential benefits of Web 2.0 for both the creation of online or digital businesses, and the e-Business expansion for existing SMEs.</td>
</tr>
<tr>
<td>Lim et al. (2010)</td>
<td>Study propensity to use Web 2.0 based on the entrepreneurial orientation (defined by the authors as the willingness to take risks) concluding that those individuals with higher EO show a higher Web 2.0 adoption rates.</td>
</tr>
<tr>
<td>(Brynjolfsson and Hee Oh, 2012)</td>
<td>This study provides a valuable framework to analyze the economic logic of Digital Ventures based on Web 2.0 business models apparently presented as free to producers/consumers.</td>
</tr>
<tr>
<td>(Wirtz et al., 2010)</td>
<td>Authors propose a four factors model tested through interviews with Web 2.0 entrepreneurs in US and Germany.</td>
</tr>
</tbody>
</table>
e-Entrepreneurship
e-Entrepreneurship


- e-Entrepreneurship still developing theoretical frameworks based on those of the surrounding disciplines:

<table>
<thead>
<tr>
<th>Area</th>
<th>Literature</th>
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</table>
e-Entrepreneurship

Only seven papers were empirically grounded, four of them followed a longitudinal approach, four of them were based on surveys of 100 samples or more, and three of them followed case studies.

Studies that followed a quantitative methodology based on surveys, included both companies that mixed traditional businesses with an e-Business branch, and Digital Ventures.

Studies following a case study approach, none seem to have clearly focused on Digital Ventures only.

Batjargal (2005) studied Internet entrepreneurship in China, but the sample of companies included a wide range of Internet related companies, and was not focused on Digital Ventures.

Mahmood and Cheng Ming (2005) position their research in the context of Asia Pacific economies, which has a blend of both developed and developing countries.
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