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TOWARDS A TYPOLOGICAL THEORY OF BUSINESS MODEL INNOVATION PROCESSES

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ABSTRACT

Business model innovation is a relatively young, yet increasingly important, research domain. While there are many publications calling attention for, and proposing ways to describe, business models, little has been done so far to develop business model innovation theory.

The objective of this paper is to propose a typological theory of business model innovation, which links key characteristics of the business model innovation, via innovation process characteristics, to mechanisms to organize and manage that process.

Keywords: Business model innovation, typology, theory development.

1. INTRODUCTION

Business model innovation is promising response to hyper-competition (e.g. D'Aveni, 1994) and globalization. Interest in business modeling and business model innovation has never been so high as it is today.

According to a global survey among CEOs, reported by IBM (2010, p. 31), "*[t]o operate more effectively in [such] a volatile environment, creative leaders strongly encourage and experiment with all types of business model innovation*". In that report, IBM identifies three business model innovations, namely: 1) enterprise models, 2) industry models, and 3) revenue models. Other new types reported in the literature include internet/e-business models (e.g. Timmers, 1998; Afuah and Tucci, 2001; Weill and Vitale, 2001; Rappa, 2006) and open business models (e.g. Chesbrough, 2006).

While these studies refer to the *outcome*, this paper focuses on the *process*, of business model innovation. Such research is currently lacking, but of considerable importance. "*Previously, CEOs recognized the need for business model innovation, but today they are struggling to find the requisite creative leadership to produce such innovation*" (IBM, 2010, p. 10).

2. INNOVATION

Many types of innovation have been proposed in the literature. Schumpeter (1934, p. 66), one of the first writers on innovation, mentions "*(1) The introduction of a new good ... (2) The introduction of a new method of production ... (3) The opening of a new market ... (4) The conquest of a new source of supply ... (5) The carrying out of a new organization ...*".

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Most innovation researchers have essentially adopted Schumpeter's categorization.

Boer and During (2001, pp. 84-85), distinguishing product, market, technological (meaning process) and organizational innovations, recognize that 'pure' innovations are actually very rare, and define innovation as "... *the creation of a new product-market-technology-organization-combination* ...". Tidd and Bessant (2009, pp. 21-26) propose product, process, position and paradigm innovation. While the first three go back to Schumpeter's 'new good', 'new method' and 'new market', one of the forms of paradigm innovation (Tidd and Bessant, 2009), i.e. changes in the underlying mental models, which shape what an organization does, is business model innovation. But what is a business model, and what does it mean to innovate the business model? Should we draw a line between business model innovation and other innovation types?

2.1 The Business Model Concept

The business model literature has grown exponentially since the end of the 1990s. That does not mean, though, that the concept is new. Before the term business model gained popularity, many models had been proposed, including:

- Miller and Rice's (1967) process model and various other aspect models, depicting organizations as, for example, formal and informal flows of authority (hierarchy), work materials (i.e. production processes), communication/information (e.g. management and control), and decision-making (Mintzberg, 1979).
- Contingency models (e.g. Kast and Rosenzweig, 1973; and many others).
- The 7-S model of McKinsey (Peters and Waterman, 1982).
- The process-based contingency model of organization (Boer and Krabbendam, 1999) combining some of these approaches.

Influential publications in the specific business model literature include Linder and Cantrell (2000), Amit and Zott (2001), Magretta (2002), Osterwalder *et al*. (2004), Osterwalder and Pigneur (2004), and Chesbrough (2006). One thing all the authors in this field seem to agree on is that a business model is a model of the way in which a company does business (Taran, 2011). However, while there is consensus on the meaning of 'doing business', namely creating and delivering value so as to create revenue and a sustainable competitive position, there is less agreement on the 'model' part. Morris *et al*. (2004, p. 727) present "*…a synopsis of available perspectives regarding model components*", in which the number of building blocks (or components as they call it) ranges from three to eight. In this paper, we distinguish seven building blocks – see Table 1:

1. Value proposition – a company's offering of products and services.
2. Target customers – customer segments a company aims to serve.
3. Customer relations – actual interactions established with these customer segments.
4. Value chain architecture – involving both the primary and support activities needed for a company to develop, produce and deliver its offerings (e.g. Porter, 1985).
5. Core competences – those capabilities that are difficult to imitate by competitors, and are critical to a company for achieving competitive advantage, e.g. unique technology, IPR, know-how, culture, market exclusivity.
6. Partner network – partners who engage in different kinds of cooperation with a company, with the goal of achieving economies of scale, reduction of risks (e.g. joint venture) or tapping into new knowledge or resources (Osterwalder and Pigneur,

2010).

7. Profit formula – including revenue model, cost structure, margin model, and resource velocity (e.g. Johnson *et al*., 2008).

By and large, business model innovation encompasses all innovation types, and can therefore be considered as the overall *platform* of all innovation types, rather than as a type of its own, separated from all others by definition and process characteristics.

2.2 Business Model Innovation and Innovativeness (Source: Taran et al. 2012)

Organizational change is actually very common. The question is: when can we call a change in an organization a business model *innovation*? In Taran *et al.* (2012) we identified three approaches.

The first approach, associated with business model innovation *radicality*, 'defines' business model innovation as a radical change in the way a company does business (Linder and Cantrell, 2000; Chesbrough. 2006; IBM, 2006, 2008). Radicality, a "*critical variable in the field of innovation*" (Chandy and Tellis, 2000, p. 6), is usually defined as a significant (McDermott and O'Connor, 2002, p. 423) departure from existing products/services, processes or, in the context of this article, business models. Incremental innovations, in contrast, are minor changes such as extensions (McDermott and O'Connor, 2002, p. 423) or improvements (e.g. Tidd and Bessant, 2009), which, cumulatively, may have a large impact. Singularly they are almost imperceptible (Siguaw *et al*., 2006, p. 567).

The second approach defines innovativeness in terms of, what might be called, the *reach* of the innovation (e.g. Rogers, 1983; Olsen *et al*., 1995; Green *et al.,* 1995; Garcia and Calantone*,* 2002). A suitable scale for this approach measures the newness of an innovation in terms of 'new to whom', which could range from new to the company, via new to the market or the industry, too new to the world (Rogers, 1983).

Related to the notion of architectural innovation (e.g. Henderson and Clark, 1990), in this case at corporate level (e.g. Galunic and Eisenhardt, 2001), the third approach considers measuring the innovativeness of a business model through its *complexity*, where any change in any of the building blocks or the relationships between them could be considered as a form of business model innovation (Amit and Zott, 2001; Magretta, 2002; Osterwalder *et al*., 2004). Thus, in line with Abell (1980) and Skarzynski and Gibson (2008), any change in one of the building blocks would constitute a simple innovation, while simultaneous changes in all of the building blocks would be the most complex form of business model innovation.

If these three approaches are combined, a three-dimensional space emerges (Figure 1), which helps in qualifying the innovativeness of a new business model in terms of:

- *Radicality* – the newness (incremental vs. radical) of each building block (see Table 1 for examples).
- *Reach* – to whom is the innovation new?
- *Complexity* – number of building blocks (see Table 1) changed simultaneously.

Building block	Incremental innovation	Radical innovation
What do we provide?		
1. Value proposition	Offering 'more of the same'.	Offering something different (at least to the company).
Who do we serve?		
2. Target customers	Existing market.	New market.
How do we provide it?		
3. Customer relations	Continuous improvements of existing channels.	New relationship channels (e.g. physical/ virtual, personal/peers/mass awareness).
4. Value chain architecture	Exploitation (e.g. internal, lean, continuous improvement).	Exploration (e.g. open, flexible, diversified).
5. Core competences	Familiar competences (e.g. improvement of existing technology).	Disruptive new, unfamiliar, competences (e.g. new emerging technology).
6. Partner network	New, yet familiar type of network.	New (dynamic) networks (e.g. alliance, joint-venture).
How do we make money?		
7. Profit formula	Incremental cost cutting in existing processes.	New processes to generate revenues, or disruptive cost cutting in existing processes.

Table 1: Examples of Incremental and Radical Innovation of the Business Model Building Blocks

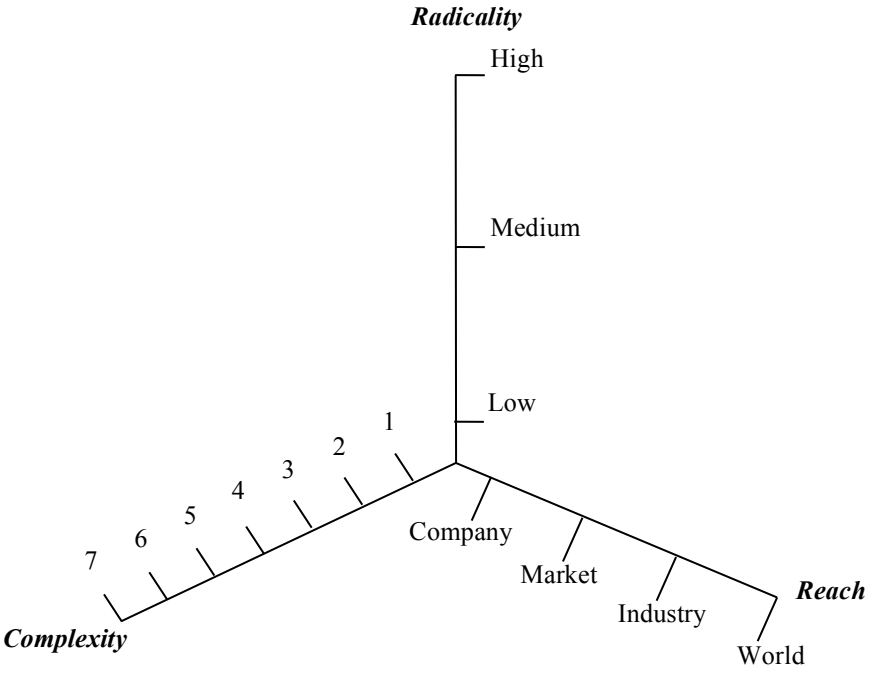

Figure 1: A Three-Dimensional (Business Model) Innovativeness Scale

In effect, any change can rightfully be called a business model innovation. Some changes are more radical, farther-reaching and/or more complex than others. And some changes (e.g. radical product innovation, incremental process improvement) are better understood than others (e.g. a holistic, new to the world departure from all business models known so far).

As will be discussed later in this paper, the three characteristics have huge impact on options available to organize and manage the business model innovation process effectively.

3. RESEARCH OBJECTIVE AND DESIGN

Business model innovation is, indeed, a huge challenge, both theoretically and practically. Much is known about innovation – especially radical product innovation, much less specific business model innovation theory has been developed.

3.1. DEVELOPMENT OF A TYPOLOGICAL THEORY

According to Christensen (2006), theory is built in two major stages:

1. A descriptive stage, which aims to inductively observe, classify and define various relationships to a specific phenomenon.
2. A normative stage, in which the researcher moves beyond statements of correlation to define what causes the outcome of interest.

Given the 'state-of-the-theory' of business model innovation, it would be too early to pursue the development of normative theory. For that reason, this paper focuses on the first phase, i.e. the descriptive 'pyramid'. While our previous work (e.g. Taran 2011, Taran *et al.* 2012) considered the base (*observe, describe, measure*) of the pyramid, this paper addresses the second level (*categorization*) at which frameworks and typologies are developed (Figure 2).

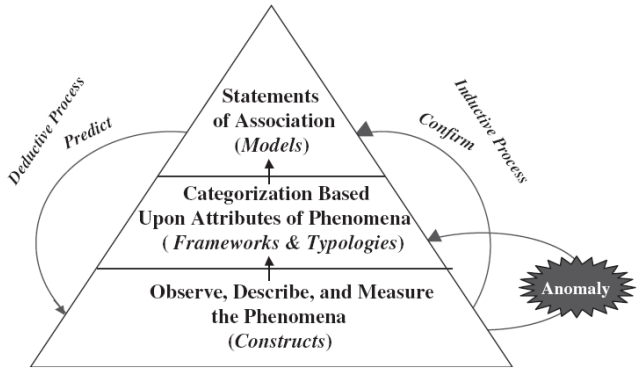

Figure 2: The Process of Building a (Descriptive) Theory (Christensen 2006)

According to Doty and Glick (1994, p. 231), "... *typologies are complex theoretical statements that should be subjected to quantitative modeling and rigorous empirical testing*".

In contrast to taxonomies, which are derived inductively from empirical data, typologies are

created deductively by classifying the objects into predefined groups that are created based on intuition and/or existing theory (Steininger *et al.*, 2013, referring to Bailey, 1994).

According to Doty and Glick (1994, pp. 233-234), three criteria must be met for a classification to qualify as a typological theory:

1. The constructs used to describe the ideal types are identified. Typologies consist of ideal types. Each ideal type represents a unique combination of the dimensions used to describe the set of ideal types (Doty and Glick, 1994, p. 233).
2. The relationships among these constructs are specified. Typological theories highlight the internal consistency among the constructs within an ideal type, and explain why this internally consistent pattern results in the specified level of the dependent variable(s) (Doty and Glick, 1994, p. 234).
3. The relationships are falsifiable. The predictions associated with a typology must be testable and subject to disconfirmation (Doty and Glick, 1994, p. 234).

3.2. Research Objective

Thus, more precisely, the objective of the paper is to use business model, innovation and organization theory to identify the key constructs describing business model innovation (criterion 1), develop propositions on the effects of consistency among these constructs on business model innovation success (comparable to Mintzberg's (1979) extended configuration hypothesis) (criterion 2), which can be tested in future research (criterion 3).

4. Development of a Business Model Innovation Typological Theory

4.1. Identification of Ideal Types

"*Ideal types are complex constructs that can be used to represent holistic configurations of multiple unidimensional constructs*" (Doty and Glick, 1994, p. 233). Using the work of Mintzberg (1979) and Miles and Snow (1978) these terms can be explained as follows:

- *Ideal types* – Mintzberg identifies five ideal configurations, i.e. the simple structure, the machine bureaucracy, the professional bureaucracy, the divisionalized form, and the adhocracy. Miles and Snow identify ideal types of organizations that are maximally effective, i.e. the prospector, the analyzer and the defender.
- *Unidimensional constructs* – Mintzberg describes his five ideal types using first-order *contextual* constructs such as size, technology and environment, and first-order *structural* constructs such as formalization, specialization and centralization. Miles and Snow describe their ideal types using the constructs entrepreneurial, engineering and administrative problems and solutions, and the cost and benefits related to these solutions.

4.2. Unidimensional Constructs

According to Enright and Subramanian (2007, p. 905), one of the great challenges in developing a typology is to choose "*... a set of dimensions that captures the bulk of the features that distinguish one [type] from another in enough detail to overcome ... under-specification ... yet not in so much detail that the resulting typology becomes too unwieldy to be useful*".

The line of reasoning behind our choice of constructs, generally accepted in, for example,

production management (and perhaps most evident in Hill, 1984), is 'organization/ management follows process follows product'. Translated to the present paper, this notion of fit entails that the characteristics of the new *business model* pursued, determine the characteristics of the *innovation activities* to be performed, which, in turn, determine the characteristics of *innovation organization/management* mechanisms required to enable and adequately support the process. This means that we are looking for three constructs, namely innovation outcome, innovation process and innovation organization/management.

4.2.1. Innovation Output

We take our starting point in the three dimensional space made up by the radicality, reach and complexity of the business innovation pursued (Figure 1), defined as follows:

- Radicality – the extent to which the innovation departs from existing business models/business model blocks (e.g. McDermott and O'Connor, 2002; Tidd and Bessant, 2009).
- Reach – ranging from new to the company to new to the world (Rogers, 1983; see also e.g. Olsen *et al*., 1995; Green *et al*., 1995; Garcia and Calantone, 2002).
- Complexity – number of building blocks changed (*cf*. e.g. Abell, 1980; Amit and Zott, 2001; Magretta, 2002; Osterwalder *et al*., 2004; Skarzynski and Gibson, 2008).

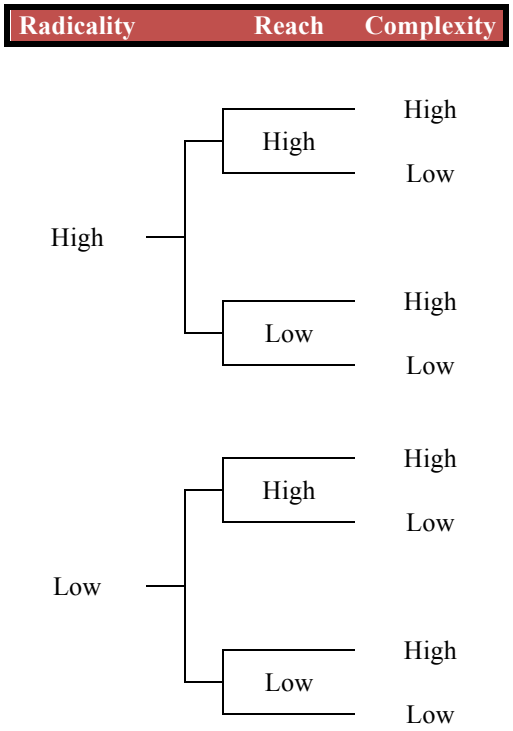

Figure 3: Eight Ideal Types of Business Model Innovation

For each of the three dimensions we impose a high-low dichotomy, which allows us to build up a framework consisting of eight types (see Figure 3). The next step, then, is to identify a suitable set of constructs describing innovation process characteristics and organizational/managerial mechanisms, respectively.

4.2.2. INNOVATION PROCESS

Based on organization theory (Perrow, 1967; Thompson, 1967; Galbraith, 1973; Mintzberg, 1979), Boer (1991) and Boer and During (2001) identified and used four characteristics to describe innovation processes:

- Uncertainty – the extent to which individuals, groups or organizations are informed about the future (e.g. Galbraith, 1973).
- Comprehensibility – the ease (or difficulty) with which the work can be understood (Mintzberg, 1979). This is essentially the same characteristic as analyzability (Perrow, 1967) and, what some authors call, task complexity, which is the term Boer (1991) used. However, as complexity is used to denote the (systems theory related notion of the) number of building blocks innovated, we prefer to use the term comprehensibility in this paper.
- Diversity – the variety of the work that needs to be done (e.g. Mintzberg, 1979); also called variety (e.g. Perrow, 1967).
- Interdependence – the extent to which (groups of) people depend on one another for their outputs (e.g. Thompson, 1967).

4.2.3. INNOVATION ORGANIZATION/MANAGEMENT

Organization and innovation theory propose a range of strategies to cope with these characteristics, which basically fall into three categories:

Roles – Innovation theory has identified the crucial role of individuals in innovation processes (e.g. Schön, 1963; Frohman, 1978; Maidique, 1980; Roberts and Fusfeld, 1981; Boer and During, 2001). Important attributes of role occupants are their cognitive capabilities (knowledge, skills and intelligence), behavioral attributes (attitude, personality, values and personal objectives) and position (reflecting power and responsibility).

Table 2 describes the innovation roles identified by Boer and During (2001).

It is important to note that "*(1) some roles, e.g. idea generating, frequently need to be fulfilled by more than one person …; (and) (2) some individuals occasionally fulfill more than one critical functions ...*" (Roberts and Fusfeld, 1981). Common combinations are the pairings of the gatekeeper and the idea generator, the champion and the idea generator, the project leader and the integrator, and the sponsor and any or all of the other roles.

Furthermore, "*[t]he importance of each critical function varies with the development stage of the project. Initially, idea generation is crucial. Later, entrepreneurial skill and commitment are needed to develop the concept into a viable activity. Once a project is established, good leadership is needed to guide its progress. (…) Thus, the absence of a function at a time it is potentially important is a serious weakness, regardless of whether or not the role had been fulfilled at an earlier, less crucial time*" (Roberts and Fusfeld, 1981).

Coordination – It is not only important to involve individuals with the right set of operational, managerial and/or support skills, behavioral characteristics and position, but also to coordinate these individuals' contribution to the innovation process adequately in order for the process to evolve effectively. Organization and innovation theory propose a wide range of mechanisms, including (e.g. Galbraith, 1973; Mintzberg, 1979; Martinez and Jarillo, 1989; Boer and During, 2001; Daft, 1992). Based on an extensive literature review

Role	Description
	Operational roles
Gatekeeper	Collects and channels information about important changes in the internal and external environment.
Scout	Surveys a specified, yet unexplored field by collecting specific information.
Idea generator	Analyzes or synthesizes information about markets, technologies, approaches or procedures, from which ideas for solving the innovation problem are generated.
Problem solver	"Solves" the innovation problem. Usually this role involves various people, specialized in product development, marketing, production engineering, finance, human resource management, organization, or whatever competences are needed to design new building blocks (see also the reorganizer below).
	Managerial and supportive roles
Problem owner	Perceives a gap between the actual and the desired situation, which is wide enough for her/him to start corrective action. A crucial role but difficult to implement deliberately.
Champion	Recognizes, proposes, pushes and demonstrates a new idea for formal management approval, using his position and enthusiasm.
Project leader	Plans and co-ordinates the different sets of activities and people/role occupants. Is involved in and committed to moving an idea into practice. Focused on decision-making. Interested in a broad range of disciplines.
Integrator	Balances attention paid to different innovation problems. Her/his authority is possibly based on a fairly high hierarchical position.
Coach/ sponsor	Guides and develops less experienced people in their critical roles. Is able to support and protect the innovation process through her/his tenure and position.
Ambassador	An approachable and personable communicator who disseminates the innovation within the organization, by communicating problems, ideas, solutions between the problem solver(s) and other people in the organization.
Reorganizer	A (possibly high-ranking) person who initiates and realizes the organization of the innovation process and pulls the ropes if significant organisational adaptation is required as part of the innovation itself.

Table 2: Innovation Roles (adapted from Boer and During, 2001)

Boer *et al*. (2006) propose four groups of mechanisms, namely coordination through:

- Strategy.
- Process.
- Technology.
- Organization.

The focus of this paper is on organizational mechanisms – see Table 3.

In addition it is useful to also consider the use of *slack resources* (Galbraith, 1973), in particular challenging goals, but fewer time and/or budget constraints, to allow for learning to take place during the innovation process (Boer and During, 2001).

	Function-oriented	Process-oriented
Hierarchical referral	√	
Add positions to the hierarchy	√	√
Standardization and formalization	√	
Direct contact		√
Liaison roles		√
Role combination		√
Secondment		√
Task forces and project teams		√
Co-location		√
Full-time integrators		√
Standing committees		√
Self-contained groups		√

Table 3: Organizational Coordination Mechanisms (adapted from Boer *et al.*, 2006)

Management – Three issues require specific attention, namely the role of risk, the availability of the right competences, and the role of top management.

First, due to the uncertain nature of any innovation activity, there is always an element of risk. Recent work has discussed the role of risk in projects and innovation processes (e.g. Keizer *et al*., 2002; Kendrick, 2003; Chapman and Ward, 2004; Keizer and Halman, 2007), addressed and defined risk appetite (e.g. HM Treasury, 2006; KPMG, 2008), and proposed methods to manage risk (e.g. COSO, 2004; Moeller, 2007; Monahan, 2008).

Second, any innovation involves the development of something new. This implies that the organization may not have all the (role-related) competences needed in the course of the innovation process readily available. In essence, two human resource management strategies are available to cope with such situations (Bessant and Grunt, 1986, pp. 198-205):

- Training and educating employees.
- Hiring or recruiting experienced people from elsewhere.

Last but not least, top management plays an important role. Top management *commitment* is one of the most frequently mentioned factors behind the success of innovation (e.g. Myers and Marquis, 1969; Rothwell *et al*., 1974; Rothwell, 1977; Cooper, 1980; Cooper and Kleinschmidt, 1995). However, what is actually needed is active *involvement* (Boer and During, 2001). This is much more than just telling how important (the) innovation is, assessing and addressing risk, and making go/no go decisions. Usually, top management are the only ones able to provide the process adequately with staff and resources, and to pull down the walls between the functional departments involved in the process.

In summary, innovation and organization theories suggest an important role for:

- *Innovation roles* – summarized in Table 2.
- *Coordination mechanisms* – summarized in Table 3, plus slack resources.

- *Management*
  - Risk management.
  - Human resource management.
  - Top management involvement.

4.3. Specification of the Relationships between the Constructs

The following hypotheses, all based on the publications referred to in the previous subsections, describe the relationships between innovation output, process, and organization/management characteristics.

4.3.1. Relationships between Innovation Output and Process Characteristics

H1.1 The higher the radicality of the innovation pursued, the higher the uncertainty of the innovation process.

H1.2 The higher the reach of the innovation pursued, the higher the uncertainty of the innovation process.

H1.3 The higher the complexity of the innovation pursued, the higher the diversity and interdependence of the innovation process.

H1.4 There is no straightforward relationship between any of the innovation characteristics and the comprehensibility of the innovation process.

4.3.2. Relationships between Innovation Process and Organization/Management Characteristics

H2.1a Irrespective of any of the innovation process characteristics, all innovation roles must be implemented *at the time they are needed*.

H2.1b Individuals performing the roles of idea generator, problem solver, reorganizer, gatekeeper and scout need to be primarily selected on the basis of the functional competences needed in the innovation process. Which competences are needed depends on the content of the business model innovation pursued.

H2.1c Individuals performing the roles of champion, project leader, integrator, reorganizer, sponsor/coach, ambassador and problem owner need to be primarily selected based on their position and behavioral competences.

H2.2a The higher the uncertainty of the innovation activities being performed, the greater the need to use mechanisms such as:

i. Lateral linkages: direct contact, liaison roles, task forces, project teams and/or standing committees.
ii. Task integration: role combination, secondment and/or co-location.
iii. Integrating roles: project leader, integrator and/or ambassador.
iv. Self-contained groups.
v. Slack resources: challenging goals, but fewer time and/or budget constraints.
vi. Elaborate risk management methods.

H2.2b The lower the uncertainty of the innovation activities being performed, the more a company can rely on mechanisms such as:

i. Hierarchical referral.
ii. Adding positions to the hierarchy.

iii. Standardization and formalization.

H2.3 The lower/higher the comprehensibility of innovation activities being performed, the greater/lesser the need to:
   a. Involve experts to perform roles such as the scout and the problem solver.
   b. Identify and manage knowledge gaps, and:
      i. Rely on unanalyzed experience, intuition, chance and guesswork, and, in effect, allow for trial-and-error learning.
      ii. Train and educate employees in technical and organizational issues, leadership, motivation and communication, …
      iii. Hire or recruit experienced people from elsewhere (other companies, consultants or other experts).

H2.4 The higher/lower the diversity of innovation activities being performed, the broader/narrower the range of competences needed in the process.

H2.5a The higher the interdependence of innovation activities being performed, the greater the need to use mechanisms such as:
   i. Lateral linkages: direct contact, liaison roles, task forces, project teams and/or standing committees.
   ii. Task integration: role combination, secondment and co-location.
   iii. Integrating roles: project leader, integrator and/or ambassador.
   iv. Self-contained groups.

H2.5b The lower the interdependence of innovation activities being performed, the more a company can rely on its existing structure.

H2.6 The higher the diversity and the interdependence of innovation activities being performed, the greater the need to combine learning and coordination, and use:
   a. (Temporary) functional teams, responsible for solving specialist problems and consisting of maximum 6-7 participants assuming the idea generator, problem solver, reorganizer and scout roles.
   b. A small, probably permanent, project team consisting of individuals assuming the project leader, integrator, ambassador and, possibly, the coach and the reorganizer roles, and responsible for planning and organizing the process, and coordinating the activities of the functional teams.
   c. Slack resources: fewer time and/or budget constraints.

H2.7 The greater the need to change a company's existing structure to enable and support the innovation process, the greater the need for top management involvement.

5. LIMITATIONS AND FURTHER RESEARCH

The aim of the paper was to propose a typological theory on business model innovation. The typology developed suggested eight ideal types to consider (Figure 3), with each type having its own innovation process and organization/management profile, *cf*. the hypotheses formulated above.

The typology meets the three criteria formulated by Doty and Glick (1994). The next step is to actually test and subject the typology to disconfirmation (Doty and Glick, 1994, p. 234,

referring to Popper, 1959; Lave and March, 1975; Cook and Campbell, 1979).

5.1. LIMITATIONS

There are three major limitations to this paper, which should be considered before making the next steps in the research.

Coordination mechanisms – In addition to using organizational mechanisms, other possibilities to achieve alignment, coordination or even integration in innovation processes include strategic, process and technological mechanisms. Paashuis and Boer (1997) and Boer *et al*. (2006) operationalize these mechanisms and provide examples.

Environment – Companies do not function, and innovation processes do not take place in, a vacuum. Organization and innovation theory have identified a range of environmental contingencies that may limit or enhance the effectiveness of design choices available to organize an innovation process. Especially environmental dynamics and munificence have been widely researched. Important aspects of environmental dynamics are technological change and market change. Environmental dynamics is likely to affect a company's innovation strategy and, in effect, the choices made regarding the frequency, focus, radicality, reach and complexity of its innovations. Munificent environments offer high-growth opportunities and an abundance of resources available to a company and, in effect the range of strategic options available to the company (Acur *et al*., 2012).

Effectiveness – The typology proposes eight ideal types. The "hidden" assumption is that each of these types represents an effective configuration of business model innovation pursued, innovation process, and innovation organization/management. However, effectiveness can be measured in many different ways and it may well be that the configuration most effective for the business model innovation pursued by a company depends on the strategic choices behind, and the goals pursued with, the innovation.

5.2. FURTHER RESEARCH

A survey study seems the most appropriate way to test the typological theory proposed in this paper, extended with constructs defining non-organizational coordination mechanisms, the company's environment, and performance/effectiveness criteria.

The next step involves operationalization of the constructs, preferably using existing scales whose reliability and validity has been demonstrated, so that cumulative results are developed, rather than findings that are different from, or even reject, previous findings, just because the same constructs have been measured differently. After questionnaire design and test, and sample selection, the final step is data collection, analysis and interpretation.

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