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Business Model Performance: Paving the Road for Comparable Data on Business Models

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Abstract

Since the millennium, 14 of the 19 entrants into the Fortune 500 owe their success to business model innovations that either transformed existing industries or created new ones (Christensen & Johnson, 2009). Today, and with a good reason, the concept of business models are discussed like never before, while both researchers and practitioners hold the believe that mastering this aspect give way for effective competitive advantages. In line with Fielt (2011), we argue however that business models will never advance from concept to actual theory, while definitions and frameworks will remain "early stage" without any feed from more comprehensive and saturated empirical data. Through this research we attempt to close the gap of missing available quantitative data on business models, in order to advance from concept to theory and thereby best-pratice.

Introduction

Business managers might have very different ideas of what truly drives their business. However, a general increased attendance towards the business model as a prominent factor seem to be the case (Christensen & Johnson, 2009). The basic term business model has a fairly murky past, while historically being associated with various aspects of business management and therefore not leaving a clear definition behind. Nonetheless, the recent 20 years of research in business models has helped us to specify and, perhaps more

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importantly, see the significance when it comes to overall business development and performance.

Evolving from an indistinct academic notion in the wakes of the dot.com era, the variety of business models today has expanded, and over the past years the term has surged into the strategic management and strategy vocabulary, while spreading across virtually every industry (Shafer, Smith, & Linder, 2005). Since the millennium, 14 of the 19 entrants into the Fortune 500 owe their success to business model innovations that either transformed existing industries or created new ones (Christensen & Johnson, 2009). Indications therefore point towards business models as being valuable when it comes to business performance and therefore important for companies to understand and measure (Montemari and Nielsen, 2013; Teece, 2010).

The field of business models is at the present characterized by a series of concepts, techniques and frameworks for analyzing, communicating, innovating and internationalizing companies and the way they create value (cf. Osterwalder & Pigneur, 2010; Chesbrough 2003; Amit & Zott 2012; Magretta 2002)

The popularity of the business model concept seems to be increasing, despite we still seem know so little about them. So far, the majority of research efforts have been directed towards definitions and frameworks while some-what neglecting empirical data. According to Fielt (2014) business models cannot yet be perceived as an actual theory due to the vital lack of empirical data. Fielt (2014) further refers to the empirical notion of business model archetypes and how these complement the definition and elements by providing a more concrete and realistic understanding of the business model concept.

During the early stages of business model research, several researchers attempted to build typologies of business model archetypes based on existing successful businesses e.g. Linder and Cantrell (2000); Rappa (2000); Timmer (1998). Considering that the majority of these archetypes date back to the early stages of business model research, they still hold a great value today when it comes to understanding and developing business models (Fielt, 2014). However, many of the of the appertaining typologies appear some-what inconsistent and fragmented. Perhaps this is no surprise, considering when these where originally derived. In recent years a few researchers such as Gassman et al. (2014) og Taran et al. (2016) have attempted to restructure and build upon these early works on business model archetypes and typologies. While these constitute great improvements in terms of structure and content, they do not provide much detail on frameworks, components and linkages between the individual archetypes. Overall, most research on business model archetypes so far appears less systematic and seems to be based on a few selected case examples supporting the narrative of obvious successful business models (Fielt 2014; Taran et al., 2016).

From a hermeneutic standpoint and in line with Fielt (2011), we argue that business models will never advance from concept to actual theory, while definitions and frameworks will remain "early stage" without any feed from more comprehensive and saturated empirical data. As a further result, business models will fail to gain ground within general business management, while lacking essential normative properties.

This research will attempt to tackle the above-mentioned notions by developing a relational database of business model configurations (archetypes). We intent to develop this on the basis of existing literature and hereby formulate the following research objective:

Describe and represent business models configurations in a software-based structure in order to build the foundation for subsequent concepts and tools to assess, develop and manage business models.

Approach

When designing a relational database, we gravitate towards Information Systems. Such structures are often associated with high levels of complexity concerning prototyping and testing in consecutive iterations. As a consequence, we decide to lean towards design science and the appertaining methodological considerations. In line with the works of Osterwalder (2005), we base this research on the Design Science Research Framework provided March and Smith (1995) (see Figure 1.)

Research Activities

Research output	Build	Evaluate	Theorize	Justify
Constructs	Identify value drivers of Business model configurations from Taran et al. (2016)	Assess accuracy		
Model	Create an interlinked structure of business models configurations (ontology)	Investigate fidelity with real world phenomena		
Method	Qualitative	Qualitative and Quantitative		
Instantiation	A software-based relational database	Test prototype on case companies		

Figure 1: Design Science Research Framework (March and Smith, 1995)

March and Smith (1995) distinguish between two primary dimensions: Research Activities and Research Output. The latter comprises: *Constructs*, *Models*, *Methods*, and *Instantiation*. *Constructs* constitute a *conceptualization* used to describe problems within the domain and to specify their solutions. A *Model* is a set of propositions or statements expressing relationships among constructs. In design activities, models represent situations as problem and solution statements. To a broad extent, models can be perceived as a description, that is, a representation of how things are. A Method is a set of steps (an Algorithm or guideline) used to perform a task. Methods are based on a set of underlying constructs (language) and a representation (model) of the solution space (Nolan, 1973). Lastly, an *Instantiation* can be described as the realization of an artefact.

When accounting for the research activities, March and Smith (1995) highlight *Build* and *evaluate* as the two main issues in design science. Build refers to the construction of the artefact and thereby demonstrating that such an artefact *can* be constructed. Evaluate refers to the development of criteria and the assessment of artefact performance. March and Smith (1995) describes how *Research Activities* in natural science are parallel: *Theorize* (discover) and *Justify*. Theorize refers to the construction of theories that explain how or why something happens, meanwhile justify refers to theory proving.

This research will be based on *Build* and *Evaluate*, cf. the objective to describe and represent business models configurations in a software-based structure.

We propose a series of steps in order to investigate the research question. It will be necessary to apply a series of different research methods, to study the fields of business model configurations and the individual components of these. This research will therefore adopt a mixed-methods approach, applying both quantitative and qualitative methods. As a consequence, this article must include discussions of the potential problems of mixed-methods research.

According to Morgan & Smircich (1980), the prevailing dichotomy between quantitative and qualitative methods is a rough and oversimplified one. Rather, they argue for a more nuanced perspective towards this discussion and conclude that aspects such as the underlying perception of the nature of knowledge, ontological assumptions and assumptions about human nature must be taken into consideration.

Sale *et al.* (2002) argue that the paradigms upon which quantitative and qualitative methods respectively are based have different perspectives of reality (cf. Burrell & Morgan 1979) and therefore constitute different views of the phenomenon under study quantitative and qualitative methods cannot be combined for cross-validation or triangulation purposes. They do however acknowledge that they can be combined for complementary purposes.

The key issues in the quantitative-qualitative debate are ontological and epistemological. Quantitative researchers perceive truth as something which describes an objective reality, separate from the observer and waiting

to be discovered. Qualitative researchers are concerned with the changing nature of reality created through people's experiences – an evolving reality in which the researcher and researched are mutually interactive and inseparable (Phillips, 1988).

Ultimately we argue that at mixed methods approach is best suited for this research, while multiple steps of various purposes will need to be conducted:

1. Desk research
We apply desk research for analyzing the value drivers (components) of the 71 identified business model configurations identified by Taran et al. (2016). Based on this, an ontological classification scheme is defined. This enables us to build a relational database containing all 71 Configurations and 251 value drivers

2. Survey methodology
In addition to the database, the intention is to construct a mapping tool, which is essentially a questionnaire-based module build to capture company characteristics and match these with the collection of business model configurations.

3. Qualitative Validation
The Mapping Tool will be continuously developed over multiple iterations by testing and validation through key respondents and focus groups.

4. Advanced statistics
Using the data points from the relational database, statistical techniques such as Structural Equation Modelling, cluster analysis, latent class analysis and systems dynamics are explored for the sake of building inductive empirically based theories of business model configurations and their related performance measures.

5. Data collection and testing
To test the accuracy and fidelity of the mapping tool we use a mixture of primary sources (e.g. respondent input and interviews) and Secondary sources (e.g. Annual report, company website, or articles)

Figure 2. below illustrates the overall system design of what we refer to as the BM QUANT System, which ultimately allows us to conduct business model assessments by the derivation of Business model configuration, value drivers, and other benchmarks.

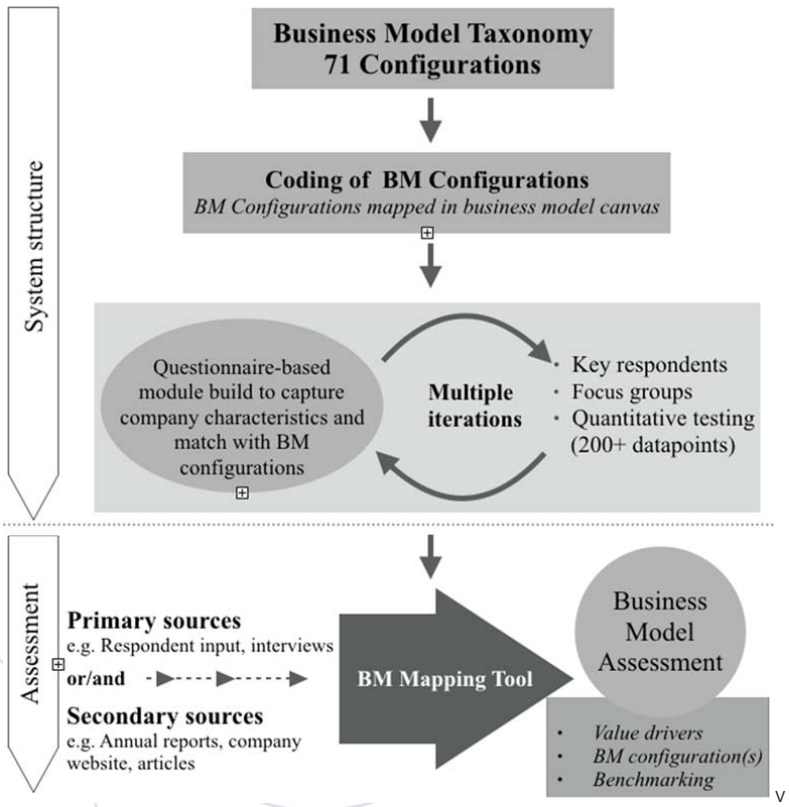

Figure 2: the BM QUANT System design

Key insights, discussion and conclusions

Contribution to theories of business models

It is the ambition, through data collection, to create a comprehensive database of business model configuration mappings. Although this potentially paves the road for future concepts and tools, we initially believe the long-term outcome will be a software capable of serving as a platform for generating state-of-the-art contribution to theorizing business models and business model innovation. Over time it will be possible to assess how corporations change their business models, how certain business model configurations start to drift to new industries and thereby also whether there are certain business model innovation routes for companies (in certain industries) to take. Finally, this knowledge will enable us to create a true business model taxonomy and business model archetypes as called for by Groth & Nielsen (2015).

The concept of business models has not yet been able to establish theoretical grounding in economics or in business and Teece (2010) argues that economic theory generally neglects business models because they solve real world problems. The research proposed here shares this perception and believes that the gateway to overcome these challenges is found through a study of real-life business models - business model configurations. This can also be perceived as an extensive attempt to quantify business models and thereby develop new associated performance measures.

Some of the important aspects are the validation and quality of each data point as well as the validation of the financial information, as this helps to insure that benchmarks become as precise and valuable as possible. This function can be supported financially by the parties most interested, like e.g. banks, industry-organisations and government. Perhaps companies should even be paid to upload their data?

One final, and long-term, vision for the research undertaken here is that it may turn out to become a business model innovation support system for corporate managers. Further, the empirical data may even warrant a redefinition of the Business Model Canvas as well as becoming an internationally renowned example of how to use software for business model benchmarking purposes.

Contribution to theories of benchmarking and performance measurement

Based on the understanding of value creation from the concept of business models, benchmarking of corporate performance is proposed strengthened through a big data perspective and the use of statistical techniques to generate validated business model configurations and related KPIs.

The research outlined above also addresses prevailing weaknesses of creating meaningful benchmarking around corporate performance. At this point in time no validated or reliable theory of corporate benchmarking exists, and the idea and conceptualization of benchmarking is therefore left in the hands of the potential user, be it an analyst, a manager or a controller. Despite a lack of theory, benchmarking also sometimes denoted as evaluations, assessments or comparative data (Behn 2012). In the public sector, Behn (2003) has problematized performance benchmarking while benchmarking in the private sector is often related to the Beyond Budgeting movement (Hope and Fraser, 2003) and a cluster of literature around budgeting and incentives management. However, the relation to performance often varies and is dependent upon the intentions behind a particular benchmarking exercise (Tillema, 2010).

The benchmarking literature emphasizes the use of performance measures as an important and continuous source of information for evaluation of services against the best competitors or peers thus providing motivational and managerial effects (Behn, 2012). The only problem with this is that, as we have learnt from the business model literature, today there are multiple value creation configurations and business models even in the same industries. Therefore, benchmarking with a peer group needs to be controlled for the applied business model configurations in order for anything meaningful to come out of such a comparative exercise.

Another objective of this research is also to offer a timely critique of the Balanced Scorecard era multi-dimensional performance measurement concepts developed over the last 25 years. Leading on from this

critique, we offer a new way forward for performance measurement identification, validation and benchmarking by expanding upon the BM QUANT System. This could provide the opportunity for a value driver platform with related clusters of KPIs connected to each business model configuration as a starting point for managements choice of KPIs, analysis, benchmarking and performance management.

A further contribution will be the utilization of software technology and statistically validated algorithms for identifying corporate performance measures. This has long been acknowledged by Robert Kaplan, one of the founders of the Balanced Scorecard. The use of advanced statistical methods like systems dynamics, structural equation modelling and latent class analysis together with a database of mapped corporations will make a major contribution to this work (Groth & Nielsen, 2015).

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