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Business Model Quantification

A methodology for creating comparable data on business models

Thomsen, Peter; Sort, Jesper Chrautwald; Kringelum, Louise Brøns

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Business Model Quantification: A methodology for creating comparable data on business models

Author 1, Author 2, Author 3

Abstract: The qualitative approach of interviews and workshops are currently the “golden standard” in the endeavor of identifying and understanding business models (BM), whereas the use of more quantified tools have so far received little attention. In this paper we add to the methodological development of the business model research by introducing an alternative to the qualitative approach by combining surveys and pattern matching to open new avenues of research. We will exemplify how this tool has been developed and some initial steps towards validation of the tool through the iterative process and application in some case studies. The findings show the approach leads to the same results as the previous “gold standard” potentially offering an interesting alternative for the future.

Keywords: Business models, survey, pattern matching, mixed methods

INTRODUCTION

While the field of strategic management has evolved rapidly both theoretically and methodologically since the permeation of single case studies in the 1960s (Hitt. Et al. 1998), newer research themes emanating from this vast research field often lag behind as a result of conceptual ambivalence and general dispersion.

This appears to be the case in the young field of business models where qualitative, single case studies have been predominant so far (Belussi *et al.*, 2019). As stated in the literature review of Belussi *et al.* (2019), empirical explorations of business models have drawn inspiration from many different methodological standpoints such as grounded theory (Glaser and Strauss, 1967;2017), case studies (Eisenhard and Graebner, 2007) and qualitative data analysis (Miles *et al.*, 1994). Needless to say, many different combinations of qualitative methods have been applied in the search to understand and map business models theoretically and practically.

For this reason, much research on business models remains as static one-dimensional representations (Linder & Cantrell 2000) or retrospective recounts of development processes of new business models

(Kringelum 2017). However, the implications and limitations of these methodological underpinnings are rarely elaborated (Schaller & Vatananan-Thesenvitz 2019). As a consequence, the recounts of business models are often based on subjective descriptions of top managers.

In order to achieve a higher level of generalization and objectivity it is advisable to adopt more quantitative perspectives. This methodological standpoint has been applied very sparsely in the field of BM, but can be found within literature reviews, creating definitions, descriptions etc.

In addition, existing quantitative business model research has been aimed at identifying performance advantages of specific business models. However, the majority of this research often falls short in defining the central aspects of business models, which is in part due to the conceptual ambiguity that permeates the research field (Wirtz *et. al.*, 2016). For this reason, the comparability of data and studies of business models is

This methodological limitation is rarely considered in business model research. Nevertheless, the fact that the mapping of business models is often based on the subjective interpretation of a researcher, business manager, consultant etc., creates significant challenges for the evolution of this research field.

While it must be acknowledged that business models can be understood as a cognitive discourse diverging between individuals. The approach and data analysis can be made objectively and comparable these discourses can be singled out. This would allow both for the cognitive understanding to potentially reach agreement, but also eliminate the bias of having a subject (like a researcher) to interpretate the discourses.

For this reason, the aim of this paper is to demonstrate that the collection of data, the analysis and the pattern matching in business model research can be done in a more objective and generalizable manner enabling new sources of data to either supplement or complement the understanding and mapping of business models.

We recognize that the field of business models is still fairly young dating back around 25 years. With the ambition of creating an approach to collect comparable data will potentially add to the evolution of the research field in a Lakatosian sense, as elaborated by Lecocq *et al.* (2010). By showing and exemplifying our approach to adopt a more quantified approach can inspire other young research fields in this endeavor. Furthermore, introducing this approach and tool could be relevant and applicable for managers and owners in companies to understand and develop their business model.

Subsequently, this research attempts to build further on the basis of existing business model literature and hereby formulate the following research objective:

Design a new approach to describe and represent business models configurations in order to build the foundation for better data comparability.

This will be accomplished by developing an approach to business model quantification as described in the remainder of this paper.

2. BACKGROUND

Business managers might have very different arguments 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 business model concept is imbued by the conceptual ambiguity that often characterises young research field without clearcut definitions and boundaries.

A series of attempts have been made to establish an academic grounding of the business model in existing theoretical perspectives, such as transaction costs (Amit & Zott 2001), the resource-based view (Demil & Lecocq 2010), entrepreneurship theory (Morris *et al.* 2005), and network theory (Frankenberger *et al.* 2013a), to name a few. Yet the theorizing of the concept has remained loose and non-cumulative and has resulted in silos of business model research adhering to various theoretical streams (Zott *et al.* 2011; Foss

& Saebi 2015; Massa et al. 2017). Although the degree of isolation of the silos can be relativized (Wirtz et al. 2016a), the research field remains pre-paradigmatic and characterized by "... unclear core constructs, lack of theoretical foundations and a lack of evidence based on empirics that goes beyond small-N samples..." (Foss & Saebi 2015: 5)

The pre-paradigmatic nature of the research field is evident as a multiplicity of conceptualizations today function side by side. Nonetheless, the recent 20 years of research in business models has helped us to specify and, perhaps more importantly, see the significance when it comes to overall business development and performance Groth & Nielsen (2015).

Although the research field of business models has come a long way since the 1990s, it is still evolving and highly diffused (Wirtz et al. 2016a; Klang et al. 2014). It remains an unwieldy concept with a rich nomenclature pieced together from various research disciplines.

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, and spread 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 methodological advances and challenges in the field

The field of business models is at the present characterized by a series of concepts, techniques and frameworks for analysing, communicating, innovating and internationalizing companies and the way they create value (cf. Osterwalder & Pigneur, 2010; Chesbrough 2003; Amit & Zott 2012; Magretta 2002). In general, the popularity of the business model concept seem to be spreading, despite a lack of construct

clarity and consensus.. So far, the majority of research efforts have been directed towards definitions and frameworks while somewhat neglecting empirical data beyond single case studies. 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 appertaining typologies appear somewhat inconsistent and fragmented. Perhaps this is no surprise, considering when these were originally derived. In recent years a few researchers such as Gassman et al. (2014) and Taran et al. (2016) have attempted to restructure and build upon these early works of business model archetypes and typologies. While these advances constitute significant 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).

In line with Fielt (2011), we argue that business models will never advance from concept to actual theory without more comprehensive and saturated empirical data. As a further result, business models will fail to gain ground within general business management, when lacking essential normative properties.

3. METHODOLOGY

3.1 Developing the method

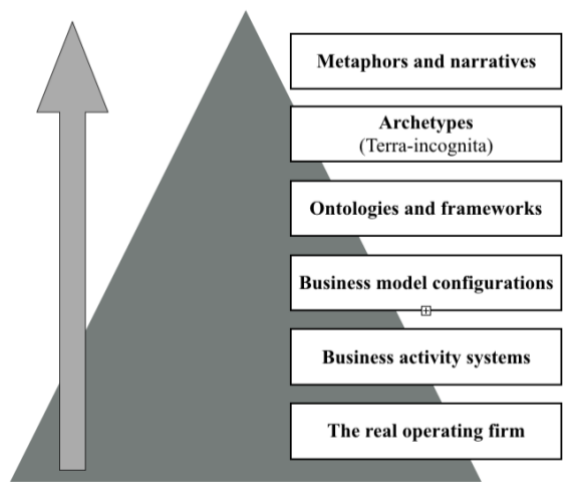
The concept of the business model is dispersed and pervaded by conceptual ambivalence. Business models are still regarded as relatively novel within strategic management and is yet to be considered as a theory in itself.

Although representing a continuous subject for discussion, a broad consensus does seem to exist in terms of the composite elements of the business model. So while a multitude of more or less known frameworks have been published, the works of Osterwalder *et al.* (2005) leading to the Business Model Canvas (BMC) (Osterwalder and Pigneur, 2010) seem to dominate the research field. Because of this, the BMC was chosen as the appropriate framework for this research. With its nine so-called building blocks, the BMC defines generic key areas of a business model, whereby it enables a more systematic approach to business model assessment. The BMC composes a very open and simplistic construction, which translates to high flexibility and broad application. However, it relies heavily on the capabilities of the user (Nielsen *et al.*, 2017b), which arguably can be perceived as a drawback. So, although the BMC was chosen as an underlying structure for our coding scheme, we were also aware of the potential obstacles in regards to validity and reliability.

To accommodate this concern we initially gravitated towards the notion of business model archetypes as an underlying level of abstraction, as depicted by Massa and Tucci (2014). Suggesting six consecutive levels of abstraction, Massa and Tucci (2014) identifies business model narratives and archetypes as the highest levels, followed by ontologies and frameworks (Johnson *et al.*, 2008; Osterwalder and Pigneur, 2010), meta-models and finally activity systems as the lowest level (Johnson *et al.*, 2008; Osterwalder and Pigneur, 2010). Advancing this, Taran *et al.* (2016) suggest a revised version in which the notion of business model configurations are added as a further specification of the meta-models. Based on this notion, Taran *et al.* (2016) further develops a comprehensive list of 71 business configurations, which

they essentially break down into value generating components to devise a classification scheme. Taran *et al.* (2016) refers to these components as ‘value drivers

Table 1. Level of abstraction



On this basis, we intentionally set out to extract all value drivers from the typology by Taran *et al.* (2016). These thus constitute the basis of our coding scheme constructed as a questionnaire. Using the value drivers assisted the process of defining and operationalizing the right variables. However, this process resulted in multiple subsequent iterations involving coding, system design and testing, whereby additions and deletions in the list of value drivers were made.

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 for which reason quantitative and qualitative methods cannot be combined for cross-validation or triangulation purposes. They do, however, acknowledge that qualitative and quantitative methods can be combined for complementary purposes.

The key issues in the quantitative-qualitative debate are ontological and epistemological. Quantitative researchers adhering to a positivist tradition perceive truth as something which describes an objective reality, separate from the observer and waiting to be discovered. Qualitative researchers adhering to a more constructivist tradition 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 a mixed methods approach is best suited for this research, while multiple steps will need to be conducted. The totality of these steps constitute the full research design what will be referred to as the Business Model Quant System (BMQ System):

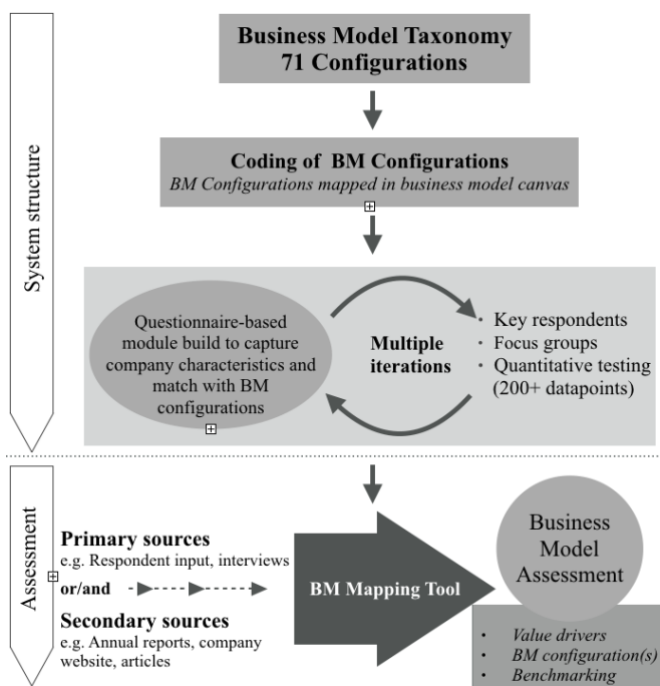


Fig. 1. The BM QUANT System design

3.2 Desk research

We apply desk research to build a comprehensive understanding of the business model concept. We do this by analysing 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 exercise enables us to build a relational database containing all 71 configurations and 251 value drivers. In this, we have a comprehensive representation of the business model, which can constitute a baseline for designing a questionnaire-based module, a so-called “mapping tool”, capable of sufficiently mapping a business model in a consistent manner. In other words: we utilize the configurations and value driver to formulate the right questions, while simultaneously linking everything in a underlying database.

3.3 Survey methodology and Qualitative validation

The Mapping Tool will be continuously developed over multiple iterations by testing and validation through key respondents and focus groups. Formulating questions which captures the intended essentials, while being accessible and answerable to most people is difficult. In this process we have resorted various experimentation in terms of scale questions factor analysis structures, to ensure precision and consistency. To further support these steps, we have involved experts, “lead user”, and focus groups.

3.4 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 BMQ Method, which ultimately allows us to conduct business model assessments by the derivation of business model configuration, value drivers, and other benchmarks.

3.2 Testing and empirical findings

The developed BMQ system has been shaped and refined through consecutive testing and subsequent iterations over the course of 6 years. Ultimately this process has proved a way forward for increasingly more precise and thereby comparable data on business models. In this, we find it relevant to highlight two different – and yet similar studies conducted using the BM QUANT method.

The first study aims to explore the phenomenon of business model imitation and sheds light on its relation to business model innovation. The analysis focuses on similarities and deviations of business model configurations among 80 companies operating in the Phantom Limb Pain (PLP) related industry. Thus, we identify and compare business models within a very specific industry to “map” the landscape of existing business model.

The second study examines the levels of mandatory business model disclosure among a sample of 75 UK companies listed on the London Stock Exchange from 2014–2016. The extent to which the value drivers that underpin companies’ value creation processes are disclosed in the business model section and the annual report in general is verified. Again, we rely on the BM QUANT method to generate precise business model representations and thus allowing us compare the degree to which the chosen sample of PLC companies actually disclosed their business model.

In the above mentioned studies, reliance has been solely on secondary data – company annual reports, together with company website and other online information, e.g., corporate social responsibility reports, sustainability reports, etc. Using only secondary information requires a solid analysis structure to ensure validity and reliability. In this case, we have attempted to ensure this through multiple researcher inputs, information source criteria, and multiple crosschecks to ensure best possible alignment. This process is illustrated in the figure below:

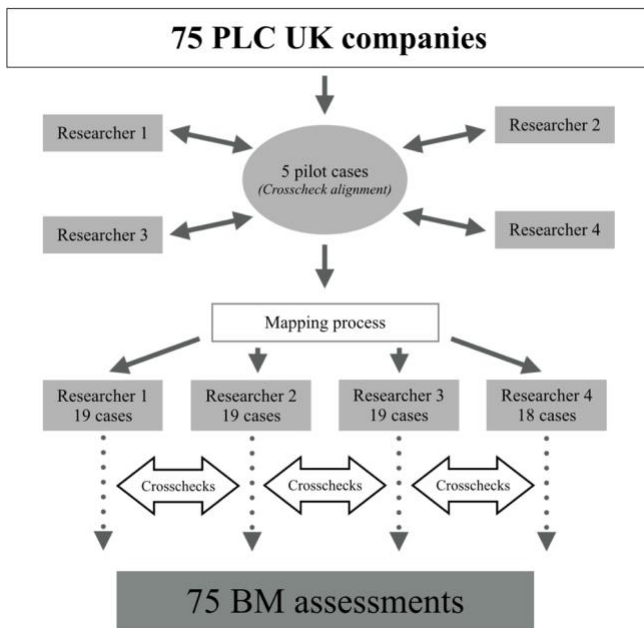


Fig. 2. The mapping process of case companies

Considering the advancements of the BMQ method to this point, we have found the approach depicted in Figure 2, to produce consistently satisfying outputs. While there are still room for improvement, we have found this approach effective in producing comparable data on business models. However, one should keep in mind that the quality of the approach is also highly reflected in the quality of the mapping tool.

4. DISCUSSION AND CONCLUSION

In this paper, we have depicted the process leading us to create an approach to create comparable and generalizable data in the field of business models. This process and approach lead to contributions in different areas: of cause to the field of business models, but also insights on how practitioners benefit from such an approach and how other researchers can be inspired by this work and adopt a similar approach within their research field.

4.1 Contribution to method and other research fields

Numerous research fields have started with qualitative approaches and single-case studies (Hitt. et al. 1998). Which also is the case for the field of Business Models (Belussi et al., 2019). This paper has

illustrated how an approach can be developed to create more comparable and generalizable data.

However, this process was inspired by other research fields. We hope to add to this foundation knowledge regarding how to advance from a predominantly qualitative field to a field that encompasses different methodologies, mixed methods, and a structured approach to advance the field to achieve more generalizable findings.

As noted by Lecocq et al. (2010), this potentially adds to the evolution of research fields in a lakatosian sense. We highlight the methodological aspects of a research field progressing as a research programme in the lakatosian sense. To support the research field in the progressions from descriptive, single-case accounts to large sample mixed-methods representations towards a more prescriptive change agenda requires a sound methodological foundation drawing on both acknowledged methods and their appertaining scientific theoretical foundations. We discuss how questionnaires and pattern matching can substantiate an interview-based mapping through the development of the business model quant approach. In doing so, we advance the need for a requisite variety in research methods to be applied to support the development of research fields.

4.2 Contribution to the domain of business models

The business model research field has predominantly been using cognitive and small sample research approaches (Foss & Saebi, 2015). It is the ambition of the QUANT approach through data collection to create a comprehensive database of business model configuration mappings. This addresses the concerns by Foss & Saebi (2015) and other authors to create an avenue for more comparable and generalizable business model mappings.

Creating comparable and generalizable data opens for new opportunities in the field of business models. E.g. paving the road for future concepts and tools. We initially believe that the long-term outcome will be the ability to serve as a platform for generating a state-of-the-art in theorizing business models and

business model innovation. Finally, this knowledge will enable us to create a valid business model taxonomy and business model archetypes as called for by Groth & Nielsen (2015).

4.3 Contribution to practitioners

The concept of business models has not yet established theoretical grounding in economics or 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 overcoming these challenges is found through a study of real-life business models - business model configurations.

One avenue of applying a more comparable and generalizing approach could be developing new associated performance measures and financial reporting. The Financial Reporting Council has long sought an avenue to disclose companies' business models in a meaningful and comparable way (FRC 2014, 2016). One of the important values is the validation and quality of each data point and the validation of the financial information so that benchmarks become as precise and valuable as possible. This would become possible or more realistic using an approach presented in this paper.

Recognizing that business models are a highly competitive parameter (Christensen & Johnson, 2009), using the approach in this paper could, over time make it possible to assess how corporations change their business models. Moreover, investigate and map how certain business model configurations start to drift to new industries and whether certain business model innovation routes for companies (in specific industries) to take. This knowledge would lead to increased information for the managers and owners in navigating the competitive landscape.

4.4 Final Remarks

In this paper, we contribute both to methodology and method development in general but especially in the field of business models and give some indications on how this can contribute to practitioners. This paper illustrates our process of building a framework and then a structured system through an iterative process

that could create an approach that will allow more structured and generalizable data. The ambition has not been to show this as the “only way forward” but to showcase an alternative way or how a more structured and generalizable approach can supplement the “normal” approach. This was illustrated through the field of business models and could inspire other researchers going through the same evolution in their respective research fields.

REFERENCES

- Amit, R., & Zott, C. (2001). Value creation in e-business. *Strategic Management Journal*, 22(6–7), 493–520.
- Amit, R. and Zott, C. (2012), “Creating value through business model innovation”, *Sloan Management Review*, Vol.53 No. 3, pp. 41-49.
- Behn, R. D. (2003), Why Measure Performance? Different Purposes Require Different Measures. *Public Administration Review*, 63: 586–606. doi: 10.1111/1540-6210.00322
- Behn, R. D. (2012). Motivating and Steering With Comparative Data. *International Public Management Review*, 13(1), 21-37.
- Belussi, F., Orsi, L., & Savarese, M. (2019). Mapping business model research: a document bibliometric analysis. *Scandinavian Journal of Management*, 35(3).
- Burrell, G. & G. Morgan. 1979. *Sociological Paradigms and Organizational Analysis*. Heinemann Educational Books.
- Chesbrough, H.W. (2003), “The era of open innovation”, *Sloan Management Review*, Vol. 44, No. 3, pp. 35-41
- Christensen, C. M & Johnson, M. W. (2009), *What Are Business Models, and How Are They Built*, Harvard Business School module, Note 610-019
- Demil, B., & Lecocq, X. (2010). Business model evolution: In search of dynamic consistency. *Long Range Planning*, 43(2–3), 227–246.
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of management journal*, 50(1), 25-32
- Fielt, E. (2011). Understanding business models. *Business Service Management*, 03.
- Fielt, E. (2014), “Conceptualising Business Models: Definitions, Frameworks and Classifications”, *Journal of Business Models*, Vol. 1, No. 1, pp. 85-105.

- Foss, N. J., & Saebi, T. (2015). Business Models and Business Model Innovation - Bringing Organization into the Discussion. In N. J. Foss & T. Saebi (Eds.), *Business Model Innovation - The Organizational Dimension* (1st ed., p. 308). Oxford University Press.
- Frankenberger, K., Weiblen, T., & Gassmann, O. (2013). Network configuration, customer centricity, and performance of open business models: A solution provider perspective. *Industrial Marketing Management*, 42(5), 671–682. <https://doi.org/10.1016/j.indmarman.2013.05.004>
- Gassmann, O., K. Frankenberger, and M. Csik. (2014). „The Business Model Navigator”. Harlow: Pearson.
- Glaser, B. G., & Strauss, A. L. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.
- Groth, P. & C. Nielsen (2015), Business Model Taxonomies: Using statistical tools to generate valid and reliable business model taxonomies, *Journal of Business Models*, Vol. 3, No. 1, pp. 4-21.
- Hitt, Michael A., Gimeno, J. and Hoskisson, R.E.. (1998) "Current and future research methods in strategic management." *Organizational Research Methods*, vol. 1, no. 1, pp: 6-44.
- Klang, D., Wallnöfer, M., & Hacklin, F. (2014). The business model paradox: A systematic review and exploration of antecedents. *International Journal of Management Reviews*, 16(4), 454–478.
- Kringelum, L. B. (2017). *Transcending Organizational Boundaries: Exploring intra- and inter-organizational processes of business model innovation in a port authority*. Aalborg University.
- Lecocq, X., Demil, B., & Ventura, J. (2010). Business Models as a Research Program in Strategic Management: An Appraisal based on Lakatos. *M@n@gement*, 13(4), 214–225. <https://doi.org/10.3166/RFG.181.113-122>
- Linder, J., & Cantrell, S. (2000, May 24). *Changing Business Models: Surveying the Landscape* . A Working Paper from the Accenture - Surveying the Landscape .
- Magretta, J. (2002), “Why Business Models Matter”, *Harvard Business Review*, Vol. 80, No. 5 May, pp. 86-92.

- March , S. T. and G. F. Smith (1995). "Design and natural science research on information technology."
Decision Support Systems 15 (4): 251-266
- Massa, L., Tucci, C., & Afuah, A. (2017). A Critical Assessment of Business Model Research. *Academy of Management Annals*, 11(1), 73–104.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. sage.
- Montemari, M., & Nielsen, C. (2013). The role of causal maps in intellectual capital measurement and management. *Journal of Intellectual Capital*, Vol. 14, No. 4, pp. 522-546.
- Morgan, G., & L. Smircich. 1980. The Case for Qualitative Research, *Academy of Management Review*, Vol. 5, pp. 491-500.
- Morris, M., Schindehutte, M., & Allen, J. (2005). The entrepreneur's business model: Toward a unified perspective. *Journal of Business Research*, 58(6), 726–735.
<https://doi.org/10.1016/j.jbusres.2003.11.001>
- Nolan, R. I., *Managing the Computer Resources: A Stage Hypothesis*, *Communications of the ACM*, vol. 16, no 7, July 1973, pp 399-405
- Phillips, J.R. 1988. Research Blenders, *Nursing Science Quarterly*, Vol. 1, pp. 4–5.
- Rappa, M. (2000). [www.digitalenterprise.org](http://digitalenterprise.org). Retrieved May 15, 2013 from
<http://digitalenterprise.org/models/models.html>
- Osterwalder, A. (2005). "The Business Model Ontology: A proposition in a design science approach".
University De Lausanne.
- Osterwalder, A. and Pigneur, Y. (2010), "Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers", John Wiley & Sons
- Sale, J.E.M., L.H. Lohfeld & K. Brazil. 2002. Revisiting the Quantitative-Qualitative Debate: Implications for Mixed-Methods Research, *Quality & Quantity*, Vol. 36, pp. 43–53.

- Schaller, Amaury-Alexandre, and Ronald Vatananan-Thesenvitz. 2019. "Business Model Innovation (BMI) Process: A Systematic Literature Review with Bibliometric Analysis." Portland International Conference on Management of Engineering and Technology (PICMET). IEEE, 2019.
- Shafer, S. M., Smith, H. J., & Linder, J. C. (2005) "The power of business models". *Business Horizons*, Vol. 48, No. 3, pp. 199-207.
- Taran, Y., C. Nielsen, M. Montemari, P. Thomsen, and F. Paolone. 2016. Business model configurations: A five-V framework to map out potential innovation routes. *European Journal of Innovation Management* 19(4): 492–527.
- Teece, D. J. (2010). Business Models, Business Strategy and Innovation. I *Long Range Planning* (Årg. 43, s. 172-194).
- Tillema, S. (2010), "Public sector benchmarking and performance improvement: What is the link and can it be improved?", *Public Money & Management*, Vol. 30, No. 1, pp. 69–75.
- Timmers, P. (1998). Business Models for Electronic Markets. *Electronic Markets* , 3-8.
- Wirtz, B., Pistoia, A., Ullrich, S., & Göttel, V. (2016). Business Models: Origin, Development and Future Research Perspectives. *Long Range Planning*, 49(1), 36–54.
- Zott, C., Amit, R., & Massa, L. (2011). The business model: Recent developments and future research. *Journal of Management*, 37(4), 1019–1042. <https://doi.org/10.1177/0149206311406265>