

J**OBM**

Journal of Business Models

2015

Vol. 3 - No. 1

Journal of Business Models (2015), Vol. 3, No.1

Editorial staff: Christian Nielsen, Vibeke Jørgensen & Kristian Brøndum Kristiansen

Copyright© Journal of Business Models, 2015

This edition© Business Model Design Center (BMDC) at Aalborg University, Denmark, 2015

Graphics: Mette Lausen

Font: Klavika

ISBN: 978-87-7112-483-5

ISSN: 2246-2465

Published by:

Aalborg University Press

Skjernvej 4A, 2nd floor

9220 Aalborg

Denmark

Phone: (+45) 99 40 71 40

aauf@forlag.aau.dk

www.forlag.aau.dk

... IN THIS ISSUE

1-3 Editorial: Journal of Business Models Volume 3, Issue 1

Christian Nielsen

4-21 Constructing a Model Taxonomy: Using statistical tools to generate a valid and reliable business model taxonomy

Pernille Groth & Christian Nielsen

22-28 Kickass Companies: Leveraging business models with great leadership

Kristian Brøndum, Christian Nielsen, Kim Tange, Frans Laursen & Jesper Oehlenschläger

29-48 Business Models for NFC based mobile payments

Johannes Sang Un Chae & Jonas Hedman

49-61 The Importance of Classification to Business Model Research

Susan C. Lambert

62-80 Accounting for Business Models: Increasing the Visibility of Stakeholders

Colin Haslam, Nick Tsitsianis, Tord Andersson & Pauline Gleadle

81-92 Book Review: Value Proposition Design

Jan Kyhnau & Christian Nielsen



Editorial: Journal of Business Models Volume 3, Issue 1

By Christian Nielsen, Joint Editor-in-Chief

Welcome to the third issue of the Journal of Business Models. At the Journal of Business Models we are happy to be receiving high quality submissions from the scientific community. We would also like to take this opportunity to thank our Editorial Advisory Board and Editorial Review Board for their great work. We strive to uphold the highest standards of academic rigour and are currently working on how to best communicate this to our academic audience in order to attract further high quality submissions. We believe the quality of the papers should speak for themselves, but we also realize that the message sometimes needs a push in the direction of the audience.

Recently, the Journal of Business Models has been registered on the Directory of Open Access Journals (DOAJ) and in the coming period, academic listings and indexing will be pursued with great effort. If you have suggestions for relevant listings or indexing that would provide credibility to your own institution, please do not hesitate to contact us. gic management, organization and business planning.

We welcome submissions relating to all sub-disciplines of business models. If you have suggestions for special issues or special themes, please do not hesitate to contact us. Also please contact us if you wish to join the Editorial Review Panel.

Announcements

Special track at the Nordic Academy of Management hosted by the Journal of Business Models

At the 23rd Nordic Academy of Management conference to be held at Copenhagen Business School from August 12 to 14, 2015, track 11 will focus on the "Sustainability and Scalability of Business Models". It is chaired by Petri Ahokangas, Professor, University of Oulu and Christian Nielsen, Professor, Aalborg University.

The perpetual change and ever-increasing complexity and competitiveness of the global business environment sets new pressures for firms regardless of their size, accessible business opportunities and resources, or competitive advantages. In such a context, the business model has established its position as one of the most popular forward-looking analytical frameworks to simultaneously tackle the challenges of strategic planning and implementation in firms. Especially, business model scalability and sustainability have emerged as two relevant and intertwined themes to be explored for example when discussing challenges relating to growth prospects and internationalization potentials.

Within the context discussed above, the track *Sustainability and Scalability of Business Models* seeks to attract competitive, unpublished research papers with – but not limited to – the following themes:

- Achieving scalable business models
- Sustainable business models
- Challenges and dynamics of business model creation and transformation
- Internationalization and business models
- Enablers or antecedents for business model sustainability
- Enablers or antecedents for business model scalability
- Business model innovation as a dynamic capability
- Business models and future research
- Alternative approaches in business model research
- Implementing business model innovation
- Commercialization and exploitation of ideas through business models: challenging entrepreneurial processes
- Business model archetypes and key components: integrating building blocks and typologies
- Roles and relationships within and among business models
- Business models in relation to industry clusters
- Smart City business models
- Business models of high-tech ventures
- The performance of business models: Dilemmas and paradoxes of performance measurement consequences
- Defining what business models are about: The epistemological and conceptual roots of business models and their differences with strategy, strategic management, organization and business planning

The Journal of Business Models will call for submissions to a special issue on “Sustainability and scalability of Business Models” in connection with the conference proceedings. See the following link for the special issue published on behalf of the 2013 conference proceedings: <http://journals.aau.dk/index.php/JOBM/issue/view/77>

Papers in this issue

From business reporting to reporting about business models

The authors, Christian Nielsen, Robin Roslender and Alison Fox, argue that the term *business model* has recently entered discussions on how it might be possible to improve the information content of financial statements. In so doing the concept of business models has rejuvenated the debate about moving from a financial reporting model to a business reporting model of external reporting. However, through a review of a number of examples of frameworks and concepts that have the ability to provide information on such business models to information users, and which are already present in accounting, this paper provides some much needed background to the business model concept. It is concluded that a whole-hearted engagement with business models, as described here, is likely to promote significant unease within the accountancy profession. The emphases and intentionalities of business model thinking are much easier to understand in the context of managerial accounting rather than financial reporting, and the new management accounting in particular.

Business Models for NFC Based Mobile Payments

Johannes Sang Un Chae and Jonas Hedman develop a business model framework for NFC based mobile payment solutions consisting of four mutually interdependent components: the value service, value network, value architecture, and value finance. Using a comparative case study method, the paper investigates Google Wallet and ISIS Mobile Wallet and their underlying business models. Google Wallet and ISIS Mobile Wallet are focusing on providing an enhanced customer experience with their mobile wallet through a multifaceted value proposition. The delivery of its offering requires cooperation from multiple stakeholders and the creation of an ecosystem. Furthermore, they focus on the scalability of their value propositions. The paper offers an applicable business model framework that allows practitioners and academics to study current and future mobile payment approaches.

The Importance of Classification to Business Model Research

The purpose of Susan Lambert's article is to bring to the fore the scientific significance of classification and its role in business model theory building. The author proposes a method by which existing classifications of business models can be analysed and new ones developed. Existing business model classifications are evaluated in terms of their propensity to contribute

to theory building and a method for designing classifications schemes is proposed. This paper addresses the research element of classification that is largely overlooked yet is crucial for business model theory building. The nature of business model classifications is examined in the light of classification philosophies and a structured method of classification design is proposed. A case is made for the development of a general classification of business models that can facilitate the progression of business model research

About the author

Christian Nielsen, PhD, is Professor at Aalborg University in Denmark. He is Director of the Business Model Design Center (BMDC, www.bmdc.aau.dk), the world's first interdisciplinary research centre focusing on business models. Christian has previously worked as an equity strategist and macro economist focusing specifically on integrating Intellectual Capital and ESG factors into business model valuations. His PhD dissertation from 2005 won the Emerald/EFMD Annual Outstanding Doctoral Research Award, and in 2011 he received the Emerald Literati Network Outstanding Reviewer Award. Christian Nielsen has a substantial number of international publications to his record and his research interests concern analysing, evaluating and measuring the performance of business models. Public profile available on: <http://www.linkedin.com/in/christianhnielsen> and <http://personprofil.aau.dk/profil/115869#/minside>



Constructing a Model Taxonomy: Using statistical tools to generate a valid and reliable business model taxonomy

Pernille Groth¹ and Christian Nielsen¹

Abstract

Purpose: The paper proposes a research design recipe capable of leading to future business model taxonomies and discusses the potential benefits and implications of achieving this goal.

Design/Methodology/Approach: The paper provides a review of relevant scholarly literature about business models to clarify the subject as well as highlighting the importance of past studies of business model classifications. In addition it reviews the scholarly literature on relevant methodological approaches, such as cluster analysis and latent class analysis, for constructing a business model taxonomy. The two literature streams combined to form the basis for the suggested recipe.

Findings: The paper highlights the need for further large-scale empirical studies leading to a potential business model taxonomy, a topic that is currently under-exposed even though its merits are highlighted continuously in the contemporary literature. However, the research stream in relation to a business model taxonomy also needs a sound starting point in order to ensure valid and reliable outcomes. In this paper a research design for conducting such studies is presented and obstacles, which need to be overcome to ensure the quality of business model taxonomy studies in the future are identified.

Originality/Value: The paper highlights the benefits and potential implications of designing business model taxonomy studies and makes the case for ensuring the quality of future studies relating to e.g. performance. Reviewing the literature on both business models and methodological theories achieves this.

Keywords: classification, : Business model, Taxonomy, Research design, Cluster analysis, Theory development

Please cite this paper as: Groth, P. and C. Nielsen (2015), Constructing a Business Model Taxonomy: Using statistical tools to generate a valid and reliable business model taxonomy, Journal of Business Models, Vol. 3, No. 1, pp. 4-21.

¹ Finance department, Grundfos, Denmark

² Business Model Design Center, Aalborg University, Denmark

Introduction

The term business model has gained a lot of attention during the last decades from both scholars and practitioners (Zott et al., 2011). Many different definitions, concepts, ontologies and frameworks have emerged due to this attention, but today there are still none of these that have been universally accepted (Morris et al., 2005, Zott et al., 2011). The reason for this lack of agreement has also been debated. For this debate, some focus on the development of the term in different contexts depending on the researcher's interests (Zott et al., 2011), while others focus on the different areas in business model literature, such as general definitions compared to generic business model types or specific company examples (Osterwalder et al., 2005).

No matter the reasons, the result is that there is not a clear understanding of the term, and this lack of understanding creates both a challenge in discussing the existing literature as well as in forging the path for future studies. This context also raises the question about whether the goal is to have a unified definition of a business model or whether the multiple definitions, theories and concepts create more benefits than challenges. However, before this conclusion can be made, there is still an area in business model research that has not gained attention, although the potential benefits suggest that it should. This research has recently gained attention from Lambert (2006, 2015), has been named "business model taxonomy studies," and mainly gives an alternative methodological approach to research studies on business models.

However, it is not the main focus of this paper to discuss the relevance of business model taxonomy studies because Lambert (2006, 2015) has already done so comprehensively. Instead, the paper focuses on the next steps and presents a research design that can be used in these kinds of studies. In relation to the research design, there will be a discussion of general possibilities and implications of business model taxonomy studies. Thereby, the paper creates a more concrete starting point for doing these studies, which will potentially lead to and secure a higher level of quality because both the possibilities and implications are highlighted and discussed. Quality is an important aspect of the success of future studies because high quality of the research performed and the taxonomy developed is

relevant to a discussion of how business models have been presented in these studies. Quality is also pertinent to a discussion of what business model studies should focus on in the future and may contribute to our understanding of the definition of business models as a whole.

The research design and the discussion of the possibilities and implication of such studies are based on the current academic literature relating to business models and scientific methods. Therefore, the paper will first give a short highlighting of the importance of business model taxonomy studies as, mainly, presented by Lambert (2006, 2015) and then present the proposed research design, in turn discussing each element and its possibilities and implications. The discussion is based on both current knowledge from contemporary business model studies and scientific methods aimed at establishing a taxonomy. Current studies in the business model area are mainly based on qualitatively oriented methodological perspectives. Especially, marketing studies are found to be relevant to introduce into this context. In marketing, a number of statistical tools are used to segment customers based on characteristics (variables) (Saunders, 1994), and these methods can be applied in relation to companies based on the characteristics of their business models.

The Importance of Business Model Taxonomy Studies

According to Osterwalder et al. (2005), business model theory can be divided into three different areas (see Table 1). The first area consists of the general, generic definitions, which can be found both as statements about what is a business model (Zott et al., 2011, Margretta (2002), Casadesus-Masanell & Ricart, 2010) and as different generic frameworks (Osterwalder et al., 2005, Morris et al., 2005, Chesbrough & Rosenbloom, 2002, Alt & Zimmerman, 2001, Viscio & Pasternak, 1996). These overall definitions are often the focus in discussions of what a business model is as well as used in relation to specific companies' business models.

Table 1 – Business model areas from Osterwalder et al. (2005)

Business model Concept	Definition – What is a business model?
	Meta-model – Which elements belong in a business model
Business model types	Taxonomy of types – Which business models resemble each other?
	Sub-(Meta)-models – What are the common characteristics?
Business model of ...	Instances – View of companies
	Modelled instances
	Real world companies

The second and the third areas are often seen in combination, because the company examples are used to illustrate the generic business model types to create a better understanding of the generic types, e.g. Johnson (2010). The purpose of creating these generic types is ordering objects—hence companies—in groups based on their similarities, which helps describe the companies (Lambert, 2015) and thereby how different types of companies and business models function. It is therefore important to examine the different types of business models. Baden-Fuller and Morgan (2010) highlight that typologies are based on theoretical deductions, while a taxonomy is based on empirical induction.

To date, primarily only business model typology studies have been conducted (Lambert 2015). Such typology studies are based on deductive methods where the typologies are identified based on theoretical categorizations and/or qualitative data. Many studies have been performed with this research focus (Johnson, 2010,

Bambury, 1998, Rappa, 2003, Chesbrough, 2007, Linder & Cantrell, 2000, Timmers, 1998, Betz, 2002, Zott & Amit, 2007, Weill et al., 2004). These different studies focus on various areas, e.g. comparison to real life companies, quantitative and qualitative data analysis, and also especially business model typologies in eBusiness.

By comparison are the studies called business model taxonomy studies presented both by Lambert (2015) and this paper. Taxonomy studies are based on inductive methods by which taxonomies are identified based on quantitative data. Many different variables and statistical tools, such as cluster analysis and latent class analysis can be used for finding natural groups in the data as opposed to using predetermined groups (Lambert, 2006). An important point is that the variables used in taxonomy studies are based on existing knowledge of business models based on typology studies. However, they are used differently due to different variables and the application of statistical tools. Lambert (2015) highlights the important features of the two kinds of research of business models in a table, which is presented below. The table also reflects the differences between the two.

Table 2: Characteristics and functions of typologies and taxonomies from Lambert (2015)

Typologies	Taxonomies
The product of essentialist philosophy	The product of empiristic philosophy
Categories (types) are conceptually derived	Categories (taxa) are empirically derived
Few characteristics considered	Many characteristics considered
Reasoning by deduction	Reasoning by inference
Mostly qualitative classifications	Quantitative classifications

Monothetic groupings	Polythetic groupings
Specific classification	General classification
Provides a basis for only limited generalizations	Provides a basis for wider generalization

As emphasised in Lambert (2015), studies of business model taxonomies have been missing in business model research. This is worrying, as they provide important insights to be used in future research on business models and furthermore contribute to the discussion of what a business model is and is not. Business model taxonomy studies need large amounts of variables and data and should focus on identifying natural groupings in data by applying statistical tools. This means that the output is unknown in advance, but is identified via the data using statistical tests rather than the individual researcher's expectations of the findings. However, this being said, the individual researcher might still influence the outcome of the research to some extent through the choice of variables and statistical tools. Instead of random theoretically founded categorizations a well built and statistically valid taxonomy has the potential of leading to business model configurations applicable for multiple purposes instead of only specific purposes as in the case of the outcomes of parallel business model typology studies.

Several prior studies use the term "business model taxonomies" as a description of the output (the types) (Lambert, 2006), but from the correct definition of the term, only two studies, namely Bigliardi *et al.* (2005) and Malone *et al.* (2006), actually use the described ap-

proach correctly. Furthermore, there are still to date no studies that empirically derive a business model taxonomy based on criteria for classifying business models and which at the same time are relevant to multiple sectors (Lambert, 2015). Despite the potentials in establishing an empirically based taxonomy of business models the lack of this research means that there are not many studies to seek inspiration from or to provide a starting point for future business model taxonomy studies. Instead inspiration may be sought from other sources in order to highlight the necessary methodological considerations and possible pitfalls.

Research Design for future Business Model Taxonomy Studies

Our proposed research design consists of five building blocks that describe the areas or phases necessary for conducting the research. The five areas are separate parts of the research design, but they are still highly correlated, and together they create a starting point for future business model taxonomy studies. The five building blocks of the research design can be seen in Figure 1.

General Considerations in Relation Surveys

A clear purpose is crucial for the value of the research because it determines the use of potential survey data and drives decisions regarding survey design (Van der Stede *et al.*, 2007). The purpose of future studies of business model taxonomies can be different. Some studies will focus on testing which variables should be used to describe what a business model is, while other studies might focus on testing the different business model configurations found in the first studies in relation to control variables such as performance, size, etc.

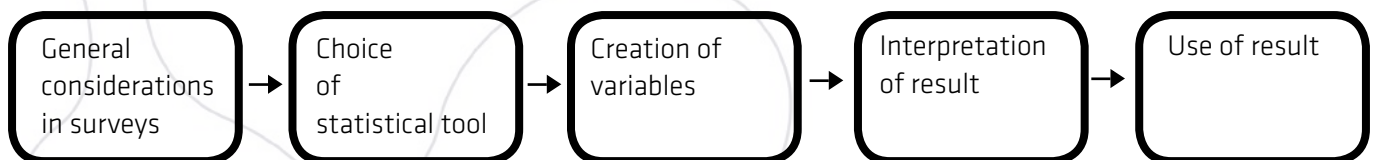


Figure 1: Five areas in the research design

(see different types of studies in Lambert, 2006). Van der Stede et al. (2007) provide a general overview on surveys and have compiled a list of considerations regarding survey design.

First, we need to consider whether the survey is a cross-sectional study or a longitudinal study? Longitudinal studies look at developments, whereas cross-sectional studies take a snapshot (Van der Stede et al., 2007). It is important to include in the considerations that a company's business model is not a static concept—cf. Nielsen & Lund (2013)—and it can therefore change over time. Longitudinal studies should therefore be made if the purpose of the study is to look at the development in or of business model configurations over a time period, e.g. to make generalizations about this perspective. If the purpose is a snapshot at this precise moment in time, then cross-sectional studies are relevant.

Secondly, should the study focus on a variety of industries or only one (Van der Stede et al., 2007)? Some studies will be related to specific industries, and therefore it will be necessary to consider if one or more industries should be considered. According to Zott et al. (2011), a business model is a new unit of analysis that is different from industries. Therefore, the studies will not generally have a demand to focus on specific industries. The industries can however be used as a control variable to make it possible to analyze the relation between industries and business models and how certain business model configurations might spread to new industries over time.

Thirdly, what should be the level of analysis? The level of analysis can target individuals, groups, companies etc. According to Van der Stede et al. (2007), it should involve multiple respondents on different levels because it is believed that a single respondent cannot represent an entire company's opinion (Young, 1996). Business models are related to a company, so the company will often be the level of analysis. It is, however, possible, especially with bigger companies, that more than one business model is in use at a given time, and the level of analysis could therefore be Strategic Business Units (SBU) in the company with a single business model.

Van der Stede et al. (2007) advises that at company

level, more respondents should be involved to optimize the result and minimize subjective valuations about the company's business model. However, it depends on the extent and the purpose of the study because extra resources are required to collect data from more respondents.

Fourthly, who is the population? The population consists of all of the elements that will form the basis of the generalization (Van der Stede et al., 2007) and will sometimes be a part of the purpose, and other times not. The delimitation can be related to geography, size, industries, or something else. The population is important for selecting the sample. An analysis of the whole population will often be a too comprehensive a task, and instead samples are used. One of the biggest challenges in data collection is to collect a sample that is a representative part of the population (Van der Stede et al., 2007). A representative sample is a sub-part of the population that highly reflects the characteristics of the population (Van der Stede et al., 2007).

Some actions can strengthen the representativeness of the sample by focusing on the validity of the study. The external validity is strengthened through probability samples and samples that are of a certain size (Van der Stede et al., 2007). This is not to suggest that probability samples always are better than non-probability ones or that a larger sample is always better than a smaller one. The internal validity is strengthened by increasing the response percentage and giving the respondents incentive to answer the questions truthfully. Non-response errors are reduced by increasing the response percentage, which in turn strengthens the representativeness of the sample, because the respondents then reflect the whole sample (Van der Stede et al., 2007). It is also possible to test for non-response errors. According to Armstrong & Overton (1977), there are three different methods used to test for non-response bias, and the best and easiest method is called extrapolation. The method is built on the supposition that those who answer the questionnaire late are more similar to those who have not responded, because they are less willing to answer the questionnaire than the first group who answers (Armstrong & Overton, 1977). The internal validity is also about how truthfully the respondents answer and therefore whether incentives should be offered for the respondents to answer truthfully. The

constructed validity is strengthened through well-considered and tried questions. All in all, the quality and validity should be weighed against how many resources should be used in the research.

The considerations above are all considerations that should be done at the start of every questionnaire in studies regardless of whether the study is concerned with developing a business model taxonomy or not. These general considerations strengthen the credibility of the final results and give others the possibility to test the research design.

Choice of Statistical Tools

The choice of statistical tools could in principle be a part of the design of the study, because choice of method is significant for how the variables should be designed. However, other methods can be chosen afterwards and be used with the same variables. Choosing a method in advance makes it possible to design the study according to that choice. The choice of method is also connected to the purpose of the study, because the different methods are fitted to the different purposes. In the previous section, two different purposes were described. One purpose was to find the variables that make up the business model and different business model taxonomy types. The other purpose was to take the business model configurations or a taxonomy found in the first purpose and test them in relation to other variables such as performance, size, etc. to find connections.

For the first purpose, statistical methods for segmenting companies based on variables describing the business model are central. Inspiration for these statistical methods can be found in the marketing literature as well as in the general literature on statistical modeling. In the marketing literature, customers are segmented based on variables which describe their different perspectives, but the methods used in these studies can also be used to segment products, markets, companies and business models (Saunders, 1994).

Dillon & Mukherjee (2006) divided the choice of statistical tool into three parts. The first part concerns whether the result should be decided a priori or later in the analysis. The statistical tools that are used in deciding the result a priori do not meet the requirements of business model taxonomy studies, but they

can instead be used in business model typology studies such as those of Zott & Amit (2007) or Weill et al. (2004). The second part concerned with whether the result should be descriptive or predictive. Based on the definition of business model, taxonomy studies will focus on descriptive results for the first purpose and then will examine the relationship between variables for the second purpose.

The last part concerns whether the respondents should be divided 100 percent to each group (business model configuration type) or have an affiliation in all groups with a percentage between 0 and 100. According to the presented definition of a business model taxonomy, both choices can be used and will therefore highly depend on the purpose. For this paper, the focus will be on dividing the respondents into one group, and a statistical tool that abides by all the three parts and able to do this is cluster analysis. Other statistical methods could also be used, e.g. Latent class analysis, but this paper suggests using cluster analysis because it is easy to understand, easy to use, and is available in most statistical programs.

Cluster analysis is used to create groups based on natural groupings in the data based on many different variables instead of creating the groups based on predetermined expectations. Cluster analysis is therefore apt to the first purpose. The goal of the cluster analysis is to create groups in which the respondents (here business models) are similar to each other but at the same time are different from the respondents in other groups (Tan et al., 2006). Cluster analysis can be divided in two groups, hence hierarchical and non-hierarchical cluster analysis.

In hierarchical cluster analysis, an allocation of a respondent to a cluster (group or taxonomy) is irreversible, which means that when a respondent is allocated to a cluster, then the respondent is not removed from that cluster again. It begins with "n" number of clusters, where "n" is the number of respondents, and next two clusters or respondents are put together in clusters until there is only one cluster (Dillon & Mukherjee, 2006). The procedure does not create one final result. It is the researcher's task to decide what are the best results and the optimal number of clusters (Meyers et al., 2013).

Here there are two important aspects to consider. The first is about how to identify the distance between the respondents, where the distance describes the similarities between the respondents and is based on different algorithms. The distance methods Euclidean distance and Manhattan distance are generally seen as good methods (Tufféry, 2011, Saunders, 1994), but also Squared Euclidean distance is seen as a good method (Meyers et al., 2013).

The next aspect is about how to link the respondents, and different methods for linking can be chosen (Meyers et al., 2013). In relation to linking methods, two methods have proven to be best, Average Linkage and Ward's method (Punj & Stewart, 1983). Especially, the choice of linking method is seen as important in relation to how good the result of the analysis gets (Punj & Stewart, 1983), but the single study can also have influence on which methods are best to use. Meyer et al. (2013) therefore recommends trying different methods in combinations to see which are best.

In non-hierarchical cluster analysis, the allocation of respondents to clusters is reversible. This means that the affiliation to one cluster is not final until the analysis is completely done. This is done to optimize the clusters so they are as comprehensive as possible. There are different types of non-hierarchical cluster analysis, and one of the most popular is K-means (Meyers et al., 2013). K-means starts with identifying "n" number of clusters and a related central point, which is based on all "n" dimensions (depends on the number of variables) (Tan et al., 2006). The most important aspect is that the number of clusters and central points be well chosen so they are far from each other in relation to the variables, because they are the starting points for the opening clusters (Meyers et al., 2013). The data should therefore be standardized to prevent outliers from being starting points (Meyers et al., 2013). The clusters are formed by taking the respondents one by one and allocating them to the clusters (in the beginning it will be the central points), which are the closest (the least distance). A modified centroid method is used for calculating the distance. The respondents and clusters that have the least distance between them will be joined in a new cluster (Meyers et al., 2013, Tan et al., 2006). There are two possibilities when a respondent is linked to a cluster. The first possibility is that the cen-

tral point of the cluster is recalculated every time a new respondent is added.

This method is not recommended by Meyers et al. (2013) because the structure of the analysis and the order of the respondents will implicate the result; however, Tan et al. (2006) highlight some of the advantages of using this method, e.g. better accuracy and faster convergence, because it weights the value of each respondents, but also highlights the fact of the higher dependency of the order in the variables (Tan et al., 2006).

The other possibility is not to update the central point for the cluster every time a new respondent is added, but instead the central point is the original central point. The central points are instead updated when all the respondents have been added to a cluster, which is followed by one more round, when the respondents are replaced to the nearest cluster based on the new central points. This is done until the large distance is smaller than a threshold value set before starting the analysis or until the number of repetitions, which is specified in advance by the researcher, is reached (Meyers et al., 2013).

Both hierarchical and non-hierarchical cluster analyses are relevant, but the two kinds of cluster analyses each have their own strengths and weaknesses. A two-step method is suggested (Punj & Stewart, 1983, Ketchen, 1996) by which the advantages from both are used. The advantages of hierarchical cluster analysis are that the number of clusters is not stated a priori, and it is the same for the starting points of the analysis. The advantages of the non-hierarchical cluster analysis are that studies show that the method is superior compared to hierarchical cluster analysis methods (Punj & Stewart, 1983). A combination of both methods can therefore give a better result when the result of the hierarchical cluster analysis is used to find the number of clusters and starting points for the non-hierarchical cluster analysis, which creates the final results.

The cluster analysis can be used for studies with the first kind of purpose, but for examining the relations between the business models (result of the cluster analysis) and other variables, other statistical methods are necessary. Several different types of statistical

tools exist that can examine the relations between variables, and an example of a tool is shown in Zott & Amit (2007)'s study which used ANOVA to test the relation between business model typologies and performance. The statistical tools could also be cross tabulations or different kinds of non-parametric tests. Each statistical tool has its own procedure, and it is not possible to determine which tool is best, because it is highly dependent on the study. However, for all of the tests, once a method is chosen, then further method choices should not be made, unlike when the cluster analysis used and there are choices about distance and linking methods.

Creation of Variables

A central part of the future studies will be the creation of those variables, hence questions and scale, that are a part of the analysis. Again, this process is highly related to the purpose of the study. In relation to the second purpose, it is possible to base the variables on previous studies' creation of variables (business model types from studies with the first purpose or studies about variables, such as size, performance etc.), but in studies with the first purpose, the variables are unknown, because the variables describe the companies' business models, and the variables should instead be created from the current knowledge about business models. The two purposes will not only demand different statistical tools but also different variables as well as different approaches to these variables.

For variables in relation to the first purpose, it is relevant to look at both questions and scale. These two parameters are related, because the creation of questions highly affects which scale should be used, and in the same way, the variables are connected to the choice of method. Non-hierarchical cluster analysis can only be used on ratio or interval scaled data, whereas hierarchical cluster analysis also can be used on binary data. Ratio or interval scaled data are therefore necessary to make an analysis based on a combination of both kinds of cluster analysis.

The questions are crucial for the result of the cluster analysis, because the clusters are formed based on the variables. The questions are still an undefined area, and the researchers must therefore examine data using as many variables as practical and necessary (Lambert,

2015). An alternative to the purely inductive method is to seek knowledge for variable selection (Ketchen, 1996). A large number of variables are still necessary; however, knowledge and a starting point for creation of these variables can be found in the existing literature, hence the existing business model literature.

Many of the current studies use a systematic approach to business models and can in spite of the use of a deductive methodological approach be used in forming variables. Especially, business model frameworks should be used as a starting point for the questions instead of the literature concerning general definitions of business models. The reason for this is that the variables are already defined, and the overall definitions are not comprehensive enough to be used in the creation of variables. The overall definitions should instead be used as a guide for the creation of frameworks and variables.

For example, the four points from Zott et al. (2011) provide an ideal background for making the variables because most studies agree on these four points. Firstly, a business model is a new unit of analysis that is different from company, product, industry and network. Secondly, a business model focuses on a holistic approach to describe how companies do business. Thirdly, activities both in and between the company and its partners are central in the business model. Fourthly, a business model focuses on describing both value creation and value capture. However, these four points are not precise enough to start making variables, and therefore frameworks, e.g. Osterwalder and Pigneur (2010) or Chesbrough and Rosenbloom (2002), may be a good starting point.

A recent contribution by Tweedie et al. (2015) argues that useful frameworks for identifying relevant business model components include the two abovementioned as well as seven other frameworks from a variety of different fields such as accounting (Bell et al., 1997; Haslam et al., 2012), strategic management (Demil and Lecocq, 2010; Kaplan and Norton, 2001) and innovation (Chesbrough, 2006; Johnson et al., 2008).

Another perspective in the business model literature is business model types, hence typologies and taxonomies. There is a natural coherence between typologies

and taxonomies (Baden-Fuller and Morgan 2010), and the business model typology studies should therefore be used in the creation of business model variables. Knowledge from business model typology studies can be used to create the answers to the overall questions, and typologies and taxonomies can be compared in relation to similarities and differences that may help foster future studies, e.g. Johnson, 2010; Chesbrough, 2007; Linder & Cantrell, 2000.

The methodical approach in business model taxonomy studies gives an opportunity to focus on more variables and a broader perspective of variables; in other words, instead of only focusing on the Internet's role in the establishment of eBusiness-based business model taxonomy, this role could be just one part of more variables. The method creates the opportunity to define the two concepts differently and test the relationship between all these definitions, in this way getting closer to a more clear definition and more distinct differences between these two concepts. However, this methodology is also open to potential pitfalls.

One of these pitfalls is that variables unrelated to describing business models could be mixed into the analysis and be seen as part of the business model even though from a logical point of view they do not make sense. This is of course not the intention or will not serve to create high quality in the study or a greater understanding of business models; instead it will create mistrust of the result and discussion in general. It is therefore highly important to be selective when choosing the variables, but at the same time be open-minded to potential aspects that can be a part of company's business model.

Again, the backbone of the variables should be found in the general definitions of business models, where business models are described determined by the business function or related to the four points presented by Zott et al. (2011). Another point to differentiate the relevant areas from the irrelevant areas is to follow Casadesus-Masanell and Ricart (2010)'s definition of a business model, where a business model consists of two things: (1) a set of choices and (2) the set of consequences derived from those choices. This is similar to understanding what a business model is by how the business works and its choices and their respective

consequences.

Another potential pitfall can be that the authors of the existing business model studies and frameworks will not use the new method as intended and the advantages of the inductive method but will instead fall back to their own business model concepts that are based on the individual researcher's own mind. One way to overcome this pitfall is to base the variables on knowledge from more than one study, e.g. from several frameworks.

Here, the areas in the frameworks can be used as inspiration for testing differences as well as new concepts. In this way, the ideas from different deductive studies can be used in combination with testing the right variables just as Zott et al. (2011) derived the four points that are common in most business model definitions. This can lead to investigating variables as service, employee, and customer engagement as in Heskett et al. (1994), together with value proposition, market segments, value chain, etc., as in Chesbrough and Rosenbloom (2002).

In Table 3, an overview of a number of different frameworks can be seen. A lot of the frameworks focus on similar areas, and the differences should therefore sometimes be seen in the details and in the ways the areas are put together because the relationship between the areas are important. However, the studies presented in this paper provide more room for examining different minor details and seeing what the differences are and how they work out in practice.

Tabel 3 – Business model frameworks

Heskett et al. (1994)	Bell et al. (1997)	Chesbrough & Rosenbloom (2002)	Linder & Cantrell (2000)	Petrovic, Kittl et al. (2001)
<ul style="list-style-type: none"> - Employee engagement - Customer engagement - Creating sustainable profit and growth 	<ul style="list-style-type: none"> - External forces - Markets - Strategic management processes - Core business processes - Alliances - Products and service - Customers 	<ul style="list-style-type: none"> - Value proposition - Market segment - Value chain - Cost structure and profit potential - Value network - Competition strategy 	<ul style="list-style-type: none"> - Sources for revenue - Value proposition - Key factors – delivery - Most important assets, abilities, relationships and knowledge 	<ul style="list-style-type: none"> - Value model - Resource model - Production model - Customer relation model - Revenue model - Capital model - Market model
Alt & Zimmerman (2001)	Gordijn et al. (2001)	Dubosson-Torbay et al. (2001)	Kaplan & Norton (2001)	
<ul style="list-style-type: none"> - Mission - Structur - Processes - Revenue - Regulation - Technology 	<ul style="list-style-type: none"> - Actors - Value objects - Value entrance - Value interfaces - Value trading - Value proposition - Market segment - Composite actors - Value activities 	<ul style="list-style-type: none"> - Products and services - Customer relationships - Infrastructure and partner network - Financial aspects 	<ul style="list-style-type: none"> - Financial - Customers - Internal business processes - Learning and growth 	
Betz (2002)	Mouritsen et al. (2003)	Morris et al. (2005)	Osterwalder et al. (2005)	
<ul style="list-style-type: none"> - Resources - Sale - Profit - Capital 	<ul style="list-style-type: none"> - Knowledge sharing - Management challenges - Initiatives - Indicators 	<ul style="list-style-type: none"> - Value proposition - Market - Internal Capacities - Competition strategy - Economical factors - Growth/exit possibilities 	<ul style="list-style-type: none"> - Value proposition - Customer segment - Customer relationship - Delivery channels - Activities - Resources - Partners - Revenue streams - Cost 	

Business model variables also consist of the scale by which the questions are measured. Several scales can be used depending on the questions, and the choice of scale relates greatly to the cluster analysis because the methods in these are based on calculation of averages. The optimal scales are therefore ratio or interval scales. At the same time, it should also make sense to measure on the scale that is used. In hierarchical cluster analysis, it is also possible to use binary data, which opens the possibilities to use yes/no questions as well as the use of categorical variables, if these are recorded as dummy variables. However, there is a disadvantage when using binary data, because the result of the cluster analysis can be hard to interpret in relation to the averages. It is hard to interpret averages that are not very close to either 1 (Yes) or 0 (No), because intervals are not used, but only these two extremities.

An average of 0.5 for a variable in a cluster means that the opinions of the respondents are split, but an interpretation of the 0.5 is not possible in relation to the two categories, and at the same time, an interpretation in the middle does not make sense either. It can therefore create problems if some variables have this average. Ratio and interval scaled data are therefore to be preferred, but the choice depends on the questions and how they are created and which variables are appropriate for measuring them. The most important thing is that there is coherence between the question, scale, and statistical tool and that the question and the possible answers make sense, because this makes it possible for the respondent to understand the question and respond truthfully.

The variables used for studies with the second purpose can be divided into two parts. The business model variables, which come from studies with the first purpose, can be used to analyze the relations in the first part, where the relationships between the variables, which constitute the a business model taxonomy, are analyzed. Therefore, the same variables used with other purposes will enable the study of both within-group and inter-group relations (Lambert, 2015). In the second part, the relation between the formed business model variables and other variables are therefore analyzed. These other variables can be performance, size, section, etc., and they are used to test the relation between these factors and the business model taxonomy.

While the variables for the business model can be found in studies with the first purpose, the other variables are highly used in other studies, which make it possible to draw on knowledge from them.

Hansen & Van der Stede (2004) have for example made a study about variables that can measure performance, because performance is not easy to observe and should be made as a latent variable. The analysis for the second purpose can also draw on knowledge from contingency studies, e.g. Chenhall (2007), which examines how variables such as size affect performance. Overall, all the variables for the second purpose are based on variables from first purpose, the business model taxonomy, or other variables with knowledge from previous studies. The scales are also important to focus on, because the methods have different demands for scales; for example, ANOVA is based on calculation of average, which makes it necessary to either use ratio or interval scaled data.

Interpretation and results

Results will come from the statistical analyses in the studies. These results may, however, be of very different nature, and interpretations of them might differ depending on the purpose and thereby methods used. Cluster analysis does not create a final result, but instead it creates a choice between optimal results based on the possibilities presented from the analysis. This applies especially for hierarchical cluster analysis, where “n” possible cluster analysis solutions are created, where “n” is the number of respondents. However, the choice between different solutions, based on the use of different input in non-hierarchical cluster analysis, does not give a final interpretation of which result is best.

It is instead the individual researchers' own interpretation of which result is best that determines the final solution. However, it is possible to use more systematic approaches for interpreting the result, hence looking at variances (Malhotra et al., 2012) and homogeneity or heterogeneity between clusters (Sharma & Kumar, 2006). In the end, there is not a definite rule for interpretation, but it is instead a weighing of the different methods, the purpose of the study, and the researcher's intuition. This also highlights the impor-

tance of using different method combinations in hierarchical cluster analysis and different starting points for the non-hierarchical cluster analysis. It also highlights the importance of performing different studies with the same variables but different interpretation methods and researchers.

In this regard, the studies with the second purpose are easier to interpret, because the result for the most part is fairly clear. Even though different statistical tools may be used, the method of application is the same. First, a hypothesis is made, which is later tested in relation to whether it may be rejected and thereby indicate if there is a significant relation between two or more variables. It is thereby not as much interpreted by the individual researcher's intuition.

Use of Result

The use of the results for future studies highly depends on the purpose of the study, because the result should address the study's purpose. The use of the result will be different for the two kinds of studies, because they have different purposes. Lambert (2006) has made some general possibilities for result usage in the studies with two purposes, especially with a focus on using deductive and inductive studies in interaction to create business model theory. In this context, the results can be used to understand what a business model consists of and to build a business model theory. Furthermore, it can give valuable input to what a business model is and is not. It is, however, an interactive process by which new results can create more knowledge and support the existing knowledge.

Research Design for the two Purposes

Together the five areas described above create a research design for the two different purposes, namely 1) identifying the variable that make up a business model taxonomy and 2) testing a business model taxonomy in relation to performance, size and relations. (see also Table 2). The research design gives an overview of the areas that are relevant in future studies to secure the quality and the applications of the study. The research design is the same overall, but it gives general guidelines that can be used on all the possible different purposes.

There are some issues that should be overcome in relation to future studies to secure the quality of the studies moving forward in terms of validity and reliability. The biggest issue concerns creation of the variables, which should be used for the first purpose. These variables should be based on the existing knowledge from other business model studies, but both questions and scales should also be created with a focus on the statistical possibilities. Therefore, there should be more focus on creating these variables possibly through many more studies of a business model taxonomy until satisfactory results have been produced. However, if satisfactory variables are created, then the biggest issues are also overcome, and useful results can be produced.

Table 4 – Research Design with main features

	First purpose – identifying a business model taxonomy	Second purpose – testing a business model taxonomy
General considerations in relation to surveys	Purpose, design, population, sample and validity	Purpose, design, population, sample and validity
Choice of statistical tool	Cluster analysis Hierarchical (distance and linking methods), non-hierarchical (number and central points), combinations	ANOVA, Cross tabs or other
Creation of variables	Existing business model literature – creation of new variables	Variables or results from the first purpose or other variables based on other studies
Interpretation of result	Intuition and/or systematical methods	Rejection of hypothesis
Use of result	Improvements of conceptualizations or use for the first purpose	Improvements of conceptualizations or starting point for creation of theory

Conclusion

Studies of leading to a business model taxonomy in which inductive methods and statistical tools are used to identify business model types, are still relatively new ground. This entices a need for knowledge about how to start the research process and how quality can be secured in future studies. The first purpose of the research design suggested here is to find the variables that make up the business model and can lead to the identification of a business model taxonomy. The second purpose of the research design is to take the identified business model taxonomy from the first purpose and test it in relation to other variables such as performance,

size, etc. to find significant relationships.

To meet this need, a research scheme that can be a starting point for future studies of a business model taxonomy has been introduced in this paper. Its purpose is to contribute to a greater and more common understanding of business models. The research design consists of five areas, each of which is essential for creating quality in future studies. The future studies of a business model taxonomy can be divided into two parts that each have their own relation to the five areas in the research design, but the five parts in the research design can give overall guidelines for future studies. The

first area includes general considerations in relation to surveys. These considerations create quality in the data that are collected and that are essential for the studies. The second area is the choice of statistical tools. Business model taxonomy studies highly depend on statistical tools for data treatment, and the choice of statistical tools is therefore essential. The two different kinds of future studies demand different choices in statistical tools depending on the purpose of the study, hence the segmentation of companies according to their business models (statistical tool, e.g. cluster analysis) or examination of relations (statistical tool, e.g. ANOVA or cross tabs). The third area is the creation of variables. Again the two kinds of studies have a demand for different kinds of variables.

Variables, which describe the business model, are used for the purpose of segmentation. Even though there are many studies of business models, one of the biggest challenges is identifying and creating these variables, because there is no contemporary common consent about what a business model is or which statistical tools, questions, and scale should be taken in to account in the creation of variables. This issue is due primarily to the lack of studies in these areas, and the starting point for creating the variables should instead be based on current knowledge, which should be converted to variables. The variables that should be used to examine relations between variables can either be the variables from the segmentation or other variables based on previous studies, such as studies about performance variables. Pitfalls such as the possibility that researchers will fall back into old habits may exist. Identifying variables on the basis of more than one current study and making sure only to include relevant variables can overcome this risk.

The fourth area is the interpretation of results. The results of the cluster analysis can be interpreted based on the researcher's intuition or based on more systematic approaches; whereas the test of relations gives a final result. Another issue is therefore the interpretation of the result, which only can be accomplished by conducting more studies. The fifth area is the use of the results, because the result should not only be seen in its own narrow perspective and purpose, but also as a part of the knowledge contributed by all business model studies. Both the future and

current studies of business models with their different approaches create the opportunity to develop business model theory, but for this development to occur, it is important to start focusing on the yet undiscovered area of a business model taxonomy.

References

- Alt, R. & H.-D. Zimmerman (2001). Introduction to special section - business models. *Electronic Markets* 11 (1): 3-9.
- Armstrong, J. S. & T. S. Overton (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research* 14: 396-402.
- Baden-Fuller, C. and Morgan, M.S. (2010) "Business Models as Models", *Long Range Planning*, 43: 156-171.
- Bambury, P. (1998). A Taxonomy on Internet Commerce. *First Monday* 3 (10) <http://pear.accc.uic.edu/ojs/index.php/fm/article/view/624/545>.
- Bell, T. and I. Solomon. (2002). *Cases in Strategic-Systems Auditing*. KPMG LLP.
- Betz, F. (2002). Strategic Business Models. *Engineering Management Journal* 14 (1): 21-27.
- Bigliardi, B., Nosella, A. & Verbano, C., (2005), Business models in Italian biotechnology industry: a quantitative analysis. *Technovation*, Vol. 25, No. 11, pp. 1299.
- Casadesus-Masanell, R. & J. E. Ricart (2010). From strategy to business models and onto tactic. *Long Range Planning* 43: 195-215.
- Chenhall, R. H. (2007). Theorizing Contingencies in Management Control Systems Research. I *Handbook of Management Accounting Research*, S. Chapman, A. G. Hoopwood & M. D. Shields (Eds.). 163-205.
- Chesbrough, H. (2006) *Open Business Models. How to Thrive in the New Innovation Landscape*. Boston: Harvard Business School.
- Chesbrough, H. (2007). Business model innovation: it's not just about technology anymore. *Strategy & Leadership* 35 (6): 12-17.
- Chesbrough, H. & R. S. Rosenbloom (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and Corporate Change* 11 (3): 529-555.
- Demil, B. and Lecocq, X. (2010) "Business Model Evolution: In Search of Dynamic Consistency", *Long Range Planning*, 43(2-3): 227-46.
- Dillon, W. R. & S. Mukherjee (2006). A guide to the design and execution of segmentation studies. In R. Grover & M. Vriens (Ed.) *The Handbook of Marketing Research*. Californien: Sage Publications Inc.
- Hansen, S. C. & W. A. Van der Stede (2004). Multiple facets of budgeting: an exploratory analysis. *Management Accounting Research* 15 (4): 415-439.
- Haslam, C., T. Andersson, N. Tsitsianis and Y.P. Yin (2012). *Redefining Business Models: Strategies for a Financialized World*, London: Routledge.
- Johnson, M.W., Christensen, M.C. and Kagermann, H. (2008), "Reinventing Your Business Model", *Harvard Business Review*, 86(12): 50-59.
- Johnson, M. W. (2010). *Seizing the White Space: Business Model Innovation for Growth and Re-nwal*. Boston: Harvard Business School Press.

- Kaplan, R.S. and D.P. Norton (2001). *The Strategy-Focused Organisation: How Balanced Scorecard Companies Thrive in the New Business Environment*, Boston MA: Harvard Business School Press.
- Ketchen, D. J., (1996), *The Application of Cluster Analysis in Strategic Management Research: An Analysis and Critique*. *Strategic Management Journal*, Vol. 17, No. 6, pp. 441-458.
- Lambert, S. (2006). *A Business Model Research Scheme*. School of Commerce Research Paper Series 2: 1-19.
- Lambert, S. (2015). *The Importance of Classification to Business Model Research*. *Journal of Business Models*, 3(1), 49-61
- Linder, J. C. & S. Cantrell (2000). *Changing business models*. Chicago: Institute for Strategic change, Accenture.
- Magretta, J. (2002). *Why Business Models matters*. *Harvard business review* 80 (5): 86-92.
- Malhotra, N. K, D. F. Birks & P. Wills (2012). *Marketing Research – An applied approach*. 4. Udgave. England: Pearson Education Limited.
- Malone, T. W., Weill, P., Lai, R., D'Urso, V. T., Herman, G., Apel, T. & Woerner, S., (2006), *Do Some Business Models Perform Better than Others?* MIT Sloan Research Paper No. 4615-06.
- Meyers, L. S., G. Gamst & A. J. Guarino (2013). *Applied Multivariate Research – Design and Interpretation*. 1. Udgave. Californien: Sage Publications, Inc.
- Morris, M., M. Schindehutte & J. Allen (2005). *The entrepreneur's business model: toward a uni-fied perspective*. *Journal of business research* 58 (6): 726-735.
- Nielsen, C. & M. Lund (2013). *An introduction to business models*. In C. Nielsen (Ed.) *The basics of Business Models*, Vol. 1, No. 1. Copenhagen: BookBoon.com/Ventus Publishing Aps.
- Osterwalder, A. and Y. Pigneur . (2010). *Business Model Generation*. Hoboken NJ: John Wiley and Sons.
- Osterwalder, A., Y. Pigneur & C. L. Tucci (2005). *Clarifying business models: origins, present, and future of the concept*. *Communications of AIS* 15: 1-40.
- Punj, G. & D. W. Stewart (1983). *Cluster analysis in Marketing research: Review and suggestions for application*. *Journal of Marketing Research* 20 (2): 134-148.
- Rappa, M. (2003). *Business models on the web*. <http://digitalenterprise.org/models/models.html> (9.05.14).
- Saunders, J. (1994). *Cluster analysis*. I *Quantitative Methods in Marketing*, G. J. Hooley & M. K. Hussey (eds.) London: The Dryden Press.
- Sharma, S. & A. Kumar (2006). *Cluster analysis and factor analysis*. I *The Handbook of Marketing Research*, R. Grover & M. Vriens (Eds.) Californien: Sage Publications Inc.
- Tan, P., M. Steinbach & V. Kumar (2006). *Introduction to data mining*. Boston: Pearson Education, Inc.
- Timmers, P. (1998). *Business Models for Electronic Markets*. *Electronic Markets* 8 (2): 3-8.
- Tufféry, S. (2011). *Data Mining and Statistics for Decision Making*. UK: John Wiley & Sons, Ltd.
- Tweedie, D., Martinov-Bennie, N. And C. Nielsen (2015). *Evolution or abandonment? Contextualising the business model in Integrated Reporting*. Working paper, Macquarie University, Australia and Aalborg University, Denmark.

Van der Stede, W. A., M. Young & C. X. Chen (2007). Doing Management Accounting Survey Research. I Handbook of Management Accounting Research, C. S. Chapman, A. G. Hoopwood & M. D. Shields (Eds.). 445-478.

Viscio A.J., B.A. Pasternack, "Toward a new business model", Strategic Business; 2(1):125 - 34.

Weill, P., T. W. Malone, V. T. D'Urso & G. Herman (2004). Do Some Business Models Perform Better than Others? MIT Center for Coordination Science, Working paper 226: 1-39.

Young, S. M. (1996). Survey research in management accounting: a critical assessment. In A. J. Richardson (Ed.) Research Methods in Accounting: Issues and Debates. CGA Canada: Research Foundation.

Zott, C. & R. Amit (2007). Business Model Design and the performance of Entrepreneurial Firms. Organization Science 18 (2): 181-199.

Zott, C., R. Amit & L. Massa (2011). The business model: recent developments and future research. Journal of management 37 (4): 1019-1042.

About the authors

Pernille Groth is a Global Graduate in the Finance department of Grundfos. Pernille holds a Masters degree in Management Accounting from Aalborg University, specializing in quantitative measurements of business model configurations. During her studies she worked at the Business Model Design Center (BMDC, www.bmdc.aau.dk), where she performed market research, financial analysis and supported in collecting and analyzing research data.



Christian Nielsen. The cutting-edge research being produced at the Business Model Design Center (BMDC) is evidence of Christian Nielsen's thought-leadership. The contributions of the rigorous scholarly research have led to published works in leading scholarly journals. Furthermore, the applied research and the sound strategic advice has had a significant impact on the practices of the companies with which BMDC collaborates. This is evident from the ability to attract organisations and funding. In establishing its position internationally, BMDC hosts the annual Business Model BUZZ (see 2014 resumé here: <http://bit.ly/bmb2014v>), hosts the Open Source based Journal of Business Models (www.journalof-businessmodels.com) and has published textbooks downloaded by over 300.000 students to date.



Kickass Companies: Leveraging business models with great leadership

Kristian Brøndum, Christian Nielsen, Kim Tange, Frans Laursen & Jesper Oehlenschläger

Introduction and theoretical setting

The world loves winners. Whether it is successful athletes, politicians, or business people who outperform the pack, there is a continuous longing to study successful people and to learn from them so that we too may improve ourselves. This mechanism is embedded in human nature but also goes for businesses and organisations in general.

In the past, researchers and practitioners alike have strived to identify the outstanding practices, also known as “best practices”, and optimised processes of successful companies to learn from them and use them to improve their status quo. This is a good thing, as learning from best-practice cases is an effective means of understanding the principles and specifics of good ways of doing business. However, in the literature, there is a tendency to study only large international corporations like Apple, Google, Amazon, and Proctor & Gamble, even though small and medium-sized enterprises (SMEs) constitute the dominant form of business organisations in all countries worldwide. SMEs represent between 95% and 99% of the enterprise population depending on the industry and state (Deakins & Freel, 2009). However, for an SME, it can be hard to learn from these multinational billion-dollar businesses, as the SMEs typically are constrained by scarce resources in ways that larger corporations are not (Knight, 2000; Chesbrough, 2007).

There are countless examples of SMEs that clearly outperform their competitors and deliver exceptional financial results via outstanding practices, in many cases to much higher degrees than their esteemed global counterparts. When the spotlight falls on SMEs, we rarely see successful companies characterised as having unique patents, intellectual property, specifically nuanced strategies, or above-normal capitalisation rates. Hence, we speculated that there must be a set of alternative explanations and recipes for the apparent success of such SMEs and – literally – how they kick ass.

The objective of this paper is to highlight what can be learned from the best SMEs and how we might apply their mechanisms of excellence as best-practice examples. Our point is that a model of the critical elements and relationships that create a Kickass Company – based on SME data will – in the long run, comprise the most valid model for other SMEs looking at improving their performance.

In our search for excellent-performing SMEs, it became evident that traditional strategy tools and mindsets like five forces (Porter, 1980), SWOT, or PESTEL analysis were incapable of explaining the dimension of exceptionality. In the search for a stronger theoretical standpoint, we were inspired by a series of management theories relating to corporate culture (Logan et al., 2008; Collins, 2001). We were also influenced by the notion of

business models and the practical tools related to this movement (Osterwalder & Pigneur, 2010; Osterwalder et. al, 2014).

The power of business models lies in their ability to visualise and clarify how firms may configure their value creation processes. Among the key aspects of business model thinking are a focus on what the customer values, how this value is best delivered to the customer, and how strategic partners are leveraged in this value creation, delivery, and realisation exercise. Central to the mainstream understanding of business models is the value proposition towards the customer, and the hypothesis generated is that, if the firm delivers to the customer what he/she requires, then there is a good foundation for extensive customer loyalty and a long-term profitable business.

Hence, the objective here is to study the intersection between business models, corporate culture, leadership, execution, and the ability to deliver continuously outstanding financial results. In other words, we want to determine how to leverage business models through great leadership – and ultimately create significant financial results from this. Our review of the aforementioned literature led to the statement of the following hypotheses from which an empirical study could depart:

1. The organisation and configuration of a company depend upon how competitive their primary market is.
2. Companies' ability to create relationships with customers and partners and to utilise these relationships are important factors in optimising the business model, as these relationships help to create lock-in and higher knowledge flows to and from these partners.
3. Clear communication from the management about the company's objectives, a strong focus on employee well-being, and a "we-culture" create a healthy environment and thus better business results.
4. Companies that are propelled by a determination to become world champions perform better than average.
5. An open and decentralised leadership approach is necessary for employee satisfaction and ultimately

influences the company's performance.

6. Hiring personnel from matching value sets creates the best team in the long run and therefore also the best results.
7. How companies choose to compete and configure their business model will have an impact on the company's performance.
8. A strong customer focus is essential for good long-term performance, and a focus on helping customers create value contributes to maintaining the company's source of business.

Methods

The aim was to produce valid and reliable results based on research on SMEs. For this purpose, the data collection was organised around the hypotheses and carried out in two phases.

Data collection phase 1

The first stage is based on data collected through an online questionnaire published by the Business Model Design Centre at Aalborg University. The survey was sent to over 7,000 Danish companies via direct e-mail and resulted in 755 useful responses from a broad selection of Danish SMEs. The research group then analysed the data for non-response bias. To reduce the total number of variables (93), variables within the same "theme" were merged using the Cronbach's alpha test. The construction of the latent variables, equivalent to the hypotheses, was optimised for their effect on corporate performance using a factor analysis. The responses are distributed across industries as indicated in Table 1.

The survey included the following themes:

- Background about the company
- Characterisation of the market's competitiveness and dynamics
- The importance of the company's collaborations with external partners in the value chain
- Management style and the company's mindset
- Characterization of the company's revenue patterns
- Characterization of the company's customer focus and interactions with customers
- The company's performance on financial and non-financial indicators

Table 1: Responses from industries

Industries	Frequency	Percentage
Transportation	47	6.2
Retail	123	16.3
Utility	9	1.2
Hospitality	38	5.0
Agriculture	127	16.8
Construction	63	8.3
Housing	30	4.0
Service	318	42.1
TOTAL	755	100.00

Regarding performance, we did a further study using available data from the NN Market Data company database¹. This study was done to support the companies' performance score with the average growth in turnover over the last five years and average growth in profit before tax over the last five years. Influenced by the criteria used in the Good to Great model (Collins, 2001), we selected parameters that were relevant and measurable for our SME context. The research group validated each of the 755 data points on performance.

The statistical analyses were performed by dividing the data set into two groups: a low-performance group (companies with an aggregated overall performance score below 6.00, using a seven-point Likert scale) and a high-performance group (companies with an overall performance score of 6.00 or above). The high-performance population consisted of 117 businesses, and the average overall performance score of this group was 6.23. The average number of employees in the population was 35, ranging from three to 216 employees. For the analyses, we used linear regression models and chi-squared tests to validate the initial hypotheses. Before this, the conditions for linear regression and analysis of variance as the root mean square was tested and

verified based on the guidelines introduced in Stubager and Sønderskov (2011).

In the last part of the analysis, the research group ranked the companies' performance based on financial data collected through secondary data sources. In this step, a population of 24 companies stood out from the rest of the dataset. These companies both had good performance values from the questionnaire and particularly strong financial characteristics based on our second analysis. We identify these 24 companies as Kickass Companies.

Data collection – phase 2

In the second stage of the data collection, we used semi-structured qualitative interviews to analyse the population of Kickass Companies identified in phase 1. The purpose of this was to uncover the essential aspects of being a Kickass Company. This qualitative part of the investigation was based on interviews with representatives of 12 of these Kickass Companies. The data processing and analysis included methods to ensure validity and reliability, including a semi-structured interview guide, audio/video recording of the interviews, transcriptions, and analytical pattern recognition in the empirical work.

Findings: What constitutes a Kickass Company?

Based on the eight hypotheses developed from the literature on business models, leadership, and how best to implement unique business models, the empirical evidence unveils a model containing six critical elements that create a Kickass Company. From the extensive data analysis process – both the quantitative as well as the qualitative – we found several areas or practices and processes where the Kickass Companies were significantly different from the rest of the population. These are presented in the following six findings.

Finding no. 1: You need willpower

In Kickass Companies, we found certain traits of a distinct management style and mindset. More specifically, the mindset of the management team and the relationship between the management team and the employees was an area where the high-performance

companies were significantly different from the rest of the population.

To be a Kickass Company, you need a strong leader or management team with the ability to maintain focus on the company's core business activities and, if necessary, the willpower to trim the business accordingly by outsourcing tasks and activities that are outside the company core. These traits were present in the high-performance companies in our analysis. In Kickass Companies, managers are leaders who lead the way, not administrators hiding behind desks.

The aforementioned finding is in line with another crucial aspect of Kickass Companies, namely a passion for becoming the best in one's field of operation. In the best-performing companies, this is often sensed all the way down to the employees' passion for the job. It also means that there is an understanding of the company's core mission and a focus on it throughout the organisation and that the management can transform its vision into a language that the employees understand.

In other words, to become a Kickass Company, you need to have a clear vision and a transparent strategy that the employees can relate to. However, within the Kickass Companies segment, we found that employee involvement at the strategic level is not essential for performance. However, employee involvement plays a significant role at the tactical and operational levels with respect to improving and developing the company and how it works. Kickass Companies are found to apply both a traditional top-down management style at the strategic level and a more bottom-up approach at the tactical and operational levels.

Finding no. 2: You need to be there for your customers

Kickass Companies are found to possess specialised knowledge of their customers and their respective needs. As such, they have high customer intimacy, resulting in a deep understanding of the customer's situation and desired outcomes. Kickass Companies are found to be superior at optimising the customer's value creation by focusing on helping to deliver superior customer value to the customer's customer.

The idea that companies succeed by selling value is not new. However, Kickass Companies had a significantly greater focus on improving their customers' business and helping the customer become more efficient about his/her respective customers. Our study illustrates that the highest-performing companies are able to improve the liquidity of their customers, which is a strong anchor point for cooperation. Kickass Companies have the unique ability to focus on creating economic profit within the "us and our customers" ecosystem.

Finally, the highest-performing companies in our sample are significantly different when it comes to focusing on sales. Their knowledge of the customers is found to be a crucial resource in this work, and listening to the customer is an important point in creating value-adding processes from idea to final product/service. In short, Kickass Companies are customer-centric organisations.

Finding no. 3: You strive to be the best

In line with finding no. 1, Kickass Companies compete through product/service leadership. They tend to offer a superior product or service and can achieve premium prices because of the experience they create for their customers. They are excellent at leveraging their expertise across organisational boundaries by mastering such disciplines as collaboration and knowledge management.

Because our sample of companies consists of SMEs, this finding correlates significantly with the characteristic that Kickass Companies, in some manner or another, specialise in a certain niche, so they ensure that they do not end up competing exclusively on price.

Finding no. 4: Success is a "we thing"

Kickass Companies have a "we culture". Even though our sample of Kickass Companies has a top-down management approach at the strategic level – as learned in finding no. 1 – they furthermore succeed in developing a strong culture with a high degree of "we-consciousness". In such a corporate culture, the employees are typically deeply involved at the tactical and operational levels to improve and develop the company and how it works.

¹ NN Market Data is one of Denmark's leading knowledge banks.

In the data, we also found strong relations between the management, who are sometimes also the owners, and the employees, which provides a breeding ground for good internal relations that leads to better knowledge sharing. Kickass Companies emphasise the importance of collective knowledge sharing, giving the employees responsibility and ensuring that everyone can contribute. Finally, Kickass Companies emphasise the importance of competence development and the fact that employees need to feel challenged to a certain degree to perform best.

Finding no. 5: You need to be able to accelerate

Kickass Companies' performance is found to be driven by a focus on growth. One of the ways for these companies to expand their business is through internationalisation. In contrast to the rest of the pack, Kickass Companies are significantly different in their attitude towards exporting, as they continuously scan for opportunities to sell abroad.

These high-performance companies are found to have implemented business models that are flexible in that they can accommodate changing market requirements. Our research illustrates that, besides frequent existing messages in the business literature relating to the importance of creating agile businesses in both growing and declining economies as well as hard-to-copy value propositions or value propositions that take a long time to replicate, business model scalability in Kickass Companies can typically be placed in one of the following four dimensions:

1. The firm is removed from otherwise typical capacity constraints of the particular type of business.
2. Partners that enrich the value proposition without hurting profits are included.
3. Stakeholders take multiple roles in the business model and create value for one another.
4. The business model becomes a platform that attracts new partners, including competitors.

Finding no. 6: Use motivating KPIs

Last, the use of target figures and key performance indicators (KPIs) are found to have a particular role in Kickass Companies. Here, KPIs are used to improve the performance of the company through a positive outlook. KPIs are thus not used as a control mechanism

but instead to measure, develop, and improve the organisation and to stay focused.

Our study finds that KPIs are all too often not identified through a strict analysis of value creation, for example, based on the business model of the company. Our analysis of Kickass Companies' performance concerning some financial and non-financial parameters leads us to formulate four pieces of good advice:

1. Identify KPIs that will motivate owners, managers, and employees.
2. KPIs should be used to focus on what needs to be improved/developed in the company.
3. KPIs should reflect the core focus of the company.
4. KPIs should inspire and create energy around the vision of the company, not serve as control mechanisms.

Concluding remarks

This paper is based on a study of 755 Danish SMEs and further in-depth case studies of 12 of these. Its objective was to identify a model of components and relationships among the very best, most efficient, high-performing SMEs. We call these Kickass Companies. The result is a model made up of six interrelated dimensions, which together illustrate what makes up a Kickass Company:

1. You need willpower
2. You need to be there for your customers
3. You strive to be the best
4. Success is a "we thing"
5. You need to be able to accelerate
6. Use motivating KPIs

Following these six dimensions might not be a guarantee of success, and not all components will be implementable in all types of companies. However, the empirical evidence here suggests that, if companies think along these lines of doing business, their probability of success will be higher than otherwise.

Finally, there is the question of "how to do this". We suggest that you take a closer look at the online tools available on www.kickasscompanies.com, where you will also be able to sign up for our forthcoming book.

References

- Chesbrough, H. W., 2007. Why Companies Should Have Open Business Models. MIT Sloan Management Review, 48(2), pp. 22-28.
- Collins, J., 2001. Good to Great: Why Some Companies Make the Leap... and Others Don't. William Collins.
- Deakins, D. & Freel, M., 2009. Entrepreneurship and Small Firms. 5th ed. Maidenhead: McGraw-Hill Education.
- Knight, G., 2000. Entrepreneurship and Marketing Strategy: The SME Under Globalization. Journal of International Marketing, 8(2), pp. 12-32.
- Logan, D., King, J., & Fischer-Wright, H., 2008. Tribal Leadership: Leveraging Natural Groups to Build a Thriving Organisation. Harper Collins
- Osterwalder, A. & Pigneur, Y., 2010. Business Model Generation. John Wiley & Sons.
- Osterwalder, A., Pigneur, Y., Bernarda, G. & Smith, A., 2014. Value Proposition Design. John Wiley & Sons Inc.
- Porter, M.E., 1980. Competitive Strategy. Free Press, New York, 1980.
- Stubager, R. & Sønderskov, K., 2011. Forudsætninger for lineær regression og variansanalyse efter mindste kvadrants metode. 5th ed. White paper, Aarhus Universitet.

About the Authors

Kristian Brøndum holds an MSc in Innovation and Entrepreneurship and works as a part-time researcher and part-time project manager at Business Model Design Center (www.bmdc.aau.dk), one of the world's leading interdisciplinary centres of excellence in business model research. Kristian has worked with business models, creativity and entrepreneurship since 2011. <http://dk.linkedin.com/in/kristianbroendum>



Christian Nielsen is Professor at Aalborg University, Denmark. He heads the Business Model Design Centre (www.bmdc.aau.dk) and has worked with the field of analysing and valuing business models since 2001 both as a researcher and as a buy-side analyst, portfolio manager, consultant and board member and is also Joint-Editor of the Journal of Business Models. <https://dk.linkedin.com/in/christianhnielsen>



Frans G. Laursen holds an MSc in Business Economics & Foreign Trade and is a partner in the consulting company 2beGREAT ApS. Frans has many years of practical experience in sales and management with positions as Director of Sales as well as manager of Danish and international companies. Since 2004, Frans has worked as a consultant with a particular focus on the development and embedment of business models, business strategies and strong, customer-oriented corporate cultures. <http://dk.linkedin.com/in/frans-g-laursen-8523403b>



Kim Tange is a partner in 2beGREAT ApS and Marketing Manager at Tradium. He is a professional board member of several private small and medium enterprises and an Educational manager and teacher at the Executive Board Programme. Kim is a co-author of several books on management and sales. Furthermore, he has extensive experience in business development and market orientation, as a consultant, adviser, director and teacher, both in the private and public sector. <http://dk.linkedin.com/in/kimtange>



Jesper Oehlenschläger is a partner at 2beGREAT ApS. He is a Diploma Manager and affiliated with the Centre for postgraduate business courses at continuing EASJ. Jesper is an experienced facilitator helping companies and organizations to new results through the development of language, stories and culture. Additionally, he has many years of background in the development of sales organizations and productive relationships in the knowledge-intensive industries. <http://dk.linkedin.com/in/jesperoehlenschlager>



Business Models for NFC based mobile payments

Johannes Sang Un Chae¹ & Jonas Hedman (Corresponding author)²

Abstract

Purpose: The purpose of the paper is to develop a business model framework for NFC based mobile payment solutions consisting of four mutually interdependent components: the value service, value network, value architecture, and value finance.

Design: Using a comparative case study method, the paper investigates Google Wallet and ISIS Mobile Wallet and their underlying business models.

Findings: Google Wallet and ISIS Mobile Wallet are focusing on providing an enhanced customer experience with their mobile wallet through a multifaceted value proposition. The delivery of its offering requires cooperation from multiple stakeholders and the creation of an ecosystem. Furthermore, they focus on the scalability of their value propositions.

Originality / value: The paper offers an applicable business model framework that allows practitioners and academics to study current and future mobile payment approaches.

Keywords: NFC, mobile payment, mobile wallet, business model

¹ Department of IT Management, Copenhagen Business School, Denmark

² Department of IT Management, Copenhagen Business School, Denmark, jh.itm@cbs.dk

Please cite this paper as: Sang Un Chae, J., Hedman, J. 2015. 'Business Models for NFC based mobile payments', *Journal of Business Models*, Vol. 3, No. 1, pp. 29-48

Introduction

Mobile payments are an emerging and innovative market (Carton *et al.* 2012; Ondrus and Lyytinen 2011; Ozcan and Santos 2014; Pope *et al.* 2011; Vanetti 2010). This is reflected in research. The focus so far in mobile payment research is mainly on adoption of mobile payments (Crowe *et al.* 2010; Dan and Jing 2011; de Meijer and Bye 2011; Mallat 2007; Mallat and Tuunainen 2005; Mallat and Tuunainen 2008; Plouffe *et al.* 2001; Saji 2008; van der Horst 2011; Zhang 2009) from the perspective of technological innovations.

One characteristic of mobile payments is the fusion of new technologies, such as mobile banking, mobile wallets, biometric payments, SMS payments, QR codes, and Near Field Communication (NFC). In particular, NFC is bespoken of as the payment solution of the future (Birch 2007; Ozcan and Santos 2014; Pope *et al.* 2011). One recent launched NFC based payment solutions is Apple Pay by Apple. In short NFC is a communication protocol that enables contactless payments by establishing wireless communication between two technical devices, for instance between a mobile phone and a point of sales (POS) terminal.

The market growth for NFC applications is expected to be exponential with growth in revenue from \$7.7 billion in 2011 to \$34.5 billion by 2016, at a projected compound annual growth rate (CAGR) of 35% from 2011 to 2016 (MarketsandMarkets 2012). Juniper Research projections are even more optimistic, suggesting a market size of \$50 billion by 2014 (Purcell, 2011). However, despite these prospects, claiming a stake in this industry is not an easy task; NFC mobile payment solutions have been lagging behind their expectations. So, why has this pro-claimed technology not been widely adopted? One recurring explanation for the slow market adoption is issues surrounding the business model and the complex ecosystem (see for instance Delottie, 2011; Crowe *et al.*, 2010). In order to understand the slow adoption research suggests a need for an analysis of the underlying business models of mobile payment services (Pousttchi *et al.*, 2008).

The purpose of the paper is to increase the understanding of NFC based mobile payment and their underlying business models. We do this by developing a business model framework for NFC based

mobile payment solutions from existing literature (Al-Debei and Avison 2010; Al-Debei and Avison 2011; Amit and Zott 2001; Amit *et al.* 2012; Ballon 2007; Hedman and Kalling 2003; Osterwalder and Pigneur 2013; Van Bossuyt and Van Hove 2007; Zott and Amit 2007). We enhance the business model framework by empirically challenging it in a comparative case study of two NFC based mobile payment solutions, namely Google Wallet and ISIS Mobile Wallet (ISIS). We show the complexity in the mobile payment ecosystem and there is no silver bullet to success. Furthermore, we show that the business model framework is applicable as a tool to understand the underlying complexity in the NFC based mobile payment landscape. Thereby we contribute to research on mobile payments in general and NFC based mobile payments in specific.

The next section of the paper presents a brief overview of the business model literature, including a proposal of a business model framework for mobile payment services. Section three provides a description of the research method followed by a brief case summary in section four. Next, the analysis and results are presented. Finally, the paper concludes with a discussion and summary of the findings.

Business Model Literature

A business model plays a fundamental role to any organization (Amit and Zott, 2001; Magretta, 2002; Hedman and Kalling, 2003; Shafer *et al.*, 2005; Zott *et al.*, 2011). Most of it is due to the facilitating power that the business model provides. It allows the business and technology stakeholders to understand, communicate, analyze, and manage strategic-orientated decisions among each other (Osterwalder and Pigneur, 2002; Osterwalder and Pigneur, 2013; Pateli and Giaglis, 2004), along with changing the business logic of the firm (Osterwalder *et al.*, 2005). In addition, Chesborough and Rosenbloom (2002) argue that a business model provides a holistic perspective of the business, which helps it to understand internal functions and structures, as well as its interconnectivity and interaction dynamics with the external world.

There are many business model frameworks (Hedman and Kalling, 2003; Shafer *et al.*, 2005; Al-Debei and Avison, 2010), and they differ in their rigor and depth,

as well as their complexity in which definitions, elements, and their relations are included and analyzed. More recent approaches aimed to develop a common understanding of business models and have synthesized large quantities of past research. Al-Debei (2010) provides an analysis of business model frameworks. The findings suggest two things. First, although the number and names of dimensions and elements included vary between frameworks, most of these business model elements correspond to distinct themes, including offering or value proposition, customer, network, and finance. Second, the majority of frameworks stem from a strategy or eBusiness context (Hedman and Kalling 2002), and only a limited number of frameworks originate from the mobile or payments area (Carton *et al.*, 2012). Third, most frameworks take an inside-out approach that focuses on the business logic of individual enterprises rather than on the dynamic interaction within *value networks* (Solaimani and Bouwman, 2012), thereby missing external *threats* and the characteristics of the particular industry.

External marketplace dynamics are in Bouwman *et al.* (2008). As such, they argue that businesses do not operate in a vacuum, but rather are influenced and dependent on the environment. Their business model takes a network-centric view (Stabell and Fjeldstad 1998; Zott *et al.* 2011) of the organization; firms are part of a *value network* or value web (Bouwman *et al.*, 2006) in which organizations exchange resources and capabilities in a parallel and simultaneous manner.

Building upon the specifics and dynamics of the mobile payment context and the literature review on existing business model frameworks, we propose a Business Model for Mobile Payments. It includes five main dimensions: *value service*, *value network*, *value architecture*, *value finance*, and *threats*. Figure 1 depicts a summary of the framework. Each of the dimensions is further decomposed into 15 sub-dimensions, which provide the second layer of analysis.

- The *value service* dimension covers all aspects

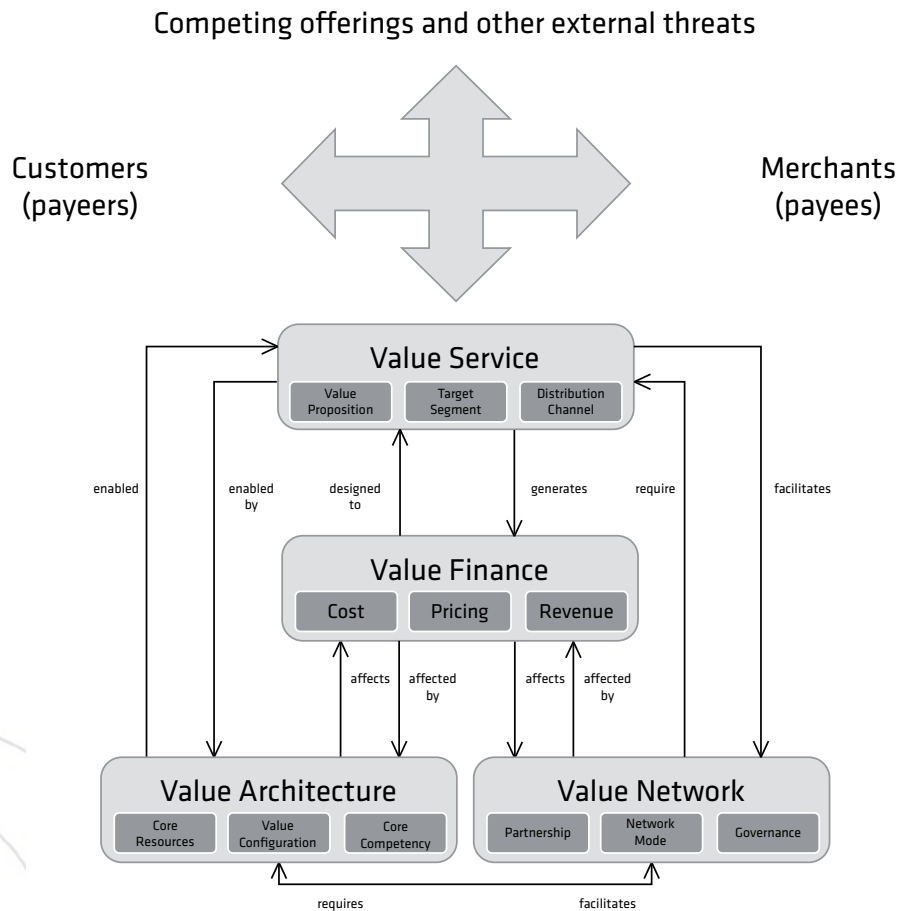


Figure 1: The Business Model Mobile Payment Framework

of the target firm's offering to the customers. It comprises the value proposition, target segment, and distribution channel (Hedman and Kalling, 2003; Shafer *et al.*, 2005; Al-Debei and Avison, 2010).

- The *value network* dimension incorporates the complex nature of the mobile payment industry with its numerous stakeholders. It emphasizes the inter-organization or cross-company view toward value creation and capture from innovation. This concept depicts the way in which transactions are facilitated through coordination and collaboration among parties, multiple companies, and stakeholders (Camponovo and Pigneur, 2003). So, when analyzing *value networks* it is helpful to look at them from three perspectives: partnership, network mode, and governance (Al-Debei and Avison, 2010).
- The *value architecture* dimension reflects a rough outlay that identifies all the required technological architecture arrangements, which allows for an efficient and effective operation (Al-Debei and Avison, 2010). Further, it specifies the organizational infrastructure arrangements, such as key functions and processes, company culture, or management mindset. This dimension comprises three elements: core resource, value configuration, and core competencies.
- The *value finance* dimension describes the required core arrangements to ensure the economic viability of the offering (Al-Debei and Avison, 2010). It consists of three elements: cost, pricing, and revenue structure. The revenue structure depicts all incoming revenue streams from the value offer by the mobile payment service provider. The revenue source and the revenue type characterize it. The different revenue sources can be categorized as consumers, merchants, and third parties (Pousttchi, 2008). In addition, different revenue types can be distinguished as transaction – depended or transaction – independent (Turowski & Pousttchi, 2004). The former is related to revenues that are generated based on each transaction. The latter depicts revenues that are not tied to the transaction volumes, but rather to nonrecurring costs and/or set costs for a certain period, such as royalty fees,

integration, support and similar. In most cases, costumers with large transaction volumes prefer this latter type of fee structure in their contract.

- The inclusion of the environment is represented in the *threat* dimension. It depicts the potential and profound threats that may endanger the economic viability of a mobile payment business model. Especially in the young and emerging mobile payments market, with its uncertainties and peculiarities, unpredicted *threats* are more likely to occur (Carton *et al.*, 2012). Three types of *threats* can be distinguished: market, technology, and regulation.

Methodology

Given the multifaceted and context-dependent nature of mobile payments, we apply an exploratory comparative case study approach to challenge and enable re-interpretation of our proposed business model framework. Morris and Wood (1991) reason that case studies are valuable when the researcher's interest is to gain a thorough understanding of the context of the particular research field and the processes being enacted. Further, they argue that the case study approach helps to generate answers to the "Why?" as well as the "What?" and "How?" questions. Because of its ability to obtain complex details and novel understandings about the specific phenomenon under investigation, we adopt the case study approach.

Data was collected using publically available interviews, Q&A sessions, panel discussions, and live presentations from previously identified key personnel of the case companies; see Table 1 below for a summary. In order to ensure originality and authenticity of the data, only rich-media data sources from audio and video recordings or fully published transcribed interviews, i.e. not edited or summarized, were considered. To ensure validity, the authors adopted the triangulations method as suggested by Yin (1994). Thus, two or more independent sources of data were used to corroborate research findings within this paper. These stem from various secondary resources, directly from the case companies, or from their partners, independent publications, or industry associations.

We have selected two initiatives in the field of mobile

Table 1: Overview of data sources

Company	Person	Role	Type of data	Topic
ISIS	Michael Abbott	CEO	Transcribed Interview	<i>Value Service, Value Architecture, Value Network, Value Finance</i>
ISIS	Ed Busby	CCO	Video Panel Discussion	<i>Value Service, Value Architecture</i>
ISIS	Ryan Hughes	CMO	Video Interview	<i>Value Service</i>
ISIS	Jaymee Johnson	Head of Marketing	Transcribed Interview	Overview of ISIS's Activity, <i>Value Finance</i>
ISIS	Jaymee Johnson	See above	Transcribed Interview	General ISIS, Challenges, Technology, Future
ISIS	Jim Stapleton	Head of Sales and Account MGMT	Transcribed Interview	Challenges and Solution of NFC Mobile Wallet
ISIS	Jim Stapleton	See above	Video Interview	Market Insight (different solutions, timeline, challenges)
ISIS	Jim Stapleton	See above	Video Interview	<i>Value Service, Value Network</i>
ISIS	John Theiss	VP, Merchant Sales	Transcribed Interview	<i>Value Service, Value Architecture</i>
ISIS	Tony Sebeti	Director, POS and Payment Alliance	Video Interview	Latest Development of ISIS, <i>Value Service</i>
ISIS	Michael Grannan	Devices and Enabling Technology Leader	Video Interview	Digital Wallet Rollout
ISIS	Susan Novell	VP of Market Launch	Transcribed Interview	Insight and Perspective on m-wallet

Table 1: Overview of data sources

ISIS	Nan Edwards	City Development Manager	Video Interview	<i>Value Service, Value Network, Value Architecture</i>
Google	Osama Bedier	VP Google Wallet and Payments	Transcribed Interview	<i>Value Service, Value Finance</i>
Google	Osama Bedier	See above	Video Interview	<i>Google's Wallet Opportunity, Value Network, Value Architecture</i>
Google	Osama Bedier	See above	Video Launch Presentation	<i>Value Service, Value Architecture, Value Network, Value Finance</i>
Google	Robin Dua	Head of Product Management, Consumer Payments Wallet	Video Q&A	<i>Value Service, Value Architecture, Value Finance</i>

payment: Google Wallet and ISIS. Backed by large information technology (IT) giants with a proven track record to bring innovative products and services successfully to the mass-market, both NFC mobile wallet solutions exhibit the potency to also advance the payment sphere into the next era and commercialize the technology. Based on the relative infancy of NFC m-payment solutions, as well as the new market presence of their commercial attempts, this study is one of its kind. Google Wallet and ISIS were also chosen because they operate in the same context, e.g. geographical area, demographics, and regulatory environment.

Analysis

We start the section with a short introduction of the two cases. Following a three-month pilot phase, Google Wallet launched in the U.S. in September 2011. From the beginning, Google collaborated with respective industry leaders in order to build the necessary ecosystem to deliver a seamless new payment solution to customers. Aiming to revolutionize the offline shopping experience, Google Wallet offers a number

of benefits for consumers and merchants. On the consumer side, it allows them to tap, pay, and save money at the point-of-sales, aiming to improve their shopping experience. On the merchant side, Google Wallet aims to enable businesses to strengthen their customer relationships by offering faster, easier shopping with relevant discounts and loyalty rewards. The mobile wallet is based on NFC and cloud technology, thus requiring NFC phones with embedded SE running on the Android OS. The cloud aspect allows Google to provide consumers the freedom to add any payment cards through a linked proxy card issued by Google. However, the wallet runs on only NFC phones from selected carrier networks.

ISIS is a joint venture between AT&T, T-Mobile, and Verizon Wireless - the three largest mobile network operators in the U.S.; it was founded in November 2010, and launched in Austin and Salt Lake City in October 2012. Its mission is to create the most consumer-friendly and widely accepted mobile wallet possible. Similar to Google, it provides consumers a simplified way of paying, storing, and redeeming coupons, and collecting loyalty points all in one device. Merchants'

benefit from the possibility to connect with their customers in new ways and deliver targeted offers directly into phones. They can also deploy in-store posters which consumers can “tap” through their NFC-phones to access information and offers. In contrast to Google, ISIS adopts the mobile wallet approach with SE integrated in the SIM card. Banking partners can directly integrate their payment cards into the m-wallet and offer these services to their customers. Consumers have a greater choice on available NFC phones, which can be purchased from the three largest carriers in the U.S.

Based on the business model framework, the two specific NFC mobile wallet initiatives Google Wallet and ISIS have been analyzed. In specific, their business models have been investigated and compared according to the five sub-elements of the developed framework. The applied analysis suggests the efficacy and value of the developed framework. It serves as a structured approach to comprehensively reveal the core elements of NFC mobile wallet initiatives as well as a means to compare them. A summary of the main differences is shown in Table 2 below.

Table 2: Main differences between the Google Wallet and ISIS business models

		Google Wallet	ISIS
<i>Value Service</i>			
VALUE PROPOSITION	Merchants	<ul style="list-style-type: none"> Offers based on more complex customer data Performance-based advertising 	<ul style="list-style-type: none"> Offers are based on simpler data, but customer data stays with merchants
	Banks	<ul style="list-style-type: none"> Fast integration and no added fees 	<ul style="list-style-type: none"> Full control of customer data and possible integration of other banking services
	Payers	<ul style="list-style-type: none"> No fees attached 	<ul style="list-style-type: none"> No fees attached
<i>Value Network</i>			
NETWORK MODE		<ul style="list-style-type: none"> Open platform: no charge to lease platform and support of multiple SE locations 	<ul style="list-style-type: none"> Walled garden: tight control of the SIM SE and rental fee
<i>Value Architecture</i>			
PAYMENT CREDENTIAL LOCATION		<ul style="list-style-type: none"> Embedded SE and on secure servers (cloud) 	<ul style="list-style-type: none"> SE in SIM card

Table 2: Main differences between the Google Wallet and ISIS business models

INTEGRATION OF CARDS	<ul style="list-style-type: none"> • Direct partnerships (CITI) • Through proxy card 	<ul style="list-style-type: none"> • Only through direct partnerships (Chase, Capital One, Barclays, Amex)
SECURITY FEATURES	<ul style="list-style-type: none"> • Four-digit pin for wallet access • Remote account/wallet suspension online • Full account numbers of debit or credit card not visible in wallet 	<ul style="list-style-type: none"> • Four-digit pin for wallet access • Remote wallet suspensions online and via calling ISIS • Full account numbers of debit or credit card not visible in wallet • Personal privacy: ISIS sees no transaction data
<i>Value Finance</i>		
REVENUE SOURCES	<ul style="list-style-type: none"> • Single source: value added services 	<ul style="list-style-type: none"> • Dual source: SE SIM rental fee and value added services

Threats

Market *threats* can stem from changes in the competitive landscape. As an emerging and lucrative market, the market for mobile payments gets more crowded with more initiatives arising on the horizon. Next to Google and ISIS, PayPal and Apple are other IT giants entering the mobile payment sphere. The dynamics of the industry players are certainly affecting each other's business models. For example, Verizon has blocked the Google Wallet application from being loaded on its distributed NFC mobile phones (Cherry, 2012). Changes in technological standards or interoperability impose technology *threats*. In order to mitigate these, cooperation and partnerships with stakeholders are crucial, as seen by Google and ISIS. Further, they are also exposed to *threats* originating from the evolving regulatory framework. Again, both companies are mitigating those risks by actively participating in workgroups with regulatory institutions (Federal Reserve Bank of Boston, 2012) to jointly shape the appropriate regulatory framework for the U.S.

Value Service

The *value propositions* of Google Wallet and ISIS are

both multifaceted and target to consumers, merchants, and banks. Clear focus is put on enhancing customer experience and service add-ons beyond the capabilities of a conventional payment card or wallet. Differences in *value propositions* can be found for merchants and banks, based on the collection and usage of consumer data, making each wallet appears more or less attractive depending on the customers' preferences and needs. A closer look at the case companies' distribution channels reveals their excellent positions for large-scale distribution.

Value Network

Google Wallet and ISIS heavily focus on building the ecosystem with multiple partners across the payment sphere. In appendix 1, we provided more data and discussion related to the NFC ecosystem. The findings of the partnership analysis reveal a common pattern of their partnership choices. Most of Google and ISIS's partners are big players and industry leaders in their respective fields with large customer bases, existing industry relationships, and other valuable resources and capabilities. It suggests that they have been carefully selected based on these selection criteria to quickly

progress in scale and reach. As such, partnerships have been formed to leverage their respective market powers and access complementary competencies in order to accelerate the process of broad market adoption. Aspects such as enabling technological interoperability between the mobile wallets' and partners' systems also have played a major role. In general, the partnerships have served both functional and strategic roles. Further, one can observe cross partnerships of various payment actors with both Google Wallet and ISIS.

The complexity of the NFC mobile payment ecosystem requires service providers to form partnership to effectively reach mass-market penetration. This is also reflected in the numerous partnerships formed by Google Wallet and ISIS. In terms of network mode, the analysis highlights the different approaches between Google Wallet and ISIS, i.e. an open vs. a walled garden network approach. The adopted network mode reflects the characteristics of past product launches: e.g. Google's open model in products such as Gmail or YouTube or the ISIS carrier's tightly controlled platform through locking phones, opting for the usage of only their own networks.

Value Architecture

The *value architecture* between Google Wallet and ISIS is significantly different as the analysis, based on the sub-elements core resource, value configuration, and core competency, highlights. Both companies are financially well situated. This extended "cash runway" provides the basis to build the ecosystem and shape the market in the long run. In addition, both companies have significant brand power, which is, however, covert in the case of ISIS. Apart from those similarities in core resources, Google and ISIS exhibit rather different resource bases given their industry background in IT and telecommunications, respectively. These resources are important pieces in the construction of the value configuration for Google and ISIS. For example, ISIS's choice to adopt the SIM-centric NFC model for the mobile wallet reflects the logical consequence of its core resource, i.e. control of the mobile network and SIM card. On the other hand, Google's decision to build the mobile wallet application in-house and from scratch also makes sense given its IT engineering capabilities and organizational culture. The desired *value service* is driven by the structure of the *value architecture*, since

the efficacy to deliver the value elements is grounded on the respective strengths in competencies and given resources.

Value Finance

The *value finance* section analysed the monetary aspects associated with delivering the mobile wallet services of Google Wallet and ISIS. Differences between each of these dimensions' sub-elements originate from the different configurations of the other dimensions, i.e. *value service* and *value architecture*. For example, Google's main cost driver is the double acquiring process related to its new cloud and proxy card approach; ISIS's main cost driver is associated with the procurement and deployment of the higher priced NFC-enabled SIM cards. Significant differentiations are also reflected in pricing methods, see appendix 2 for additional data on the pricing methods. Though Google offers its basic services for free for consumers and banks, ISIS charges banks with a rental fee to be integrated in the mobile wallet application. These fees are rather steep, as some industry players have complained, especially in this early stage of the product cycle. The dissimilarities in pricing structures also affect the different revenue drivers for each of the mobile wallets: Google implements only one revenue source stemming from added values from non-payment services offered to its business customers. In contrast, ISIS has two revenue sources put in place, which stem from rental fees and added services provided to its merchants. Appendix 2 provides more data on the pricing and revenues model.

Results

In terms of the specifics of the two business models, the analysis has revealed interesting details on Google and ISIS's strategies to deploy their mobile wallets to the masses. They are both strongly focusing on providing an enhanced customer experience with their mobile wallet through a sound and multifaceted value proposition. The success of the delivery of its offering requires support and cooperation from multiple stakeholders. As such, significant efforts have been made in building the ecosystem, see appendix 1, that enables the deployment of a ubiquitous mobile wallet solution.

However, differences in their mobile wallet approaches are also apparent and have been summarized in the table 2. First, different network modes have been implemented to maneuver through the complex m-payment ecosystem; network modes have been chosen based on their control points and *value architecture* basis. Both network modes enabled the Google Wallet and ISIS to form partnerships and build the ecosystem, suggesting their efficacy. However, findings suggest that collaboration between both m-wallet providers would more likely accelerate the process for broad m-payment acceptance. Second, differences in Google and ISIS's m-wallets to deliver services were found, though with both having the potency to reach the broad mass-market. Further, adopted m-wallet models affected the value proposition for their customers, providing different benefits for them. Lastly, variations in Google and ISIS's revenue models were observed, posing different risk levels for their customers. ISIS's revenue structure, which charges premium prices to banks, suggests its plan to quickly recoup its investment, which appears to be a sub-optimal strategy given the uncertainties and infancy of the industry.

Based on the above, we expand upon existing literature (Carton *et al.*, 2012; Al-Debei and Avison, 2010) and propose an integrated payment business model framework, depicted in Figure 1. The logic of the framework is that the *value service*, *value network*, *value architecture*, and *value finance* dimensions are mutually interdependent and are challenged by external *threats*.

Discussion and Conclusion

First, we developed the novel Mobile Payments Business Model framework, which has been derived from extant research on business models and tested on two case studies. The findings suggest the applicability of the framework to deal with the complexity and particular characteristics of NFC m-payments and related business issues. The framework considers a broad range of facets that are seen as highly relevant in the m-payment domain. The *value service* element depicts the nature and aspects of the new service and ensures that these are delivered to the right target segment and through the relevant distribution channels. In order

to successfully deliver the desired *value service*, mobile wallet providers need to check that their given resource base is strong and configured in a way that adds to their core competencies. Building a strong and sustainable *value network* significantly enhances the efficacy of the m-payment service. As highlighted through the cases, *value networks* provide valuable expertise as well as other complementary resources and benefits that strengthen the potency of the wallet services. The *value finance* element includes the financial attributes incurred and generated through delivering value to customers, and originating from the aforementioned constellations of the four value elements. Lastly, the framework regards potential *threats* that are apparent in the emerging and volatile market of m-payments. So, given the broad coverage, the framework appears to provide a comprehensive tool for researchers and practitioners to study and analyze current and future mobile payment solutions. Further, it enables them to communicate and share understandings of the different or overall aspects of the business model.

Second, we provide a grounded understanding of NFC mobile payment business models. Past studies suggest the lack of stringent and rigorous analysis of business models of m-payment services (Pousttchi *et al.* 2009), which is even more the case for NFC-enabled payments, given their infancy. This paper addresses this research gap and explores and compares two high profile mobile wallet approaches in the U.S. market according to five dimensions and 15 sub-dimensions. The analysis of Google Wallet and ISIS has highlighted the similarities and differences of their design approaches to deploy a mobile wallet service for a broad mass market. The analysis suggests three main findings with regards to the main differences in their configuration of the business model elements.

- First, contrary to expectation, not both of the mobile wallet providers have adopted an open network mode. However, ISIS's closed network mode has not hindered them from building the required ecosystem around their mobile wallet solution. In addition, Google's open network mode has not enabled them to form more partnerships. Nonetheless, the adoption of NFC m-payment could be more widespread if both would agree to collaborate given their different strengths and market power.

- Second, our findings suggest the importance of focusing on the aspect of scalability. Google and ISIS have both aligned their value elements to create a mobile wallet solution that could quickly reach the scale to become a ubiquitous payment method. As such, they have focused on different m-wallet approaches to deliver their *value service*. Google's engineering and creative power has enabled it to construct a new technical approach to the wallet that overcomes its past obstacles. ISIS, on the other hand, has adopted an approach that leverages on existing control points, i.e. the SIM card and its distribution network. However, given their relatively short market presence, no definite answer can be given in terms of which wallet approach will be more scalable and sustainable.
- Third, the analysis has exposed the different revenue models of the m-wallet providers. The findings suggest that these have been designed accordingly to their *value services*, and have been affected by the different constellations of the *value architecture* and *value network*. They also suggest that the ISIS revenue model may be appropriate

but its price setting may be flawed, given the associated risks for customers to become part of the early stage of m-payment evolution.

The results of the analysis of Google and ISIS's business models confirm the potency of their NFC mobile payment approaches. The value dimensions of their business models are aligned and aimed to deliver a solution that can effectively reach the mass-market. However, it is too early to make a prediction toward the long-term sustainability of the companies' business models due to the relative infant stage of the industry with the accompanying uncertainties and *threats*. Nonetheless, Google and ISIS both acknowledge the long road to commercial success. In addition, it helps that they possess the necessary capabilities and resources to stay in the game for the long run.

Acknowledgement

This work was carried with the support of Copenhagen Finance IT Region (www.cfir.dk) and was funded by the Danish Enterprise and Construction Authority grant

References

- Al-Debei, M. M., and Avison, D. 2010. Developing a Unified Framework of the Business Model Concept, *European Journal of Information Systems*, 19 (3): 359-376.
- Al-Debei, M. M., and Avison, D. 2011. Business Model Requirements and Challenges in the Mobile Telecommunication Sector, *Journal of Organisational Transformation & Social Change* 8 (2): 215-235.
- Amit, R., and Zott, C. 2001. Value Creation in E-Business, *Strategic Management Journal*, 22 (6/7): 493-520.
- Amit, R., Zott, C., and Pearson, A. 2012. Creating Value through Business Model Innovation, *MIT Sloan Management Review* 53 (3): 41-49.
- Ballon, P. 2007. Changing Business Models for Europe's Mobile Telecommunications Industry: The Impact of Alternative Wireless Technologies, *Telematics and Informatics*, 24 (3): 192-205.
- Birch, D. G. W. 2007. The Digital Money Decade, *Journal of Internet Banking & Commerce*, 12 (1): 1-4.
- Bouwman, H., De Reuver, M., & MacInnes, I. (2006), Dynamic business model framework: A comparative case study analysis, in ITS 2006 - 16th Biennial Conference in Beijing, International Telecommunication Society, June 12-16.
- Bouwman, H., de Vos, H., & Haaker, T. (2008), *Mobile Service Innovation and Business Models*, Springer.

- Camponovo, G. & Pigneur, Y. (2003), Business model analysis applied to mobile business, in Proceedings of the 5th International Conference on Enterprise Information Systems (ICEIS), 4, pp.173-183, Angers, France, April 23-26.
- Carton, F., Hedman, J., Damsgaard, J., Tan, K.-T., and McCarthy, J. 2012. Framework for Mobile Payments Integration, *Electronic Journal of Information Systems Evaluation* 15 (1): 14-25.
- Cherry, S. (2012), Verizon versus Google Wallet, IEEE Spectrum, available at: <http://spectrum.ieee.org/podcast/at-work/innovation/verizon-versus-google-wallet> (accessed November 6, 2012).
- Chesborough, H. & Rosenbloom, R. (2002), The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's technology spin-off companies, *Industrial and Corporate Change*, 11 (3): 529-555.
- Crowe, M., Rysman, M., & Stavins, J. (2010), Mobile payments in the United States at retail point of sale: Current market and future prospects, Federal Reserve Bank of Boston, Public Policy Discussion Paper No. 10-2: 1-39.
- Crowe, M., Rysman, M., and Stavins, J. 2010. Mobile Payments at the Retail Point of Sale in the United States: Prospects for Adoption, *Review of network economics* 9 (4): 1-31.
- Dan, L., and Jing, Z. 2011. Tam-Based Study on Factors Influencing the Adoption of Mobile Payment, *China Communications* 8 (3): 198-204.
- de Meijer, C. R. W., and Bye, J. 2011. The Increasing Adoption of Mobile Payments in Europe - and Remaining Challenges to Growth, *Journal of Payments Strategy & Systems* 5 (3): 273-288.
- Federal Reserve Bank of Boston (2012), Mobile payments industry workgroup, Federal Reserve Bank of Boston, available at: <http://www.bos.frb.org/bankinfo/payment-strategies/mpiw/index.htm> (accessed November 6, 2012).
- Hedman, J., and Kalling, T. 2002. Behind the Scenes of the E-Business Construct, in: *4th International Conference on Electronic Commerce*, Chan et. al. (ed.). Hong-Kong: Faculty of Business, City University of Hong Kong.
- Hedman, J., and Kalling, T. 2003. The Business Model Concept: Theoretical Underpinnings and Empirical Illustrations, *European Journal of Information Systems*, 12 (1): 49-59.
- Magretta, J. (2002), Why business models matter, *Harvard Business Review*, 80: 86-92.
- Mallat, N. 2007. Exploring Consumer Adoption of Mobile Payments: A Qualitative Study, *The Journal of Strategic Information Systems*, 16 (4): 413-432.
- Mallat, N., and Tuunainen, V. K. 2005. Merchant Adoption of Mobile Payment Systems, in: *International Conference on Mobile Business: ICMB 2005*, W. Brookes, E. Lawrence, R. Steele and E. Chang (eds.): 347-353.
- Mallat, N., and Tuunainen, V. K. 2008. Exploring Merchant Adoption of Mobile Payment Systems: An Empirical Study, *e-Service Journal*, 6 (2): 24-57.
- MarketsandMarkets. 2012. Bring-Your-Own-Device (Byod), Consumerization of It (Co-It) and Enterprise Mobility Market - Global Advancements, Business Models, Market Forecasts & Analysis (2012-2017), <http://www.marketsandmarkets.com/AnalystBriefing/byod-enterprise-mobility-market.asp>.
- Morris, T. & Wood, S. (1991), Testing the survey method: Continuity and change in British industrial relations, *Work Employment and Society*, 5 (2): 259-82.
- Ondrus, J., and Lyytinen, K. 2011. Mobile Payments Market: Towards Another Clash of the Titans?, in: *The 10th International Conference on Mobile Business (ICMB)*. Como, Italy.

- Osterwalder, A. & Pigneur, Y. (2002), An e-business model ontology for modeling e-business, in 15th Bled Electronic Commerce e-Reality: Constructing the e-Economy in Bled, Slovenia, June 17-19.
- Osterwalder, A., and Pigneur, Y. 2013. Designing Business Models and Similar Strategic Objects: The Contribution of IS, *Journal of the Association for Information Systems*, 14 (5): 237-244.
- Osterwalder, A., Pigneur, Y., & Tucci, C. (2005), Clarifying business models: Origins, present, and future of the concept, *Communications of the Association for Information Systems*, 16 (1): 1-40.
- Ozcan, P., and Santos, F. M. 2014. The Market That Never Was: Turf Wars and Failed Alliances in Mobile Payments, *Strategic Management Journal*, online.
- Pateli, A. G. & Giaglis, G. M. (2004), A research framework for analysing eBusiness models, *European Journal of Information Systems*, 13 (4): 302-314.
- Plouffe, C. R., Vandenbosch, M., and Hulland, J. 2001. Intermediating Technologies and Multi-Group Adoption: A Comparison of Consumer and Merchant Adoption Intentions toward a New Electronic Payment System, *Journal of Product Innovation Management*, 18 (2): 65-81.
- Pope, M., Pantages, R., Enachescu, N., Dinshaw, R., Joshlin, C., Stone, R., Austria, P. A., and Seal, K. 2011. Mobile Payments: The Reality on the Ground in Selected Asian Countries and the United States, *International Journal of Mobile Marketing*, 6 (2): 88-104.
- Pousttchi, K., Schiessler, M., and Wiedemann, D. G. 2009. Proposing a Comprehensive Framework for Analysis and Engineering of Mobile Payment Business Models, *Information Systems and e-Business Management* (7:3): 363-393.
- Purcell, K. (2011), The future of mobile payments and NFC is bright (infographic), Available at <http://www.gottabemobile.com/2011/07/10/the-future-of-mobile-payments-and-nfc-is-bright-infographic/>, Accessed July 10.
- Saji, K. B. 2008. Market Adoption of Mobile Payment Solutions: An Exploratory Study, in: *Proceedings of the 2nd Wseas International Conference on Management, Marketing and Finances: Recent Advances on Development and Financial Engineering*, L. Perlovsky, I.W. Sandberg and D. Halkias (eds.). 109-114.
- Shafer, S. M., Smith, H. J., & Linder, J. C. (2005), The power of the business models, *Business Horizons*, 48 (3): 199-207.
- Solaimani, S. & Bouwman, H. (2012), A framework for the alignment of business model and business processes: A generic model for trans-sector innovation, *Business Process Management Journal*, 18 (4): 655-679.
- Stabell, C. B., and Fjeldstad, Ø. D. 1998. Configuring Value for Competitive Advantage: On Chains, Shops, and Networks, *Strategic Management Journal* 19 (5): 413-437.
- Van Bossuyt, M., and Van Hove, L. 2007. Mobile Payment Models and Their Implications for Nextgen Msps, *Info*, 9 (5): 31-43.
- Van der Horst, D. 2011. Adoption of Payments for Ecosystem Services: An Application of the Hagerstrand Model, *Applied Geography*, 31 (2): 668-676.
- Vanetti, R. 2010. Strategic Innovation in Payments Systems: What Are the Next Big Things?, *Journal of Payments Strategy & Systems*, 4 (1): 17-25.
- Yin, R. K. (1994), Case Study Research: Design and Method (second ed.), Thousand Oaks, CA: Sage Publications Inc.

Zhang, H. M. 2009. The Study on the Influential Factors of Electronic Payment System Adoption, in: *International Conference on Management Science & Engineering*, H. Lan (ed.): 106-111.

Zott, C., Amit, R., and Massa, L. 2011. The Business Model: Recent Developments and Future Research, *Journal of management*, 37 (4): 1019-1042.

Zott, C., and Amit, R. 2007. Business Model Design and the Performance of Entrepreneurial Firms, *Organization Science*, 18 (2): 181-199.

Appendix 1. The NFC Ecosystem

The complexity of the NFC mobile payment ecosystem requires service providers to form partnership to effectively reach mass-market penetration. This is also reflected in the numerous partnerships formed by Google Wallet and ISIS. A brief overview of relevant partners, including category and role description in terms of function is presented in the table below.

Table 1. Partner in the NFC ecosystem				
	Google		ISIS	
Partner Category	Actor	Functional Role	Actor	Functional Role
MNO	<ul style="list-style-type: none"> Sprint Virgin Mobile 	<ul style="list-style-type: none"> Distribution of NFC Android mobile devices OTA Google Wallet app distribution Consumer marketing funding 	<ul style="list-style-type: none"> AT&T Verizon T-Mobile 	<ul style="list-style-type: none"> Distribution of all NFC mobile devices Distribution of SIM card with SE OTA ISIS mobile app distribution Consumer marketing funding Customer service
PAYMENT NETWORKS	<ul style="list-style-type: none"> MasterCard (preferred) Visa Discovery American Express 	<ul style="list-style-type: none"> Initial network brand (MasterCard) Providing payment infrastructure, e.g. MasterCard's PayPass, or Visa's payWave Funding support Value-added services 	<ul style="list-style-type: none"> Visa MasterCard Discover American Express 	<ul style="list-style-type: none"> Providing payment infrastructure, e.g. MasterCard's PayPass, or Visa's payWave Issuing credit card into the wallet (American Express only)

Table 1. Partner in the NFC ecosystem

BANK	<ul style="list-style-type: none"> • Citi • Bancorp Bank • Barclaycard US • Green Dot • Silicon Valley Bank 	<ul style="list-style-type: none"> • Initial consumer credit accounts • Issuing the card into the wallet and service the customer • Providing a linked virtual prepaid MasterCard card that links credit or debit cards from other banks (by Bankcorp) • Providing basic customer service • Consumer marketing funding 	<ul style="list-style-type: none"> • Chase • CapitalOne • Barclay Card 	<ul style="list-style-type: none"> • Initial consumer credit accounts • Issuing the card into the wallet and service the customer • Providing ISIS Visa Cash Card (by Chase) • Enlarging customer base through banks' existing customer base • Providing added value services, e.g. mobile banking functionality (in the future) • Consumer marketing funding
TSM	<ul style="list-style-type: none"> • FirstData 	<ul style="list-style-type: none"> • Full TSM services • Lead merchant acquirer • Merchant marketing funding • Welcome kit fulfillment 	<ul style="list-style-type: none"> • Gemalto 	<ul style="list-style-type: none"> • Full TSM services
MOBILE WALLET SOFTWARE PROVIDER	n.a. (in-house)		<ul style="list-style-type: none"> • C-Sam 	<ul style="list-style-type: none"> • Providing the wallet management platform (license) and software development kit
HANDSET MANUFACTURERS	<ul style="list-style-type: none"> • Samsung • LG • HTC • Motorola 	<ul style="list-style-type: none"> • Providing the mobile device • Enabling compatibility 	<ul style="list-style-type: none"> • Samsung • LG • HTC • RIM • Sony Ericsson • Motorola 	<ul style="list-style-type: none"> • Providing the mobile device • Enabling compatibility

Table 1. Partner in the NFC ecosystem

POS TERMINAL	<ul style="list-style-type: none"> • Verifone • Vivotech • Ingenico • Hypercom 	<ul style="list-style-type: none"> • Distribution of NFC POS devices to merchants • Enabling the interoperability of the mobile wallet with the POS device 	<ul style="list-style-type: none"> • Verifone • Vivotech • Ingenico • Equinox 	<ul style="list-style-type: none"> • Distribution of NFC POS devices to merchants • Enabling the interoperability of the mobile wallet with the POS device
MERCHANT (MAJOR)	<ul style="list-style-type: none"> • Champs • Footlocker • Jamba Juice • Macy's • American Eagle • Bloomingdale • Container Store • Duane Reade • GAP • Guess • Office Max • Toys R Us • Walgreens 	<ul style="list-style-type: none"> • Enabling Google's SingleTap experience by accepting NFC payments, providing offers, loyalty rewards and gift cards 	<ul style="list-style-type: none"> • Champs • Footlocker • Jamba Juice • Macy's • Aero-postale • Coca Cola • Dillard's 	<ul style="list-style-type: none"> • Enabling ISIS's Pay&Save experience by accepting NFC payments, providing offers, loyalty rewards and gift cards

Mobile Network Operator (MNO)

Google as a technology company required distribution partners to effectively reach customers and formed partnerships with Sprint and later on with Virgin Mobile. Both partners will distribute NFC mobile devices in which Google Wallet is already pre-installed. For existing customers who already own NFC eligible mobile phones, the wallet app will be automatically installed through an over-the-air software update. On the other hand, ISIS is a joint venture between the largest MNOs in the U.S., so ISIS is already equipped with a vast distribution network and an existing customer base to deploy its mobile wallet solution. One of the differences to Google's partnerships with its MNOs is that, ISIS will be the main contact point for customers, thus take the main responsibility for the customer service. Sprint's customers on the other hand are redirected to Google Wallet for most of their issues and questions with the wallet.

Payment Networks

Both Google and ISIS managed to secure partnerships with all four major payment networks. Upon launch, Google selected MasterCard as the preferred partner. As such, MasterCard provided the initial network brand for Google Wallet, and more importantly access to MasterCard's PayPass infrastructure. This enabled Google Wallet to be accepted in 144.000 PayPass-enabled merchants nationally, and more than 311.000 merchants globally. ISIS formed

partnerships with all MasterCard, Visa, Amex, and Discovery right from its launch. However, the decision to integrate the existing payment networks reflected a change in strategy, as ISIS initially planned to introduce its own payment network to handle transactions itself. ISIS came to the conclusion that building an alternative payment would be too complex and time-consuming, and thus dismissed the idea.

Banks

As new entrants in the payment sphere, partnerships with banks are important for Google Wallet and ISIS. Google Wallet formed a partnership with Citi as the lead bank. Citibank has provided its own core industrial strength in banking capabilities, and helped transforming these technical capabilities into Google Wallet. In addition, Citi will also issue its own Citibank MasterCard cards into Google Wallet for their existing and new customer base. ISIS initially planned to build its own payment network, in which Discover would have played the key role as the payment processor, but decided to take a similar approach to Google Wallet by relying on existing accounts at several bank partners, and letting bank's customers link their existing debit or credit cards to their phones.

Trusted Service Manager

Google Wallet and ISIS differ in their choice of Trusted Service Manager. However, both selected partners are established and big players in the payment sphere. Google Wallet picked First Data as the preferred partner. Its main role is to supply the infrastructure, functionality, and services that enable the end-to-end management of payment accounts on the SE of mobile phones. As such First Data is involved in the secure distribution, provisioning, and management of contactless payment information for consumers on behalf of Google Wallet and card issuers. In addition, the partner is also taking charge in signing up small merchant to use Google Wallet. ISIS selected Gemalto as its partner to provide the full service TSM provisioning. Gemalto's main role is to provide a secure link between ISIS and the payments or service providers that access the wallet. The TSM will securely place and provision consumers' information for all NFC activities such as payments, transit, loyalty, smart posters or similar onto their mobile phone. One of the key arguments for selecting Gemalto was its commitment towards security experience in issuing sensitive financial information to the consumer and provisioning services OTA.

Mobile Wallet Software Provider

One of the main differences between Google and ISIS is that Google develops the software for the mobile wallet application in-house in collaboration with their launch partners. As a technology company Google has the technical capabilities to engineer their own wallet solution. While ISIS may also have the necessary technical capabilities to build its mobile solution from scratch, the company decided to take a licensing agreement with one its partners. It has selected C-Sam to provide the wallet management platform and the software development kit. The rationale behind this decision was to leverage on C-Sam's existing mobile wallet competencies rather than developing the resource intensive route to develop these from scratch.

Handset manufacturers

Google Wallet runs only on the Android Operating System, as such works only on mobile devices that supports Android. These are currently Samsung, LG, HTC, and Motorola. ISIS on the other side supports different Operating Systems, which is why they also run on Sony Ericson and RIM devices. ISIS emphasizes the importance of working with device manufacturers because it will enable consumer choice and scale that is required for widespread adoption of mobile commerce.

POS device manufacturer

Establishing partnerships with POS device manufactures are crucial. They are the ones that could effectively encourage merchants to upgrade their existing terminals. The underlying issue here is the lack of established interface specifications for mobile offers, coupons, and loyalty in merchants' systems. So a partnership with POS

device manufacturers enables the interoperability of the mobile wallet with the POS terminal, making sure that the value-added services are understood by the merchant systems and flow seamlessly. Both Google Wallet and ISIS manage to secure the major players of the industry

Appendix 2. Pricing and revenue model

An overview of the different pricing set ups can be found in the table below. However, it shall be noted that some of the information are publicly not available due to confidentially agreements and may vary within customer segments,

Table 1. Pricing differences between Google Wallet and ISIS			
		Google Wallet	ISIS
<i>Consumers</i>			
DOWNLOAD/INSTALLMENT AND USE OF MOBILE WALLET APPLICATION		Free	Free \$2 per month maintenance fee if account has not been used for more than 9 month
<i>Merchants</i>			
ACCEPTING NFC PAYMENTS		Free, merchants pay card-present rates for all transactions made using Google Wallet, regardless of the user's selected cards	Free, merchant standard transaction fees will not be affected by accepting payments with ISIS
VALUE ADDED SERVICES	Coupons	40%-50% of revenue share (Google Offers)	Undisclosed
	Loyalty Cards	Undisclosed, but assumed to be free	Undisclosed, but assumed to charge rental fees
	Gift Cards	Undisclosed, but assumed to be free	Undisclosed, but assumed to charge rental fees
<i>Banks</i>			
CARD PROVISIONING AND USE OF MOBILE WALLET APP		Free	\$5 per account and additional charges for other events

i.e. merchants and banks, based on the bargaining power of the customer.

For consumers, the use of Google Wallet and ISIS is free, as they will not charge them anything for the download or instalment and the use of the mobile wallet application. This includes payments and other added services such as the redemption for coupons and offers. ISIS will also not charge customers for changing their SIM cards to NFC SIM cards. Store employees will freely install the chip when customers bring their phone or buy a new one, as well as download the application in-store if wished. However, ISIS charges \$2 per month account maintenance fees if the pre-paid card has not been charged every nine month. For merchants, both mobile wallet providers do not charge fees for accepting the new payment methods with NFC-powered mobile phones. Instead, the regular standard transaction fees from merchant acquirers and card networks apply. However, it shall be noted that for merchants, Google may be a more attractive solution when consumers use the linked virtual prepaid MasterCard, since transaction fees are lower for prepaid cards compared to debit and credit cards. However, Google and ISIS impose fees for added value services such as coupons and loyalty cards. The exact pricing structures are undisclosed and confidential, and may vary for each merchant depending on their market size. In regards to banks, Google and ISIS implement different pricing structures for banks. Google does not charge issuing banks to place their cards into the mobile wallet. So, NFC payment services are completely free for banks. ISIS on the other hand charges rental fees to banks for storing their payment credentials in the SE of the SIM. ISIS does not publish these fees, but insight sources have revealed to NFC TIMES, a major industry publication, that issuing banks may be charged \$5 per account per year, which is more than issuing plastic card.

The analysis of the pricing structures revealed the potential revenue drivers for Google Wallet and ISIS. As such Google provide most of its services free of charge for consumers, merchants, and banks. It clearly shows that Google is only interested in ad revenues, i.e. incremental revenues generated from targeted offers, loyalty programs and digital downloads, rather than taking a share of current card payments revenues. The main revenue driver will be Google Offers, in which merchants and advertisers will be charged when they place customized ads and coupons to consumers through the mobile wallet. In comparison, ISIS structures its revenue model differently by implementing several revenue drivers. First, ISIS charges charging rental fees from its control point, the SE SIM. As previously mentioned, ISIS charges a relatively steep price for issuing banks to place their cards, and also intends to charge other service providers for placing their credentials into the SE of the SIM. Second, another revenue stream will be offering the mobile wallet as a marketing channel for retailers.

About the authors

Johannes Sang Un Chae Department of IT Management, Copenhagen Business School, Denmark.

Johannes Sang Un Chae works as a Project Manager for the Seller Program & Strategy Team at eBay Marketplaces in the Berlin area. Previously, he took a role in the Strategy Team at PayPal. He received his master from Copenhagen Business School.



Jonas Hedman (Corresponding author), Department of IT Management, Copenhagen Business School, Denmark.
jh.itm@cbs.dk

Jonas Hedman is an Associate Professor at the Department of IT Management, Copenhagen Business School, Denmark. He investigates the role of IT in business and is involved in projects researching firms sourcing strategies, business models, and payments.



The Importance of Classification to Business Model Research

Dr. Susan C. Lambert¹

Abstract

Purpose: To bring to the fore the scientific significance of classification and its role in business model theory building. To propose a method by which existing classifications of business models can be analyzed and new ones developed.

Design/Methodology/Approach: A review of the scholarly literature relevant to classifications of business models is presented along with a brief overview of classification theory applicable to business model research. Existing business model classifications are evaluated in terms of their propensity to contribute to theory building and a method for designing classifications schemes is proposed.

Findings: Little attention has been paid to the rationale underlying the design of business model classifications and often there is no explicit consideration of the suitability of the classification for its intended purpose. Each classification contributes to the understanding of business models in practice but there is a dearth of taxonomical research that can facilitate progression of business model research towards theorizing.

Originality/Value: This paper addresses the research element of classification that is largely overlooked yet is crucial for business model theory building. The nature of business model classifications is examined in the light of classification philosophies and a structured method of classification design is proposed. A case is made for the development of a general classification of business models that can facilitate the progression of business model research towards theory building.

Keywords: classification, business model, taxonomy, typology, theory building

Please cite this paper as: Lambert, Susan C. 2015. 'The importance of classification to business model research', *Journal of Business Models*, Vol. 3, No. 1, pp. 49-61

¹Torrens University, Australia

Introduction

The business model concept has defied its early critics who saw it as a novel concept that was no more than another way of articulating business strategy (Baden-Fuller & Mangematin, 2013) and although there is still no universally accepted definition or framework of a business model, like its predecessor concepts including strategy, the meaning is evolving through research and practical applications.

Numerous studies seek to determine what is taking place in actual organizations and how business models relate to e-business, strategy, innovation and technology (Zott, Amit, & Massa, 2011). As with other, nascent fields of research such as small enterprise and organizational science, in 'the absence of careful empirical analysis, a plethora of conceptually based models have emerged' (Hanks, Watson, Jansen, & Chandler, 1993, p.11).

A range of empirical studies use the business model to classify enterprises and to identify relationships between enterprise performance and the business model. In addition, the motivation for and frequency of business models innovations and the relationships between business model innovation and firm success are the subjects of empirical research that helps us to understand the business model concept (Lambert & Davidson, 2013). In some studies, the business model is used as an independent variable and in others as a dependent variable (Zott et al., 2011).

Much of the research is predicated on a classification of business models and in many instances the classification is proposed with little or no justification or explanation. Each of the many classifications is conceived to meet the specific needs of the researcher, and they vary considerably in terms of purpose and the scientific rigor used in their development. Some classifications are constructed using a large number of business model characteristics and potentially serve a relatively wide range of purposes and others are based on a small number of business model characteristics, serve specific purposes and, consequently, facilitate only a limited range of generalizations. Each of the well-structured business model classifications makes a contribution to the business model knowledge base; however, distinguishing one classification from

another, evaluating their utility for future research, and understanding the underlying decisions on which the classifications are based, are not always possible because very little consideration is paid to the taxonomical issues (Baden-Fuller & Mangematin, 2013; Mäkinen & Seppänen, 2007; Morris, Schindehutte, Richardson, & Allen, 2006).

This paper proceeds with a discussion of the significance of classification followed by a brief overview of classification philosophies that are relevant to business models. Next, business model classifications that are present in the scholarly literature are analyzed in the light of the philosophies presented, and a case is made for a more transparent and structured approach to the design of classification schemes for research. A classification design method is then proposed. The paper concludes with a summary of the findings and a discussion of the importance of classification to business model research.

The Universal Significance of Classification

Classification is critical to the understanding of objective reality. It involves the ordering of objects into groups or classes on the basis of their similarity and ordering of objects into classes provides meaning to reality (Bailey, 1994, 2005; Simpson, 1961).

The action of putting things which are not identical into a group or class is so familiar that we forget how sweeping it is. The action depends on recognizing a set of things to be alike when they are not identical. We order them by what it is that we think they have in common, which means by something that we feel to be a likeness between them (Bronowski, 1951, p.21).

It is widely recognized that classification is a necessary step in understanding a research area, however throughout history there has been continuous debate about the best way to classify objects, what criteria to use, and what purpose the classification can serve.

Since ancient times, the natural historians worked

to 'bring order to the apparent chaos of the natural world' (Huxley, 2007, p.12) and for centuries, biologists have understood the importance of classifying objects according to a general, widely accepted classification scheme which facilitates the naming of objects and provides a common language within the entire domain. The study of diversity brought life to taxonomic research the philosophical basis of which shaped the resultant biological research (Huxley, 2007). The importance of classification is not, however, peculiar to biological science research. Researchers in the organizational sciences (Carper & Snizek, 1980; Chrisman, Hofer, & Boulton, 1988; McKelvey, 1982; Scott, 1987; Sells, 1964), behavioral sciences (Mezzich & Solomon, 1980), social sciences (Bailey, 1994), and information and computer sciences (Fettke & Loos, 2003; Vessey, Ramesh, & Glass, 2005), recognize the value of both conceptually derived and empirically derived, general classification schemes for their fields of research.

Embedded throughout management research are classifications of research objects as diverse as teams (Hollenbeck, 2012), activities within the strategy process (Eppler & Platts, 2009) and reasons for financial report restatement (Gertsen, van Riel, & Berens, 2006). Firms are classified according to size (Brews & Purohit, 2007), entrepreneurial orientation (Jambulingam, Kathuria, & Doucette, 2005), industry (Yip, Devinney, & Johnson, 2009), and business models (Lambert & Davidson, 2013). Without some level of consensus on the classification of objects within a field of research, knowledge accumulation and meta-analysis are impeded (Hollenbeck, 2012) and theorizing is forced to be on a grand scale. Classifications make it possible to study and make generalizations about discrete, homogeneous groups of objects and, ultimately, propose mid-range theories that apply only to those discrete groups of objects (Rich, 1992). Such mid-range theories might explain why some business models perform better than others or are more sustainable than others, or they might explain why some business models are vulnerable to technological, political or social change and others are not. Mid-range theories could explain how the dimensions of particular classes of business models can be manipulated to enable organizations to adapt to change or to pursue new strategies.

In this paper I examine the basis of business model classifications, revealing that although many specific classifications exist, there are no general classifications. The analysis is based on identifying the philosophy behind the classification which has implications for the functions and characteristics of the resultant classification. The following section provides a brief overview of the essentialist and empiricist philosophies of classification and their respective outputs.

Philosophies of Classification

Two distinct theories of classification have been widely adopted in the research of inanimate objects including business models; essentialism and empiricism. The suitability of each theory depends on the purpose of the classification.

Essentialism stems from the Aristotelian view that there exist a few essential characteristics, which define the essence of an organism and that, by identifying these characteristics, classes of organisms can be created. Classes based on a small number of characteristics considered essential to defining the essence of the group are called *monothetic* groups. For objects to qualify for membership of the group, they must possess the characteristics used to define the group; and possession of the characteristic is both sufficient and necessary for membership in the group (Bailey, 1994; McKelvey, 1982). Classifications that are the product of essentialist philosophy are called *typologies*.

Typologies can take the form of *traditional* (commonsense) or *theoretical* classifications (Rich, 1992; Warriner, 1984). Traditional classifications 'depend on implicit recognition of the categories referred to, for there are no explicit classificatory criteria' (Warriner, 1984, p.134) and they are based on broad similarities and differences that are apparent to the users and that reflect the interests of the users. Traditional classifications are useful for identifying and naming things that exist in the real world such as organizations. Organizations can be classified as educational institutions, manufacturers, retailers and service providers. This traditional classification might be useful to identify types of organizations but its

usefulness is limited because the similarities of organizations within a class and the differences between classes are not expressed and classifications can overlap.

Theoretical typologies, on the other hand, are derived on the basis of a prior theory such as economics, management, strategy, or entrepreneurship theory. The researcher conceptualizes and names the 'types' that are relevant to the research and decides, a priori, the few characteristics that represent the essence of the object which in turn, relates to the purpose of the classification. For example, theoretical typologies of organizations include those based on their function in society, who benefits from their output, inputs and the technology employed (McKelvey, 1982). The result is a deductively-derived classification designed for a specific purpose; 'but no matter how useful they may be in predicting certain features of special interest to particular theories, they have limited general utility' (Warriner, 1984, p.135).

Baden-Fuller and Haefliger (2013) argue that conceptual typologies are forward looking classifications. Theoretical classifications may have no empirical equivalents, and may be ideal types or completely hypothetical (Bailey, 1994). For example, economists classify economies as traditional, market, command and mixed economies although there are no instances of pure market or command economies. The ideal types are benchmarks against which existing economies can be compared and therefore be better understood. Theoretical classifications can be supported by empirical cases, for example, a typology of financial instruments can be populated with instances of financial instruments. All members of a category must possess the characteristic(s) which define that category. Typologies are mostly generated through qualitative classification rather than quantitative analysis, although they can be formed by conceptualizing types and then analyzing the results using statistical techniques (Bailey, 1994). The Nosella et al. (2005) and Bigliardi et al. (2005) business model classifications of the biotechnology industry illustrate how theoretical basis and empirical processes can be combined.

As typologies categorize objects according to a limited number of defining characteristics (often as few as two), they are able to simplify complex concepts. Researchers base the defining characteristics on their personal perspective and bias (Hambrick, 1984). However, the simplicity of typologies limits their power to explain or predict phenomena (Hambrick, 1984); and any increase in the number of defining characteristics will lead to a disproportionate increase in the level of complexity of the task and in the ultimate result of the research itself.

For example, even if all [defining characteristics] are dichotomous, the formula for determining the number of [types] is 2^5 , where 5 is the number of [defining characteristics]. Thus for five dichotomous [defining characteristics] the typology will contain only 2^5 or 32 [types], but for 12 dichotomous [defining characteristics] the number of [types] is 2^{12} or 4,096. (Bailey, 1994, p.4)

Keeping the number of defining characteristics small is consistent with the essentialist philosophy that there are only a few characteristics that capture the essence of the object. Where researchers need to use a large number of defining characteristics, they must ask whether the essentialist philosophy is appropriate for the purpose.

In contrast to essentialism, empiricism is based on Adansonian principles whereby polythetic groups of objects are formed. Polythetic groups of objects '...have the greatest number of shared character states, and no single state is either essential to group membership or sufficient to make an [object] a member of the group' (Sneath & Sokal, 1973, p.21). Classifications that are the product of empiricist philosophy are called *taxonomies*.

Note the dual meaning of 'taxonomy'. A taxonomy is an empirically derived classification of objects based on the totality of their observable characteristics. The term taxonomy is also used to refer to the '...theoretical study of classification, including its bases, principles, procedures, and rules' (Simpson, 1961, p.11). Researchers who develop classification schemes carry out taxonomic activity, yet their output, the actual classification schemes, can be typologies (specific classifications) or taxonomies (general clas-

sifications). This dual meaning can lead to confusion and even misuse of the term in the business model literature where many classifications are referred to as taxonomies when they are in fact typologies. An analysis of existing business model classifications is presented later in this paper.

Empirically derived classification has come to be known as *numerical taxonomy* (Sneath & Sokal, 1973). Numerical taxonomies evaluate affinity between objects numerically (using multivariate techniques) creating taxa (categories) based on a large number of characteristics commonly referred to as variables. Objects are ordered according to their degree of affinity (McKelvey, 1982; Sokal & Sneath, 1963). A priori, all characteristics have equal weighting, and similarity between objects is a function of the similarity between each of their many individual characteristics.

A taxonomy can serve as a general classification of objects from which generalizations can be made, hypotheses proposed, and eventually mid-range theory generated since 'it is the intimate connection with empirical reality that permits the development of a testable, relevant, and valid theory' (Eisenhardt, 1989, p.532). By using a large number of variables the researcher bias that is present in typologies is potentially reduced. However, there are still many subjective decisions to be made. In fields of study where little is known about the object of classification and research is exploratory, the researcher must trawl the data using as many variables as practical. The danger with this approach is that key variables may be overlooked and irrelevant variables may dominate. The resultant classification may be statistically valid but may not be intuitively sensible or useful. Where there is little domain knowledge, an alternative to the pure inductive method is to seek expert opinion on variable selection, what Ketchen (2005) refers to as the *cognitive approach*. In research areas that are more mature, with existing theories in relation to the object of classification, the researcher can utilize that prior knowledge to minimize the chance of irrelevant data obstructing the classification and to ensure all key variables are included. In addition, where causal relationships are known, they can be taken into account in order to avoid overrepresentation of constructs (Ketchen, 2005). A large number of

variables is still required; however, utilizing existing theory to refine the variable set is beneficial for classifications that are aimed at confirming existing theory.

Variables are identified and measurement rules determined to allow data to be collected and coded for cluster analysis. The data can be further analyzed using a range of multivariate techniques. The aim is to minimize within-group variance and maximize inter-group variance, thereby creating homogeneous groups. Once created, these homogeneous groups can be used for a multitude of research applications, enabling the study of both within-group behavior as well as inter-group behavior.

Essentialist and empiricist theories of classification imply important differences in the taxonomical approaches used to create a catalogue of objects and in the resulting catalogue itself. The utility of those catalogues also differs. A typology is developed with a specific purpose in mind, is based on only a few characteristics and therefore has limited utility (McKelvey, 1982). By contrast, taxonomies are the result of grouping objects based on the totality of their observable characteristics. Although many researchers use the terms interchangeably, they are not equivalent: typologies and taxonomies have their own limitations and strengths. The characteristics and functions of typologies and taxonomies are summarised in Table 1.

Table 1: Summary of Characteristics and Functions of Typologies and Taxonomies

Typologies	Taxonomies
The product of essentialist philosophy	The product of empiricist philosophy
Categories (types) are conceptually derived	Categories (taxa) are empirically derived
Few characteristics considered	Many characteristics considered
Reasoning by deduction	Reasoning by inference
Mostly qualitative classifications	Quantitative classifications
Monothetic groupings	Polythetic groupings

Business Model Classifications

Scholars have long recognized that the business model literature lacks a systematic approach to the development of classifications and that many of the so-called taxonomies are simply lists of existing business activities, or at best, typologies of generic kinds of business models (Baden-Fuller & Morgan, 2010). The varied use of the terms typology and taxonomy in the business model literature creates misunderstanding and confusion for those attempting to analyze and compare the various classification schemes. Early business model classifications are simple identification schemes (traditional typologies) that use no explicit criteria for classification and produce generic types or shorthand descriptions of existing business models (Baden-Fuller & Morgan, 2010). For example, Applegate (2001) proposes four business model types; focused distributor models, portal models, producer models and infrastructure provider models. Laudon & Traver (2003) identify seven types of business models; portal, e-tailor, content provider, transaction broker, market creator, service provider and community provider. Bambury (1998) and Eisenmann (2002) propose fourteen and eight business model types respectively. The criteria used to define each type is not explicit, instead the types are broadly described in free form narrative.

Theoretical typologies are based on prior theory such as economics, strategy, and entrepreneurship. Numerous theoretically based typologies of business models are present in the literature providing alternate means of comparing business models according to a small number of clearly specified criteria. Market related criteria including customer profile (Bienstock, Gilenson, & Sanders, 2002; Leem, Suh, & Kim, 2004), market configuration factors (Timmers, 1998; Tapscott, Ticoll & Lowy, 2000), transaction factors (Wang & Chan, 2003) and marketing strategy (Weill & Vitale, 2001) dominate the classification criteria. Product related factors (Timmers, 1998; Bienstock et al., 2002) and resources (Weill & Vitale, 2001; Betz, 2002) also feature in the classification criteria.

Baden-Fuller and Mangematin (2013) argue that the essential characteristics of the business model, which they define as “a *meta* concept to exemplify firm strategy” (Baden-Fuller & Mangematin, 2013, p. 419) are customer, customer engagement, monetization and value chain and linking mechanisms. Their purpose is to “capture the essence of the cause-effect relationships between customers, the organization and money (Baden-Fuller & Mangematin, 2013, p. 419) which corresponds to an essentialist view of business models best served by a typology.

Some theoretical typologies form the basis of empirical research that collects evidence of empirical cases (Kauffman & Wang, 2008; Malone et al., 2006; Rajala & Westerlund, 2007; Sabatier, Mangematin, & Rousselle, 2010). The differentiating criteria of theoretical typologies are chosen to serve the specific tasks, for example measuring and comparing financial performance (Malone et al., 2006), analyzing the software industry's resource requirements and mode of management (Rajala & Westerlund, 2007), and identifying the characteristics of business models associated with the survival of Internet firms (Kauffman & Wang, 2008). These empirically supported typologies serve the purposes for which they are intended; however, their utility for other research is limited due to the small number of differentiating criteria used.

There are few empirically derived taxonomies of business models present in the literature. The Italian biotechnology industry is the subject of one series of studies (Bigliardi, Nosella, & Verbano, 2005; 2005) and two non-industry-specific studies involve United States based firms (Malone, Morris, Schindehutte, Richardson, & Allen, 2006; 2006).

What is missing from the literature is an empirically derived general classification (a taxonomy) of business models that uses many criteria to classify business models and is relevant to multiple industries. Such a general classification of business models will allow general patterns of configurations of business model variables to be inferred from the results. Simple relationships between variables can be hypothesized and tested and mid-range theories of business models, those intended to hold true for particular categories of business models rather than for all instances of business model, can be proffered.

A good classification scheme forms the foundation of theory development. To advance research towards mid-range theories, it is necessary to order the objects within the research domain since 'theory cannot explain much if it is based on an inadequate system of classification' (Bailey, 1994, p.15). Classifications '...are partway between a simple concept and a theory. They help to organise abstract, complex concepts' (Neuman, 2003, p.46). Business models are abstract, complex

concepts, and we can enhance our understanding of them by developing a general classification scheme.

So far I have made a case for the explicit and thoughtful consideration of the basis of classifications used in business model research. In the next section, I propose a classification design method that can aid in the design of a classification scheme that is consistent with its purpose.

Classification design for business model research

To encourage the application of theoretical rigor to the design of classification schemes in business model research and communicating their underlying structure to potential users, I now propose a method for the design of classification schemes based on the extant classification literature presented earlier in this paper. Figure 1 outlines six decision steps that lead to a classification outcome appropriate for the intended purpose.

Step 1: Specify the purpose of the classification. The purpose might be specific or it might be broad to facilitate broad generalizations.

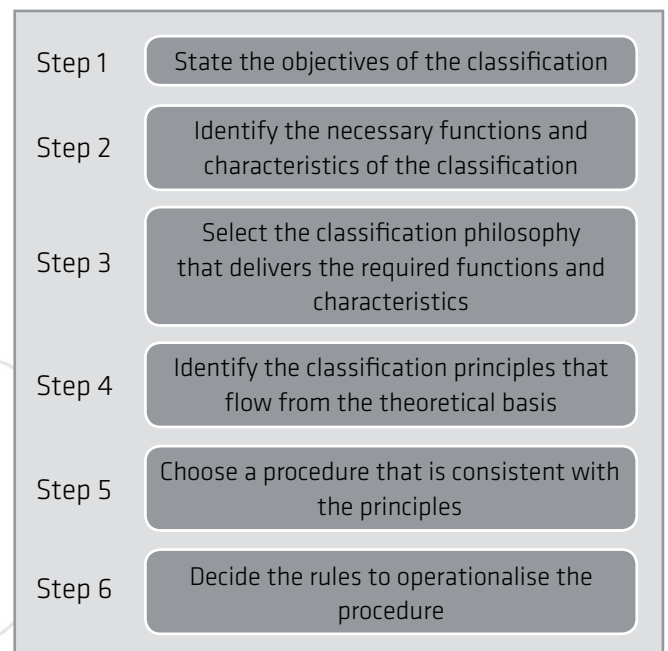


Figure 1: Classification Design Steps

Step 2: Identify the necessary functions and characteristics of the classification that will best serve the intended purpose.

Step 3: Select the classification philosophy that delivers the functions and characteristics required of the classification. For example, to understand the relationship between business models and social and environmental sustainability, we need a specific classification that uses characteristics of the business model that the researcher believes to be relevant to the study. The classification criteria would be based on existing sustainability research, just as Baden-Fuller and Haefliger (2013) and Baden-Fuller and Mangematin (2013) determined their classification criteria to better understand the relationship between business models and technological innovation. Classifications such as

these are consistent with an essentialist philosophy of classification that would produce a typology.

Step 4: Identify the classification principles relevant to the classification philosophy. For example, the essentialist philosophy requires the categories to be conceptualized using as few characteristics as possible and forming monothetic groups and the empiricist classification philosophy requires categories to be determined through observation.

Step 5: Choose procedures that are consistent with the philosophy and principles. The conceptualization of categories requires a procedure that identifies a small number of classification criteria. To establish categories through observation there needs to be a procedure to discover variables.

Table 2: Examples of Principles, Procedures and Rules for the Design of an Essentialist and an Empiricist Classification Scheme

	Classification Philosophy	
	Essentialism	Empiricism
Associated Principles	<ul style="list-style-type: none"> • Categories derived conceptually • Form monothetic groups 	<ul style="list-style-type: none"> • Categories derived through observation • Collect data based on many variables • Form polythetic groups
Related Procedures	<ul style="list-style-type: none"> • Define the criteria to form categories • Define the sampling unit and determine the population • Identify objects that fit the categories • Analyse the results quantitatively and/or qualitatively 	<ul style="list-style-type: none"> • Define the sampling unit and determine the population • Discover and measure the variables • Code the variables • Form clusters using computerized statistical software • Analyse results quantitatively
Related Rules	<ul style="list-style-type: none"> • Derive 16 categories • Treat multiple business models within the enterprise as a single hybrid business model 	<ul style="list-style-type: none"> • Apply both hierarchical and non-hierarchical clustering methods • Use numerical descriptions such as z-scores, inter-cluster distance, and linear discriminant functions in the analysis

Step 6: Decide the rules by which the procedures will be carried out. The procedure to define the object for classification is quite straightforward when the object is tangible but it is more challenging and requires carefully conceived rules when the object is abstract. Business models are abstract objects that have no universally accepted definition and whose components vary according to user perception.

For example, a rule related to the procedure of defining the sampling unit is to treat multiple business models within the enterprise as a single hybrid business model rather than as multiple, discrete business models. A rule associated with conceptualizing categories is to specify the number of categories required. Table 2 shows examples of principles, procedures and rules associated with both essentialist and empiricist philosophies of classification.

A general classification of business models based on empiricism would create polymorphic categories of business models (i.e., groups of business models based on overall similarity) using computerized statistics programs to perform cluster analysis that identifies the taxa based on the observed variables. Decision rules relating to the selection and measurement of variables and choice of particular statistical techniques must be made explicit. Clustering is often performed using both hierarchical and non-hierarchical methods to minimize the impact of the limitations of each method (Henry, Tolan, & Gorman-Smith, 2005; Huberty, Jordan, & Brandt, 2005; Ketchen, 1996). Finally, the clusters would be interpreted and labelled and differences between clusters identified. Both numerical descriptions such as z-scores, inter-cluster distance, and linear discriminant functions can form part of the analysis.

Conclusion

Classification is an integral part of business model and other management research (Christensen & Carlile, 2009) and to facilitate the evaluation of classifications the relevant principles, procedures and rules require explication. In this paper I have provided an overview of the theory of classification to bring to light the significant differences between classification schemes and their relevance to research. I have highlighted the dif-

ferences between typologies and taxonomies to show how each serves different research needs. A study of existing business model classifications present in the extant literature reveals that there exist many specific classifications but no general classification of business models that can form the basis of generalizations. Without the ability to generalize about homogeneous groups of business models, mid-range theory building is stifled.

To guide the construction of taxonomically sound business model classification schemes, I have offered a structured method that links the purpose of the classification to the corresponding philosophy of classification and to the necessary functions and characteristics. The individual classification design steps make transparent the decisions embodied in the classification scheme so that future researchers can build on and refine existing classification schemes rather than starting anew each time a classification is required.

A classification scheme, like a good theory, is seldom finished. It is only given interim acceptance with the understanding that further studies will tend to elaborate and refine it, or disconfirm it (McKelvey, 1982, p.30).

Thoughtful consideration of the purpose of business model classification schemes that extends beyond the immediate requirement has the potential to create a bridge between current and future research. An awareness of the principles that underlie existing classification schemes improves the potential to leverage from prior research. The use of classification throughout all fields of research to create order in the field and to facilitate mid-range theorizing renders it an important construct worthy of careful and explicit consideration by business model researchers.

References

- Applegate, L. (2001), E-Business Models: Making Sense of the Internet Business Landscape. In G. Dickson & G. DeSanctis (Eds.), *Information Technology and the Future Enterprise, New Models for Managers*. Prentice Hall, Upper Saddle River NJ.
- Baden-Fuller, C. & Haefliger, S., (2013), Business models and technological innovation. *Long Range Planning*, Vol. 46, No. 6, pp. 419-426.
- Baden-Fuller, C. & Mangematin, V., (2013), Business models: A challenging agenda. *Strategic Organization*, Vol. 11, No. 4, pp. 418-427.
- Baden-Fuller, C. & Morgan, M. S., (2010), Business Models as Models. *Long Range Planning*, Vol. 43, No. 2-3, pp. 156-171.
- Bailey, K. D. (1994), *Typologies and Taxonomies: An Introduction to Classification Techniques*. Sage Publications Inc Los Angeles.
- Bailey, K. D., (2005), Typology Construction, Methods and issues. *Encyclopedia of Social Measurement*, Vol. 3, pp. 889-898.
- Bambury, P. October 1998, (1998). A Taxonomy of Internet Commerce. *First Monday*, 3(10). <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/624/545> October 1998.
- Bienstock, C., Gillenson, M. & Sanders, T., (2002), A Typology of E-Commerce Business Models. *Quarterly Journal of Electronic Commerce*, Vol. 3, No. 2, pp. 173-182.
- Bigliardi, B., Nosella, A. & Verbano, C., (2005), Business models in Italian biotechnology industry: a quantitative analysis. *Technovation*, Vol. 25, No. 11, pp. 1299-1306.
- Brews, P. & Purohit, D., (2007), Strategic Planning in Unstable Environments. *Long Range Planning*, Vol. 40, No. 1, pp. 64-83.
- Bronowski, J. (1951), *The Common Sense of Science*. Heineman Educational Books Ltd London.
- Carper, W. B. & Snizek, W. E., (1980), The Nature and Types of Organizational Taxonomies: An Overview. *Academy of Management Review*, Vol. 5, No. 1, pp. 65-75.
- Chrisman, J. J., Hofer, C. W. & Boulton, W. R., (1988), Toward a System for Classifying Business Strategies. *Academy of Management Review*, Vol. 13, No. 3, pp. 413-428.
- Christensen, C. M. & Carlile, P. R., (2009), Course Research: Using the Case Method to Build and Teach Management Theory. *Academy of Management Learning & Education*, Vol. 8, No. 2, pp. 240-251.
- Eisenhardt, K. M., (1989), Building Theories from Case Study Research. *Academy of Management Review*, Vol. 14, No. 4, pp. 532-550.
- Eisenmann, T. (2002), *Internet Business Models, Text and Cases*. McGraw-Hill Irwin New York.
- Eppler, M. J. & Platts, K. W., (2009), Visual Strategizing: The Systematic Use of Visualization in the Strategic-Planning Process. *Long Range Planning*, Vol. 42, No. 1, pp. 42-74.
- Fettke, P. & Loos, P., (2003), Classification of reference models: a methodology and its application. *Information Systems and eBusiness Management*, Vol. 1, No. 1, pp. 35-53.
- Gertsens, F. H. M., van Riel, C. B. M. & Berens, G., (2006), Avoiding Reputation Damage in Financial Restatements. *Long Range Planning*, Vol. 39, No. 4, pp. 429-456.

- Hambrick, D. C., (1984), Taxonomic Approaches to Studying Strategy: some Conceptual and Methodological Issues. *Journal of Management*, Vol. 10, No. 1, pp. 27-41.
- Hanks, H. S., Watson, C. J., Jansen, E. & Chandler, G. N., (1993), Tightening the Life-Cycle Construct: A Taxonomic Study of Growth Stage Configurations in High-Technology Organizations. *Entrepreneurship, Theory & Practice*, pp. 5-30.
- Henry, D. B., Tolan, P. H. & Gorman-Smith, D., (2005), Cluster Analysis in Psychology Research. *Journal of Family Psychology*, Vol. 19, No. 1, pp. 121-132.
- Hollenbeck, J. R., Beersma, B., & Schouten, M. E. , (2012), Beyond Team Types and Taxonomies: A Dimensional Scaling Conceptualization for Team Description *Academy of Management Review*, Vol. 37, No. 1, pp. 82-106.
- Huberty, C. J., Jordan, E. M. & Brandt, W. C. (2005), Cluster Analysis in Higher Education Research, In J. C. Smart (Ed.), *Higher Education: Handbook of Theory and Research* (Vol. XX, pp. 437-457). Springer.
- Huxley, R. (2007), *The Great Naturalists*. Thames & Hudson London.
- Jambulingam, T., Kathuria, R. & Doucette, W. R., (2005), Entrepreneurial orientation as a basis for classification within a service industry: the case of retail pharmacy industry. *Journal of Operations Management*, Vol. 23, No. 1, pp. 23-42.
- Kauffman, R. J. & Wang, B., (2008), Tuning into the digital channel: evaluating business model characteristics for Internet firm survival. *Information Technology and Management*, Vol. 9, No. 3, pp. 215-232.
- Ketchen, D. J., (1996), The Application of Cluster Analysis in Strategic Management Research: An Analysis and Critique. *Strategic Management Journal*, Vol. 17, No. 6, pp. 441-458.
- Lambert, S. C. & Davidson, R. A., (2013), Applications of the Business Model in Studies of Enterprise Success, Innovation and Classification: An Analysis of Empirical Research from 1996 to 2010. *European Management Journal*, Vol. 31, pp. 668-681.
- Laudon, K. & Traver, C. (2003), *E-commerce; business, technology, society*. Pearson Prentice Hall Upper Saddle River, New Jersey.
- Leem, C. S., Suh, H. S. & Kim, D. S., (2004), A classification of mobile business models and its applications. *Industrial Management & Data Systems*, Vol. 104, No. 1, pp. 78-87.
- Linder, J. C. & Cantrell, S., (2001), Five business-model myths that hold companies back. *Strategy & Leadership*, Vol. 29, No. 6, pp. 13-18.
- Mäkinen, S. & Seppänen, M., (2007), Assessing business model concepts with taxonomical research criteria. *Management Research News*, Vol. 30, No. 10, pp. 735-748.
- Malone, T. W., Weill, P., Lai, R., D'Urso, V. T., Herman, G., Apel, T. & Woerner, S., (2006), Do Some Business Models Perform Better than Others? *MIT Sloan Research Paper* No. 4615-06.
- McKelvey, B. (1982), *Organizational Systematics: Taxonomy, Evolution, Classification*. University of California Press Berkeley.
- Mezzich, J. E. & Solomon, H. (1980), *Taxonomy and Behavioral Science: Comparative Performance of Grouping Methods*. Academic Press Inc (London) Ltd. London.
- Morris, M., Schindehutte, M., Richardson, J. & Allen, J., (2006), Is the business model a useful strategic concept? Conceptual, theoretical, and empirical insights. *Journal of Small Business Strategy*, Vol. 17, No. 1, pp. 27-49.

- Neuman, W. L. (2003), *Social Research Methods: Qualitative and Quantitative Approaches* (5th ed.). Pearson Education Inc Boston.
- Nosella, A., Petroni, G. & Verbano, C., (2005), Characteristics of the Italian biotechnology industry and new business models: the initial results of an empirical study. *Technovation*, Vol. 25, No. 8, pp. 841-855.
- Rajala, R. & Westerlund, M., (2007), Business models - a new perspective on firms' assets and capabilities: observations from the Finnish software industry. *International Journal of Entrepreneurship and Innovation*, Vol. 8, No. 2, pp. 115-125.
- Rich, P., (1992), The Organizational Taxonomy: Definition and Design. *Academy of Management Review*, Vol. 17, No. 4, pp. 758-781.
- Sabatier, V., Mangematin, V. & Rousselle, T., (2010), From Recipe to Dinner: Business Model Portfolios in the European Biopharmaceutical Industry. *Long Range Planning*, Vol. 43, No. 2-3, pp. 431-447.
- Scott, W. R. (1987), *Organizations Rational, Natural, and Open Systems* (second ed.). Prentice-Hall New Jersey.
- Sells, S. B. (1964), Toward a Taxonomy of Organizations, In W. W. Cooper, H. J. Leavitt & M. W. Shelly (Eds.), *New Perspectives in Organization Research* (pp. 515-531). John Wiley & Sons. Inc., New York.
- Simpson, G. G. (1961), *Principles of Animal Taxonomy*. Columbia University Press New York.
- Sneath, P. H. & Sokal, R. R. (1973), *Numerical Taxonomy: The Principles and Practice of Numerical Taxonomy*. W.H. Freeman and Company San Francisco.
- Sokal, R. & Sneath, P. (1963), *Principles of Numerical Taxonomy*. W H Freeman and Company.
- Tapscott, D., Ticoll, D. & Lowy, A. (2000) *Digital Capital: Harnessing the Power of Business Webs*, Harvard Business School Press.
- Timmers, P., (1998), Business Models for Electronic Markets. *Electronic Markets*, Vol. 8, No. 2, pp. 3-8.
- Vessey, I., Ramesh, V. & Glass, R. L., (2005), A unified classification system for research in the computing disciplines. *Information and Software Technology*, Vol. 47, No. 4, pp. 245-255.
- Wang, C.-P. & Chan, K.01/02/2008, (2003). Analyzing the taxonomy of Internet business models using graphs. *First Monday*. <http://journals.uic.edu/ojs/index.php/fm/article/view/1058/97801/02/2008>.
- Warriner, C. K. (1984), *Organizations and Their Environments: Essays in the Sociology of Organizations* (Vol. 3). JAI Press London.
- Weill, P. & Vitale, M. (2001), *Place to Space*. Harvard Business School Press Boston.
- Yip, G. S., Devinney, T. M. & Johnson, G., (2009), Measuring Long Term Superior Performance: The UK's Long-Term Superior Performers 1984-2003. *Long Range Planning*, Vol. 42, No. 3, pp. 390-413.
- Zott, C., Amit, R. & Massa, L., (2011), The Business Model: Recent Developments and Future Research. *Journal of Management* Vol. 37, No. 4, pp. 1019-1042.

About the author

Susan C. Lambert, Dr., is Associate Professor (Accounting) at Torrens University Australia and has a strong interest in applying the business model concept to strategic decision making in business and in academic settings. She has held senior academic and administrative positions in business schools and has taught a range of accounting, auditing, business information systems and electronic business courses. She is especially interested in how technology can be used in higher education to improve student learning and to reach students who would otherwise miss out on a higher education.



Prior to joining academia she was a sales consultant for IBM International and prior to that she worked as a professional accountant. She is a Fellow of Chartered Accountants Australia and New Zealand and she remains active in this body.

Her primary research interests revolve around business models and their application to environmental and social sustainability research and to universities.

Email: susan.lambert@tua.edu.au

Accounting for Business Models : Increasing the Visibility of Stakeholders

Colin Haslam¹, Nick Tsitsianis², Tord Andersson³ & Pauline Gleadle⁴

Abstract

Purpose: This paper conceptualises a firm's business model employing stakeholder theory as a central organising element to help inform the purpose and objective(s) of business model financial reporting and disclosure.

Framework: Firms interact with a complex network of primary and secondary stakeholders to secure the value proposition of a firm's business model. This value proposition is itself a complex amalgam of value creating, value capturing and value manipulating arrangements with stakeholders. From a financial accounting perspective the purpose of the value proposition for a firm's business model is to sustain liquidity and solvency as a going concern.

Findings: This article argues that stakeholder relations impact upon the financial viability of a firm's business model value proposition. However current financial reporting by function of expenses and the central organising objectives of the accounting conceptual framework conceal firm-stakeholder relations and their impact on reported financials.

Practical implications: The practical implication of our paper is that 'Business Model' financial reporting would require a reorientation in the accounting conceptual framework that defines the objectives and purpose of financial reporting. This reorientation would involve reporting about stakeholder relations and their impact on a firm's financials not simply reporting financial information to 'investors'.

Social Implications: Business model financial reporting has the potential to be stakeholder inclusive because the numbers and narratives reported by firms in their annual financial statements will increase the visibility of stakeholder relations and how these are being managed.

What is original/value of paper: This paper's original perspective is that it argues that a firm's business model is structured out of stakeholder relations. It presents the firm's value proposition as the product of value creating, capturing and manipulating firm-stakeholder relationships. The originality of this paper is that it calls into question the nature of the accounting conceptual framework. Business model financial reporting will involve reporting about material stakeholder relationships and how these impact upon the viability of a firm's business model value proposition.

Key words: business model, stakeholder theory, value creation, value capture, conceptual framework and accounting disclosure

Please cite this paper as: Haslam, Colin; Tsitsianis, Nick; Andersson, Tord; Gleadle, Pauline. 2015. 'Accounting for Business Models : Increasing the Visibility of Stakeholders', *Journal of Business Models*, Vol. 3, No. 1, pp. 62-80

^{1,2} Queen Mary University of London, United Kingdom

³ RVA Consulting, Sweden

⁴ The Open University Business School, United Kingdom

Introduction

This paper constructs an alternative conceptualisation of a firm's (reporting entity) business model as a means to challenge the way in which information, as narratives and numbers (Froud *et al.*, 2006), could be disclosed by firms in their financial statements. The professional accounting bodies and standards setting agencies have progressively reformed the 'Conceptual Framework' that governs the general purpose of financial statements disclosed by reporting entities. A number of these accounting bodies: Institute of Chartered Accountants in England and Wales (ICAEW, 2010), the European Financial Reporting Advisory Group (EFRAG, 2013) and International Integrated Reporting Council (IIRC, 2013) have recently considered how a business models approach to corporate disclosure could enhancing the relevance and clarity of information disclosed in financial statements, including the notes to the accounts.

This recent debate in accounting about the relevance of business models to financial reporting and disclosure practices is informed by a more long-standing use of the term 'business model' derived from the business management and consultancy literature. Chesbrough *et al.* (2007, 2010) observes that a business model serves a variety of functions but in general terms it (the firm's business model) articulates the so-called value proposition. The value proposition (of a business model) is itself the product of value creation and value capture. Management's value creating initiatives involve the deployment of intellectual capital (Beattie *et al.*, 2013), physical resources, technologies and capabilities (within and outside of a firm) to generate new innovative products and services that map onto consumer needs. Chesbrough (2010) argues that the barriers to business model innovation are inertia and a lack of entrepreneurial and managerial leadership that are required to experiment and effectuate change to a business model. Magretta (2002) observes that firms deploy capabilities and resources to generate new product and services, which Magretta characterizes as 'value creating insight'.

Value capture is concerned with the share of the financial value chain that is secured inside the boundary of a firm and the extent to which this also enhances operating margin. How much profit margin

the firm captures from its total value chain depends upon its pricing strategy, relation to distributors, retail network and capacity to out-source and offshore operating expenses. That is, to what extent can the firm within its business model exert sufficient control over stakeholders to prevent price erosion, lock-in customers and adjust the balance between internal and external costs to inflate profit margin. Zott and Amit (2010) observe that the business model co-determines the firm's bargaining power and this facilitates value capture out of its value creating initiatives. They stress the importance of locating a firm's value creating and capture initiatives within an activity network where the business model describes both intra and extra firm relations. This introduces the notion of a network architecture that involves partners in the delivery process of products and services. A firm's business model is also about total value creation for all parties involved. It lays the foundations for the firm's value capture by co-defining (along with the firm's products and services) the overall 'size of the value pie,' which can also be considered as the upper limit of the firms value capture potential (Zott and Amit, 2010:218). Because this involves transactions between firms and other 'partners' it is the collective efforts of this network that matters in a business model not simply the actions of one firm. Baden-Fuller and Morgan (2010) also observe that a business model (as a model) connects up the 'workings inside the firm' to elements outside of the firm, 'the customer side,' as a means to capture value (from the application of innovation and new technologies). According to Bowman and Ambrosini (2000) it is the binding between value creation and value capture that frames the viability of a business model.

The strategy literature is focussed on how a firm's value proposition in its business model involves creating and capturing value within a network of transactions with 'partners' where the financial boundary of the firm is not stable but malleable. Amit *et al.* (2011) summarise the business models literature as generating four important themes: the notion of the business model as a *new unit of analysis*, offering a *systemic perspective on how to "do business,"* encompassing *boundary-spanning activities* and *focusing on value creation as well as on value capture*. These themes are interconnecting and mutually reinforcing' (Amit *et*

al., 2011:1038). However, Teece is concerned that the business model concept lacks a theoretical grounding in economics and business studies (Teece, 2010:5).

In this paper our argument is that stakeholder theory provides a useful foundation upon which to structure a firm's business model. Accounting for a firm's stakeholder relations generates critical insight about the nature of a firm's business model and the viability of its value proposition. Osterwalder *et al.* (2005), in their review article 'Clarifying Business Models: Origins, Present and Future of the Concept', list one article that mentions 'stakeholders' and this article was concerned with ensuring that the concept of business models is easily understood by stakeholders. Morris *et al.* (2005) in their survey of the business model literature also note that the word 'stakeholder' is mentioned once in the titles surveyed in a paper by Gordijn *et al.* (2001). Casadesus-Masanell and Ricart (2010) observe that a business model refers to the logic of the firm, the way it operates and how it creates value for its stakeholders (Casadesus and Ricart, 2010:196). Demil *et al.* make a similar observation that 'any organization aims to create value for some stakeholders; customers in a broad sense, suppliers, shareholders, etc. (Demil *et al.*, 2010:217). Whilst referred to 'stakeholders', it has not been central to developing a business model framework of analysis. This paper employs stakeholder theory to structure a firm's business model and this leads on to an argument for modifying the accounting conceptual framework that governs the purpose of financial disclosures. The accounting conceptual framework is concerned with *disclosures to investors* whereas a business model-driven disclosure framework would require reporting entities to disclose information *about stakeholder relations* and their contribution to securing a firm's value proposition, that is, how 'firms make money in many ways' (Jacobides, 2009).

A common thread running through stakeholder theory, as applied to corporations, is the role and contribution of management in both satisfying and reconciling the needs of a variety of stakeholders that have a legitimate interest in the organisation. This responsibility of management can be broadly specified as 'stakeholder-agency' or more narrowly as 'shareholder-agency' (Jensen, 1986 & 2002). Evan and Freeman (1993)

observe that:

A stakeholder theory of the firm must redefine the purpose of the firm. The very purpose of the firm is, in our view, to serve as a vehicle for coordinating stakeholder interests (Evan and Freeman, 1993:102-103).

Freeman defines stakeholders in broad terms as: 'any group or individual who can affect or is affected by the achievements of the organization's objective' (Freeman, 1984:46). Within this theoretical framework, co-ordination between stakeholders is delivered through legally binding contracts or loose informal relationships that are structured and monitored for the mutual benefit of all parties (see Freeman and Evan, 1990; Hill and Jones, 1992). Freeman *et al.* (2004) observe that a primary concern for management, within the firm, is with aligning various stakeholder interests. On the one hand the firm is a normative locus for reconciling stakeholder interests and on the other there is an instrumental purpose, which is to generate 'outstanding' performance. According to Freeman, stakeholder theory:

*Encourages managers to articulate the shared sense of the value they create, and what brings its core stakeholders together. This propels the firm forward and allows it to generate outstanding performance, determined both in terms of its purpose and marketplace financial metrics. (Freeman *et al.*, 2004:364)*

In this paper we argue that a firm's business model is structured by the nature of a firm's relations with stakeholders. These stakeholder relations may be contractual and transactive but also advisory and regulatory in nature but collectively they can impact upon a firm's reported financials. For example regulatory bodies, credit rating agencies, valuation experts and accounting standards setting bodies are stakeholders that can influence a firm's disclosed financials even though they are not directly involved in contracts and transactions.

Within accounting there is also an ongoing debate about the purpose of financial disclosure that of informing investors or a broader group of stakeholders.

Zeff (1999) provides a valuable account of the evolution of the conceptual framework that governs financial disclosures for business enterprise in the US. Zeff observes that in 1966 the American Accounting Association (AAA) published a pioneering monograph entitled 'A Statement of Basic Accounting Theory (ASOBAT)'. Significantly this, according to Zeff, redirected attention away from the inherent virtues of asset valuation models towards the 'decision usefulness' of financial statements. It defined accounting as 'the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information' (AAA, 1966:1). ASOBAT was focused on the information needs of investors specifically earnings upon which predictions and valuations might be made.

Zeff observes that ASOBAT also opened up the possibility for firms to record a variety of information with, for example, assets valued at historic or current cost depending upon the needs of the user(s) where users may not simply be investors but employees and managers. The American Institute *Committee Report: Objectives of Financial Statements - Trueblood Report* (AICPA, 1973) carried forward the issue of decision usefulness for investors. However, the Trueblood Committee report again discussed the use of multiple values to describe performance to a range of user groups and also proposed that social goals are no less important than economic goals. The International Accounting Standards Board (IASB, 2013) is still engaged in a process of clarifying the purpose of the accounting conceptual framework for the financial statements. It is also suggested that information disclosed in financial statements should be relevant to a wider group of stakeholders (IIRC, 2013).

In the next section of this article we argue that stakeholder theory provides a basis upon which to structure a firm's business model and understand its value proposition. This leads us to argue for a reorientation of accounting disclosure. That is a shift from '*disclosure to investors*' towards '*disclosures about stakeholders*' to increase the visibility of stakeholder relationships and their impact on the outcome of a firm's business model value proposition.

Business Models: Structure and Value Proposition

In this section of the paper we structure a firm's business model as the outcome of managing and (re) acting to complex firm-stakeholder relations to achieve an instrumental outcome which is the need to preserve liquidity and solvency for a going concern. Freeman's (1984) work on stakeholder theory informs this paper's structure of a firm's business model in terms of bilateral firm-stakeholder relations. Freeman defined stakeholders as 'any group or individual who can affect or is affected by the achievement of the organizations objectives' (Freeman, 1984:46). Berman *et al.* (1999) discussing stakeholder theory observe that firms 'view their stakeholders as part of an environment that must be managed in order to assure revenues, profits and ultimately returns to shareholders' (Berman *et al.*, 1999:491). There is both a normative and instrumental aspect to the firm's relations with stakeholders because managers need to 'foster trust' with their stakeholders and from an instrumental point of view this can also 'help firm profitability'. According to Berman *et al.* (1999) a firm's resource allocation decisions and stakeholder relations are inseparable because the way in which resources are allocated also impacts upon the firm's relationship with its stakeholders.

This paper constructs a business model theoretical framework using two organising elements: structure and value proposition. In terms of structure we argue that a firm's business model can be broadly described as the product of interactions with stakeholders both internal and external to the firm. The value proposition of a firm's business model is how liquidity and solvency are extracted from value creating, value capturing and value manipulating arrangements with stakeholders.

A firm's business model is structured out of interactions with a complex network of stakeholders and the information that arises from these relations serves to broadly define the nature of a firm's business model (Haslam *et al.*, 2012). Haslam *et al.* argue that 'A business model exists where information attributes congeal to establish a broad boundary within which firms can be situated: for example investment

banking, mixed retail, bio-pharma and digital lifestyle' (Haslam *et al.*, 2012:55). Jacobides (2009) observes that 'many "BM (Business Model) innovations" are either changes within Industry Architecture; or changes of Industry Architecture'. The drivers of these changes, we argue, are adaptive and evolving interactions with a range of stakeholders. These interactions are with primary and secondary stakeholders including: customers, employees, suppliers, advisers, credit ratings agencies, industry and valuation analysts, consultants, regulatory and professional institutions to name a few. Primary and secondary stakeholder relations help to broadly define the nature of a firm's business model and may have a material financial influence over the firm's business model value propo-

sition in circumstances where contractual and transactive relations are informal and immaterial.

The 'value proposition' arising out of a firm's business model enables it (the firm) to generate liquidity and solvency to secure a going concern. Cash from operations (liquidity) provides valuable information to: credit rating agencies, valuation analysts and suppliers that are making judgements about the viability of a firm's value proposition. Solvency is the difference between total assets and liabilities (current and long-term) and is a measure of net worth and an important index of enterprise value and a requirement for auditors signing off the accounts.

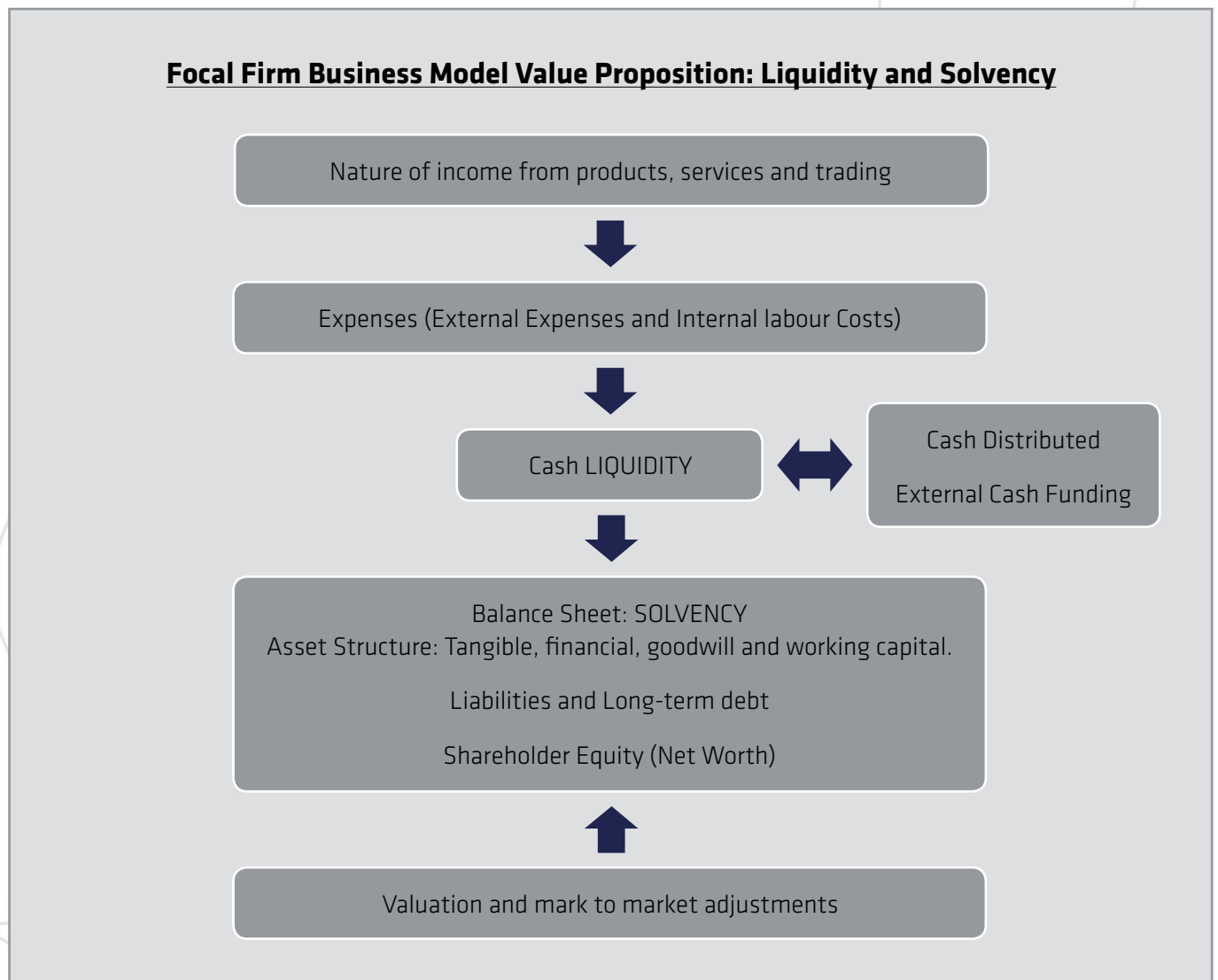


Figure 1: Source: Authors

This depiction of a firm's business model value proposition emphasises the importance of complex stakeholder relations and how these need to be managed and influenced to sustain liquidity and solvency. Liquidity depends upon maintaining a complex balance between: old and new products and services sold to a multiplicity of customers, households, corporate and non-corporate clients. It is also influenced by the share of the financial value chain, a firm is able to capture and management of internal labour costs because both determine the margin extracted out of sales revenue. Increasing the firms outsourcing arrangements without lowering internal labour costs could damage a firm's cash margin (liquidity) within its business model (see Lee and Yin, 2012). Sustaining a solvent firm within its business model is also a complex process that depends upon the extent to which total asset values inflate ahead of current and long-term liabilities. Solvency is augmented because the firm's business model is growing operating profits (posted into shareholder funds) or extracting asset windfalls that generate holding gains, which also inflate shareholder funds. Jacobides (2009) on business models notes that firms make money in many ways - not just by summing up profits - Financial structure and capitalization is key - Game-plan includes not only profits, but asset windfalls'

Subsumed with the value proposition of a firm's business model is how value: creation, capture and manipulation are acting upon the reported financial numbers. The firm, subtended in its business model, will be constantly adapting to its stakeholder relations creating value by upgrading processes and generating

new innovative products and services that are critical for sustaining demand and future income streams. At the same time stakeholder relations are being dynamically recalibrated to enhance the value capture potential of a firm's business model. This might involve the displacement of costs and expenses and the capture of profit margin from outsourcing and off-shoring and general restructuring within its value chain. On the other hand value manipulation is focussed on generating on-going asset windfalls / holding gains that generate financial leverage beyond that simply from creating and capturing value from products and services sold for consumption.

The value proposition of a firm's business model is thus the outcome of complex stakeholder arrangements where value creation, capture and manipulation are operating simultaneously. For example, new product development might reinforce a strong future income trajectory but this could be associated with limited growth in cash and balance sheet solvency if value capture policies fail to gain traction. The stakeholder relations that constitute a firms business model value proposition may promote or frustrate liquidity and solvency that underwrite a going concern. This is because the value proposition of a firm's business model depends upon complex stakeholder interventions some of which are focussed on creating value others enhancing value capture or facilitating value manipulation to generate asset windfalls. The three elements that underwrite the value proposition of a firms business model may or may not align to secure liquidity and solvency for a going concern because it is often the case that contradictory forces are in play (see fig.2).

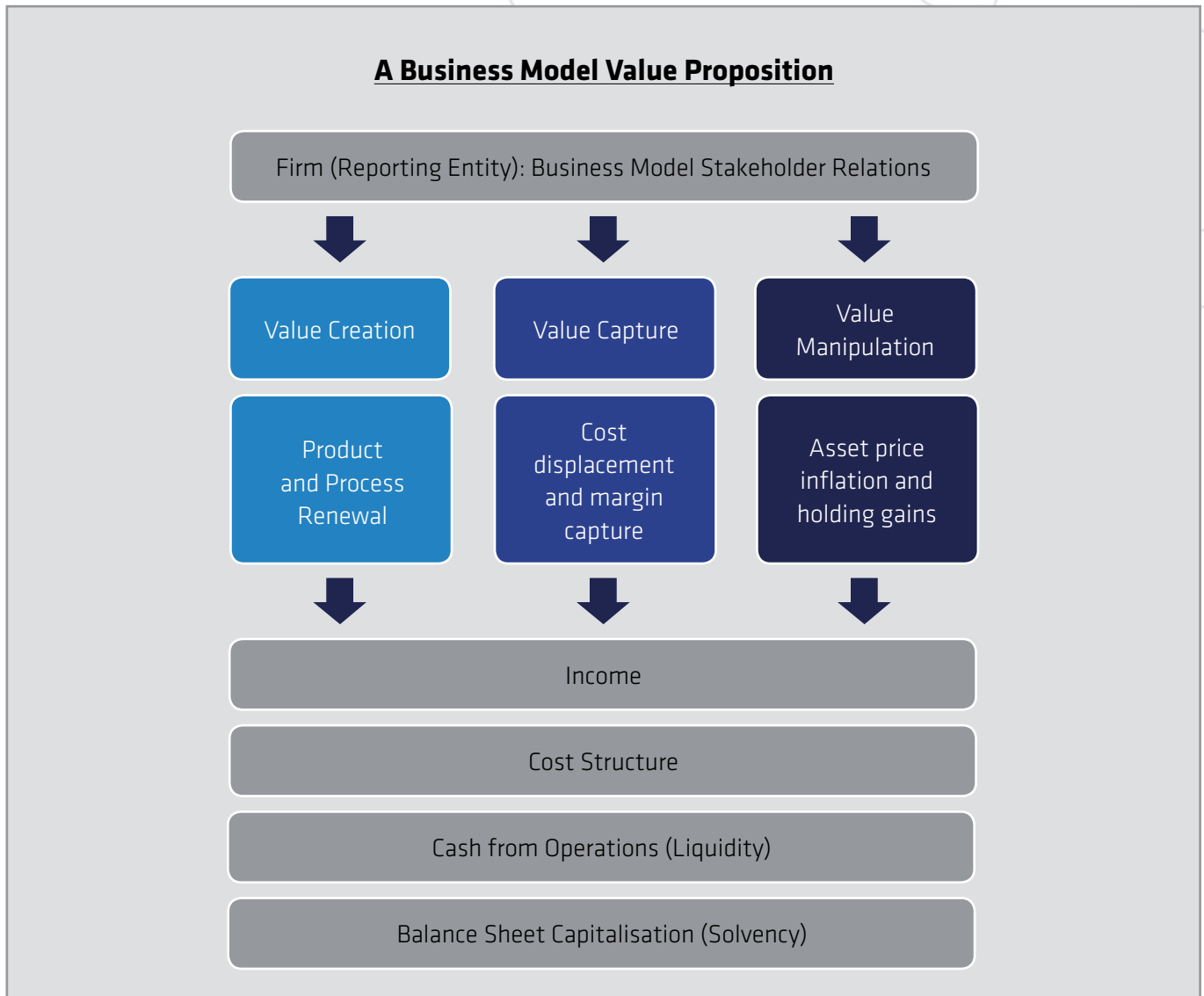


Figure 2: Source: Authors

In this next section we argue that there is a significant role to be played by accountants and their professional bodies in raising the visibility of stakeholder relations and their impact upon a firm's business model value proposition. There are two key issues which, we argue, currently restrict the potential of this contribution. First, firms tend to disclose expenses by 'function' rather than by 'nature' in their financial statements and this conceals the impact that different stakeholders have upon financial line items. Second, the conceptual framework governing the purpose of financial disclosure is concerned with providing information to the 'investor' as key stakeholder. When a broader financial disclosure project has been considered by the international accounting standard

setting bodies this tends to focus on '*disclosure to stakeholders*' rather than '*disclosure about stakeholder relations*' and the impact these on-going arrangements have on a firm's reported financials. For example, Bukh and Nielsen (2010) consider that the value of the 'business model' is that it offers up a new management technology that can inform disclosure to investors.

Thus, we perceive the business model as a management technology that helps management communicate and share its understanding of the business logic to external stakeholders, in our case primarily analysts and investors. (Bukh and Nielsen, 2010:11).

Alternatively, a business model framework of analysis might best be described as a management technology that can be employed to reveal information about the firm's broad stakeholder relations and how these are enhancing or degrading a reporting entities value proposition. That is, to what extent are firm-stakeholder relations contributing to value creation, capture and manipulation and are financial outcomes sustaining liquidity and solvency for a going concern?

Accounting for Stakeholders: Reframing Financial Disclosure

The accounting profession and key professional bodies have been preoccupied with establishing a conceptual framework that can effectively govern the relevance and purpose of financial disclosures by reporting entities (firms). Zeff (1999) provides a valuable account of the evolution of the conceptual framework governing financial disclosures for business enterprise in the US. Zeff observes that in 1966 the American Accounting Association (AAA) published a pioneering monograph entitled 'A Statement of Basic Accounting Theory (ASOBAT)': ASOBAT shifted the field of the visible away from types of valuation approach towards the information needs of investors specifically for 'decision usefulness', for example, earnings upon which predictions and valuations might be made.

Such predictions are most crucial in the case of present and prospective equity investors and their representatives-considered by many to be the most important of the user groups (AAA, 1966:23)

Zeff (2013) observes that Staubus (1972) 'provides a coherent theory which effectively linked decision usefulness to the information required to make investment decisions: using discounted future cash flows as the most relevant attribute of assets and liabilities' (Zeff, 2013:24).

The accounting profession continues to refine the conceptual framework governing the purpose and relevance of a reporting entities financial disclosures but this is still focussed on the provision of information

that is 'decision useful' for investor stakeholders.

A reporting entity is a circumscribed area of economic activities whose financial information has the potential to be useful to existing and potential equity investors, lenders and other creditors who cannot obtain the information they need in making decisions about providing resources to the entity (IASB, ED,2002/3: para RE2).

The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. Those decisions involve buying, selling or holding equity and debt instruments, and providing or settling loans and other forms of credit¹ (IASB, 2010: para OB2)

The financial statements are designed to 'provide information to help existing and potential investors, lenders and other creditors to estimate the value of the reporting entity' (IASB, 2010: para OB7). These financial statements conforming to the structures laid out in International Accounting Standards 1 (IAS 1). It is significant that IAS1 (IASB, 2011) takes a broad view about the users of financial information: 'The objective of financial statements is to provide information about the financial position, financial performance and cash flows of an entity that is useful to a wide range of users in making economic decisions' (IAS1: p-3). In addition IAS1 is concerned with the practical presentation and structure of a reporting entity's financial statements outlining two approaches to the measurement of income; by nature of expenses and by function of expenses.

The first form of analysis is the 'nature of expense' method. An entity aggregates expenses within profit or loss according to their nature (for example, depreciation, purchases of materials, transport costs, employee benefits and advertising costs), and does not reallocate them among functions within the entity. This method may be simple to apply because no allocations of expenses to functional classifications are necessary. (IAS1, para 102)

¹ <http://www.ifrs.org/News/Press-Releases/Documents/ConceptualFW2010vb.pdf>

In practice most firms report their income statement employing the function of expenses rather than nature of expenses and within IAS1 there is a suggestion that this approach provides more relevant information to the users of accounts. However, this approach to the framing of the income statement conceals rather than increases the visibility of stakeholder relations embedded in the financial numbers.

The second form of analysis is the 'function of expense' or 'cost of sales' method and classifies expenses according to their function as part of cost of sales or, for example, the costs of distribution or administrative activities. At a minimum, an entity discloses its cost of sales under this method separately from other expenses. This method can provide more relevant information to users than the classification of expenses by nature, but allocating costs to functions may require arbitrary allocations and involve considerable judgement. (IAS1, para 103)

For example, the functional costs line item 'cost of goods sold' mixes up employment costs with external costs of materials and services from suppliers whilst 'marketing and distribution' includes labour costs but also the expenses of marketing which may be bought-in from outside agencies. Whilst 'research and development' expenses include labour costs but also expensed capital charges associated with research and development infrastructure. If the function of expenses approach obscures stakeholders this can be contrasted with the nature of expenses approach to structuring the income statement and this is shown in table 1. The presentation format of the nature of expenses income statement shown in table 1 modifies that which is presented in IAS1 to include two sub-total line items which we describe as value retained (also known as value added) - see Accounting Standards Steering Committee (ASSC, 1975) - and earnings before interest, tax and depreciation (Cash earnings or EBITDA). Where earnings before interest,

Table 1: Income statement by nature of expenses

Revenue		X
Other Income		X
Changes in inventories	(Y)	
Raw materials and consumables used	(Y)	
Value retained		X
Employee Expense	(Y)	
Other Internal Firm Expenses (e.g. Pensions)	(Y)	
Total Expenses	(Y)	
Earnings before interest tax, depreciation and amortisation (EBITDA)		X
Depreciation and amortisation	(Y)	
Taxation	(Y)	
Dividends/Share buybacks	(Y)	
Interest payments	(Y)	
Retained earnings		X

Source: http://ec.europa.eu/internal_market/accounting/docs/consolidated/ias1_en.pdf

Note: Authors have adjusted this table from IAS1 to include line for value retained and EBITDA

tax, depreciation and amortisation is equivalent to a firm's cash generating ability from operations (liquidity).

This alternative approach to formatting the statement of income reveals the way in which income is generated from sales of products and services to customers. From this income is deducted all external costs (suppliers of materials and services). The value retained used to cover employee costs so as to leave the residual cash from operations (EBITDA). This cash from operations then distributed as: tax (government) dividends, share buy-backs (shareholder), interest payments (providers of debt financing) and retained earnings to boost assets and reinvestment.

In 2005 the Chartered Financial Analysts (CFA) Institute called for the disclosure of financial information by its nature because this would enhance comparability and that aggregating expenses by function congealed information with variable properties thus limiting its interpretative and decision-making quality.

By 'nature', we mean that items should be reported by the type of resource consumed, such as labor or raw materials, rather than by the function or purpose for which it is used, for example, cost of goods sold or selling, general, and administrative expense. Categorization according to nature can greatly enhance comparability across companies and consistency within the statements of a single company(...) The statistical distribution properties of the various resources consumed in operations behave very differently over time. Consequently, aggregation by function, the current practice, merges items with different properties, reducing the information content of the items and significantly reducing their value as decision-making factors (CFA Institute, 2005:18).

The authors of the Corporate Report (ASSC, 1975) were not simply concerned with the technicality of different reporting formats but wished to contextualise profit from a stakeholder perspective and make visible the fact that bottom line earnings are the outcome of a collective effort from a range of stakeholder groups and that value is created and captured by this effort.

The simplest and most immediate way of putting profit into proper perspective vis-à-vis the whole enterprise as a collective effort by capital, management and employees is by the presentation of a statement of value added (that is, sales income less materials and services purchased). Value added is the wealth the reporting entity has been able to create by its own and its employees' efforts. This statement would show how value added has been used to pay those contributing to its creation. It usefully elaborates on the profit and loss account and in time may come to be regarded as a preferable way of describing performance (ASSC, 1975: Para 6.7:49).

According to Zeff (2013) 'The Corporate Report spawned a considerable literature on value added statements, raising issues about the broader social accountability of profit-seeking enterprise. More than one-fifth of the largest UK companies produced value added statements in the late 1970s (Zeff, 2013:50). Michael Porter was not so convinced about the significance of this accounting format, observing that:

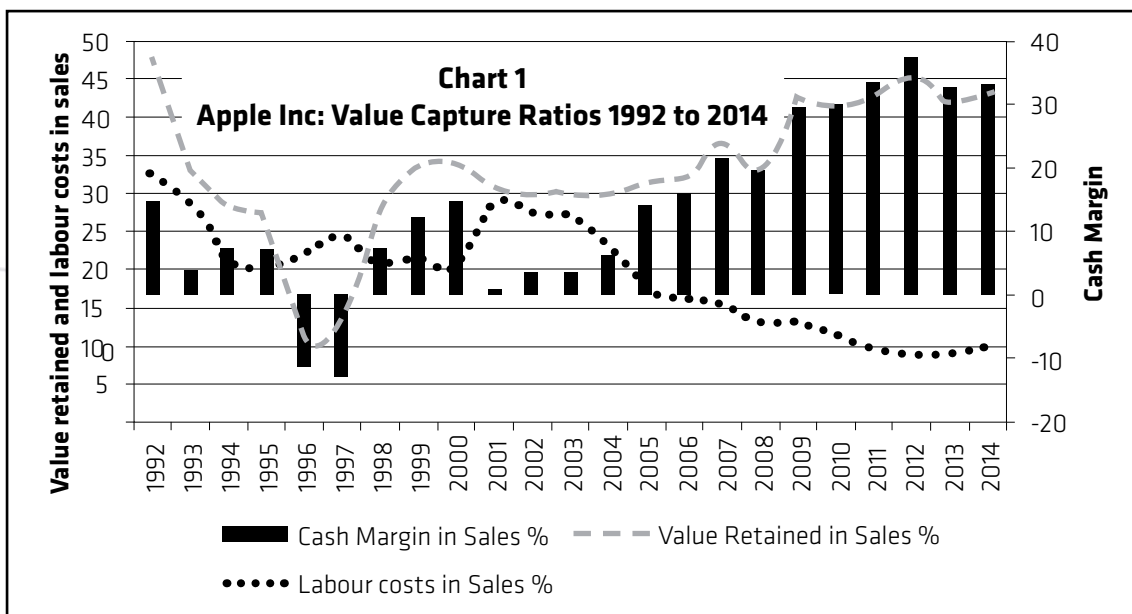
An analysis of the value chain rather than value added is the appropriate way of examine competitive advantage. Value added (selling prices less the cost of purchased raw materials) has sometimes been used as the focal point for cost analysis because it was viewed as the area in which a firm can control costs. Value added is not a sound basis for cost analysis, however, because it incorrectly distinguishes raw material from the many other purchased inputs used in a firm's activities. Also, the cost behaviour of activities cannot be understood without simultaneously examining the costs of the inputs used to perform them. Moreover, value added fails to highlight the linkages between a firm and its suppliers that can reduce costs or enhance differentiation (Porter, 1985:39).

We agree in part with Porter's specific argument that a firm's strategy will be an endeavour to influence costs or product differentiation in its global value chain and not simply focus on its own internal cost structure and

capacity to influence product differentiation. However, we disagree with Porter's general conclusion that leads him to discard this accounting approach. Our argument is that a nature of expenses income statement is valuable because it identifies stakeholders and their impact on financial performance. In addition the nature of expenses format can be employed to discriminate between internal and external expenses and stakeholder relations and thereby also make visible adjustments in the value capture arrangements of a reporting entity. To illustrate this point we have reproduced the key value capture financial ratios using a nature of expenses² approach for Apple Inc. covering the period 1992 to 2014. We observe that the value-retained ratio is transformed after the year 2000 rising from 30 to 45 per cent of sales revenue. Internal labour costs in total sales revenue fall from 30 to 10 per cent as manufacturing activity and research and development (for example Apps development) are outsourced. This combination of higher value retained and lower labour costs combined to boost the cash margin from 5 per cent to 35 per cent of sales (see also Haslam et

al., 2013). A disclosure format using the nature of expenses makes visible the extent to which value capture has been transformed. These disclosed numbers could then be accompanied with narratives that describe how relations with stakeholders have changed to deliver this financial transformation and associated benefits and risks. In practice it is difficult to reproduce a nature of income and expenses statement and hence undertake value capture analysis. This is because expenses by nature are often not disclosed by firms, for example, total employee expenses by US firms. Furthermore, the narratives in the annual financial statements tend not to account for changes in stakeholder relations and their impact on the financial numbers. Zeff (2013) notes that:

'The Corporate Report, issued in 1975 in Great Britain, has been by far the most innovative and enterprising of the frameworks, and it reflected a much broader vision of social accountability than the investor-creditor focus which has been predominant in the United States (Zeff, 2013:77).



Source: Apple Inc. 10K's

Note: Value retained / Sales is value retained as a per cent of sales revenue and labour costs are estimated using various corporate disclosures.

A nature of expenses disclosure format reveals the influence of changing stakeholder relations on the income, expenses and the cash residual from operations (EBITDA for liquidity) but it does not include a

balance sheet dimension. In an era of shareholder value managers are under constant pressure to generate excess returns on capital (i.e. returns above the cost of capital) because managerial remuneration

²Note we estimate employment costs from the accounts as total employee compensation is not disclosed

is tied into key financial performance metrics. Stock market analysts are focused on valuation multiples that combine earnings with balance sheet capitalization and they use this analysis to issue buy and sell recommendations. There are no fixed or standard measures of financial performance but there exist a range of financial metrics including, for example, cash flow return on investment (CFROI), Economic Value Added (EVA™), cash return on capital employed (Cash ROCE), earnings per share (EPS), Enterprise Value to EBIT and the price to earnings ratio (PE). These key valuation metrics used by analysts often combine market value of equity (or enterprise value) with a relevant financial metric that is assumed to have a material correlation with market value of equity. Thus, financial variables such as Cash ROCE are correlated with higher or lower market valuations when, for example, the ratio increases or falls. The inclusion of balance sheet financials into the accounting framework is significant because most analysts compare income and cash flow relative to assets or capital employed for valuations.

The balance sheet is not simply a snapshot of the 'stock' of financial values against which we benchmark profit and cash earnings to establish investor returns. The balance sheet also records the outcome of complex stakeholder relations that have influence over a firm's value proposition within its business model. These stakeholder interactions are influencing balance sheet values and impacting upon solvency. A property management firm can legitimately call in specialist advisers to revalue its stock of commercial and retail real estate. If valuations are raised this will generate a windfall holding gain, increase comprehensive income, shareholder equity and solvency. Private equity partnerships also depend upon the revaluation of their investment portfolios held on balance sheet to improve solvency and gearing metrics that contribute to levering additional debt financing. Apple Inc. relies upon benchmark information provided by investment banks to adjust the recorded value of its \$140bn of marketable securities held for trading on its balance sheet. In recent years Apple has invested \$67billion of this cash (as of September 2014) on share buy-backs a sum equivalent to double that spent on R&D over the period 1992 to 2014. These treasury shares have accumulated implicit holding gains of roughly \$14 billion because Apples share price has inflated to \$110

as at January 2015. These windfall asset gains are a sum equivalent Apples R&D spend over the period 2010 to 2014. Pension actuary advisers may value a firm's pension assets higher than liabilities when stock markets are inflating, helping, in turn, to secure reduced pension provisions out of profit as they take a pension holiday (or not as the case may be). Changes in accounting regulations also impact upon the recorded financial numbers. Goodwill arising from the acquisition of another firm will be accumulated as an asset on balance sheet and periodically tested for impairment rather than amortised. An impairment test reveals whether the earnings or market value attached to this goodwill are sustainable and if not the goodwill is written down. In 2008 the Royal Bank of Scotland (RBS) was forced, by advisers, to write down £35bn of goodwill and this forced the bank towards insolvency as the net worth of bank dissolved.

Thus financial statements and their associated narrative disclosures could be employed to reveal how stakeholder relations within the firm's business model are impacting on its value proposition. In order for this to become a practical reality it would be necessary to present the income statement using a nature of expenses format and review how balance sheet assets and liability valuations are also the product of specific counterparty/stakeholder relations. The professional accounting bodies are moving closer to this possibility because they are considering how a 'business models' framework could enhance disclosure in terms of the relevance of financial information for users. However, the accounting bodies that govern the role and purpose of accounting standard setting are still focussed on enhancing financial *disclosure to* the investor stakeholder. In this article we call for a reorientation in the balance of the accounting conceptual framework towards *disclosures about* stakeholder relations associated with the financial numbers. This would increase the visibility of material firm-stakeholder relationships and how these are evolving, adapting and impacting upon the viability of the firm's business model value proposition.

The Institute of Chartered Accountants in England and Wales (ICAEW) report on Business Models in Accounting: The Theory of the Firm and Financial Reporting (2010) suggests that the concept of the

'business model' can support the provision of relevant disclosures to those providing capital funding. The ICAEW report observes that the nature of a firm's business model can influence whether fair value (market value) or historic cost recording of transactions in the balance sheet may be more appropriate.

Assumptions about business models have always been implicit in financial reporting standards, as it has always been the case that different businesses will account for the same asset in different ways depending on what its role is within the firm's business model. Questions of cost allocation and revenue recognition for different firms and different sectors are also closely tied to the interpretation of their business models (ICAEW, 2010:8).

Thus a business models approach can be employed to discriminate between methods of asset valuation depending upon the purpose for which these assets are to be employed. If assets are actively traded they should be 'marked to market' and if they are held long-term, say in insurance companies, they could legitimately to be kept at historic cost. However, the ICAEW application of a 'business model' framework for corporate disclosure is focused on *disclosure to investors*. A recent European Financial Reporting Advisory Group (EFRAG, 2013) research report: 'The role of the business model in financial statements' focuses on how a business models framework would contribute to modifying the 'Conceptual Framework' that governs the purpose and objectives of financial disclosure. Specifically, how might a business models approach to financial disclosure affect the fundamental qualitative characteristics of the conceptual framework namely: relevance and faithful representation, comparability, timeliness and understandability. The EFRAG report is, like predecessors, focussed on how the reporting entity business model would enhance the way information is disclosed to investors. The International Integrated Reporting Council report 'Integrated Reporting (IIRC, 2013) also employs the business model concept and in contrast to the professional accounting bodies the IIRC report does incorporate the need to report to a broader group of stakeholders. The IIRC report takes the position that a large group of stakeholders 'employees, customers, suppliers, business

partners, local communities, legislators, regulators and policy-makers' (IIRC, 2013:4) are interested in the value creating capacity of an organisation.

The professional accounting and standard setting bodies are considering how a firms 'business model' could enhance the disclosure of relevant information to stakeholders. In this paper we argue for a clear definition of a firms 'business model' one that is structured out of managing and reporting about material stakeholder relations. Disclosures about material stakeholder relationships would reveal how a firm's value proposition is being articulated through value creating, capturing and manipulating endeavours and how these endeavours are impacting on the risk to liquidity and solvency.

Discussion and Summary

In this paper we conceptualise firms as belonging to a specific business model because they share common and materially significant stakeholder relation characteristics. Our argument is that a firm's business model and its associated stakeholder relations can facilitate or frustrate a viable value proposition. A firm's value proposition within its business model is informed by elements of: value creation, value capture and value manipulation. The first of these, value creation, involves understanding how a firm's relations with stakeholders contribute towards product and process renewal to generate innovate products and services that map on to consumer demand. Value capture is about the capacity of firms, within their business model, to modify their share of the value chain and extract a higher profit margin out of total income. The third element, value manipulation, recognises that in a credit based financial system asset inflation and trading financial and tangible assets can extract windfall holding gains. These elements of a firm's business model value proposition are collectively influencing liquidity and solvency reported by a firm.

Central to understanding the financial viability of a firm's business model value proposition is the need to make visible information about how stakeholder interactions are contributing to value creation, capture and manipulation. In this paper we argue that there is a significant role for the accounting profession and

associated professional bodies because a business models disclosure project could significantly enhance our understanding of corporate performance and risk. There are already a number of very important initiatives but they lack a coherent business model framework. The ICAEW, EFRAG and IIRC have a different perspective on what constitutes a business model depending on whether it is influenced by economic theory of the firm or a strategic management literature on business models.

Accounting practitioners and professional standards setting bodies could enhance stakeholder reporting by focusing on the contribution of material stakeholder relations to financial performance. There are two obstacles to this initiative. The first relates to the presentation of information in financial statements of income, which obscure than make visible the contribution of stakeholders to the financial numbers. The second relates to the primacy of investors as the key stakeholder in the accounting conceptual framework and how this governs the purpose of financial statements, which is to *report to* investors.

Currently public firms do not disclose the structure of their income statement in terms of the nature of expenses, rather preferring to disclose expenses by their function. Structuring the income statement in terms of the nature of expenses would increase the visibility of stakeholders and their impact on a firm's financials. It would also be possible, using this nature of expenses approach, to discern a firm's financial boundary and capture intelligence about changes in the capacity of a firm to capture value and profit out of the value chain. Whilst a stakeholder account

of the statement of financial position (balance sheet) would capture the nature of advisory, regulatory and counterparty risk embedded in (re)valuations.

Zeff (1999) describes how the accounting bodies in the US have historically vacillated between reporting to investors or a broader group of stakeholders. This theme is carried forward into recent reports from the accounting profession about the value of a business models approach to corporate disclosure (EFRAG, 2013; ICAEW, 2010; IIRC, 2013). On the one hand the business model can act as a filtering device that managers can use to decide whether or not to use different valuation methods for assets for investors (ICAEW, 2010); enhance relevance and faithful representation for investors (EFRAG, 2013); or help to generate coherence and integration for all stakeholders (IIRC, 2013). These approaches are a valuable step forward. However they are concerned with how a business model framework might enhance disclosures *to* stakeholders (as users of information) rather than disclosures *about* stakeholder relations and their impact on the firm's business model value proposition and its financial results in terms of liquidity and solvency for a going concern. Beattie and Smith (2013) observes that 'the external reporting challenge is to find ways of reporting holistically whilst leaving out detail that cannot be included for contractual, regulatory or proprietary cost reasons' (Beattie and Smith, 2013:24). There is no reason why managers cannot report in general terms about the impact of their key stakeholders on the viability of their business model. Business model reporting will require a reorientation in the presentation of 'numbers and narratives'.

References

Accounting Standards Steering Committee (ASSC).1975. *The Corporate Report*

<http://www.ion.icaew.com/ClientFiles/6f45ef7e-1eff-41ff-909e-24eeb6e9ed15/The%20Corporate%20Report2.pdf>

American Accounting Association (AAA: 1966) *A statement of basic accounting theory*: Evanston, IL: AAA.

American Institute of Certified Public Accountants. (AICPA: 1973). '*Objectives of financial statements*' (Trueblood report): New York.

http://3197d6d14b5f19f2f440-5e13d29c4c016cf96cbbfd197c579b45.r81.cf1.rackcdn.com/collection/papers/1970/1973_1001_TruebloodObjectives.pdf

Amit, R., Zott, C., & Massa, L. (2011). The Business Model: Recent Development and Future Research. *Journal of Management*, 37(4), pp.1019-1042

Baden-Fuller, C. and Morgan, M. S. (2010). 'Business models as models'. *Long Range Planning*, 43, 156-171.

Barney, J. (1991). 'Firm resources and sustained competitive advantage'. *Journal of Management*, 17, 99-120.

Beattie, V and Smith, S.J (2013) *British Accounting Review*, 45 (4) 243-254

<http://www.storre.stir.ac.uk/bitstream/1893/19287/1/BusModels%20Paper%20BAR%202013.pdf>

Berman, S, L., Wicks, A.C., Kotha, S., and Jones, T.M (1999) Does Stakeholder Orientation Matter? : The Relationship between Stakeholder Management Models and Firm Financial Performance. *Academy of Management Journal* 42 (5):485-506

Bowman, C. and Ambrosini, V. (2000). Value Creation Versus Value Capture: Towards a Coherent Definition of Value in Strategy. *British Journal of Management*. 11, 1-15

Bukh, P.N. and Nielsen, C. (2010). Understanding the health care business model: the financial analyst's point of view. *Journal of Health Care Finance*, 37, 8-25

Burton, J.C. and Fairfield, P. (1981) 'The role of financial information', in Burton, J.C. et al, (Eds), *Handbook of Accounting and Auditing*. Boston: Warren, Gorham and Lamont

Casadesus-Masanell, R. and Ricart, J.E. (2010). 'From strategy to business models and onto tactics'. *Long Range Planning*, 43, 195-215.

CFA Institute. 2005. 'A comprehensive business reporting model: Financial reporting for investors', CFA Institute. Codes, Standards, and Position Papers No. 6

<http://www.cfapubs.org/toc/ccb/2007/2007/6>

Chesbrough, H. (2007). Why Companies Should Have Open Business Models. *MIT Sloan Management Review*, 48(2), pp. 22-28

Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning*, 43(2-3), pp. 354-363

Conner, K.R. and Prahalad C.K. (1996). 'A resource-based theory of the firm: knowledge versus opportunism', *Organization Science*, 7, 478-496

Demil, B. and Lecocq, X. (2010). 'Business model evolution: in search of dynamic consistency', *Long Range Planning*, 43, 227-246

Demil, B., Lecocq, X., & Ventura, J. (2010). Business Models as a research program in strategic management: An appraisal based on Lakatos. *Management*, 13(4): 214-225

Donaldson, T and Preston, L. (1995). 'The stakeholder Theory of the Corporation: Concepts, Evidence and Implications', *The Academy of Management Review*, 20, 65-91.

European Central Bank (ECB). 2004. *Fair Value Accounting and Financial Stability*, Occasional paper 13. <http://www.ecb.de/pub/pdf/scpops/ecbocp13.pdf>

European Finance Research Advisory Group (EFRAG). 2013. *Towards a disclosure framework for the notes*, EFRAG, Brussels.

http://www.efrag.org/files/ProjectDocuments/PAAinE%20Disclosure%20Framework/121015_Disclosure_Framework_-_FINAL1.pdf

Evan, W. M. and Freeman. R.E. (1993) 'A Stakeholder Theory of the Modern Corporation: Kantian Capitalism', in T. Beauchamp and N. Bowie (Eds.), *Ethical Theory and Business*: Englewood Cliffs, NJ: Prentice Hall.

Freeman, R. E. (1984) *Strategic management: A stakeholder approach*. London: Pitman.

Freeman, R. E. and Evan, W.M. (1990). Corporate governance: a stakeholder interpretation. *The Journal of Behavioural Economics*, 19, 337-359.

Freeman, R.E. Wicks, A and Parmar, B. (2004). 'Stakeholder theory and the corporate objective revisited'. *Organizational Science*, 15, 364-369.

Friedman, A.L and Miles, S (2002) Developing Stakeholder Theory, *Journal of management Studies* 39(1): 1-21.

Froud, J., Johal, S., Leaver, A and Williams, K. (2006). *Financialization and Strategy: Narrative and Numbers*. London: Routledge, Taylor and Francis.

George, G., Bock, A. J. (2011). 'The business model in practice and its implications for entrepreneurship research'. *Entrepreneurship Theory and Practice*, 35, 83-111.

Gordijn, J., Akkermans, H. (2001). Designing and evaluating E-business models. *IEEE Intell. Syst.* 16, 11-17.

Haslam, C., Andersson, T., Tsitsianis, N and Yin, Y.P. (2012). *Redefining Business Models: Strategies for a Financialized World*. London: Routledge, Taylor and Francis.

Haslam, C., Andersson, T., Tsitsianis N. and Yin, Y.P (2013); Apple's financial success: the precariousness of power exercised in global value chains, *Accounting Forum* 37, 268-279

Hill, C and T. Jones. (1992). 'Stakeholder-agency theory', *Journal of Management Studies*, 29, 131-154.

International Accounting Standards Board (IASB). 2010. *Conceptual framework for financial reporting: the reporting entity*, ED/2010:2

<http://www.efrag.org/files/ED%20Conceptual%20Framework%20for%20Financial%20Reporting.%20The%20Reporting%20Entity.pdf>

International Accounting Standards Board (IASB). 2011. IAS (1) presentation of financial statements.

http://ec.europa.eu/internal_market/accounting/docs/consolidated/ias1_en.pdf

International Accounting Standards Board (IASB). 2013. *A review of the conceptual framework for financial reporting*. Discussion paper DP/2013/1

<http://www.ifrs.org/Current-Projects/IASB-Projects/Conceptual-Framework/Discussion-Paper-July-2013/Documents/Discussion-Paper-Conceptual-Framework-July-2013.pdf>

International Integrated Reporting Council (IIRC). 2013. Consultation draft of the international <IR> framework. London: IIRC

<http://www.theiirc.org/consultationdraft2013/>

Institute of Chartered Accountants England and Wales (ICAEW). 2010. *Business models in accounting: the theory of the firm and financial reporting: information for better markets Initiative*. London: ICAEW

<http://www.icaew.com/~media/Files/Technical/Financial-reporting/Information%20for%20better%20markets/BMIA%20published%20report.pdf>

- Jacobides, M (2009) Business Models in Context: Some biased reflections. AoM Meetings – Chicago, IL, <http://www.businessmodelcommunity.com/fs/Root/8v2h8-AoM2009BusinessModelsSymposiumMGJ.pdf>
- Jensen, M. C. (1986). 'Agency costs of free cash flow, corporate finance, and takeovers'. *American Economic Review*. 76, 323-329.
- Jensen, M. C. (2002). 'Value maximization, stakeholder theory and the corporate objective function'. *Business Ethics Quarterly*. 20, 235-256.
- Lazonick, W. (2008). 'The quest for shareholder value: stock repurchases in the US economy'. *Louvain Economic Review*, 74, 479-540.
- Lee, E. and Yin, Y.P. (2012). 'Off-shoring and out-sourcing for shareholder value: promise versus reality'. *Accounting Forum*. 36, 18-26.
- Magretta, J. (2002). Why Business Models Matter. *Harvard Business Review*. 80(5): 86-92
- Morris, M., Schindehutte, M and Allen, J (2005) The entrepreneur's business model: toward a unified perspective *Journal of Business Research* 58: 726- 735
- Nielsen, C and Bukh, N. (2011). 'What constitutes a business model: The perception of analysts'. *International Journal of Learning and Intellectual Capital*, 8, 256-71.
- Osterwalder, A., Pigneur, Y and Tucci, C. (2005). Clarifying business models: origins, present and future of the concept. University of Lausanne and BusinessModelDesign.com. http://scholar.google.co.uk/scholar?start=10&q=business+model&hl=en&as_sdt=2000
- Porter, M.E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: The Free Press.
- Prahalad, C.K. and Hamel, G. (1990). 'The core competence of the corporation', *Harvard Business Review*, 68, 79-91.
- Shi, Y., and Manning, T. (2009). 'Understanding business model and business model risks'. *The Journal of Private Equity*, 12, 49-59.
- Staubus, G.J., 1972. An analysis of APB Statement No. 4. *The Journal of Accountancy*, February, 133 (2), 36-43.
- Svejenova, S., Planellas, M. and Vives, L. (2010). An individual business model in the making: a chef's quest for creative freedom. *Long Range Planning*, 43, 408-430.
- Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*. 43(2-3): 172-194
- Timmers, P. (1998). Business Models for Electronic Markets. *Electronic Markets*, 8, 3-8
- Zeff, S. A. (1999). 'The evolution of the conceptual framework for business enterprises in the United States'. *Accounting Historians Journal*, 26, 89-131.
- Zeff, S. A. (2013). *The Objectives of Financial Reporting: A Historical Analysis*. Draft Paper
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2196476
- Zott, C. and Amit, R. (2010). 'Business Model Design: An Activity System Perspective'. *Long Range Planning*, 43, 216-226.

About the authors

Colin Haslam is Professor of Accounting and Finance in the School of Business and Management, Queen Mary University of London. He has acted as an adviser to the European Financial Reporting Advisory Group (EFRAG) 'Disclosure Framework Advisory Panel' and recently also the United Nations Environment Programme/Greenhouse Gas Protocol (UNEP/GHG) Working Group 5 carbon-risk initiative. His recent text 'Redefining Business Models: Strategies for a Financialized World' was published by Routledge 2012. He is also joint editor of 'Business Models' a critical management important works collection for Routledge, 2014.

E-mail: c.haslam@qmul.ac.uk



Nick Tsitsianis is a Senior Lecturer at the School of Business and Management at Queen Mary, University of London. He is an active researcher and has published on business models. He is also a member of the Academy of International Business (AIB-UK). He has worked on consulting projects for the Institute of Chartered Accountants Scotland (ICAS) featuring research into the Bio-pharma business model.

E-mail: n.tsitsianis@qmul.ac.uk



Tord Andersson is Director of RVA Consulting (Sweden) and finance consultant for SME-companies in Sweden. Prior to this he has worked as a senior investment analyst (buy-side) and financial/research analyst (sell-side) in the finance industry as well as a product manager in the telecom equipment industry. He is a visiting senior lecturer in finance at Hertfordshire Business School (UK).

E-mail: t.andersson@herts.ac.uk



Pauline Gleadle is a lecturer in management at The Open University Business School and also on a fractional appointment with Westminster University in Accounting and Finance. Her work focuses on the impact of Financialization of business models with specific reference to bio-tech firms and big-pharma.

E-mail: p.gleadle@westminster.ac.uk



How to create products and services customers want.
Get started with...

Value Proposition Design

strategyzer.com/vpd

Written by
Alex Osterwalder
Yves Pigneur
Greg Bernarda
Alan Smith

Designed by
Trish Papadakos

WILEY



Value Proposition Design is a very different book about business. An accessible, practical handbook that delivers exactly what the cover promises: "How to create products and services customers want".

Value Proposition Design

How to create products and services customers want

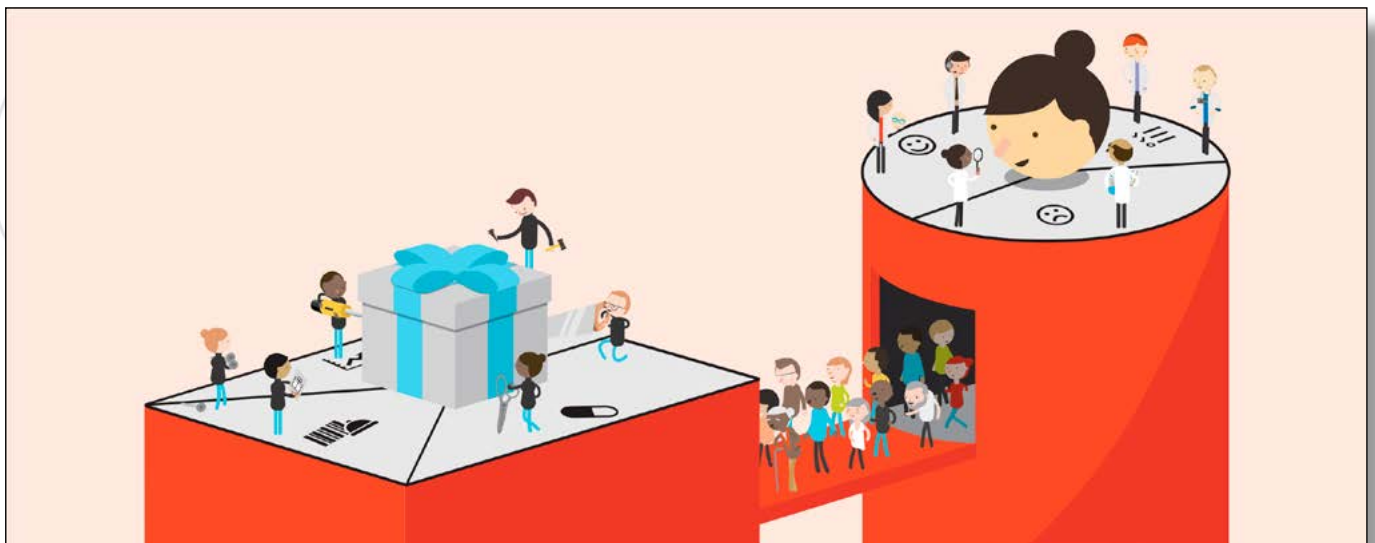
By Alex Osterwalder, Yves Pigneur, Greg Bernarda, Alan Smith & Trish Papadakos
(Published by John Wiley & Sons, New Jersey. ISBN: 978-1118968055)

Reviewed by Jan Kyhnau (the practitioner) and Christian Nielsen (the professor) for the Journal of Business Models.

The Prelude

Leading on from the bestselling 2010 book *Business Model Generation* (BMG), Alexander Osterwalder and Yves Pigneur, this time flanked by Greg Bernarda, Alan Smith and Trish Papadakos, set out to further the intricate link between business models and value propositions in the 2014 publication *Value Proposition Design* (VPD). We have been looking forward to this contribution, not just because of the impact the 2010 book made on businesses, business models and business development, but also because the notions of understanding what really lies in the concept of the value proposition in fact is rather hard for many companies, students and academics to comprehend.

Value Proposition Design addresses the relationship between customer segments and value propositions in the so-called Value Proposition Canvas (VPC), which could be described as the pivotal element of the Business Model Canvas (BMC). The book focuses on two of the building blocks from the BMC, namely “Customer Segments” and “Value Propositions” and gives a simple and accessible way of researching whether the value propositions of a company’s business model correlates with the actual needs of the customers it wishes to serve. Not only are the methods easy to work with, they are in addition a fun and inspiring way of working with strategy and business development.



Value Proposition Design uses the simplicity and effective means of inspiring and instructive drawings to clarify what it's talking about – and more importantly, what it means.

Through our work with organizations of varying size and industrial affiliation and collaborating with students, we have encountered countless instances where value propositions are mistaken for product features. In our use of the Value Proposition Canvas during the last two years where it has flourished on the Internet, we have come to appreciate its ability to convey this understanding to even stubborn CEO's, owners and financial managers.

Let us be frank: If you are looking for an academic dissertation about business models and the meaning of value propositions, *Value Proposition Design* is not the book for you.

However, if you are looking for a no-nonsense "how-to-do" book that helps you identify and understand customer segments as well as offering you the tools to design razor-sharp value propositions, which ensure the success of your chosen business model, look no further. *Value Proposition Design* is a brilliant cookbook, which, as the flip side of the cover states, helps you avoid wasting your time building stuff nobody wants. *Value Proposition Design* is written as an accessible, practical handbook that delivers exactly what it promises at its outset: "How to create products and services customers want".

Whereas the *Business Model Canvas* focused on how to create value for businesses, the *Value Proposition Canvas* focuses on how to create value to customers. Using the *Value Proposition Canvas* is not going to be a brand new experience for those who have worked with the *Business Model Canvas* before. That said, there is a quick introduction to the Business Model Canvas, meaning that brand new readers who have not read the BMG book can follow and understand the premise of the VPC and its context.

The scope and focus between the two tools are, however, quite different. In this new book, the focus is much more in-depth into the way organizations function and create value, and the book provides the reader with a whole array of practical tools and examples on how to create for example *Customer Profiles*, *Value Maps* and how to work with prototyping and testing.

The field of business models has developed dramatically over the last five years both in academia and in business and therefore we intend to review this book from both perspectives, namely from the practitioner perspective and the professor perspective.

On the book as a whole, the practitioner says:

As a practitioner, I have nothing but praise in regards to the new ways the book works with development, innovation and testing of business models, as well as the online tools provided with the book. These are hands-on methods and tools, which enable the user to understand customers, design the value propositions, and create correlation between customer segments and the corresponding value propositions.

It should be mentioned that I have known about the content of VPD and the online companion for some time, as I was part of the pre-reader team of the book, which consists of roughly 60 practitioners from all over the world. I have also been part of the test team who tested the "online companion" tool.

In the last few months, I have had the opportunity to use the book and the tools on a series of strategy and business development cases as well as for facilitating business model and value proposition design processes. From my experiences I have to say that the authors have done a great job in terms of enabling business development teams to effectively develop and test prototypes of value propositions and in extension, business models.

...

Together with many elaborate, instructive and exemplified tools for prototyping possibilities and gaining customer insights, the book has a good flow. It is my experience that users easily understand the models presented as well as being able to follow the detailed descriptions that come with the tools.

The “online companion” is an online portal, which comes with the book. It offers tools, templates and posters, and even tests and exercises all of which correlates to the books curriculum. It is a refreshing way of handling external material and it expands both the experience and the learning exercise. Yet seen from a practitioner point of view it falls a little short in trying to be both a supporting tool as well as a training tool. But overall I think that the book and the online companion work well together and are to business model designing what Batman and Robin are to crime fighting – a dynamic duo.

On the book as a whole, the professor says:

As a professor from the fields of management and performance measurement it is a relief to endure a contribution that realizes that the creation of value essentially stems from an organization providing a product or service to a customer (either another organization or a consumer) which is of value to him/her. The following negotiation between these two entities then leads to a pricing and payment agreement, and ultimately the realization of value coupled with the related costs leads to a profit contribution.

In the literature, I currently see many interpretations of value creation that are related to financialization and accounting practices. While we must not neglect the positive attributes of sound financial business models with for example high liquidity ratios and a high level of free cash flow, none of them will be sustainable in the long term if what the company brings to the market is of poor value to the customer now or somewhere in the future. Sometimes investors and financial analysts tend to forget this perspective in their reports.

Hopefully, the perspective of the *Business Model Canvas* and *Value Proposition Canvas* will in time find their ways more broadly into the curriculum of business and finance and resolve this forgetfulness. According to Osterwalder and Pigneur¹ (2015), 250 universities in the USA have adopted the *Business Model Generation* book for one or more courses. For now, however, we are seeing the growing popularity and importance of thinking in terms of business models and value propositions more or less only in the fields of entrepreneurship, business development and intrapreneurship. However, this is not a bad place to start. In time, we might ponder the positive aspects of introducing these lines of thought to certain areas of public administration, university administration and banking. Just a thought.

Value Proposition Design is organized in four sections. The first 25 pages of the book provide an extensive introduction with a comprehensive table of content, and arguments for why readers should invest time in this book. Here the authors use the book’s own model to describe the “pains” which they have identified

amongst their customers (the readers) and subsequently which “pain relievers” and “gain creators” the book and the online companion offer. Naturally, this is concluded with the book’s own value proposition, which is to “Design, test and deliver what customers want”. Concluding, there is an online test, by which you can

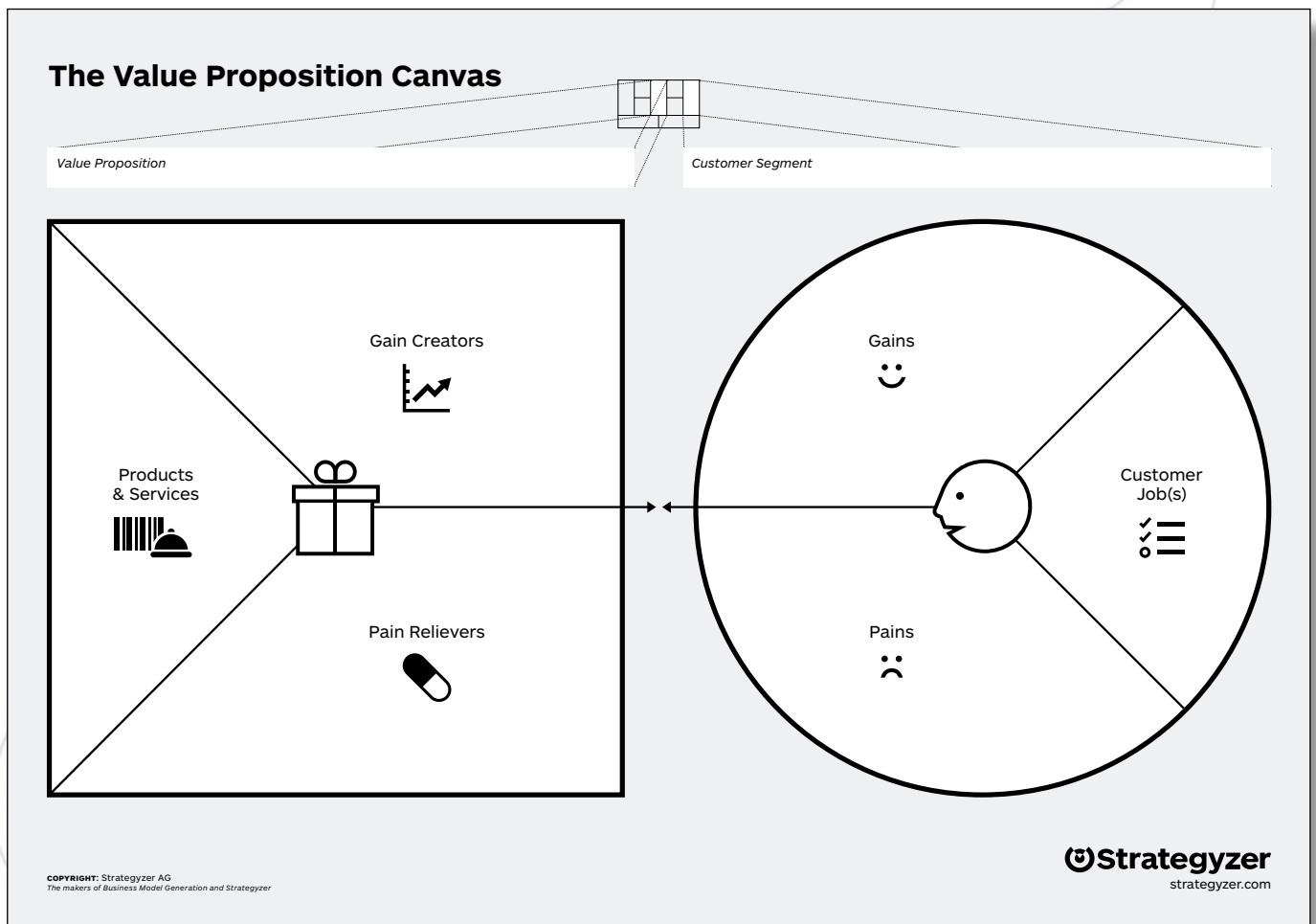
¹ Osterwalder, A., and Pigneur, Y. (2015) *The Business Model Canvas: Why and how organizations around the world adopt it*. A field report from Strategyzer. Accessed from <http://blog.strategyzer.com> (26.02.2015).

assess your Value Proposition Design skills as well as receive a few good pointers on how you convey the idea of VPD to your colleagues.

Section 1 – Canvas

The first section of the book explains the thought process behind *Value Proposition Design* as well as providing instructions for using the VPC. It describes the two sides of the VPC: 1) a Customer Profile side

where you clarify your customer understanding, and 2) a Value Map side where you map out how you intend to create value for that customer. The Value Proposition Canvas is a simple model that points out “the pains” the users struggle with, and “the gains” which they strive for, held against the “pain relievers” and “gain creators” the organisation offers. It also describes what it means to achieve FIT between the two sides of the model.



The book gives a simple and accessible way of researching whether the value propositions of a company's business model correlates with the actual needs of the customers it wishes to serve. The so called FIT. In principle this is not new, but it has never been formulated in a more understandable fashion.

Not only is the canvas a highly efficient and understandable tool, it is in addition a fun and inspiring way of working with strategy and business development.

The practitioner says:

“Observe Customers – Create Value”. It is that simple. And when the authors explain it graphically, it really is easy to understand that Value Proposition Design is all about achieving FIT between Customer Profiles on the one hand side and the Value Map on the other.

The subdivision into three fields on each side of the canvas is easy to command and easily accessible. As a user I find that each field will be filled up with notes rather quickly. The book and the online companion provide good advice on checking for the given FIT. Where the book makes a notable difference is in the section regarding rankings of the notes and the guidelines as to how the process should be guided. The ranking goes from “nice to have” to “essential” and the “best practices and common mistakes” which is shown on pages 24-25 under Customer Profiling and on page 39 under Value Mapping helps to improve the value gained from working with the VPC.

What’s more, the table on page 42-43 helps you pick the right direction for your value proposition. By looking at the rankings it often becomes clear whether you should address the essential gains or the most extreme pains. Finally, the selection of the different types of FIT and the walkthrough of the different contexts, which applies to the same customer, is helping to refine and vary the usage of the VP Canvas.

The professor says:

The model presented here should be taught on the first semester of any under-grad business education. It forces managers and entrepreneurs to consider if there is a market for their product. This is not new in any sense, but to be honest, I have not seen it formulated in a more understandable fashion previously. This model has been used successfully with business students in their project work the last two years with us. For me there are two central passages in this section:

1. The section on achieving FIT as a whole (starting page 40)
2. Particularly the section on customer segmentation and why this should be done according to perceived use value of different customer groups provided on pages 54 to 59 is a must read for any manager or business owner

Section 2 – Design

The second section of the book revolves around how you design the best possible value proposition, or rather, how to design different prototypes of value propositions. Here the Value Proposition Canvas is linked with the Business Model Canvas and the environment surrounding a company’s business model and the reader is introduced to prototyping techniques and how to start a value proposition design process.

That is why we think you will enjoy the 10 Prototyp-

ing Principles on pages 78-79. The three first principles assure a better process along with more and better ideas: 1) Make it visible and tangible 2) Embrace a beginners mind – don’t let existing knowledge get in the way 3) Don’t fall in love with first ideas – create alternatives. The design thinking influence of this book teaches us the importance of never falling in love with the first idea or to work into too great detail too early; because this makes you attached to the idea. As such, you want to work within rough universes and work

up-tempo and in drafts and sketches. The more the better.

The book describes many relevant techniques, which enable you to attain insight into customer profiles and to create ideas and innovation from these. Not all of the tools are easy to use, which the book also attempts to accommodate in being explicit about the level of difficulty for each of the tools. Be aware that some of the techniques may be difficult to apply without any prior knowledge. Especially the co-creation technique might demand more background than what is on offer in the book alone.

The checklists "10 Questions to Assess your Value Proposition" on page 122-123 and "7 Questions to assess Business Models" on page 156-157 work really

well. Whether it be on paper or through the online companion, these lists are essential when the different prototypes are to be evaluated against each other.

We are both particularly fond of the section "From Value Proposition to Business Model and Back again" on pages 152 and 153. This exercise illustrates how to change perspective in relation to the business model by zooming out and then back in again. This enables you to see the weaknesses and opportunities in the proposed value propositions and decipher what happens when you refine or change the value proposition or customer segment.

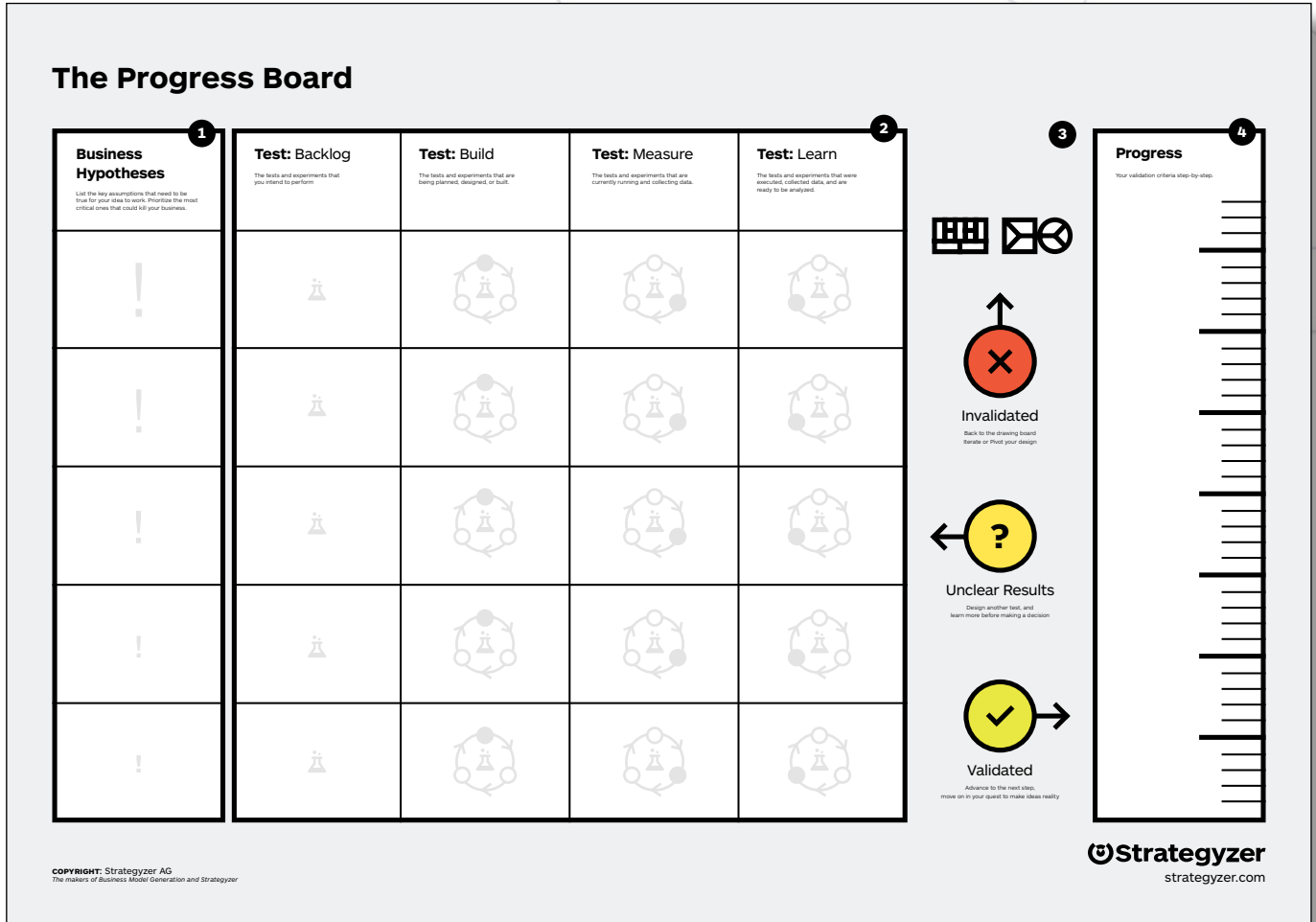
The practitioner says:

As creative director and business model designer, I have worked with many of the starting points for idea development, which the book mentions in section 2.2 from page 88 and forward. The book gives you very practical instructions, and I agree fully with the point of departure, namely that great value proposition does not have to be centred around the customer, but may also originate from other successful value propositions and business models from other trades. Why would you not? In love, war and business development, all is fair. So "steal" with pride.

In the last part of the second section, which is the part of the book I find the best and most useful, you find instructions to composing a workshop in an already established organization. There is quite detailed information, which shows what part of the book you should use at what time. My experiences lead me to caution the readers on the ease of conducting these processes. There are many places where this process can fail if you endeavour into a workshop with many hopeful participants. I recommend that you pilot these processes with a small group of employees whom you know well and who are aware of the premise of such a pilot workshop.

The professor says:

Having worked with the Value Proposition Canvas for a couple of years now, my favourite passage of this book is found in section 2, and specifically sections 2.4, 2.5 and the first part of section 2.6 (starting on page 120 to page 165). From my personal perspective, section 2 also seems to be the most developed part of the book. The only negative aspect would be to comment on the widespread mix of introduction to the models and workshop tools. While its practical nature is the core strength of the book in general perhaps some form of distinction in the colour scheme could have enlightened the organization of the mix between tools and models?



To manage the test process you can use the Progress Board poster, an example of the extensive amount of extras in the Online Companion which comes with the book. It offers very accessible and useful tools and templates and even tests and exercises, all of which correlates to the book's curriculum.

Section 3 - Test

The third section of the book revolves around how to reduce risks of failure when developing value propositions by testing them. The section offers principles for testing and validating value propositions and shows how progress can be measured and followed minutely by help of simple yet effective tools such as Test Card, Learning Cards and a newly developed Progress Board (pages 244 to 245).

The book includes a very enlightening case story of the Owlet baby monitor illustrating how many of the tools provided with the book for designing and testing

value propositions and business models was used by the winners of an international business model competition. They did so in part by using the concept of Minimum Viable Product, which the book describes.

Section 3.3 offers a bibliotheca of different tests in the Experiment Library. An array of different experiments and test methods, all of which take their point of departure in a *Call to Action*, are described. The idea is to attain evidence of what works and what does not from the customers' perspectives. Among the techniques are guides on how to test the interest and relevance of a value proposition, the customers' priorities and preferences and - not least - their willingness to pay

for the value provided. With point of departure in Steve Blank's Investment Readiness Thermometer (page 242), the section is rounded off with instructions to

how one can measure the testing process.

The practitioner says:

I find the test section very inspiring. When I introduce these methods during workshops to get better traction and strengthen the developed value propositions, I only receive positive feedback. This is something everyone seems to find valuable. The power of the test section lies, in my opinion, in the description of the hypothesis-based test process, where the people behind Strategyzer have developed some very simple, yet extremely effective tools. I am talking about Test Cards, which makes it easy to design a test, and Learning Cards, which makes it possible to retain and maintain the results and insights. Overview of the Testing Process is developed in the usual easily accessible graphic form and can be found on page 198-199. As recent as early March 2015, I introduced VPD, prototyping and test methods to a large European pharmaceutical company, which found the tools to be very useful in order to indicate what their R&D department should focus on in the future.

The professor says:

This section of the book is a very practical "how to" guide for entrepreneurs or business developers. I agree fully with the mantra '*Go out and find evidence for what you are proposing*'. Too many entrepreneurs and even students sit in front of their laptops and think they can find evidence of customer needs in that way. I think the section on five data traps to avoid is very important to consider and I personally enjoyed the Product Box technique. I am putting that into practice the very next chance I get.

Section 4 – Evolve

The fourth and final section, "evolve", is more than anything a plea from the books authors to continue developing, measuring and monitoring both Business Model and Value Proposition performance and to continually track the satisfaction of your customers. The book uses the Chinese e-commerce company, Taobao, part of the Alibaba group, as an example of how the tools, which normally are used for designing and testing business models and value propositions, may also be used for continuous reinvention of the business.

In the first part of the Section 4 (page 169-162), the authors introduce alignment opportunities, which an increasing number of communication, marketing and advertising people know and use on a daily basis. Especially the Value Proposition Canvas is a good tool to create alignment in relation to advertising, sales, internal and external branding, employer advocacy and so forth. There are many possibilities in using the tools in this book for creating value added "narratives" for both internal and external stakeholders. Lastly, the authors have provided a very useful glossary, which especially becomes useful for people who have limited experience with BMG and VPD.

The practitioner says:

As I see it, the authors use the last section not just to conclude and to put into perspective but just as much to urge users and supporters of Value Proposition Design to strive for more and better solutions, to keep on developing, optimizing and measuring their effort to adjust their value propositions to what customers want.

Seen from a strategic planner and creative director perspective, I see a lot of possibilities in using the tools in this book – not just in creating products and services customers want, but also in creating value added branding and “story doing” based on the perfect brief that the Value Proposition Canvas actually represents.

I am grateful to have been among the team of pre-readers and it is worth noting that the process of reading the book with even more critical eyes have not changed my impression of “Value Proposition Design”. I believe it is a very useful and in many ways ground-breaking handbook, which makes strategy work and the creation of products and services customers want much more qualified and even more fun.

The professor says:

I sense the authors wanted a concluding section to the book, however, the final section about evolving the Value Proposition comes short of the thoughtfulness of the remainder of the book and it lacks the coherence of the rest of the book. On the other hand this opens up, not only for a little critique, but also for some more work to be done. As professor of Business Models and Performance Measurement, I can only say that the Measure and Monitor section inspires me to keep working towards the next generation of tools.

Concluding remarks and future directions

This book is a must read for undergraduate students in any field where creating a new product or new knowledge might be a possibility. This includes not only students in business and social sciences but also students of humanities, engineering and medicine. At Aalborg University, Denmark, we have both been involved in bringing these models into the business model curriculum and teaching it to 150+ students. Last year we had to cheat and use the information available from Strategyzer’s blog, so we are looking forward to feeling the coherence brought about by this cookbook in class.

Likewise, for anyone involved in product or business development, or new venture creation this book is a must read, of course alongside *Business Model Genera-*

tion because the latter provides a common language for the process spelt out in this book. For the practitioner, VPD is an exquisite cookbook with recipes.

Strategy and business development is something that should be taken very seriously. In our opinion this is exactly what is done in Value Proposition Design. The authors take strategy and business development very seriously by acknowledging that companies and organizations that need to invent or reinvent themselves cannot afford that the development of business models is an exclusive exercise for a few selected people in top management. VPD adds new and necessary resources for strategy and business development to existing businesses and advocates for bringing business development into the culture of a given company.

The practitioner says:

To me, strategy and business development is about creating actual value, and not about a bunch of buzzwords. As such, I think that VPD is a highly valuable contribution to all who need to invent, optimize or renew their business models. That goes for entrepreneurs as well as small, medium or large enterprises and organizations. The authors are definitely inspired by Dan Roam's thoughts about minimizing the "blah blah blah" in meetings and reports on strategy and business development. Hence they strive to replace words with pictures where possible. That has resulted in a very different book about business. A book, which uses the simplicity and effective means of instructive drawings to clarify what it's talking about – and more importantly, what it means.

The professor says:

For me the highlight of the book was section 2 on designing value propositions; particularly pages 120 to 165. I have just read them again and they are equally informative third time around. I did feel that the Evolve section needed a bit more work. However, like Business Model Generation left a door open for the Value Proposition Design book, these weak spots related to the alignment and measurement of the evolving business model innovation process leave yet another couple of doors open. When I look back at both Business Model Generation and Value Proposition Design I feel that an interesting angle is to work more on the patterns introduced in the former and applied sporadically in the latter. Some more work needs to be done in this respect. At the Business Model Design Center we have also dissected all known business model configurations, presently there are 62, and are in the process of combining them with the notions of performance measurements.

About the book review authors

Jan Kyhnau is consultant and trained practitioner within Business Model Design and Innovation. With a background as a strategic planner, creative director and entrepreneur/founder within digital marketing, he has extensive experience in Concept Development and Value Proposition Design. Jan cooperates with BMDC at Aalborg University and is also external lecturer and examiner at University Colleges Denmark. Furthermore, Jan is Danish representative of Business Model You®, licensed Strategic Board Member, member of Alex Osterwalder's pre-reader team and member of the Journal of Business Models' Editorial Team.



Christian Nielsen is Professor at Aalborg University, Denmark and Visiting Professor at Macquarie University, Australia. Christian heads the Business Model Design Centre (www.bmdc.aau.dk), one of the worlds leading interdisciplinary centres of excellence in business model research. Christian has worked with the field of analysing and valuing business models since 2001 both as a researcher and as a buy-side analyst, portfolio manager, consultant and board member and is also Joint-Editor of the Journal of Business Models.





AALBORG UNIVERSITET



BMDC
Business Model Design Center