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The Business Model Cube

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Abstract

The Business Model Cube was developed as an output of the work mentioned in Chapters 1 to 3 and several years of BM research and empirical BM cube testing. Several researchers contributed to the formation and verification of the BM Cube and its related dimensions and components. Associate Professor Yariv Taran, in particular, contributed to the hypothetical concept of the BM with seven dimensions. Sigita Pleikys contributed to the cube framework and digital visualization of the BM Cube (Figure 4.1).

Ole Horn Rasmussen contributed to the relations axiom framework, which will be covered in detail in Chapter 7. This chapter explains in detail the arguments of how and why the BM Cube could be a proposal for a generic BM framework and BM language. Further, it shows case examples of the use of the BM Cube in the different businesses we have studied.

4.1 Dimensions, Concepts and Language of a Business Model

The term “business” has been defined by reputed academics from several viewpoints and dimensions. Abell (1980) defined a business by just three dimensions – **customer functions (what)** (values); **customer groups (who)** (customers); and **customer technology (how)** (production technologies and process technologies) (Figure 4.2).

So, interestingly, Abell had already indicated in 1980 a cube which formed the “borders” of a business – in three dimensions, however Porter (1985) argued that a business should be defined by its **suppliers, buyers** (customers) and **value chain activities**. Hamel and Prahalad (1994) argued that a business could be defined by its **competences** and its **core competences**. Vervest et al. (2005) argued that a business could be defined by its **network** and how it organized its business together with network partners, and Johnson

Business Model Graphical Representation Design

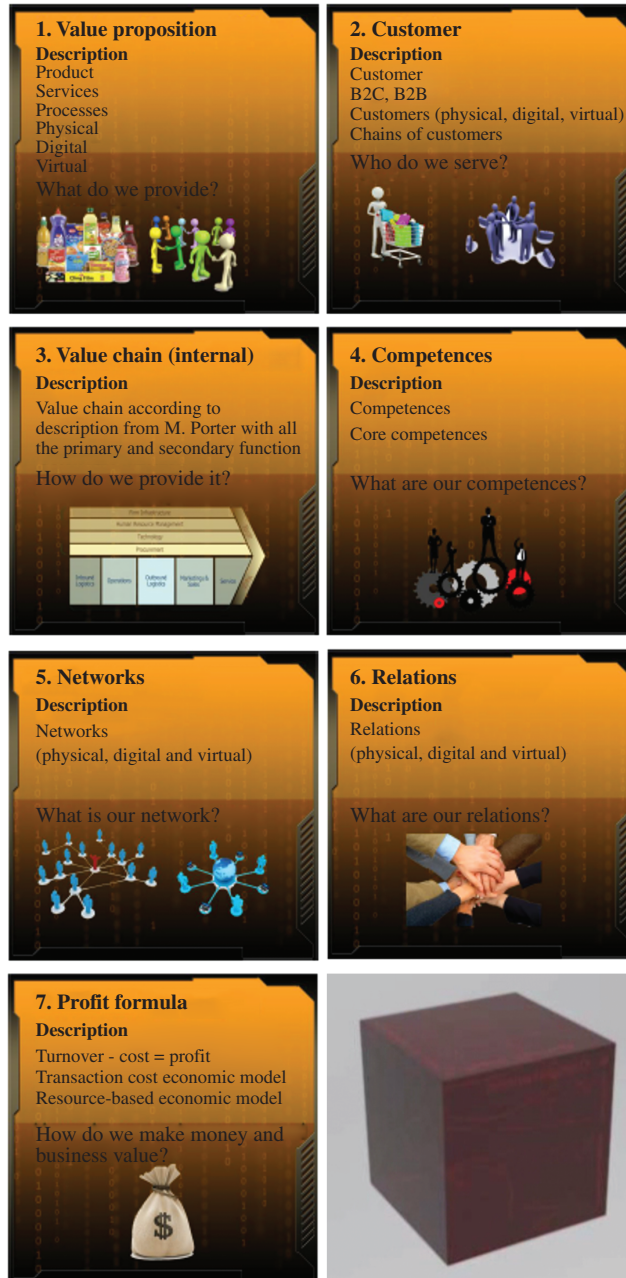


Figure 4.1 Sigita Pleikys' first sketch of the BM Cube for our research work (Pleikys 2012).

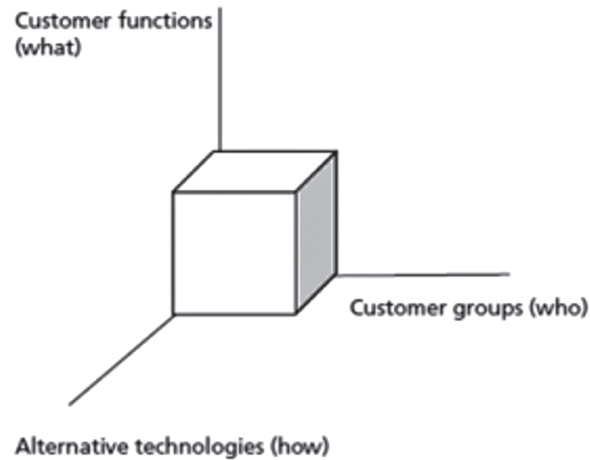


Figure 4.2 Derek F. Abell's three-dimensional business model.

et al. (2008) defined the business as how it created **value** to the **customer**. Håkansson (1980; see also Amidon 2008; Allee and Schwabe 2011; Russell 2011) defined the business by its **relations**. **Profit maximization** has been the central assumption in business and managerial economics (Henry and Haynes 1978) and the reason for the stress on profits has been that it is the one pervasive objective running through all businesses; other objectives, according to Henry and Haynes, have been more a matter of personal taste or of social conditioning and were variable from business to business, society to society, and time to time. The survival of a business has until today very much been considered as depending upon its ability to earn profits, where profits have been the business measure of its success (Henry and Haynes 1978). Another reason for emphasizing profits is their convenience of analysis and because it is easy to construct **formulae** on the assumption of profit maximization. It has been much more difficult to build models based on multiplicity of **value formulae**, especially when these formulae are concerned with non-monetary factors as “fair”, the improvement of public relations and, for example, the maintenance of a customer's satisfaction. However, other value formulae than profit formulae have become very popular these days to business – even more popular than profit – especially as a reaction to, for example, the financial crisis of 2008 and global warming.

From these acknowledged academic works, we found after five years' intense research in the ICI and MBIT research groups some generic dimensions that support the idea that any business could be defined by them.

More than 12 researchers were involved in this research in the 2007–2013 time period.

From this point of entry, we then tested our BM dimensions in more than 400 different businesses to verify empirically our hypotheses of the existence of what we found were seven dimensions of any BM. This resulted in the creation and capturing of the **Business Model Cube** and its seven dimensions.

4.2 Design/Methodology/Approach to the Business Model Cube

The methodology used and applied to verify and research on the BM Cube is structured firstly around deductive reasoning. First, a theoretical background of the BM Cube related to business model theory on each dimension of a BM is presented to provide a foundation for commonly accepted and acknowledged dimensions of a BM.

To verify the existence of the dimensions of the BM and the usability of the BM Cube, two business cases out of over 400 are used and presented in this chapter – Vlastuin and HSJD. To “stress test” the generic use of the BM Cube framework, the cases represent two very different test businesses with different BMs. Both cases are chosen to exemplify the concept of the BM Cube in the use of “to-be” and “as-is” BMs. “To-be” BMs are considered under construction – and perhaps lacking one or more of the seven dimensions – and “as-is” BMs are considered to be already operating in the market.

The information and data from the Vlastuin and HSJD cases were gathered through participative action research (Wadsworth 1998) carried out over three years in the EU FP 7 IOT project Neffics (Neffics 2012). Based on these cases, supplemented with other empirical cases and tests, a final definition of the BM Cube concept was formulated in 2011 and is now illustrated in this chapter, along with the detailed test and confirmation of the BM Cube that we also conducted. Appendix 1 shows which businesses the BM Cube has been empirically tested in. The BM Cube has also been functionally tested in cases with different uses on the Neffics BM software platform (Neffics 2012) together with the Dutch ICT provider Cordys (www.Cordys.NL – now www.OpenText.com), the Norwegian Software provider Induct (www.Induct.com) and the Dutch ICT provider VDMbee (www.VDMbee.com). The BM Cube, together with the VDML standard, was proposed in 2011 as an OMG standard (www.OMG.org) and was adopted as an OMG standard in 2013.

4.3 The Seven Dimensions of the Business Model Cube

4.3.1 Value Proposition Dimension

All the business models we checked in our research (Appendix 1) acknowledge that any business offers or proposes values. We define these firstly as the value proposition offered to the customers or users. This can be in the form of products, services and/or processes of services and products. Values are offered by the business as related to the *customer functions* that the business offers to solve for the customer (Abell 1980). Customer values can be: products – a light bubble; services – an installation of a lamp or solutions to the specific lighting of a building; or a value proposition process – a specific process consisting of lamps, installation and lighting through a certain time period delivered in a certain process to the customer. Kotler (1984) supports this argument by expressing that any business delivers or offers values in the form of products and/or services and/or process. (See also Magretta 2002; Osterwalder et al. 2005; Chesbrough 2007; Johnson et al. 2008; Casadesus-Masanell and Ricart 2010; Osterwalder and Pigneur 2010; Teece 2010; Zott et al. 2010; Osterwalder 2011.)

The literature of business process engineering (Davenport 1990; Hammer 1990) increases the value proposition dimension as it argues for a value proposition process. This is further supported by Chan and Mauborgne (2005) talking about a value proposition process before, during and after the carrying out of a certain value proposition exchange. A value proposition process thereby takes in the time aspect of any value proposition exchange and extends the value proposition offer from any business to more than just products and/or services.

4.3.2 Customers and/or User Dimension

All academic works and practitioners we consulted agree that business serves customers and/or users (Chapter 3; see also Appendix 2). “A successful *business* is one that has found a way to create value for its customers – that has found “*a way*” to help customers and/or to get an important job done” (Johnson et al. 2008). “It’s not possible to invent or reinvent a business model without first identifying a clear customer value proposition” (Johnson et al. 2008).

Here, we draw a distinction between customers and users. Customers pay with money – “there is no marked – *Business* – if the customers do not pay” (Kotler 1984), whereas users (von Hippel 2005) do not pay with anything or pay with other values.

Business model theory (see Chapters 2 and 3) until now has only considered the business model related to customers. However, as we will see later,

and as von Hippel argued, users can be highly valuable to business by “paying” with other values.

4.3.3 Value Chain Functions (Internal Part) Dimension

Any operating business has functions which are (Porter 1996; Sanchez 1996, 2000) able to “offer” value propositions and serve the customers and/or users with values. Most of the academic frameworks we checked acknowledge this but few are very concrete about which functions are involved and some have not even mentioned these.

A value chain function list could be adapted from Porter’s value chain framework (Porter 1985, 1996) including: primary functions – inbound logistics, operation, outbound logistics, marketing and sales, service; and support functions – procurement, human resource management, administration and finance infrastructure, business model innovation. We changed Porter’s product and technology development support function to a broader support function, which we call the business model innovation (BMI) function, as we believe that BMI covers Porter’s two support functions. The BMI function was not considered by Porter at the time he introduced the value chain model. Porter was, at that time, primarily focusing on products and the activities of the value chain. In Table 4.1 we propose a list of value chain functions (internal part) to be carried out in any BM.

Table 4.1 Value chain functions – primary and secondary function list of any BM

Primary functions	Support functions
Inbound logistics Examples: quality control, receiving raw materials control, supply schedules	Business model innovation Examples: innovation on the seven BM dimensions
Operations Examples: manufacturing, packaging, production control, quality control, maintenance	Administration, finance infrastructures Examples: legal accounting, financial management
Outbound logistics Examples: finishing goods, order handling, dispatch, delivery invoicing	Human resource management Examples: personnel, lay recruitment, training, staff planning
Sales & marketing Examples: customer management, order tracking, promotion, sales analysis, market research	Procurement Examples: supplier management, funding, subcontracting, specification
Servicing Examples: warranty, maintenance, education and training upgrades	

Any operating business needs to include some of these functions in some degree – which Porter refers to as activities that are carried out to enable a business to be able to fulfil its purpose, either executed by the business itself or carried out by others. The result of carrying out these functions is value added and/or fewer costs (Porter 1996) which can be proposed as value propositions.

Porter's list was originally described as activities and developed on the background of an operating business. It was not in particular made for “to-be” businesses – entrepreneurs, new or changed businesses, or businesses that were in a “phase of BMI” before BMES introduction or made ready for operation. Our model acknowledges “as-is” activities but we find that it is necessary to include also the functions of a “to-be” BM that is not yet operating and still has activities.

4.3.4 Competences Dimension

Very few BM frameworks (See Chapter 3 and Appendix 2) comment on and address the questions: “How are the activities and functions carried out?” “Who takes care of the value chain functions?” and “By which competences are the value chain functions carried out?” According to Prahalad and Hamel (1990), competences can be divided into four groups – technology, human resources, organizational systems and culture. Technology according to the MIT approach covers product, production and process technologies, human resources cover the employees used in the business and its related business models, organizational systems and culture (Tillich 1951, 1990). The business can choose either to use own competences, network partners' competences and even users/customers competences to carry out the value chain functions.

According to Prahalad and Hamel (1990), any business can have competences but only a few businesses would have core competences. Often it has been said that it is strategically preferable to protect, insource and control core competences within the business itself – and have value chain functions that are not core to the business and business model carried out by other competences, e.g. network partners' competences.

4.3.5 Network Dimension

Håkansson argued that any business is in a network of other businesses and thereby “no business is an island” (Håkansson and Snehota 1990). Any business is a network-based business and these networks could be physical, digital and/or virtual (Goldman et al. 1995; Child and Faulkner 1998; Hamel 2001; Choi 2003; Vervest et al. 2005; Lindgren 2011). Very few of the BM frameworks mention networks; however, historically networks have been more

important and visible in the latest 10 years of BM research. Increasing numbers of businesses have chosen to outsource the handling and responsibility of taking care of specific value chain functions. Network partners have in this case been increasingly important in many businesses' business models.

4.3.6 Relation Dimension

Businesses' business models are related through tangible and intangible relations (Provan 1983, Provan et al. 2007, Provan and Kenis 2008; Allee and Schwabe 2011) to other businesses' customers, competences and networks (Håkansson and Snehota 1990; Amidon 2008; Russell 2012). Businesses' BMs are related through strong and weak ties (Granovetter 1973) Businesses' BMs send value propositions to other businesses' BMs through relations and receive value propositions from other businesses' BMs through relations. Relations can be one to one or one to many, visible or invisible to humans or machines (Lindgren 2012).

Tangible and intangible relations are used in the business to deliver values (Allee and Schwabe 2011). Businesses relate their value proposition, users/customers, value chain functions, competences, network and value formulas through relations. Relations are used for creating, capturing, delivering, receiving and consuming values. Value propositions are sent through tangible and intangible relations to users, customers, competences and network. Relations are connected to roles (Allee and Schwabe 2011) played by users, customers, competences and/or network partners.

Very few BM frameworks (Chapter 3 and Appendix 2) include relations. Osterwalder (2011) acknowledges customer relations as the business is related to customers but seems to forget relations to suppliers and other stakeholders in the BM. Only very few (Casadesus-Masanell and Ricart 2010; Allee and Schwabe 2011) go into visualizing and documenting value transfers through relations in the BM. We found in our empirical tests that a BM without relations between the other BM dimensions will never be able to operate and become an "as-is" BM. We also found that relations that are not "connected", independently of whether they are tangible or intangible, cannot transfer values from one BM dimension to another.

4.3.7 Value Formula Dimension

In our empirical tests and research, we found that any business uses some kind of a formula to calculate the value it offers to its own business or any BM in any BMES. Very few BM frameworks (Chapter 3 and Appendix 2) comment on this formula and those who do are quite vague about the formulae.

The value formula is a formula that shows how the value and the cost are calculated by the business (Henry and Haynes 1978; Kotler 1984; Porter 1985; Osterwalder 2002). The result of this calculation is a value formula expressed in money and/or other values. Henry talks about a profit maximization formula, Kotler talks about several pricing models, Porter discusses different competitive pricing formulae and Osterwalder (2011) expresses this in his BM framework as revenue and cost structure. Very few academics dealing with BM deal with how the business calculates the value they want to get out of the BM.

4.3.8 Business and Business Models

The seven dimensions mentioned above are equivalent to the overall model – the BM Cube – that we propose describes how any business model is constructed. The seven dimensions should be considered by any business that is interested in running its BM operations well.

However, we found in our research that there is a difference between the way businesses want to run their operations – seven visionary dimensions of a business – and how a business really runs its operations. By mapping empirical data from our business case studies to the seven dimensions, we found that most businesses have more than one business model. In other words, the businesses described via the seven dimensions are different to how these businesses actually run their BMs. Some of these BMs were close to their original description of the seven dimensions but others were different.

This attracted our attention to the fact that businesses could potentially have more business models and that there could exist a level beneath the business's seven overall dimensions. We therefore address the importance of investigation of these business models and draw a distinction between a visionary model of a business and the models of business that are actually carried out (“as-is”) and that are intended to be carried out (“to-be”) in the business.

Most academics working with BMs have until now used the term “BM” at the business level and at the visionary level. Further, they use it to cover just one BM for any business, as seen in Table 4.2.

This observation, together with inspiration from Abell's and Hamel's original definitions and framework of “the core business” (Abell 1980) and “the core competence” (Hamel and Prahalad 1994) made us adapt the definition of “the core business model” as the BM model at a business level and business visionary level, which states how businesses related to the seven dimensions may wish to run their businesses. In this context we found on behalf of our research it was necessary to increase Abell's dimensions from

Table 4.2 Business model definition focal points

Authors	BM as framework	BM at business level	BM at business model level
Abell (1980)		X	
Timmers (1998)	X		
Venkatraman and Henderson (1998)	X		
Selz (1999)		X?	
Stewart and Zhao (2000)		X	
Linder and Cantrell (2000)		X	
Hamel (2000)	X		
Petrovic et al. (2001)		X?	
Weill and Vitale (2001)		X	
Magretta (2002)		X	
Amit and Zott (2001)	X		
Markides and Charitou (2004)		X	(x)
Malone et al. (2006)		X	
Chesbrough (2007)	X	X	
Skarzynski and Gibson (2008)		X	
Johnson et al. (2008)	X		
Casadesus-Masanell and Ricart (2010)		X	(x)
Johnson (2010)		X	
Osterwalder and Pigneur (2010)		X	
Teece (2010)	X		
Zott et al. (2010, 2011)		X	
Fielt (2011)		X	
Lindgren and Rasmussen (2013)	X	X	X
Gassmann (2014)	X	X	

Note: Where X? appears, we had difficulties in placing the X, precisely due to a kind of fuzziness about what the authors really mean and focus on in their frameworks. Therefore, the placement of X? is our indication of where they should be or we, based on their descriptions, think they are placed.

three to seven dimensions and added some components to his dimensions that were lacking.

The core business model's seven dimensions refer hereafter to:

How a business wants to construct and intends to operate its “main” and “essential” business related to the seven business model dimensions – value proposition, user and/or customers, value chain (internal functions), competence, network, relations and value formula.

The business model (BM) refers to:

How a certain BM in the business is constructed and actually operates – “as-is” BM – or is intended to be constructed – “to-be” BM – related to the seven dimensions: value proposition, user and/or customers, value chain (internal functions), competence, network, relations and value formula.

In other words, businesses most often have both “as-is” BMs and “to-be” BMs, which we will comment on in Chapter 5, which discusses the multi business model approach.

4.4 The BM Component Level

Each BM dimension can be divided into “smaller parts”, which we call components (Appendix 7). We will now exemplify the BM dimensions by explaining how each dimension in any BM can be and most often are constructed differently on the component level. We will show how they can be characterized on a BM component level. The level of detail of each dimension is up to the individual business to decide. Business can “dive” as deep in detail as it wishes; however, our research and theory show that examining components can give meaning and it is highly valuable to the business to go into detail. Businesses must be able to get value out of the details – the components – otherwise they will miss the overview and motivation of mapping their BMs.

4.4.1 The Value Proposition Dimension Component Level – “What Value Propositions Do the BM Provide?” (VP)

The definition of value (Alderson 1957; Drucker 1973; Anderson 1982; Albrecht 1992; Woodruff 1997; Anderson and Narus 1999; Doyle 2000; Lindgreen and Wynstra 2005; Wouters et al. 2005; Chan and Mauborgne 2005; Osterwalder et al. 2005) is manifold and its development since the 1950s during the “era of innovation” has been covered intensely in academia.

Value is key in understanding the value of a product, service, process and relationship offered. However, value proposition varies as it relates to different customers, because just as customers are different they are also satisfied by different values, whether it is from products, services, a relationship or a value fulfilment delivered in a process by products and services (Lindgren 2011). “Managers today continuously ask themselves: How can we understand customer’s value and how can we deliver ‘real’ value to customers in a cost efficient and profitable way?” (Johnson et al. 2008).



Figure 4.3 The value proposition dimension.

The customer's value equation is often very complex to understand in detail because it is not static but dynamic over time (Lindgreen and Wynstra 2005). Therefore, value proposition has to be understood from:

- the perspective of both the business and the customer and/or user the value is delivered to
- the context the value is delivered in
- the time the value is delivered
- the place the value is delivered
- the relations the value is delivered through

Value can be said to be closely connected to the concept of “total value and cost to the customer” (Wouters et al. 2005). In this case, staying at the point of entry to a trade or a value proposition process is strongly related to the customer's total perceived value and total perceived cost related to the products, services or process. This is why it is incredibly difficult as a business to measure and read the values and cost of a customer, and to decide the degree of attractiveness of a value – or whether a value is judged high or low related to a trade or a process. In this chapter, we focus on what the business – or business model – believes it offers related to value: the business viewpoint (Lindgren 2011). However, we acknowledge that there are also other views of a value proposition.

The solution to classifying value propositions taken by many businesses is to offer different value propositions to different customers, which argues that a value proposition offered by a business is often different for each **customer, context, time and place**.

Payne and Holt (1999) outline four types of values.

1. **Use values** – the properties and qualities which accomplish a use, work or service for the customer
2. **Esteem value** – the properties, features or attractiveness which cause the customer to want to own the product and service
3. **Cost value** – the sum of labour, materials and various other costs required to produce a product or service for the customer
4. **Exchange value** – the properties or qualities of a product or service, which enable exchanging it for something else that the customer wants

We found that this list of types of values had to be complemented by an overall dimension of work time vs. life time (Fogh Kirkeby 2003). Time as the factor that defines customers' personal or business values of the, for example, trade or process is related to an overall lifetime value and describes the sum of actions taken in order to find work life-fulfilling and transcend oneself, a value

often seen as the driver of projects, art etc. (Tillich 1951; Austin and Devlin 2003; Sandberg 2007).

Value also has to be measured **before, during** and **after** value exchange has taken place (Kim and Mauborgne 2005). This means that a customer could trade or collaborate on the value from a product and service that comes out of the trade (Kotler 1984; Ziethaml 1988; Doyle 2000) but also from the value of the relationship (Reichheld 1993; Lindgreen and Wynstra 2005). The creation, capturing, delivering, receiving and consumption of value through a relationship (Brodie, Brookes and Coviello 2000; Lindgreen, 2001; Coviello et al. 2002; Lindgreen, Antioco and Beverland 2003; Lindgren 2012) is the value equation of an inter-organizational collaboration project – a network-based BM. This is one important value and also an attraction factor, which could be in this case an innovation of a “to-be” business model. The value of this can be something other than money, e.g. learning. There is a list of non-monetary values in Appendix 3.

This is in line with research claiming that the value of the relationship, activity links, resource ties, and actor’s bonds (Håkansson, 1982; Axelsson and Easton 1992; Håkansson and Snehota 1995; Ford 2001; Ford et al. 2002; Ford et al. 2003) can be even more important than the value of the product or service. The value of the relationship is both an input and an output of the business model innovation process, which supports the argument that value is not static but dynamic.

As values are created, captured, delivered, received and consumed in a value process; they are continuously undergoing change throughout the business model innovation process or the lifetime of values. Values of relationship can be related directly (e.g. profit, volume and safeguard functions) and also indirectly (e.g. innovation, market, scout and access functions). The value functions (Walter et al. 2001) can further be of a low- and/or high-performing character (Lindgreen and Wynstra 2005) which is often up to the customer’s judgement and to influence the degree of this value. Kim and Mauborgne express this in their strategic value map (see Appendix 4). However, their value map is just seen from the business viewpoint and not from the customers’ or other viewpoints (e.g. network, value chain function, competence, relation and process viewpoint) (Lindgren 2011).

The value of a customer should also be understood as perceived value – benefits and cost (Woodruff 1997; Walter et al. 2001; Lindgren and Dreisler 2002), which means that the real value of a product, service and/or a process can in some cases be neglected in favour of a higher or lower perceived value of a product, service or process. Furthermore, perceived value should not just be related only to the individual customer but also to other individuals as

customers, users (von Hippel 2005), competences (technology, humans, organizational systems and culture) and network (suppliers or other networks) in the business model interpretation of the product, service and/or process (Blois 2004). Therefore, it is the user's, customer's, competence's or network's interpretation of "value" that is important and not just what the business and its stakeholders (investors, the market, the business, the innovation leader) "think" ought to be or are the values – that is the real value proposition of the BM. In Part 2 we will comment on these different views of value – referring to the BM panorama view.

It is therefore important when analysing and understanding a product, service and/or process value, to analyse all stakeholders and both values and perceived values. Furthermore, it is important to analyse values and perceived values over time, during the trade or inter-organizational collaborative process, as both values and perceived values are dynamic and will therefore by definition always change throughout the entire value process and thereby over time. Today no business model framework has managed to cover and capture value change over time.

Values can be tangible and/or intangible. "Tangible" describes something you can see, touch or feel and others can get a full view of these components. Intangible values you cannot see, touch or feel physically. Sometimes, however, you clearly understand that the intangible values exist and have an impact – maybe even more than the tangible values.

We make a distinction between tangible and intangible values and associated value objects. Tangible value objects have often a direct financial value, underpinned by an accepted financial marketplace for realizing the value.

A view of tangible and intangible values is inspired by Verna Allee's framework (Allee 2008), which defines tangible values as deliverables to include anything that is contracted, mandated or expected by the recipient as part of the delivery of a product, service and/or process that directly generates revenue. Intangible value objects, as proposed by Allee, could be considered in three main groups:

- Intangibles where a financial market may be established but where the stability and absolute nature of the value may be questionable (such as intellectual property).
- Intangibles where a measure is established with a wide acceptance of the measurement approach (such as a carbon footprint).
- Intangibles where only a specific context is applicable with values very much related to that context.

Li et al. draw a comparison between tangibles and intangibles in relation to markets and contexts (Li et al. 2012). This enables us to include the

operation of social businesses/exchanges within this definition of tangibles and intangibles.

In summary, any business model may offer a value proposition, which can be offered as tangible and/or intangible value. Value proposition can be products, services and/or processes of product and services. Value propositions can be values of relations.

4.4.2 Customers and Users Dimension Component Level – “Who Does the BM Serve?” (CU)

Any business model that we researched talks about business models having customers. However, we found that many BMs do not have customers that pay for BMs’ value proposition, but are constructed around users, which provide the foundation for other BMs with customers. Facebook, Skype, LinkedIn, Twitter and Google are good examples of such business models. Ryanair, Uber, Airbnb are examples of business models where the customers do not pay the real costs of “production” of the BM’s value proposition. How can this be? And – how can and should we understand this from a sustainable business and “going concern” perspective?

Our research showed that BMs built upon users, when growing big in numbers of users, can attract and activate customers willing to buy – or pay for – value propositions in other BMs. Either users start to pay for better performance, advanced use, deeper content, for example, or other customers buy, for instance, promotion, because there are so many users in the BM. In these cases, the customers pay for other or different value propositions – or even a different BM – compared to the users. Stock buyers of the Facebook business could be an example. The customers, however, can play a double role also – at the same time being users of the value offering in the user- based BM. Stock buyers of the Facebook business are probably often also Facebook users. Thereby customers can play different roles in a BM and in different BMs. This complicates the “picture” of business models.

This is one of the arguments for the existence of more BMs (Lindgren 2012, Lindgren and Rasmussen 2013). In all businesses where our research

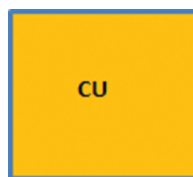


Figure 4.4 The customers and users dimension.

was carried out we found more BMs and that BMs were often interrelated and added value and influenced each other.

We therefore propose to distinguish between users and customers by defining users as not paying for the value proposition (Kotler 1984; Von Hippel 2005) while customers pay for the value proposition (Kotler 1984).

Users can, however, “pay” with other values, other value transfers and thereby contribute to development of very important values for other business models. These values could be learning for future BMI, development of critical user mass that would be attractive for other BMs, and change of general market context and direction. Needless to say there can be many other valuable contributions from user-based BMs to customer-based BMs (Appendix 3).

4.4.3 Value Chain Functions (Internal) Dimension Component Level – “What Value Chain Functions Do the BM Have?” (VC)

Any business model must carry out certain activities to produce the value proposition for the users and/or customers. A list of these activities was proposed by Michael Porter in his value chain framework (Porter 1985). Porter called these “functions” and proposed some primary functions and some secondary functions to be carried out by a value chain. A value chain was proposed by Porter to include one or all of these functions; however, if some functions were missing and not carried out, our research showed that this can stop the BM’s operations or that the BM will never come to operate in the business and the business model ecosystem (BMES).

Porter’s value chain framework was related to an operating BM. However, when businesses start to create a “to-be” BM there are really no active functions, just wishes and expectations of value chain functions the BM should carry out. Further, when we observe an operating business at a certain moment – in this case, we freeze the picture of a specific BM – we do not see “running” activities but just functions that are carried out (Appendix 5). Value chain functions in our BM framework represent the value chain functions that



Figure 4.5 The value chain function dimension.

have to be carried out or are being carried out within the BM. We acknowledge that there are value chain functions outside the BM but in this chapter we only focus on the internal value chain functions of the BM.

4.4.4 Competence Dimension Component Level – “What are the BM’s Competences?” (C)

Any business models rely on and use competences, either from the focal business, from network partners or even from customers and users to carry out the value chain functions that create, capture, deliver, receive and consume the value propositions.

As we have seen, according to Prahalad and Hamel (1990) competences can be divided to four main categories: technologies, human resources, organizational systems and culture.

Technologies, according to (Sanchez 1996, 2000, 2001), are divided into:

1. Product and service technologies
2. Production technologies – both “product- and service-production technologies”
3. Process technologies – to run and steer the production technologies so that the product and service technologies can be created, captured, delivered, received and consumed.

Each BM has a specific mix, integration and use of product and service technologies, production technologies and process technologies. Sometimes the mix, integration and use of technologies is so unique that the competence can be classified as a core competence (Prahalad and Hamel 1990).

Human resources are the people – either white collar or blue collar (Peters 1997) – that the BM can use to carry out the value chain functions. The human resource, its mix and its use can also be so unique that human resource too can be rendered as a core competence.

Organizational systems are the systems that the business models use to organize the use of technologies and human resources to carry out the value



Figure 4.6 The competence dimension.

chain functions. The organizational system can also be so unique that it is a core competence.

Culture is the “soft” part of the competence dimension. We claim that any BM has a specific culture. The culture can be adapted one to one from the business or other BMs but can also be incrementally, even radically, different from these. Most users, customers, employees and networks “feel” the culture and the difference in culture when entering or dealing with a business – either it is physical, digital or virtual.

4.4.5 Network – “What is the BM’s Network?” (N)

In our research we found that any business model is network based. No BM is a lonely island – at least not for a very long time. Why? Because if a BM does not receive value from outside it will slowly shrink and vanish. If it does not offer a value proposition of any kind it will not be able to receive value in a long-term perspective. The BM network thereby becomes vital to any BM – a BM is its network.

Networks can be physical networks (Håkonsson and Snehota 1990), digital networks (Choi 2003) and/or virtual networks (Goldman et al. 1995; Vervest et al. 2005) that the BMs use.

4.4.6 Relations Dimension Component Level – “What are the BM’s Relations?” (R)

Any business model relies on relations. Relations in our terminology enable BMs to transfer value from one BM dimension to another. Relations enable

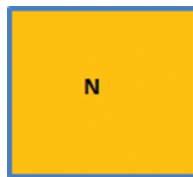


Figure 4.7 The network dimension.



Figure 4.8 The relation dimension.

BMs to create, capture, deliver, receive and consume values. Relations are like the “arteries”, “veins” and “nerves” in the “body”. Relations can have forms as tangible and intangible relations.

In our initial research, we found four sets of relations that were of importance to BMs (as shown as examples in Appendix 5) and that should be attended to by business managers. See Figure 4.9.

1. The **“inside BM inside business”** area relations – business model relations transferring values and securing communications inside the BM.
2. The **“inside business outside BM”** area refers to relations between different BMs inside the business.
3. The **“inside BM outside business”** refers to relations between BMs outside of the business.
4. The **“outside BM outside business”** refers to relations and relation areas where the BM and business do not share a relation.

We will elaborate more on the relations axiom in Chapter 7.

Value and values of a BM can be seen in a broader perspective as each partner’s BM’s relation to users, customers, competences and networks in the inter-organizational network of relations to “as-is” and “to-be” BMs. Why? Because value and cost are strongly interrelated with relationships (Blois 2004), and attributes related to the relationship between the partners’ BMs in, for example, a simple trade “as-is” BM or a BM innovation project “to-be”

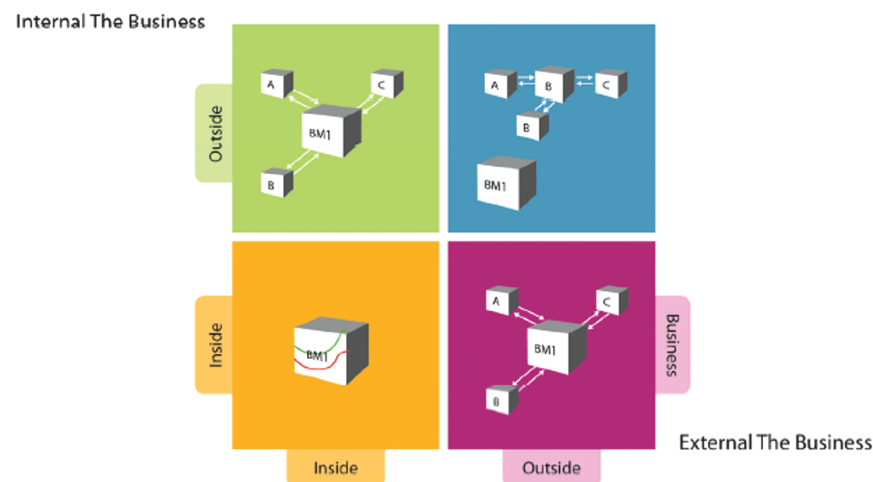


Figure 4.9 The relations areas related to a BM – the original relation axiom adapted from Lindgren and Rasmussen 2013.

BM where goods and services are not necessarily defined. Needless to say, these relations also influence each other and are interrelated. However, this is not studied much in BM literature.

As was seen earlier, value proposition is not only related to products, services and processes but is also strongly connected to relations and thereby a result of the relation between BMs in either a trade or a BMI project. Value equation can be related to irrespective of whether the BMs are related or not. In this chapter, we only cover the internal relations – the “in in” relations – in a BM.

Relations, activity links, resource ties and actor’s bonds (Håkansson 1982; Axelsson and Easton 1992; Håkansson and Snehota 1995; Day 2000; Ford 2001; Ford et al., 2002; Ford et al., 2003) are all tools used to describe and map relations.

The creation, capturing, delivering, receiving and consumption of value is enabled through relations (Brodie, Brookes and Coviello 2000; Lindgren 2001; Danaher and Johnston, 2002; Lindgreen, Antioco and Beverland, 2003, Lindgren 2012). Relations connect the different BM dimensions’ components and enable the creation, capturing, delivering, receiving and consumption process of value. However, if any BM is not able or “willing” to send and receive the value through the relations, then the relations have no value and no task for the BM. Therefore it is very important for managers of businesses and managers and participants of BMI projects to focus on the relations of BMs.

4.4.7 Value Formula Dimension Component Level – “What are the BM’s Value Formulae?” (VF)

In our research we found both theoretically and empirically that any business model will have one or more value formulae. The value formula can be expressed in either a monetary and/or in a non-monetary way. The term “profit formula” as a dimension in a BM that we found through our research is too narrow a term for BMs and – we propose – has to be changed to a dimension called “the value formula dimension” to cover all types of BMs. We found that profit formula is too narrow a term to express the formula by which the value



Figure 4.10 The value formula dimension.

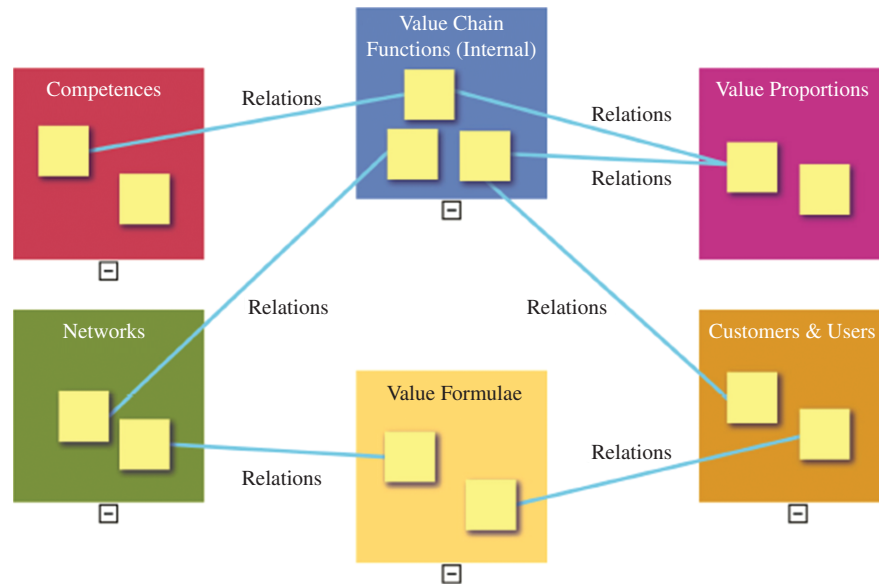


Figure 4.11 The seven dimensions of the BM Cube shown in a 2D presentation.

of a BM is calculated because our research showed that many businesses and BMs are not focused, or are not exclusively focused, on profit but instead on other values – value formulae. They “calculate” on other value formulae and to get a full understanding of why business models exist and are innovated it is necessary to include other values. We therefore propose profit formula as one of many value formulae that can be the “calculated” output of a BM. However, we claim that any BM has one or more calculated value formulae – monetary and/or non-monetary. A BM can have more than one value formulae.

Having verified academically that the seven dimensions of the BM exist enables us to complete the concept of the BM Cube. In a 2D picture and with the seven dimensions spread out flat it could look like the sketch in Figure 4.11.

However, we discovered that the seven dimensions form a BM Cube with the “in in” relations inside the Cube as shown in a sketch model in Figure 4.12.

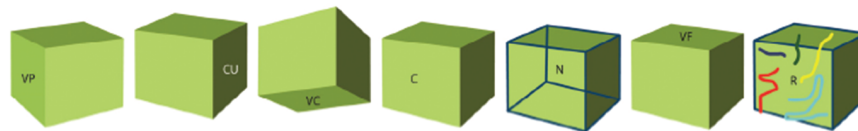


Figure 4.12 The seven dimensions of the BM Cube presentation.

The 2D version is very helpful when working on a BM dimension level but the 3D version can be even more helpful when working on a BM, BM portfolio, business and BM ecosystem level. Both presentations are helpful when working on BMI but a strong digitization of the BM – as we will comment on later in Part 2 of the book – will be extremely helpful in the future. This will enable us to “dig deep” in any business model.

4.5 Summary

Summing up, we propose that any BM Cube consists of seven dimensions – six sides and the BM relations inside the BM Cube that bind all other dimensions and components together and enable creation, capturing, delivering, receiving and consumption of the values that lie outside the BM Cube and bind the BM together with other BMs. We illustrate the BM Cube in Figure 4.13.

Any BMs can be defined as related to the generic BM concept consisting of seven generic dimensions. Each of the seven dimensions addresses some core

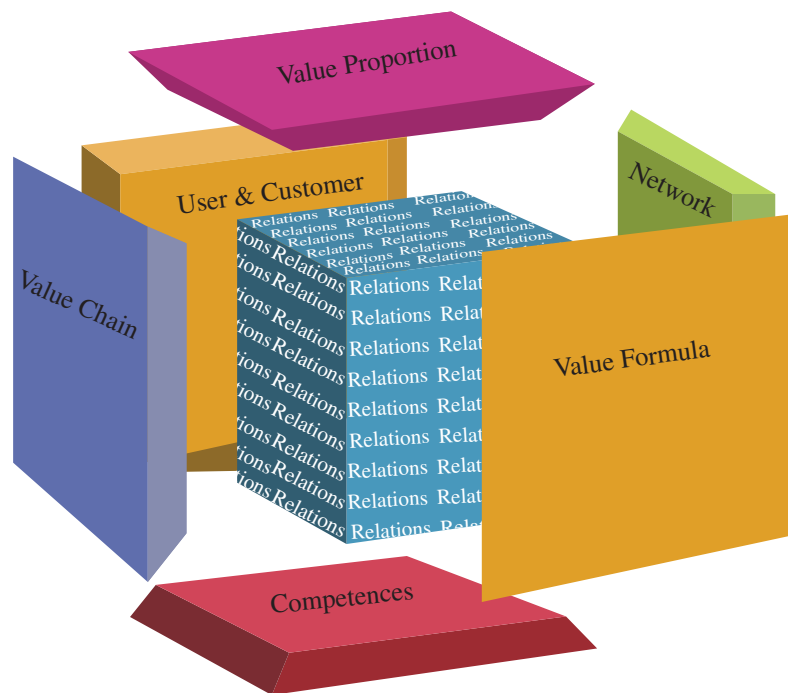


Figure 4.13 The BM Cube.

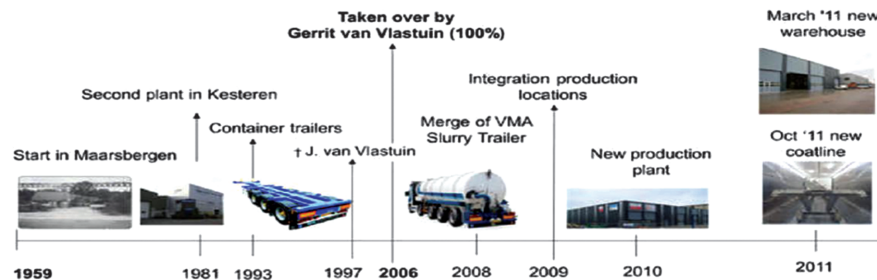


Figure 4.14 Vlastuin's business evolution.

questions in relation to each individual BM's dimensions characteristics and logic (see Table 2.1 for these dimensions and questions). Each BM dimension can be split into small BM dimension components.

With the above mentioned it is now possible to draw up the first part of the vertical butterfly model (Rasmussen, Lindgren and Saghaug 2014; Lindgren 2016b) as seen in Figure 4.14. These levels we will comment on more in Chapter 5.

4.6 Business Cases

In order to approach the combination of business and BMs and to define, visualize and document the BM Cube, two case studies are presented as examples as a follow-up to Chapters 1 to 4.

The first case is based on the Dutch business Vlastuin which is implementing several new "to-be" BMs in order to reinforce its business and already has several BMs operating as "as-is" BMs in order to sustain its business. The second case is concerned with an already functioning hospital in Spain, HSJD, which introduced a whole range of "to-be" BMs in relation to the hospital's business.

Here we give a very brief description of the two business cases. Further details can be found in Appendices 5 and 6.

Vlastuin (Appendix 5)

Vlastuin, located in Netherlands, started its operations in 1959. Vlastuin employs around 150 people and had a turnover of 27 million euros in 2011. During its more than 50 years, Vlastuin has added more BMs to its business and thereby slowly increased its core business. It started off by installing and servicing furnaces and boilers, gradually moved to manufacturing and

later on added assembling of cranes and parts to the business. A graphical representation of Vlastuin business evolution can be seen in Figure 4.14.

In Appendix 5, a detailed description and analysis of the case is presented.

HSJD Hospital (Appendix 6)

Hospital Sant Joan De Dieu (HSJD) belongs to the Hospital Order of Saint John of God and is a private, non-profit hospital. The order is represented in more than 50 countries and has almost 300 healthcare centres worldwide. HSJD is located in Barcelona, Spain, and is a children's and maternity care centre. It is a university hospital connected to the University of Barcelona and is also associated with the Hospital Clinic of Barcelona, which helps the hospital to provide high-level technological and patient care. HSJD is 95 per cent financed by the Catalonian public system and the remaining 5 per cent comes from private investments. The primary goal of HSJD is to encourage and educate people to follow a healthy lifestyle with good nutrition, proper sleep, hygiene and exercise.

In Appendix 6, a detailed description and analysis of the case is presented.