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The Business Model Relations Axiom

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Abstract

The notion of business models (BMs) has been used by strategy scholars to refer to “the logic of the business, the way it operates and how it creates value to its stakeholders” (Casadesus-Masanell and Ricart 2009). On the surface, this notion appears to be similar to that of a business model strategy. We present a conceptual framework to separate relations within any BMs and between any BMs in the business. BMs, we argue, are a reflection of business models’ realized and unrealized relations. We find that in simple competitive situations there is a one-to-many tangible and intangible mapping between relations and the business BMs, which makes it difficult to separate the two notions. We show that the concepts of relations and BMs differ when there are important contingencies upon which a well-designed business model strategy must be based. Our framework delivers a clear separation between different relation viewpoints and BMs. This distinction is possible because we have verified through our research that relations are one of the seven dimensions of any BM and can be mapped internally to any BM and also externally – between any BMs internal and external to the business.

7.1 Introduction

The BM field has evolved substantially in the past 10 years. Business are now learning to “download”, “see” and “sense” their business models – and from there their business models relations. Different approaches including business model canvas (Osterwalder 2011), the Stoff Model (Bouwman 2003, Bouwman et al. 2008), the open business model (Chesbrough 2007), the resource-based view (Wernerfelt 1984, 1995; Rumelt 1984; Penrose 1959), dynamic capabilities (Prahalad and Hamel 1990; Teece 1997) and game theory (Neumann 1928, 1944) have helped academics and practitioners understand the dynamics of business models and develop recommendations on how businesses should define their “as-is” and “to-be” business models.

However, drivers such as globalization, deregulation and technological change, just to mention a few, are profoundly changing the business model game and relations between BMs. Scholars and practitioners agree that the fastest-growing business in this new environment appear to have taken advantage of these structural business model changes to compete “differently” and innovate in their business models. Chesbrough (2007), Bower and Christensen (1995), Johnson et al. (2008), Markides and Charitou (2004), Casadesus-Masanell and Ricart (2010), Teece (2010) and Zott et al.’s (2011) studies show that businesses are actively seeking guidance on how to innovate their business models to improve their ability to create, capture, deliver, receive and consume value. One of the most important analyses in this work is the “downloading”, “seeing” and “sensing” of their business models relations (Lindgren 2016a).

Advances in ICT have driven the possibility of mapping relations inside business models and business models’ relations to other business models. Many businesses constitute “to-be” and “as-is” business models. Shafer et al. (2005) and Linder and Cantrell (2000) present 12 recent definitions of business models and 55 different business models (Gassmann et al. 2012) but hardly any mention of or focus on relations in business models.

Today practically all business models’ tangible and intangible relations are possible to map and with more tools and evolvement of ICT it will soon be possible to have the full picture of any business models relations – both inside and outside BMs.

New relations for emerging business models steer researchers and practitioners towards a systematic study of relations to business models. Academics working in this area agree that for business to be effective and gain competitive advantage in different business model ecosystems in future, they need to develop novel relations inside their business models, between their business models inside their business, and between their business models and business models outside their business.

In fact, relation-based business model innovation that aims to reach the optimum of business multi business model innovation constitutes one of the most important sources of sustainability and growth of a business, but paradoxically – as far as we found it in our research – is also often neglected as a strategically important source or object in business model innovations.

Although it is relatively uncontroversial for business to innovate, managers of business model innovation must have a good understanding of how business models are related and how the BM’s relations work. The academic community has – so far – only offered early insights on the issue. In truth, there is not yet agreement on what the distinctive features are of superior business

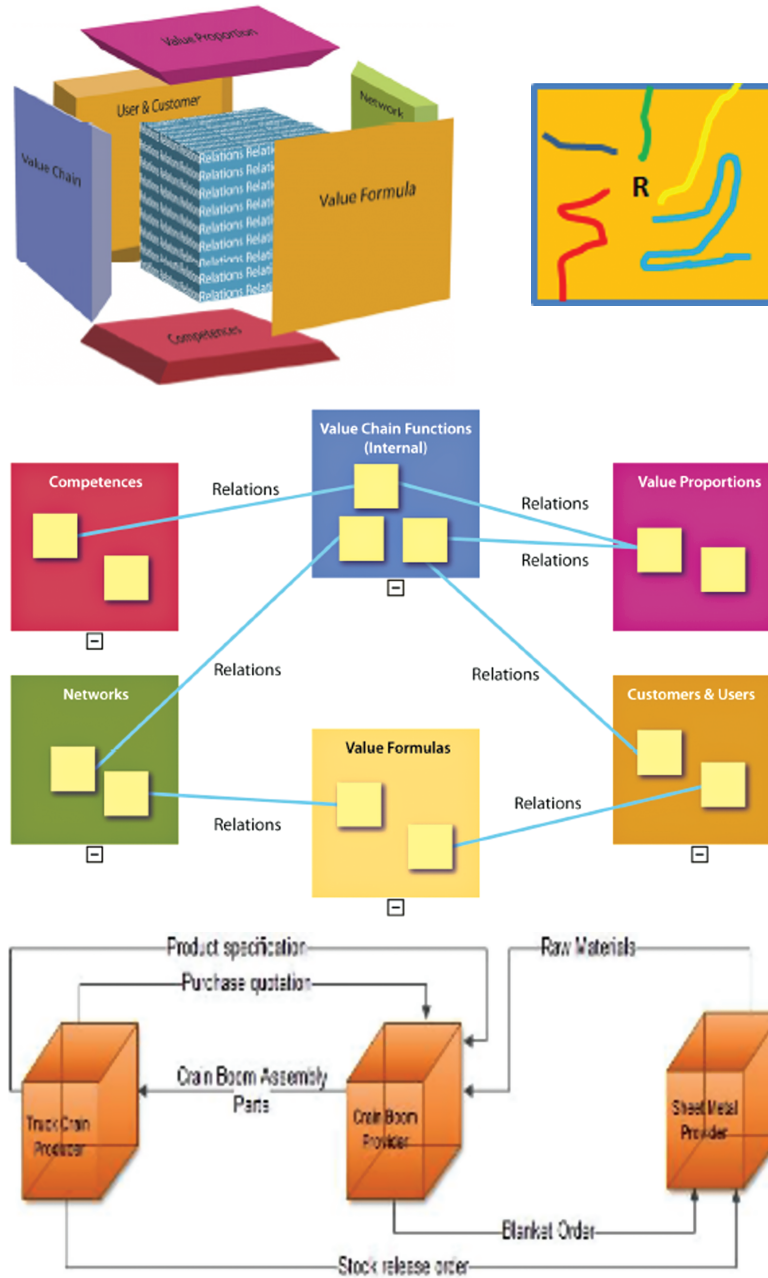


Figure 7.1 Different early sketch models of relations inside a BM Cube and outside a BM Cube (Lindgren and Rasmussen 2013, Lindgren 2016a).

models' relations and many academic business model frameworks even forget the relations of business models.

We believe that the dispute has arisen, in part, because of a lack of a clear distinction between the notions of business model dimensions, business models and business. The purpose of this chapter is to contribute to the research and literature by presenting an integrative framework to distinguish and relate the concepts of business model relations and business model relations' viewpoints.

As mentioned earlier in this book, business model refers to the logic and the framework we develop around the business, the BM Cube, the business model portfolio, the BM Cube's dimensions, the business models' dimensions' components (Lindgren and Rasmussen 2013) and the business present in the business model ecosystem (BMES) (Lindgren 2016b).

These relations enable the way business models operate and how the BM creates, captures, delivers, receives and consumes value for its business and its BMs.

“The way” in which one business model dimension is connected with another business model dimension is in our terminology defined as a relation. A relation relates all the BM's dimensions together and as can be seen in the sketch model of the BM (Figure 7.1) – the relations are placed firstly in the middle of the BM and then in a later approach between BMs.

In the sketch models it can be seen that relations are drawn, for example, as

- the relation of the value proposition to the customer dimension
- the relation of value chain function to the competence dimension
- the relation from one BM to another BM.

How can we get an overview of these relations and how can we use this overview to support operations of BMs and BMI in general? We will try and cover the answers to these questions in the paragraphs that follow.

7.2 BM Relations

Relations in our terminology consist of as “wire” and connectors. In Figure 7.2 a sketch model is drawn of how we hypothetically imagine what a relation looks like in a BM with a “wire” delivering and receiving connectors.

A relation works by relating BM dimensions and it enables BM dimensions to relate. In most cases, the relations relate BM dimensions' components from one BM dimension component to another. We identified (inspired by



Figure 7.2 Sketch of tangible and intangible relations with a wire, delivering and receiving connectors.



Figure 7.3 No connection means no business and no “living” business model.

Allee 2008) very early two types of relations – tangible (unbroken line relations) and intangible (dotted line relations) relations, as seen in Figure 7.2.

Tangible relations are physical and visual – like a string, a wire, a pipe, a vein and/or an artery. **Intangible relations** are not visual, cannot be touched, are not “physically cabled”. Examples are the wireless internet, mobile phone line, one person looking in the eyes of another, sound floating from one ear to another, smell floating in the air from a cheese to a person’s nose.

Both types of relations are important in BMs – however, the physical and tangible relations have gained the largest attention and are most investigated.

Relations have to be connected to make them able to function. If a relation is not connected at both ends then values will not be able to flow from one BM dimension to another as illustrated in Figure 7.3. This can cause a lot of frustration but also leave businesses and business people in critical situations – even out of business (the Netflix case (Sotek 2014)). No wonder many business promote their brand as “being connected”, staying connected and no wonder several politicians and grassroots groups are “fighting” to have connectivity as a “the right of the human being” (EU 2017).

Inspiration in our case and for the development of our BM relations terminology is as already comment on very much taken from Verna Allee’s and Oliver Schwabe’s framework (Allee 2008; Allee and Schwabe 2011) but also from the ICT and electrical power industry and healthcare scientific research.

7.2.1 Types of Business Model Relations

There are three kinds of relations that we found existing inside BMs and between BM dimensions. We found that these are always related from BM dimension components, either inside or outside a BM, to BM dimensions in BMs outside the BM. The BM relations can take different forms, which we give hereunder some examples of.

7.2.1.1 One-to-one relations

In a one-to-one relations, a BM dimension in Business Model A can have no more than one matching BM dimension component in Business Model B. A one-to-one relation is created if both of the related BM dimensions are primary keys or have unique constraints. The relations can be tangible or intangible as seen in Figure 7.4.

This kind of one-to-one relations we found is not so common in BM operation, because most information that is related in this manner would be either inside one BM or in very special BM operations between BMs. In this kind of relation, a BM dimension component in Business Model A can have one matching BM dimension in another BM dimension in Business Model A and/or have one matching BM dimension in Business Model B and/or Business Model C, D, and so on’s BM dimensions. In Figure 7.4 we show one-to-one relations between two BMs.

Most often we found that there were many relations in a BM and its operation – often very complex to map and get an overview of. This can

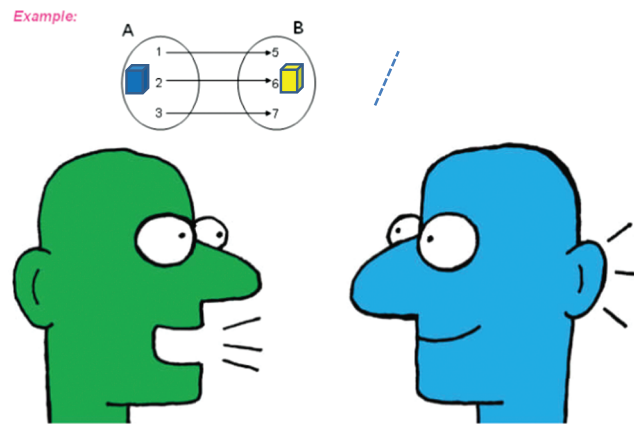


Figure 7.4 Example of one-to-one tangible and intangible relations.

be seen in the illustration in Figure 7.5 of two actual BMs in an insurance business.

In the insurance example in Figure 7.5 the customer BM dimension is “the BM dimension” in focus and is the BM dimension that most relations are connected to and values are transformed to and through. However, as can be seen in the example, the two BMs have very different set-ups from each other.

7.2.1.2 One-to-many relations

We found one-to-many relations very often in the BMs we studied. These kinds of BM relations are illustrated by an example in a sketch model in Figure 7.6.

In the model two BMs, A and B, have one-to-many to relations. Three BM dimensions in BM A each have two tangible BM dimensions in BM B. In this kind of relation, a BM dimension component in BM A can have many matching BM dimension components in another BM dimension in BM A and/or many matching BM dimensions in BM B and/or C, D, and so on’s BM dimensions. That is naturally when it is considered that each business offers many BMs – the multi business model approach. In the example in Figure 7.6, Business A and its BM have a one-to-many relation to Business B’s BM dimensions.

A one-to-many relationship is often created if one of the related businesses’ BM dimension is a primary, core BM dimension or has a unique constraint. This can competitively be an advantage if the business can build many and different BMs on the basis of the one-to-many BM relations dimension, one BM relation to many BMs, one BM portfolio relation to many BMs. Several car and service businesses are experts on this business modelling type

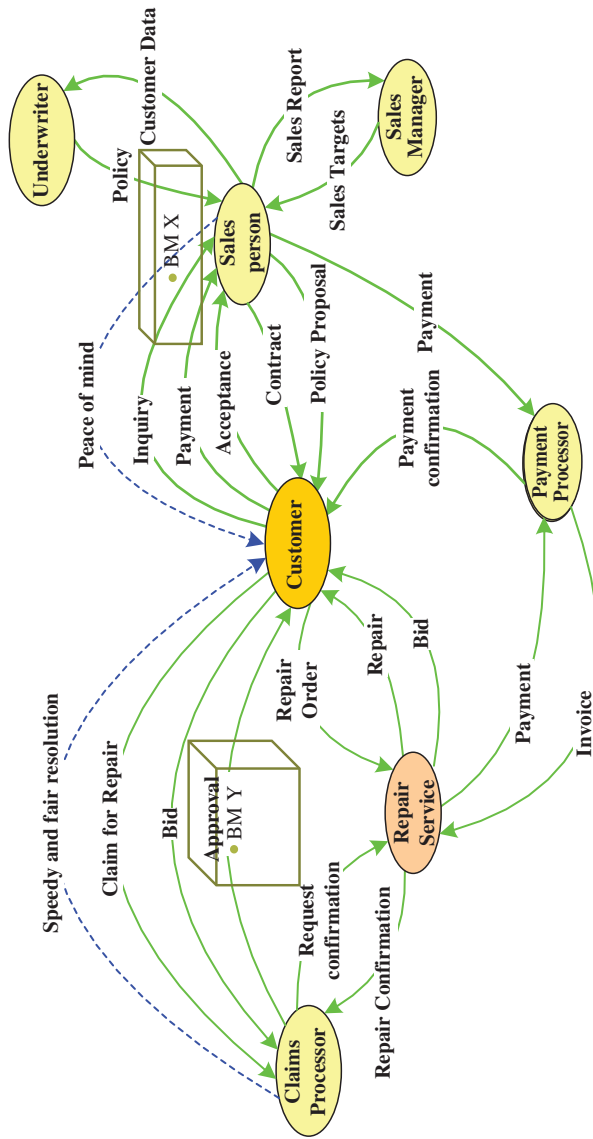


Figure 7.5 Example of BM relations in and between two BMs in an insurance business.

For example: One Department has many Employees.

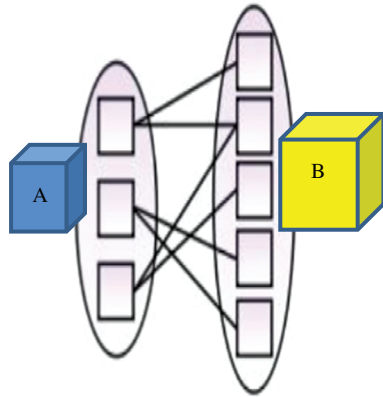


Figure 7.6 Sketch model of one-to-many tangible relations in a BM.

and this is often referred to as a platform strategy set-up. Here more BMs (cars, mobile phones, services, etc.) are built on the same production platform.

7.2.1.3 Many-to-one relations

In this BM relations perspective many BM dimensions or BM dimension components can be related to one BM dimension or one BM dimension component.

In Figure 7.7 two BMs, A and B, have a many-to-one relation. In this kind of relation several BM dimensions in BM A have one matching BM dimension

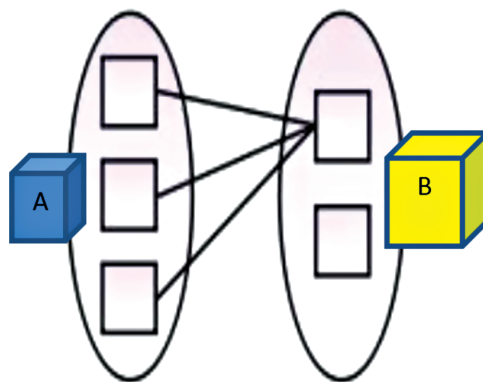


Figure 7.7 Sketch model of many-to-one BM relations.

in BM B and/or can have one matching BM dimension in BM B and/or BM C, D and so on's BM dimensions.

This knowledge can be used to optimize the BMs, to see “bottlenecks” and critical relations in BMs. This can hereby provide the “raw material” for later BMI.

7.2.1.4 Many-to-many relations

In a many-to-many BM relations terminology, a BM dimension in Business A (BM A) has many relations to BM dimensions in BM B – Quadrant 1 in the relations axiom. A BM dimension in BM A can also have many relations to BM dimensions in BM B, C, D etc. and vice versa in Business A – Quadrant 2 in the relations axiom. A BM dimension in BM A can further have many relations to BM dimensions in BM B, C, D etc., and vice versa in Business B, C, D etc. – Quadrant 3 in the relations axiom.

In Figure 7.8 we show two different examples of many-to-many BM relations. It can be seen that the relations perspective and mapping can become very complex (see the model at the right side of Figure 7.8). It is therefore necessary to have some structure and also some software to support the

Example:

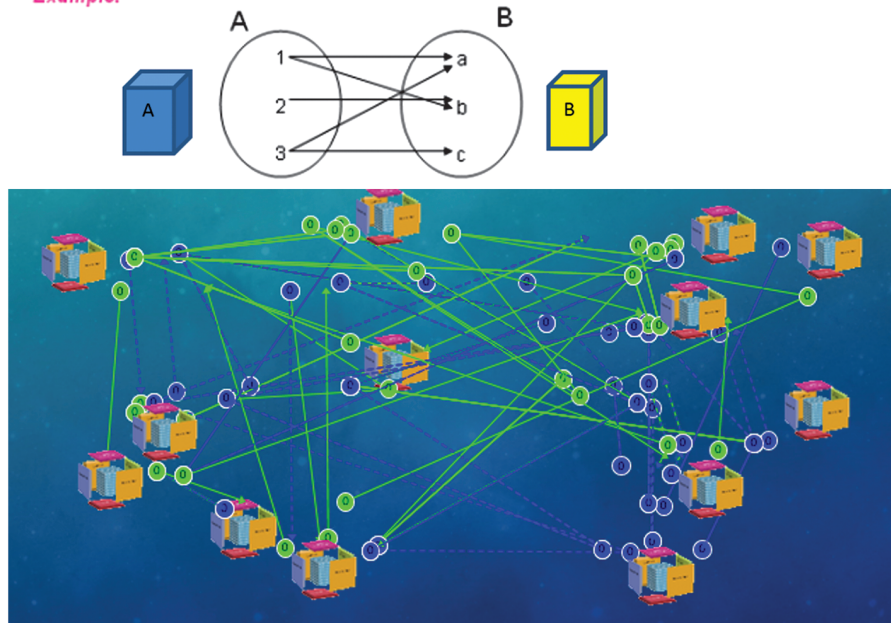


Figure 7.8 Two different examples of many to many BM relations combinations.

mapping and understanding of BM relations. We will later propose some tools to support this work.

7.2.2 Relations' Role

As argued and seen above, relations play a very important role in the process of business models' operation as they are the “arteries”, “veins” and “nerves” that enable values to be delivered from one business model dimension to another. The relations are “the lifelines” between business model dimensions inside the BM, between BMs inside and outside the business. We found in our research that if the relations do not function then BMs will not be able to operate – and live.

Relations enable **the BM value process of creation, capturing, delivery, receiving and consuming values** (Lindgren 2016a) to take place. BM relations enable the BM value process of and by BM dimensions from the business model dimensions within business models and between business models – inside and outside the business – to take place. Without relations tangible and/or intangible BM dimensions – and values – cannot be transferred and BM dimensions and BMs cannot interact with each other. No business model therefore will be able to operate without relations – and we do not have, therefore, a “going BM”.

Therefore we believe and also found in our research that there is a gap in BM research about BM relations. It seems to be a large mistake in BM research that there has not been more focus on BM relations and that relations in many BM frameworks and BM concepts are neglected and/or not included. The research lack is in BM relations, BM relations' role and how BMs transfer values to each other, how BMs communicate to each other and generally how they are able to create, capture, deliver, receive and consume values. In other words, the BM value process is not well understood in the BM community – especially related to the vital roles that relations play in BMs.

7.2.3 BM Relations Nodes, Hubs and Connectors

Fundamentally, what we have discovered is that relations must be connected in both the sending and the receiving “end”. Our research shows very clearly that operating BMs have relations that have connections in “both ends”. These connections – that connect BM dimensions – we call **BM relations node (BMrN)**. These BMrNs are called many things in businesses and academic literature. From a value network perspective they are called people or roles (Allee 2012) as seen in Figure 7.9; in technology based BMs and

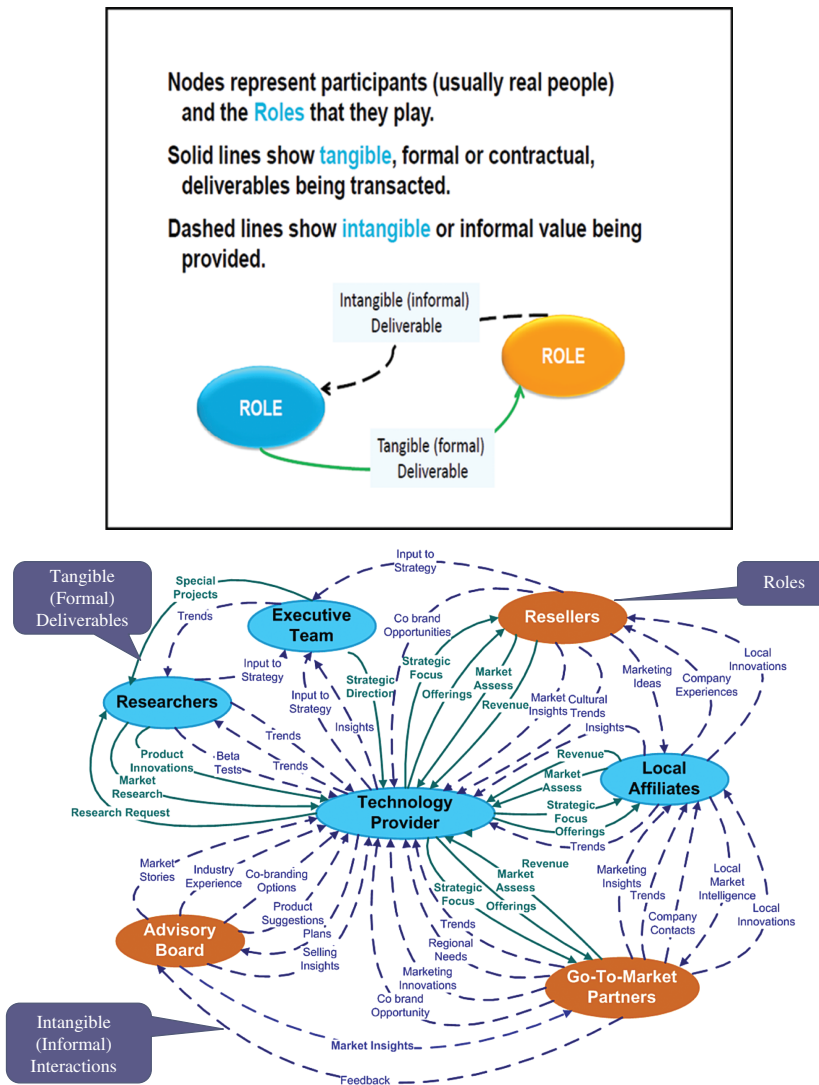


Figure 7.9 A value network with roles and deliverables (adapted from Allee 2012).

ICT systems they are called hubs; from the logistical perspective of storage centres, transport logistical centres and in post systems they are called mail boxes. Independent of what they are called, these nodes, hubs, connectors, etc. are extremely important in BMs as they enable the relations to deliver the value, “leave” the value from one BM dimension to be gathered by another BM dimensions relation. It also – if the hub function is correctly

connected – secures that the value can be collected by another relation to be transferred to next destination – a BM dimension – in a receiving BM.

Nodes and/or a hubs or connectors – **BMrNs** – are therefore an important part for any business model. BMrNs are used to connect relations of one BMs or more – to enable BMs to operate “live”.

We believe, as with ICT hubs, that a BMrN can contain multiple ports: **business model relation node ports (BMrNPs)**. We have not tested and verified this yet in a multi case and sample perspective but several of our case studies show the presence of “multiple ports”.

When a value arrives at a BMrN, it can be captured and transferred from the BMrN and to a BM relation to another BMrN of a BM dimension so that all business model dimensions or other business models can “see” or “receive” “a value” or “packet of value” through or at the BMrNP.

A passive BMrN serves simply as a conduit for the value, enabling it to go from one BM dimension to another. A so called intelligent BMrN, however, includes additional features that enable an administrator to monitor the “value packed” and the value process, passing through the BMrN. Further, an administrator can configure each BMrN. Intelligent BMrNs can also be classified as manageable BMrNs. These can – as we will see later in Part 2 of this book – be extremely valuable for the management and leadership of BM and BMI.

A BMrNP can actually be managed to read the destination address of each “value packet” and then forward the “value packet” to the correct BMrNP. These are extremely valuable as these BMrNPs can secure that every value is transferred automatically to the right BMrNP and BM dimension in a BM. In other words BMrNPs can have different competences – and they can be physical, digital or virtual.

Business models have both internal and external value interaction: internal value interaction between BM dimensions internal to the business model and external value interaction with business models within the business and outside the business. Business models have therefore a manifold of different relations through which the BM operates and can operate. The many different relations open to a business are by virtue of its business models what it employs in “as-is” BM relations and wants to employ in “to-be” BM relations.

In this context it would be more clear if it was possible to get an overview of the relations and find a generic structure to map the different relations a BM can have. This map should be able to plot the business models relations that are operating and those that are expected to be operating. We have proposed this mapping tool already (Lindgren 2012) and called it **the relations axiom** for “as-is” and “to-be” business models.

7.3 The Relations Axiom

To integrate the concepts of relations, business models and business, we introduced in 2012 an initial proposal on a generic four-square relations axiom framework for “as-is” BMs in a business, depicted in Figure 7.10.

The initial relations axiom was very valuable to get an overview of “to-be” BMs as it made it possible for the MBIT researchers to view BMs’ relations from four different viewpoints and made us begin to study BM relations more deeply.

7.3.1 Quadrant 1 – the First Square of the Relationship Axiom – “in in BM Relations”

In **Quadrant 1 – the first square of the relationship axiom** – we can study “**in in BM relations**”. The process and focus are here to “download” and “see” the “relations of a BM’s value creation, capturing, delivery, receiving and consumption” inside a business model inside a business.

As can be seen in Figure 7.11 the individual BM’s dimensions are “bound” together and connected through relations “internally in the BM” – “the relation dimension”. This view can be referred to as “the internal logic” and the “inside value transfer of a business model”. It shows both the tangible and intangible value streams floating through the relations between the BM’s dimensions. In this view it also shows the values transferred and value transfer inside the BM and inside the business. Relations going outside the BM cube are neglected in this “view” and therefore not shown.

Relations in this context can be divided into those that “deliver”, “receive”, “send” or “pass” value on to other BM dimensions and those who receive value from other BM dimensions. Relations are, as mentioned earlier, tied with BMrN to BM dimensions in the individual BMs’ dimensions to be able to deliver and receive the “value package”.

Relations that are not tied to a BMrN obviously cannot send, receive or leave values for “storage” or then later pass on values to a business model dimension. In the HSJD RPU use case shown in Appendix 9, we verify this statement and show BM relations that are not “tied” through a BMrN. These relations often end nowhere and the BM relation cannot therefore be of any use to the BM or the business. This is also important to note in the context of a BMI process or when “to-be” BMs are created. Often we observed that business created “to-be” BM relations but when these BMs were brought to operation they were never established and thereby never came to work. Also in this case those responsible for the BMI often forgot the relations or did not make an effort to connect the relations in the BM. This was very interesting for us to observe.

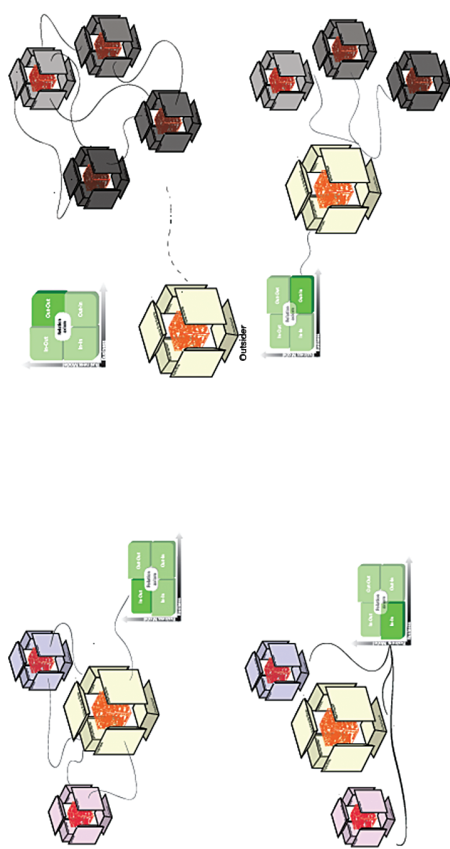


Figure 7.10 The relations axiom adapted from the first sketch model from Lindgren and Rasmussen 2012.

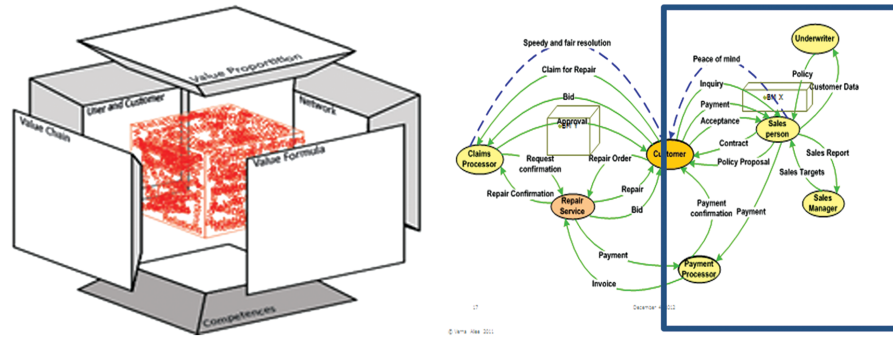


Figure 7.11 Quadrant 1 of the relation axiom – a sketch model of relations inside a BM.

Any set of business (“to-be”) or (“as-is”) BM relations are unique and different from one BM to another. However, we found that some BMs’ relations can be copied to other BMs’ relations and/or share other BM relations, and even quickly start to use, and perhaps take over, other BMs’ relations. Therefore it is important to lead and manage BMs’ relations as these relations could be considered as equal to arteries, veins and nerves in a body. Most businesses would like to have control of their BMs’ relations – just as humans do not like others to have control of their arteries, veins and nerves – but not everybody can reject or refuse this as we will discuss later in Part 2 of the book, controlling and knowing the relations of BMs is very important (Amidon 2008; Allee 2012).

As we have already mentioned, BM relations consist of tangible and intangible relations that enable other BM dimensions to have value passing on and receiving tangible and intangible values. BMs and BMs’ dimensions can be “stand alone” or “unused” relations only in the very early stage BMI phases. Otherwise they will slowly vanish and not be able to be used when needed, exactly like a hand or a leg of a body that has not been used for a long time – and then slowly withers. Relations must use and be related to other business model dimensions either inside or outside the business to enable the BM to operate and thereby become “a going BM” (SB 2009; William 2011).

In our research we also show that BMs are fundamentally network-based business models (NBBMs) (Lindgren et al. 2010) and most often connected through relations to other business models of users/customers and/or network partners. A business model that theoretically is isolated from other business models would vanish simply because it would not receive value and would not be able to create, capture, deliver and consume value to and from other BMs. The BM therefore would lose the “basis and purpose of life” – and would not be “a going BM”.

Our research indicates that relations are perhaps one of the most important dimensions of a BM. Different domains of theory (intellectual capital, sales and marketing, global economy and others) also consider relations to be one of the most valuable parts of a business model and our economy (Håkansson and Snehota 1990; Amidon 2008; Allee and Schwabe 2011; Russell 2011). As Martha Russell (2011) said:

Strategic value creation networks have become critically important in technology development and economic growth; co-creation relies on the relationship infrastructure of people, organizations and policies. These complex intangible relationship assets can be observed through network analysis of small, medium and large enterprises. By identifying relationships through which information and financial resources flow, visual insights toward a shared vision can be created and strategic network orchestration can be implemented. Using social network analysis, these relationship patterns can reveal competitive forces, gatekeepers and collaboration opportunities – within and across sectors – in internal and external innovation ecosystems around the world.

A BM that cannot be or is not related is worth nothing to others – or worth very little. It is therefore important to understand the relations between business models – and in this case both inside and outside the business – to get a full picture of the business models’ logic, operation and potential.

Our hypotheses and proposed framework is therefore firstly that

There exist relations inside any BM – the internal relations binding and connecting the business model dimensions in a BM together.

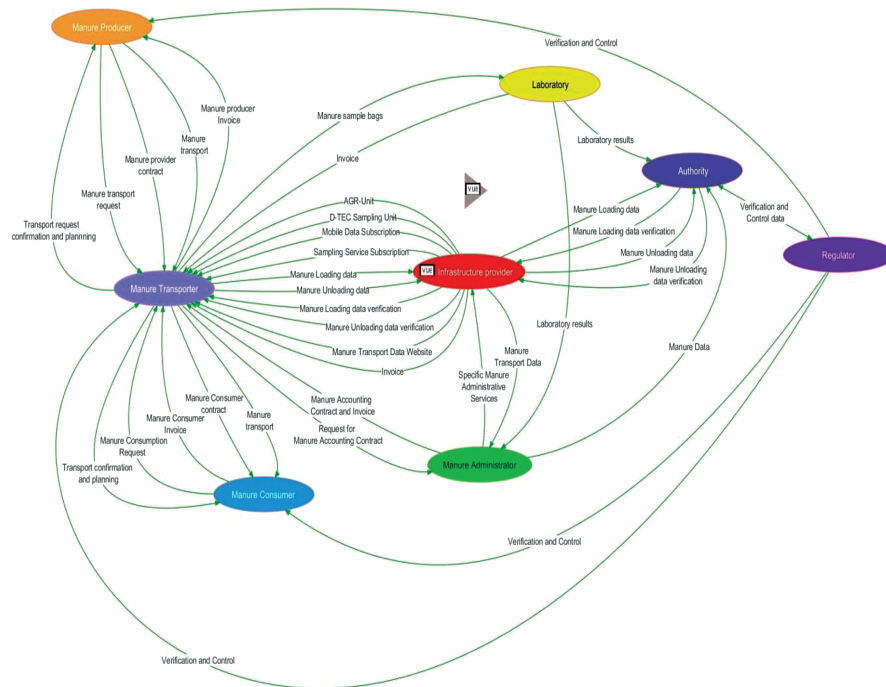
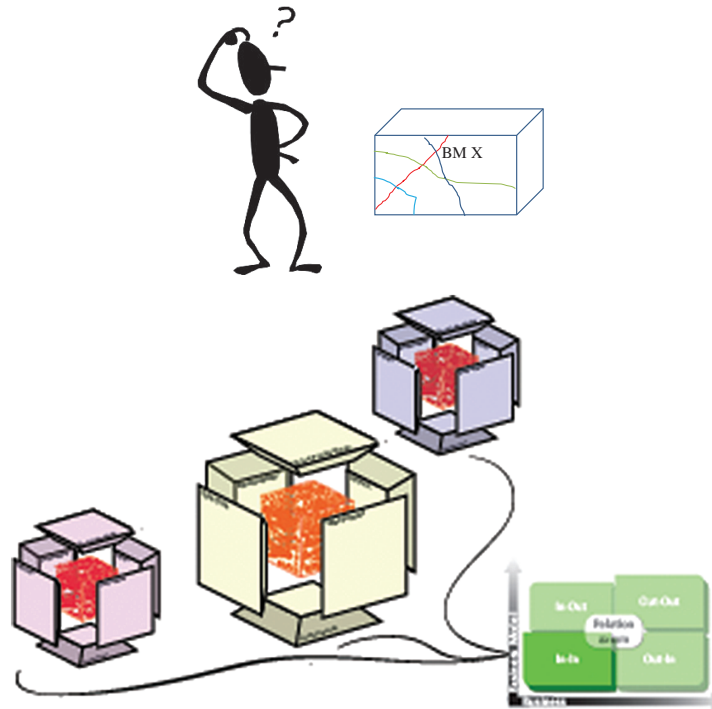
This is shown through two sketch models in Figure 7.12, Figure 7.13 and one sketch model from an empirically tested BM case, Figure 7.14.

As can be seen the empirical sketch model Figure 7.14 has only mapped the tangible BM relations (unbroken line relations). However, we know from our research that there were also intangible BM relations in this BM case.

We show and comment on this in detail in three different empirically verified business models inside three businesses’ BMs (Vlastuin, Margit Gade and EV Metalværk) in Appendices 5, 10 and 11.

Our hypothesis is that each of the three different BMs shown in Figure 7.12, 7.13 and 7.14 are related in a unique internal relations spin and each of these are different to each other. This – we believe – makes any BM’s relations unique and relevant to study individually and carefully. Every BM’s “in in BM relations” in detail would potentially give us deeper understanding of the specific BM’s relations construction and logic.

This relations mapping we can do related to “as-is” BMs – “downloading”, “mapping” and in the “seeing” phase (Lindgren 2016a) – **the “in in**



Figures 7.12, 7.13 and 7.14 Relations inside one BM; Relations in three different business models; Relations in an empirically tested BM case.

relations". We can also relate this to the "to-be" BMs – BMI phase – what we call "the sensing phase" (Lindgren 2016a). However, we propose that this work is separate from the "sensing phase" when businesses are creating the "to-be" BMs' relations. Therefore in Figure 7.15 we only show "as-is" BMs, but we will later (in Part 2 of the book) show "to-be" BMs' relations.

7.3.2 Quadrant 2 – the Second Square of the Relationship Axiom – "in out BM Relations"

The second assumption we made – and later empirically verified – related to the relations axiom we call "in out relations" (Figure 7.16). This was a proposal that claims that there exist relations from inside any BM and outside

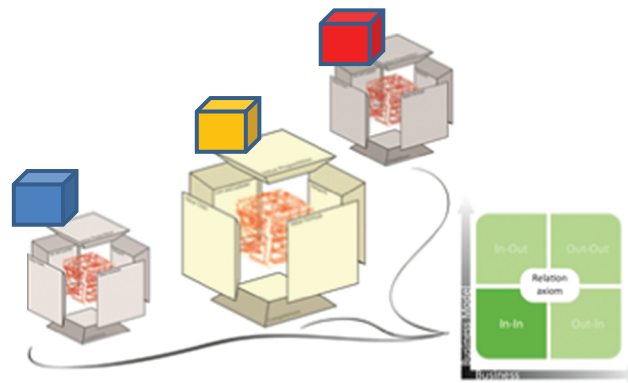


Figure 7.15 Three different relations inside three different "as-is" business models inside the business – "in in relations".

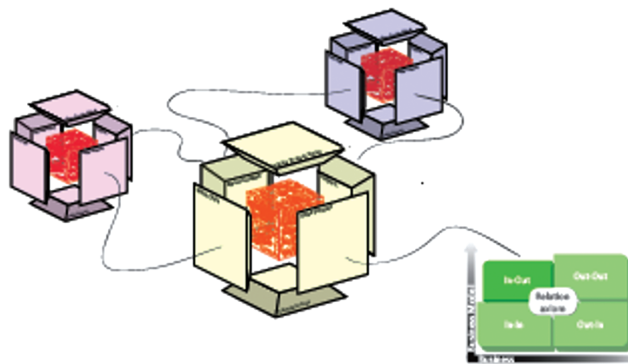


Figure 7.16 Quadrant 2 – relations inside the business and outside the business model "in out BM relations".

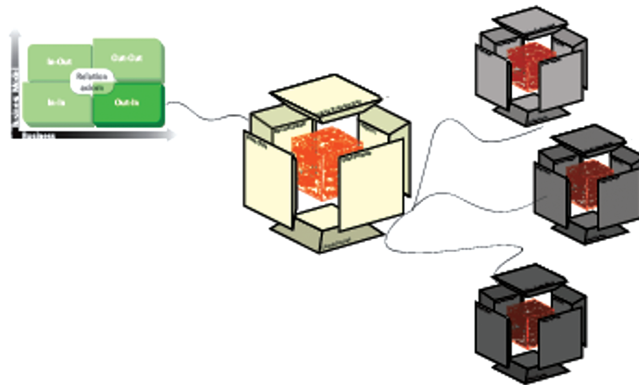


Figure 7.17 Relations outside the business to inside to the business model – “out in BM relations”.

to other BMs. These relations – we propose – can be studied in two viewpoints or “modes”. Firstly they can be studied through the relations between BMs inside the business but out of the BM in focus – quadrant 2 in Figure 7.16 – and secondly the relations between BMs outside the business and out of the BM in focus – quadrant 3 in Figure 7.17.

In Appendices 9 and 11 we show three examples of “in out relations” in two different businesses (HSJD, EV Metalværk).

7.3.3 Quadrant 3 – the Third Square of the Relationship Axiom – “out in BM Relations”

The third hypothesis we had – and we also verified in our research – was that there exist relations from inside the BM and outside to other BMs outside the business. These we call “**out in relations**” and are shown in Figure 7.17.

In Appendices 5 and 11 we show examples of “out in” relations in two different businesses (Vlastuin, EV Metalværk). We cannot tell yet if the relations are constructed the same as those operating inside the BMs but we have a hypothesis that they are. This we are testing in our MBIT Lab at the moment.

7.3.4 Quadrant 4 – the Fourth Square of the Relationship Axiom – “out out BM Relations”

The fourth hypothesis we had – and that we also verified in our research – was that there exist relations between BMs outside the business that the business model is not part of. These we call **the “out out BM relations”** and they are sketched out in Figure 7.18.

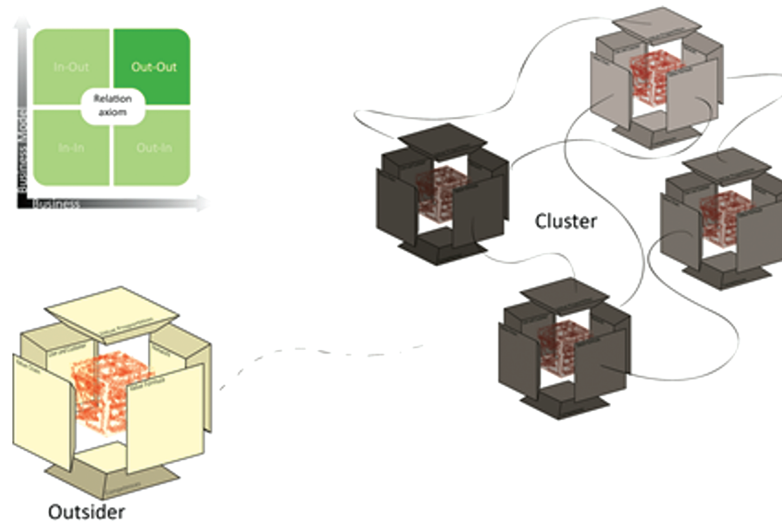


Figure 7.18 Relations outside the business model and outside the business – “out out BM relations”.

In Appendix 11 we show an empirical case of “out out BM relations” in EV Metalværk.

By moving a BM from one relation axiom square – or **relation quadrant** – to another it is possible to see the BM in different BM relations perspectives – or **relation viewpoints**. This we found is highly valuable information not least in a later business model innovation context and process.

7.3.5 Relations with Different Characteristics, Functions and Contours

Summing up these hypotheses, tests and findings leads us to propose that there are relations inside any BM that have different characteristics, functions and contours. There are also relations connecting different BMs from outside the BMs and in this context both to BMs inside the business and to BMs outside the business. However we need more information and deeper research as we have only had limited time to study these BM relations. Further, we have not had time enough to study the cases sufficiently to stabilize our findings; neither have we had the opportunity to study the relations thoroughly in digitized BM environment. This we hope to be able to do in autumn 2017.

However our hypotheses are still that these different BM relations exist and it is not possible to explain BMs and BMI just through and by one set of relations as proposed by Granovetter (1973), Amidon (2008), Allee (2010)

and Russell (2011). We believe that the BM relations are much more complex than proposed previously and that there lie several hidden possibilities in the “spaghetti of relations”.

Our hypothesis is that a multitude of different relation types exist and it will be possible and valuable in the future “to see” these from different viewpoints to get the full picture of the business model relations, their characteristics and in what context they are operating.

In our research we found that BM theory until now has primarily focused on just a fragmented picture of BM relations (Osterwalder et al. 2005; Chesbrough et al. (2008); Johnson et al. 2008; Osterwalder and Pigneur 2010; Osterwalder 2011; Zott et al. 2011; Gassmann et al. 2012; Teece 2012) – primarily relations inside the BM and/or relations to customers and, to some extent, relations to suppliers.

We propose to increase this study by examining the types of relations that we believe exist following our preliminary research study, as outlined in Table 7.1.

Our hypothesis is also, therefore, that value deliverables passed through relations between network partners and network partners’ BMs are many, much more complex and different to what we can and do see explained today in business model literature and even other academic work covering the theme of relations and value networks.

In the Table 7.1 we found some researchers that have commenced work on relations – often within a different perspective and with a different research approach to ours. However these works are opening up different dimensions of relations related to the BM environment and are highly valuable to our field of BM and BMI research. However, we believe that this work is not complete in understanding the relations in BMs and the creation and capturing of relations in BMI. They show us just some fragments of the BM’s relation picture.

We therefore propose that relations related to BM and BMI should be studied much more and with more than just one set of relationship terminologies. We believe strongly it should be inspired and studied by and with an interdisciplinary approach and team.

In our relations axiom model we propose at least four sets of relation viewpoints of importance to BM study. This is also for the attention of BMI managers who relate to seeing the core challenges of BM relations.

7.4 Discussion

The approach in our research on the relations axiom was to use the relations axiom framework to “download”, “see” and “sense” the tangible and intangible relations in BMs and to intellectual capital (IC) as sketch out in Figure 7.19

Table 7.1 Different types of relations related to BM and BMI

Type of relations	Frameworks available for inspiration and development	Examples/empirical cases
Internal relations in the BM	To some extent Verna Allee and Oliver Schwabe's framework (2011) can be used here – however, we consider that their work is only able to map parts of the relations in a BM. Their work is not complete in relation to the BM but more in relation to the value network	The insurance case; please also see the Neffics case (Neffics 2012, D 4.2) as seen in the right side of Figure 7.11
Relations between different BMs	To some extent Verna Allee and Oliver Schwabe's framework (2011) can be used here – however, we consider that their work is only able to map parts of the relations between BMs	Not available yet
Tangible and intangible relations between network partners' BMs	To some extent Granovetter's (1973), Håkansson's and Verna Allee and Oliver Schwabe's (2011) frameworks (D 4.2)	Not available yet
Tangible and intangible relations between network partners' businesses	Granovetter's (1973) and Martha Russell's frameworks; social networks (Davis 2009, Freemann 2009)	Available but in fragmented form
Relations between BMs' ecosystems	Martha Russell's framework can to some extent map relations between BM ecosystems but it is not especially focused on the BM ecosystem (BMES)	Not available yet

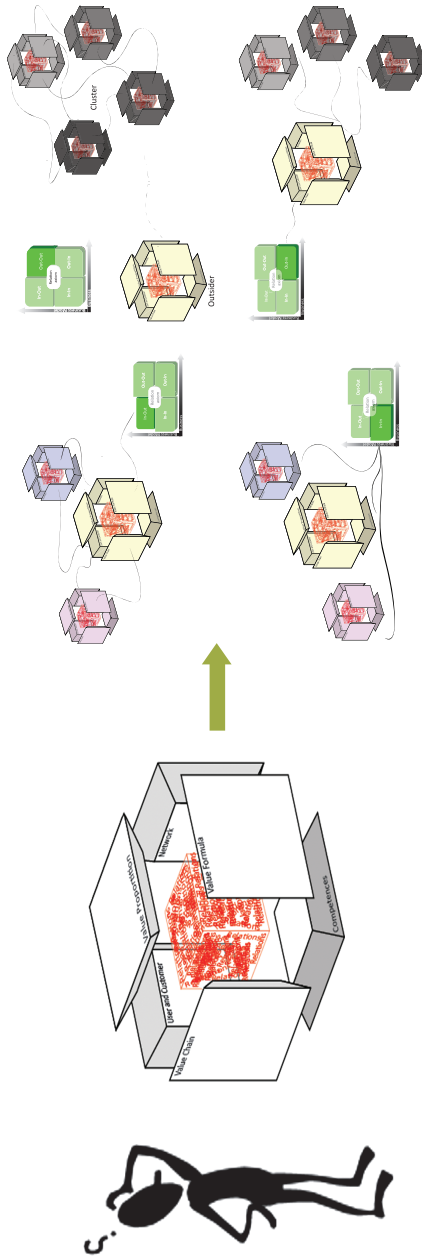


Figure 7.19 What is the BMI core challenge?

and explained in details in Table 7.1 in four business area viewpoint. In this process the businesses were encouraged to “download” their business “as-is” and “to-be” BMs’ existing and potential relations to BMs and thereby IC. The business in question might not in their daily work be able to “see” and “sense” IC and potential relations to IC by themselves before mapping them in the relations axiom. Relations to BM competences and IC that in their daily business operations are valuable could now become visible and measured. When all relations for each BM were mapped – which we found was extremely time consuming – it showed “to-be” and “as-is” BM relations to competences and IC, which enabled the business potentially to understand better how many BMI possibilities and relations to competences and IC they really had.

In the mapping process two different types of relations-mapping approaches became valuable. Firstly the relations were mapped to each specific dimension in a BM – the BM Cube (Lindgren 2012). This work was done both for tangible and intangible values and relations. In our mappings above we have, however, only shown the tangible relations in Figures 7.12, 7.13 and 7.14. This was done related to creating, capturing, delivering, receiving and consumption of values sent through the relations. This means it is now possible for a business to “see” and “sense” which IC really has an impact and contributes to a certain BM and the BM’s dimensions.

This work would have been much less time consuming and easier to do if it could have been digitized – or was digitized in the businesses. We argue that most of this information about relations to competences and IC are lying “sleeping” and “unused” already in the business ERP systems and as tacit knowledge within employees in the business.

The relations to competences and IC outside the business can also be quite simply found and mapped if customers and network partners are included in the mapping. For research purposes we used some supporting tools (Amidon 2008; Russell 2012; Allee and Schwabe 2011) to map the relations, which helped us to gain an overview of the value stream and relations between business BMs. More research, however, has to be carried out here to get a full picture as some information is lacking – especially “seeing” the relations and value stream from the outside (different BM innovation leadership viewpoints). This will be covered in Part 2 of this book.

In our research we found that the “out out” quadrant – the fourth quadrant – was very seldom used by businesses.

Methods of mapping intangible relations to competences, IC and hidden knowledge are vital to get the full relational picture of a business BM and relations axiom. Allee and Schwabe’s value network tool (2008) is helpful to use when mapping intangible value and relations inside a BM and to some extent

between BMs. Russell's (2012) and Amidon's (2008) relations tools are helpful when mapping relations more in a social network context and perspective – especially intangible relations to knowledge zones. However, more work has to be done to get a full picture, and MBIT researchers have already undertaken this work which we will comment on later in Part 2 of this book.

Some challenges related to the relations mapping tools used are still present. Mapping relations processes and mapping relations over time is especially a challenge. Allee's framework can, to some extent, help us to show us the value delivering and relations process – but there is still some development work to do to get a full “storyboard” of relations and transfer of IC over time. Russell's and Amidon's tools need also to be further developed to a kind of storyboard level taking the relations axiom to a mapping level that can show different times of relations.

Four cases each representing different businesses used different relations approaches to “download”, “see” and “sense” relations. The “seeing” and “sensing” part were only done from the business viewpoint. The four businesses showed very different characteristics related the four quadrant in the relations axiom. These are detailed in Table 7.2.

When one analyses the characteristics and the relations axiom of the four BMI use cases individually it shows that the businesses are quite introvert in their work with their BMs – they use relations mostly with competence and IC internally to the business or relation to competences and the IC of close customers or network partners. It seems that there is much unused potential competence and IC for both “to-be” BMs and change of “as-is” BMs in the 1, 2 and 3 quadrants.

The cases studied point overall to a need to have more business focus on “downloading”, “seeing” and “sensing” their relations on both their “to-be” and “as-is” BMs. Businesses have to “learn” their relations to IC and then learn how to release competences and IC strategically through their existing tangible and intangible relations. Businesses that try to release tangible and intangible competences and IC “blindly” often miss the real IC relation opportunities. They will not be able to “find” competences and IC that they are really looking for and which could create sustainable business model opportunities. Further, they might not even be able to release competences and IC which are vital for their BMs because they do not really “see”, “sense” and understand the relations to competences and IC and interdependencies to relations of other BMs.

7.5 Practical Implications

Business can in the work of mapping relations to competences and IC benefit from using different methods to map relations. We propose that business has to

Table 7.2 Characteristics and relations to IC of different businesses

Cases	Characteristics	Quadrant 1	Quadrant 2	Quadrant 3	Quadrant 4
Vlastuin	Multi business model Primarily “in out”	Many tangible relations inside each business model to many competences	Many tangible relations between different business models inside the business	Many tangible relations between business models inside and outside the business	Several identified potential BMs and networks of BMs with unreleased tangible and intangible relations to IC
HSJD	Single business model “in out”	Many tangible and intangible relations inside each business model. Many tangible and intangible relations to many competences	Many intangible relations between different business models inside the business	Few tangible relations between business models inside and outside the business	Many identified tangible and intangible relations of BM and network of BM with potential unreleased IC
Margit	Single business model “in out”	Few tangible relations inside each business model. Many tangible relations to the same competence	Many tangible relations between different business models inside the business	Few tangible and intangible relations between business models inside and outside the business	Very few identified tangible and intangible relations to BMs and networks of BMs with potential unreleased tangible and intangible IC
EV Met-alværk	Single business model “in out”	Many tangible relations inside each business model. Many tangible relations to few key competences	Many tangible relations between different business models inside the business	Few tangible and intangible relations between business models inside and outside the business	Few identified BMs and networks of BM with potential unreleased tangible and intangible IC

work with different methods and hereby “learn” their relations to competences and IC. Six areas seem to be particularly important in this work:

1. Use user-friendly relations mapping tools for BM’s relation mapping.
2. Use different relations mapping methods and tools.
3. Use methods and tools which can map business models’ relations – both for “as-is” and “to-be” BMs.
4. Use BM relations methods and tools that can map value stream and relations over time.
5. Use different viewpoints related to mapping relations of BM (business model innovation leadership viewpoint).
6. Use methods and tools that can also show the implementation and operation part of value streams and relations – the “act-do” phase and part of relations of BMs.

Businesses these days have to get more knowledgeable about relations – both tangible and intangible – in their own business. They have to build up their ability to analyse and map structurally their relations in their BMs with the aim of innovating their business and BMs. Businesses today need to be more aware of their BMs’ relations, which means they have to take enough time out to “download”, “see” and “sense” their tangible and intangible relations both inside and outside their business. To do this they need to be able to “map” their relations, which has turned out to be very complicated and time consuming in some cases, as businesses often mix actual and perceived relations, finding it hard to keep these separated. We therefore propose to use the relations axiom to structure and guide this work.

In the process of mapping relations businesses also need beforehand to be aware of their potential relations and relations that they, or more precisely their BMs, are not part of – the “in out”, “out in” and especially “out out” relations (the fourth quadrant). Mapping these is a question of “seeing” and “sensing” out of the box. This of course demands resources and time to go deeper inside and outside the business and its business models. In our research we observed more times that businesses often begin BMI without analysing carefully enough their BMs’ relations and relations to IC. Thus they miss identifying where the business BMs’ real and hidden relations to competences and IC really are and thereby find those relations to potential competences and IC that can be in many cases already used in their BMI.

The business can, when mapping relations to IC, face real revelations and new self-transcending knowledge about relations to competences and IC.

7.6 Conclusion

This chapter has shown the BM's relations axiom and the taxonomy of our proposal for a BM relations axiom. In the chapter we verify relations to competences and IC in BMs through "the lenses" and "viewpoints" of the relations axiom of business models. Hereby we show that it is possible to "see" and "sense" from the business viewpoint the business BM's tangible and intangible relations to competences and IC.

In the cases the businesses firstly mapped their relations by "downloading" their tangible and intangible relations of both their "as-is" and "to-be" BMs. The businesses then mapped them in a four-quadrant relations axiom:

1. **"In in" relations** – focusing on the relations of a business model to the other six BM dimensions. The viewpoint is from the single BM's side inside the business.
2. **"In out" relations** – focusing on relations of a BM to other BMs' dimensions inside the business. The viewpoint is from the single BM's side inside the business.
3. **"Out in" relations** focusing on the relations of a BM to other BMs' dimensions outside the business. The viewpoint is from the single BM's side inside out and outside in the business.
4. **"Out out" relations** focusing on relations of other BMs' dimensions outside the business which the single BM is not a part of or related to. The viewpoint is from the single BM's side outside the business.

Quadrant 1 and Quadrant 2 map relations to competences and IC inside the business whereas Quadrant 3 and 4 map relations to competences and IC outside the business. Different competences and IC release can be carried out and be expected to be carried out through the four different relations quadrant. Different quadrants and BMs "hide" different competence and IC potentials.

Mapping relations inside and outside BMs in a business is today very complicated and time consuming to carry out for managers responsible for BMI. There are today few tools that support BM relations mapping. Value network relations tools "tell" the business about value streams – both "tangible" and "intangible" – and social network relations tools "tell" the business about who is related to whom. When put into the relations axiom the competence and IC stream or potential value and IC transfer between BMs becomes visible. However, the tools still only show a fragmented picture of the relations axiom value and IC transfer and potential transfer – primarily Quadrant 1 and to some extent Quadrant 2 and Quadrant 3.

