Travelling Business Models

On adapting business models to new contexts

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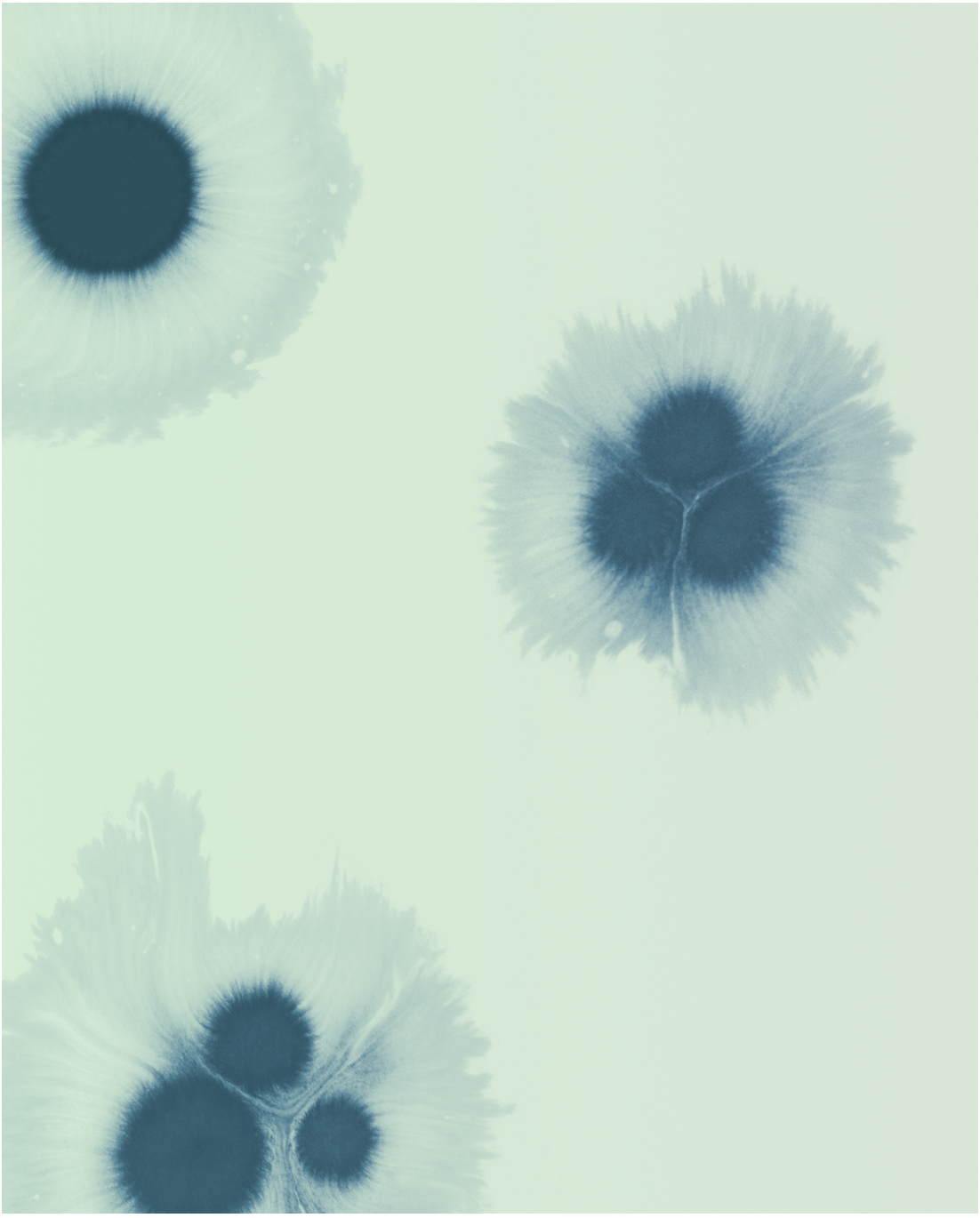

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Kajsa Ahlgren Ode

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On adapting business models to new contexts

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Title: Travelling Business Models – On adapting business models to new contexts

Abstract:

How business models are configured can provide one solution to bringing forward sustainable innovations and transforming businesses and industries so that they become more sustainable. Creating a shift in the energy sector's use of renewable sources is of particular importance since the energy sector is the source of one-fourth of all global greenhouse gas emissions. In California, the dominant business model for solar energy is the so-called third-party-ownership business model (TPO). It can be described as a "Cleantech-as-a-service business model" based on product usage rather than the traditional direct ownership model. The research in this thesis started with the observation that actors in European markets were adopting the TPO business model. However, despite being portrayed in various media and reports as a successful archetype to *copy*, the TPO was in fact *adapted* to fit its new market contexts.

The research in this thesis focuses on the phenomenon of the "travelling TPO" to empirically explore how a BM "circulating out there" as a model to follow is brought into a new context and adapted to fit it. The findings show that business models are highly context dependent and that both external market conditions and internal organizational factors influence business models that are brought into new contexts. The thesis presents *business model translation* as an emergent and actor-oriented view on how organizations recognize, adopt and adapt business models as models to follow. In line with a translation perspective, the research reveals that the tacit and ambiguous nature of business models allow actors involved in bringing and adapting business models into new settings to shape them according to their experiences and interests. Through interpretations and adaptations, actors continuously create preliminary translations of a business model that iteratively resonate with the new context. This eventually allows the business model to be contextualized in its new setting.

Key words: business model, innovation, translation, sustainability, process, solar energy

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Abstract

To face the very pressing problems of the world today, a shift towards sustainability is essential. How business models (BM) are configured can provide one solution to bringing forward sustainable innovations and transforming businesses and industries so that they become more sustainable. Creating a shift in the energy sector's use of renewable sources is of particular importance since the energy sector is the source of one-fourth of all global greenhouse gas emissions.

In California, the dominant BM for solar energy allows private house owners to lease solar panels to put on their rooftops and produce their own green energy. This so-called third-party-ownership business model (TPO) can be described as a "Cleantech-as-a-service business model" based on product usage rather than the traditional direct ownership model. Since its introduction in the Californian market, the TPO has rapidly increased the number of residential solar energy producers, and in 2014, leasing offers peaked at above 70% of the residential market. The research in this thesis started with the observation that actors in European markets were adopting the TPO. However, despite being portrayed in various media and reports as a successful archetype to be *copied*, the TPO was in fact *adapted* to fit its new European market contexts. This phenomenon – "the travelling TPO" - fascinated me and I asked myself, *why doesn't the TPO work immediately everywhere when brought into new contexts*?

In management literature there are several theories providing a plausible answer to this question. However, these theories did not provide a sufficiently satisfying answer to why the TPO went through a process of BM innovation to be adapted to its new context. Moreover, the BM literature lacked an emergent view on how organizations recognize, adopt and adapt BMs "circulating out there" as models to follow. To respond to this gap, I turned to translation theory. A translation perspective acknowledges that an idea is continuously adapted when brought into a new context. Moreover, it emphasizes that the actors involved in bringing new ideas into organizations, markets and

industries are central. They provide an idea with energy and shape it in line with their experiences and interests.

The research in this thesis focuses on the phenomenon of the travelling TPO to empirically explore how a BM "circulating out there" as a model to follow is brought into a new context and adapted to fit it. In the appended papers, the travelling TPO is studied in three different contexts: 1) in a joint venture between a multinational enterprise utility and a solar energy start-up bringing the TPO into three European markets, 2) in a start-up adopting and adapting the TPO to the Dutch market, and 3) in a Swedish, regional utility adopting and adapting the TPO to a new organizational setting. The findings show that BMs are highly context dependent and that both external market conditions and internal organizational factors influence BMs that are brought into new contexts. In line with translation theory, the research reveals that the tacit and ambiguous nature of BMs allow actors involved in bringing and adapting BMs to new settings to shape them according to their experiences and interests.

Based on the findings, this thesis presents *business model translation* as an emergent and actor-oriented view on how organizations recognize, adopt and adapt BMs as models to follow. When transferring a BM between contexts, actors, regardless of level, *translate* the BM into different levels of abstraction. First, the original BM is translated into a representation at a higher level of abstraction, e.g. narratives and graphical illustrations, that can travel in space and time. When brought into a new context, this abstract representation of the BM is again translated into a finely tuned and context-specific representation. Through interpretations and adaptations, the actors involved continuously create preliminary translations of the BM that iteratively resonate with the new context. This process of experimentation and trial-and-error learning eventually allows the BM to be re-created and contextualized in its new setting.

The different empirical contexts of this research uncover various translation challenges. When a BM travels at a high level of abstraction, the challenge lies in understanding the abstract representation of the BM and developing it into a finely tuned, context-specific BM. When a BM travels within a joint venture, there is a risk that the BM still includes context-specific knowledge from its original setting, limiting the room for adaptations in the new context. The research also highlights the role of those actors initiating the process of business model translation since they act as catalysts in the process. The empirical phenomenon of the research – a travelling BM for solar energy – shows that associating a travelling BM with a sustainable value attracts actors and motivates them to get involved.

Populärvetenskaplig sammanfattning

“Fråga mig inte var jag kommer ifrån, fråga mig var jag känner mig hemma”. Citatet är hämtat från en TED presentation av Taiye Selasi som handlar om att vissa människor känner sig hemma på flera ställen i världen samtidigt. Inte nödvändigtvis där de kommer från. I min forskning fokuserar jag på affärsmodeller för solenergi som sprids till och etableras på nya marknader. En affärsmodell är en abstrakt beskrivning av hur ett företag levererar och tjänar pengar på en produkt eller tjänst. Precis som de människor som Taiye Selasi pratar om är de affärsmodeller som jag intresserar mig för hemmastadda på flera platser samtidigt.

Problemet är att forskare, företagsledare, beslutsfattare och entreprenörer verkar tro att en affärsmodell som är framgångsrik på en marknad kan kopieras. De ser på affärsmodellen som en prototyp. Denna inställning tar inte hänsyn till att affärsmodeller är komplexa och abstrakta idéer som formas av en rad faktorer specifika för den lokala platsen. Om företag utgår från att de kan skapa en identisk kopia av en affärsmodell på en ny marknad är risken stor att den misslyckas.

Det innebär att försöken att skapa en marknad för solenergi i olika länder kommer att vara mindre framgångsrika. Detta är olyckligt eftersom många länder, till exempel Tyskland och Nederländerna, är beroende av solenergi för att ställa om till förnybar energi och reducera sina koldioxidutsläpp. Dessutom leder den begränsade kunskapen om hur affärsmodeller påverkas av lokala förutsättningar till att beslutsfattare tar oinformerade beslut angående regleringar och subventioner.

Baserat på intervjuer med företagsledare och entreprenörer kommer jag i min avhandling fram till att en affärsmodell behöver *översättas* när den tas från en marknad till en annan. Att översätta en affärsmodell innebär att ett företag anpassar affärsmodellen till den lokala kontexten på olika sätt. Till exempel genom att omformulera erbjudandet så att det är attraktivt för kunderna på den

nya marknaden. Med andra ord är ingen affärsmodell den andra lik även om inspiration hämtats från samma original. Precis som människor känner sig hemma där de skapat sig ett sammanhang blir affärsmodeller framgångsrika på de marknader där de blivit anpassade och hemmastadda.

Denna kunskap hjälper entreprenörer och företagsledare att förstå vikten av att forma och omforma de affärsmodeller från andra marknader som de låter sig inspireras av. Genom att skapa utrymme för anpassningar av affärsmodellen ökar chanserna att den blir framgångsrik i sitt nya sammanhang. På längre sikt stöttar detta tillväxten av marknader för solenergi. Det ger även fler privatpersoner och företag möjligheten att sätta upp solpaneler och börja producera sin egna gröna energi.

Table of Contents

Appended papers

Paper I

Title: Business model change in dynamic environments – the case of distributed solar energy.
Authors: Jessica Lagerstedt Wadin and Kajsa Ahlgren Ode
Status: Manuscript under preparation for 2nd round of review with *Journal of Business Models*. Earlier version of the manuscript published in the Academy of Management Annual Proceedings in 2015.

Paper II

Title: Joint business model innovation for sustainable transformation of industries - a large multinational utility in alliance with a small solar energy company.
Authors: Jessica Lagerstedt Wadin, Kajsa Ahlgren and Lars Bengtsson
Status: Published in 2017 in *Journal of Cleaner Production*, vol. 160, pp. 139-150. DOI: https://doi.org/10.1016/j.jclepro.2017.03.151

Paper III

Title: Business model translation - the case of spreading a business model for solar energy.
Authors: Kajsa Ahlgren Ode and Jessica Lagerstedt Wadin
Status: Manuscript under 2nd review with *Renewable Energy*.

Paper IV

Title: Business model innovation for sustainability: a translation perspective.
Authors: Kajsa Ahlgren Ode and Céline Louche
Status: Working paper under preparation for submission to an international journal. Earlier version of the manuscript accepted to the Academy of Management Annual Proceedings in 2018.

Related papers and publications

Title: *Rigorous and relevant – introducing a critical discourse analysis to the relevance debate.*
Authors: Izabelle Bäckström and Kajsa Ahlgren
Status: Published in 2018 in *European Business Review,* vol. 30, issue 2, pp. 202-215. DOI: 10.1108/EBR-11-2016-0151

Title: *Transformation of the energy industry – from production and value chain based towards service and network based business models – navigating in the new energy landscape*.
Authors: Jessica Lagerstedt Wadin, Kajsa Ahlgren, Lars and Bengtsson
Status: Forthcoming in Ivanaj, S., McIntyre, J. and Ivanaj, J. (Eds.) CSR and climate change implications for multinational enterprises. E Elgar Publishing.

Titel: *Characteristics of customer-side business models: the case of solar energy deployment.*
Authors: Kajsa Ahlgren, Jessica Lagerstedt Wadin and Lars Bengtsson
Status: Published in 75th Academcy of Management Annual Proceedings, 2015.

List of Figures

List of Tables

Abbreviations

BM: Business Model

BMI: Business Model Innovation

TPO: Third-party ownership business model

“As is a tale, so is life: not how long it is,
but how good it is, is what matters”

Lucius Annaeus Seneca

Introduction

This research started with the observation that business models spread from place to place over time and are adapted to their new contexts. In this chapter, I present why this topic interests me on a personal level and why I find it a theoretical issue worth understanding. Elaborating on the research aim and research questions, I introduce my research approach and the kind of problems I focus on. How the appended papers relate to the aim and research questions is described briefly and an outline of the thesis is provided.

Prologue

This thesis is about journeys. Foremost, business model (BM) journeys, but also my journey as a PhD student. It focuses on how BMs "circulating out there" as models to follow are brought to new places. This is an unstructured process, in which a BM is recognized, adopted and adapted by an organization. It involves a process of business model innovation (BMI) so that the BM can fit its new context. The empirical phenomenon of the research is a BM for solar energy developed in California that has been brought to European markets. To face the very pressing problems of the world today, a shift towards sustainability is essential. How BMs are configured can provide one solution to bringing forward sustainable innovations and transforming businesses and industries so that they become more sustainable. Creating a shift in the energy sector's use of renewable sources is of particular importance since the energy sector is the source of one-fourth of all global greenhouse gas emissions (IPCC, 2014).

Empirical background

Sustainable development means pursuing economic and social development today, without jeopardizing the economic, social and environmental needs of future generations (Brundtland Commission, 1987). Historically, the prevailing view has been that a primary obligation of corporations is to maximize profits for shareholders (Friedman, 1970; Key, 1999). However, the world is currently using the unsustainable rate of 1.6 planets to sustain human activities (WWF, 2017) and business as usual does not seem like an option for a sustainable future. Companies of today have the power to lead the way in the transition toward sustainability by producing sustainable products and services, adapting to sustainable BMs, and making a positive contribution to society and the environment in conjunction with a rationale price tag (Senge, Smith, Kruschwitz, Laur, & Schley, 2010).

When I started as a PhD student, I was convinced that this transition within firms was taking place in earnest. To my great disappointment, I found few examples in the academic literature and elsewhere of firms being sustainable – environmentally, socially and economically – in all aspects of their organizational activities. Still, a review of the CSR and sustainability literature revealed a growing interest in BMs since the concept focuses on the core activities of the firm (Bocken, Short, Rana, & Evans, 2013; Boons & Lüdeke-Freund, 2013; Stubbs & Cocklin, 2008). From this vantage point, I decided to explore BMs of emerging companies offering solar panels. Photovoltaic technology was frequently reported on as a technological solution with the potential to be a great source of renewable energy (IEA, 2014). Moreover, the BMs of these emergent firms were portrayed in media as central to bringing solar energy to the market and fundamentally different from traditional utility BMs (Richter, 2013).

My first study was a multiple case study exploring how BMs for solar energy had developed over time on two leading markets: Germany and California. In California, the dominant BM allowed private house owners to lease solar panels to put on their rooftops and produce their own green energy. This so-called third-party-ownership business model (TPO) can be described as a "Cleantech-as-a-service business model" based on product usage rather than the traditional direct ownership model (Guajardo, 2017). Since its introduction on the Californian market, the TPO has rapidly increased the number of residential solar energy producers, and in 2014, leasing offers peaked at above 70% of the residential market (GTM, 2016). During this study, I observed that

actors in European markets were adopting the TPO. However, despite being portrayed in various media and reports as a successful archetype to be copied, the TPO was *adapted* to fit its new European market context. By comparing BMs for solar energy in Germany and California in the first study, I had concluded that BMs were highly context dependent. This had also been indicated in publications on BMs for solar energy (Overholm, 2015; Strupeit & Palm, 2016). Hence, my "uneducated PhD hunch" was that organizations bringing the TPO to European markets went through a process of BMI to adjust the BM to its new market and organizational setting.

The problem – travelling business models

The phenomenon of the "travelling TPO" fascinated me and I asked myself, *why doesn't the TPO work immediately everywhere when brought into a new context*?

In management literature there are several theories providing a plausible answer to this question. Replication strategy suggests that organizations first create and refine a BM core, which is then replicated on large scale during a phase of exploitation (Winter & Szulanski, 2001). However, this theory assumes that the BM remains unmodified once replicated, rather than being adapted each time it is brought to a new context. Moreover, replication as a strategy assumes that the BM core is developed and replicated within the same organization. This neglects the fact that organizations might identify and adopt BMs applied by other firms, or in other markets and industries, as models to be followed.

The extensive literature on diffusion of innovations theory (Rogers, 2003) has enriched our understanding of how new ideas, products or services spread in social systems. However, most research on diffusion assumes that the innovation remains unchanged as it diffuses. This assumption might hold for certain innovations, but the abstract and ambiguous nature of BMs seemed to allow for multiple interpretations and adaptations when brought between different contexts. Diffusion theory further assumes that an innovation has a momentum of its own, independent of the actors involved in spreading it. In contrast, a BM is dependent on organizational members' decision to adopt the idea and adapt it to its new organizational setting.

The adaptation and innovation process that occurs when a BM is brought into a new context could also be understood from the perspective of transaction cost economics (Williamson, 1975). In a new context, the transaction cost dynamics of the BM activity system are altered and to reduce the transaction costs adaptations to the BM set-up are made. However, a transaction cost lens provides a pure economic-rational view on why managers make certain decisions that seemed insufficient to understand the emergent nature of my observations. In this regard, sensemaking (Weick, 1995), ambidexterity theory (O'Reilly & Tushman, 2013; Tushman & O'Reilly, 1996), and Stark's (2011) sense of dissonance were more appealing alternatives to understanding the phase of adaptation that seemed necessary to establish the TPO in a new context. However, these theories did not include the notion of an idea being brought between contexts. Rather, they covered the actual adaptation phase taking place once the BM was already in its new setting.

Some scholars in the BM literature have acknowledged that BMs spread between organizations. In this context, researchers have suggested imitation (Enkel & Mezger, 2013) and replication (Dunford, Palmer, & Benveniste Jodie, 2010) as strategies for companies to identify and adopt a BM applied in another company, market or industry. Although recognizing that a BM needs to be adapted to the new context to which it is brought, these perspectives take on a rational and top-down approach to how companies adopt and adapt new BMs rather than an emergent view.

Hence, the above-mentioned theories did not provide a sufficiently satisfying answer to why the TPO went through a process of BMI when brought and adapted to a new context. Specifically, the BM literature lacked an emergent view on how organizations recognize, adopt and adapt BMs "circulating out there" as models to follow. To respond to this gap and provide an increased understanding of the emergent processes involved when adapting a BM to a new context I have turned to translation theory. More specifically, to the "travel of ideas" model introduced within Scandinavian institutionalism by Czarniawska and Jeorges (1996). In contrast to replication and diffusion theory, a translation perspective acknowledges that an idea is continuously adapted when brought to a new context. Moreover, the "travel of ideas" model emphasizes that the actors involved in bringing ideas between organizations, markets and industries are central. They provide the idea with energy and shape it in line with their experiences and interests. Hence, translation theory offers an emergent and actor-oriented view on how ideas are brought between contexts, taking into account the need to both decontextualize an idea from its

original setting and re-contextualize it in its new context. Throughout this process, the idea carries multiple interpretations at various levels of abstraction.

The aim

My passion to contribute to a shift towards sustainability led me to the empirical phenomenon of the travelling TPO. Against the background provided above, the overall aim of this dissertation unfolded. The aim is to:

> *contribute to an increased understanding of how business models spread in space and time.*

The travelling TPO provided an opportunity to explore how a BM "circulating out there" ready to be adopted into a new context is spread in space and time. Baden-Fuller and Morgan (2010) have theoretically acknowledged that a BM can spread between companies, industries and markets as a model to inspire creative managers in regard to how to do business. However, there are few empirical studies on how BMs – as models – are recognized, adopted and adapted by organizations (Evans et al., 2017), especially from an emergent viewpoint. In this thesis, I look at the travelling TPO in three contexts: 1) in a joint venture between a multinational enterprise (MNE) utility and a solar energy start-up bringing the TPO into three European markets, 2) in a start-up bringing and adapting the TPO to the Dutch market, and 3) in a Swedish regional utility adopting and adapting the TPO.

To delimit the scope of this thesis, the empirical context has been narrowed down to only consider a BM (the TPO) being brought to high-income markets with an established energy market. In these markets, solar energy is regarded as an alternative to fossil fuels and a way to transition toward renewable energy sources. BMs for solar energy have been developed in low-income markets as well, since solar energy holds the potential to contribute to the electrification of rural areas and stabilizing a sustainable energy supply (Karakaya & Sriwannawit, 2015). However, in many countries, the existing energy market is underdeveloped and the motivations and barriers to producing solar energy are different from those in high-income economies. Although not included in this thesis, BMs might travel between, to and from these markets as well. Moreover, it should be acknowledged that there are other technologies with the potential to contribute to reducing the dependence on fossil fuels and a

transition toward sustainability such as heat pumps, wind power, electrical vehicles etc.

The research questions

To make the aim more tangible, it has been divided into two research questions elaborated on below and answered by this thesis. The first study resulted in Paper I. During this research, the phenomenon of the travelling TPO was "discovered" and it can therefore be considered the prestudy phase (Swedberg, 2012) for the remaining papers of this dissertation and the thesis as a whole. Still, the findings in Paper I suggest that the development of BMs is highly dependent on various factors in the local business environment. Hence, the paper also provides an indicative answer to the first research question:

> *RQ1: Why does a business model not work immediately when brought into new contexts?*

The second study in this thesis resulted in Paper II and Paper III. In Paper II, the answer to the first research question is explored further by focusing on both external and internal factors influencing the outcome of a joint venture for bringing the TPO into three European markets. Although Paper III extends the answer to the first research question, the main objective was to study the *process* of bringing the TPO into a new market context. This was explored with the guidance of the second research question:

> *RQ2: How does the process of business model innovation unfold when adapting a business model to a new context?*

Paper III confirmed that both internal and external factors contributed to adaptations of the TPO when brought into a new context. It also revealed that the actors involved played a crucial role in adapting it to its local context. Based on these findings, it was suggested that a translation perspective might provide an alternative view on how BMs spread in space and time. Building on a translation perspective, the purpose of Paper IV was to extend the findings of Paper III, and the answer to the second research question, by exploring the process of an organization adapting the TPO to another context. In Paper IV, a model of BM translation is presented, including three mechanisms and three factors enabling the translation process. How the four appended papers relate to the two research questions is illustrated in Table 1.

Table 1: How the research questions relate to the four appended papers.

	Paper I	Paper II	Paper III	Paper IV
RQ1: *Why does a BM not work immediately when brought into new contexts?*	Identified	Explored	Extended	Extended
RQ2: *How does the process of BMI unfold when adapting a BM to a new context?*	Identified	Identified	Explored	Extended

Thesis outline

This thesis consists of a summary of papers (called *kappa* in Swedish translation) and four appended papers. The aim of the kappa is to present an overall view of the papers, the theoretical framework behind them and the methodology applied. The overall contributions are elaborated on as well as how they relate to the aim and research questions of the dissertation. The *kappa* consists of seven chapters:

Chapter 1 is an introduction to the thesis. It provides a background to my personal motivation for choosing an empirical topic related to sustainable business and why I found the travelling TPO an interesting phenomenon to understand theoretically. The aim and research questions of the thesis, and how these relate to the four appended papers, are presented in this chapter.

Chapter 2 introduces a theoretical background to the BM, BMI and BM for sustainability literature. The translation perspective is introduced and combined with the BM concept. In this chapter, I argue for why I believe the research in this thesis fulfills its purpose in the field of BMI research.

Chapter 3 is an outline of the methodology approach of the dissertation work. It takes the reader on a journey to show how I have developed as a researcher during my time as a PhD student. My ontological and epistemological considerations are discussed, as well as my reasoning in relation to the research design of the thesis and the specific methods applied in the four appended papers. The quality of the work and its limitations will be discussed.

Chapter 4 provides a summary of the four appended papers. The aim, findings and contributions of each paper are presented briefly to provide a background to the discussion in chapter 5.

Chapter 5 presents the contributions of this thesis and the four appended papers by returning to the two research questions formulated in the introduction chapter. The contributions are discussed in the light of previous research.

Chapter 6 outlines the theoretical and practical implications that the findings in this thesis and the appended papers have. Further, it suggests directions for future research based on the contributions made.

Chapter 7 is a short concluding chapter highlighting the main contributions of the thesis.

Theoretical background

In this chapter, I present the literature that is of direct relevance to my research topic. A short background on BMs is followed by a review of the BMI and BM for sustainability literature. Thereafter, I present shortages in the current literature and argue for why I believe a translation perspective adds to our understanding of BMI and how BMs spread in space and time.

What is a business model?

I believe there is no clear answer to this question, considering that there is not a unified definition of the BM concept in the management literature (Massa, Tucci, & Afuah, 2016; Zott, Amit, & Massa, 2011). A more reasonable question to answer is what is a BM to me and how has the concept been defined in this thesis. In this chapter, I investigate the origin and theoretical development of the BM concept. I further present relevant literature on BMI and BMs for sustainability. Based on the review of the literature, I present shortcomings in current research. Against this background, I present the concept of translation and argue for why I believe a translation perspective can increase our understanding of how BMs are spread in space and time and are adapted to new local contexts.

The origin of business models

The term BM was used in scientific discussions as early as the 1950's (Osterwalder, Pigneur & Tucci, 2005; Wirtz, Pistoia, Ullrich, & Göttel, 2016). After that, the concept was used sporadically in an unspecific manner. For example, John Barnett (1985) wrote about a BM of enlightenment, exploring how to become spiritually fulfilled while working as a business man. In 1975, Konczal suggested that the BM, and business modeling, were tools to be

applied to management. However, at this time business modeling was mainly understood as an operative activity related to system modeling (Wirtz et al., 2016). It was not until the 1990s that the BM came to represent the structure and organization of a company on a management level. At this point in time, similar concepts had been presented within business research (Hedman & Kalling, 2003), such as the business idea (Norrmann, 1977) and Porter's causality chain model (1991). Early publications adhering to the BM concept on a managerial level of the firm explored BMs in computer science, telecommunications, and education (Carmichael, 1997; Kwong, 1993; Tice & Shire, 1997). Following the boom of the dotcom era, the use of BM as a strategic perspective increased exponentially both among practitioners and scholars (Foss & Saebi, 2017; Wirtz et al., 2016). Although initially a tool to analyze the competitive advantage and decision-making process, the understanding of the concept broadened as it was more widely applied. Consequently, conceptual definitions of the concept and its components gained importance among scholars (Amit & Zott, 2001; Chesbrough & Rosenbloom, 2002). In parallel, the BM became an interesting phenomenon to explore, and a new unit of analysis, in empirical research (Lambert & Davidson, 2013; Zott et al., 2011).

The theoretical development of business models

Zott et al. (2011) have pointed out that the BM offers a "holistic approach" to explaining how firms "do business"", and a unit of analysis different from that of the product, firm, strategy or industry. However, after reviewing a decade of surging BM research, they (ibid.) concluded that there was no unified definition of the concept and that scholars seemed to apply it according to their own research interests. Hence, the lack of conceptual clarity might be a consequence of the usefulness of the concept in a number of research disciplines (Foss & Saebi, 2017; George & Bock, 2011; Wirtz et al., 2016), such as information systems (e.g. Hedman & Kalling, 2003) and sustainability (e.g. Stubbs & Cocklin, 2008). Still, the BM literature indicates that the concept has been especially useful in research on entrepreneurship, strategy, and technology and innovation management (Zott et al., 2011). In entrepreneurship, the initial interest lay in understanding the drivers of value creation and capture in e-business ventures (Amit & Zott, 2001; Magretta, 2002; Teece, 2010). Today, there is a broader focus on BM design in emerging firms (Amit & Zott, 2015; Doganova & Eyquem-Renault, 2009). In strategy,

the BM is considered a source of competitive advantage and an antecedent to firm performance (Casadesus-Masanell & Ricart, 2010; Morris, Schindehutte, & Allen, 2005; Teece, 2010). In technology and innovation management, the BM is discussed as a vehicle for bringing technological innovations to the market (Chesbrough & Rosenbloom, 2002; Doganova & Eyquem-Renault, 2009), and some BMs have been pointed out as creating and capturing more value than others (Teece, 2010). The BM is also seen as a potential source of innovation on its own (Chesbrough, 2010; Demil & Lecocq, 2010; Johnson, Christensen, & Kagermann, 2008).

In recent years, there seems to be an increasing consensus on a BM definition and several research agendas have been presented (for a review see for example Foss & Saebi, 2017; Wirtz et al., 2016). Foss and Saebi (2017) suggest that the BM literature points to a definitional convergence in line with the "design or architecture of the value creation, delivery, and capture mechanisms" of the firm (Teece, 2010, p. 172). This description of the BM concept resonates with the four constructs that scholars seem to agree constitutes a BM (Chesbrough, 2010; Doganova & Eyquem-Renault, 2009; Osterwalder et al., 2005; Shafer, Smith, & Linder, 2005): value proposition, value creation and delivery, revenue model, and customer interface. Value proposition depicts the value created for the customer, value creation and delivery involves how the firm organizes to deliver the proposed value, revenue model includes cost structure and how value is captured, and customer interface include the relations and communication channels set up with the customer. Figure 1 illustrates this BM definition (which is also how it has been defined in this thesis).

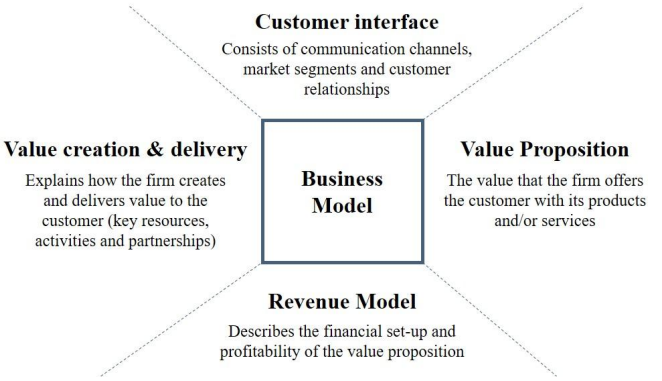

Figure 1: Illustration of business model definition.

In a recent publication, Massa et al. (2016) review the BM literature from a new perspective by distinguishing three interpretations of the BM concept: 1) how firms do business, 2) how the way firms do business is interpreted by organizational members, and 3) how they can be represented as formal conceptualizations. In the first interpretation, the BM is seen as an empirical phenomenon of a real firm's activity system. The second interpretation suggests that the BM is a cognitive frame and image of the real activities of the firm. Since managers and employees are not able to hold the entire real system of a BM in their minds, they create images of the real system. The third interpretation describes BMs as formal conceptual representations and simplifications of a real system. It is an explicit and abstract model making it easier to deal with the real system.

In line with the second interpretation - the BM as a cognitive frame - the BM has been referred to as a model to follow (Baden-Fuller & Haefliger, 2013; Baden-Fuller & Morgan, 2010), as a firm's dominant logic (Chesbrough & Rosenbloom, 2002), as a logic of value creation (Doganova & Eyquem-Renault, 2009) and a subjective representation among managers (Doz & Kosonen, 2010). The main interest within this stream of thought has been how organizational members interpret BMs. This includes understanding the role of BMs in social processes such as (inter)organizational sensemaking (Doganova & Eyquem-Renault, 2009), scanning environmental opportunities (Teece, 2010) and stimulating BM design and innovation (Amit & Zott, 2015).

In addition to residing in the minds of organizational members, cognitive understandings of BMs are represented as linguistic representations (Massa et al., 2016). These representations are presented on different levels of abstraction, from abstract narratives and graphical illustrations to more finely tuned descriptions of the activity system (Massa & Tucci, 2013). BMs represented at a higher level of abstraction can be shared inside and outside organizations to create a common understanding of a specific BM. Hence, linguistic representations allow organizational members to create mental models of others' BMs as well (Amit & Zott, 2015; Baden-Fuller & Haefliger, 2013; Baden-Fuller & Morgan, 2010). This way, BMs can act as scale models of real world phenomena or as ideal types to inspire (Baden-Fuller & Morgan, 2010; Teece, 2010). Amit and Zott (2015) suggest that BM templates are antecedents to BM design and that BM designers borrow from existing firms. Similarly, the BMs has been presented as a recipe "used to demonstrate or give advice about how to do something so that the results will come out right"

(Baden-Fuller & Morgan 2010, p. 166), to be followed and innovated like a chef innovates a dish.

Hence, from a cognitive perspective on BMs, they are used among practitioners as models to experiment with (Baden-Fuller & Morgan, 2010; Magretta, 2002), making the BM performative and a real life experiment. This gives BMs a dynamic quality, since firms experiment, change, refine and re-invent their BMs (Baden-Fuller & Morgan, 2010; Demil & Lecocq, 2010; Magretta, 2002; Teece, 2010). This dynamic aspect of BMs has been the focus of an emerging subfield to the BM literature paying attention to BMI, from incremental BM evolution (Demil & Lecocq, 2010) to radical and disruptive BMI (Aspara, Lamberg, Laukia, & Tikkanen, 2013). This dynamic perspective on BMs is central in this thesis and is presented in detail in the following subchapter. The BM concept has also been applied in relation to sustainability, another essential perspective in this thesis. A background to this emerging field (Lüdeke-Freund & Dembek, 2017) will be provided in the subchapter *Business models for sustainability*.

Business model innovation - a dynamic perspective

Scholars within the BM literature have acknowledged the need for BMI in principle (Chesbrough, 2010; Teece, 2010), especially among incumbent firms as a mean to overcome inertia (e.g. Chesbrough & Rosenbloom 2002; Massa & Testa 2011; Sosna, Trevinyo-Rodriguez, & Velamuri 2010) and for new entrants to establish themselves on the market (Zott et al., 2011). Foss and Saebi (2017) show that over the last 15 years, researchers have paid increased attention to BMI and related terms such as transformation (Aspara et al., 2013), renewal (Doz & Kosonen, 2010), dynamics (Achtenhagen, Melin, & Naldi, 2013; Cavalcante, Kesting, & Ulhoi, 2011), development (Andries, Debackere, & Van Looy, 2013), and evolution (Demil & Lecocq, 2010). Still, there is a lack of clarity of how to define BMI, perhaps as a consequence of there being no unified definition of the BM concept (Foss & Saebi, 2017; Zott et al., 2011).

The definition of BMI varies along different dimensions. One dimension relates to the extent of novelty required for it to be considered BMI. Some scholars view BMI as a disruptive kind of innovation new to the industry (Santos, Spector, & Van der Heyden, 2009), while others mean the BM only needs to be new to the firm (Bock, Opsahl, George, & Gann, 2012; Osterwalder et al., 2005). A second dimension concerns the scope of BMI required. On the

one hand, some argue that changing all components of the BM is necessary for it to be called BMI (Yunus, Moingeon, & Lehmann-Ortega, 2010), while others mean that changes to one or more (Bock et al., 2012), or two or more (Lindgardt, Reeves, Stalk, & Deimler, 2009), components is sufficient. Cavalcante et al. (2011) conceptually develop four types of BM change: BM creation, extension, renewal and termination. Each process comes with specific organizational challenges; the more comprehensive the change, the more uncertainty, ambiguity and resistance there is to deal with.

In their systematic review, Saebi and Foss (2017) concluded that a large part of the BMI literature is still conceptual. They also distinguish between BMI as an outcome and its implications on, e.g. performance, and BMI as a change process. Scholars interested in the former, tend to focus on the content of innovative BMs ex post, for example in specific industries or of particular types of BMs, such as for renewable energy (Richter, 2013) or low-income markets (Yunus et al., 2010). Within the latter view, scholars explore the dynamics of BMI, often revealing how BMI evolves in different phases over time. It is this perspective that is most relevant for the topic of this thesis.

Business model innovation as a process

Within the research stream of BMI as a change process, some scholars see it as a structured and strategic process while others view BMI as emergent. Among scholars focusing on BMI as a structured process, emphasis has been on identifying different stages or phases of the innovation process. Based on a single-case study of a firm shifting from a product to a service based BM, Khanagha, Volberda and Oshri (2014) present a five-stage process. The steps include 1) screening and speculating, 2) experimenting in a temporary organization, 3) continuation of experimentation in an independent organization, 4) shrinkage of the separated structure and, 5) dissolution of temporary organization. Similarly, Eurich, Weiblen and Breitenmoder (2014) have presented a holistic six-stage process of BMI based on networked thinking. Dunford et al. (2010) present four phases involved when replicating a BM between international subsidiaries: clarification, localization, experimentation and co-option. Localization includes modifications made to the BM for it to fit the local context, while experimentation involves voluntary adaptations made to the BM not necessary to fit the local context. Enkel and Mezger (2014) explore how firms imitate BMs from other industries at an early stage of BM design. By abstracting the customers' need, managers can initiate

an analogical search and assessment of BMs in other industries addressing the same need, and adapt the selected BM(s) to their current industry.

Scholars adopting an emergent perspective on BMI have emphasized the importance of ongoing experimentation and trial-and-error learning in the process of BMI. Especially for incumbent firms to overcome inertia and barriers to BMI (Chesbrough, 2010; Sosna et al., 2010). Demil and Lecocq (2010) explore BM evolution, illustrating how BMs can develop incrementally over time by continuously reacting to changes in the environment. Similarly, Mezger (2014) suggests an iterative learning and experimentation process between sensing and seizing new technologies and BMs, which can eventually lead to reconfiguration of the BM. A phase of experimentation seems to forego exploitation when developing a new BM (Sosna et al., 2010). Moreover, simultaneous experimentation has further shown to imply long-term survival when developing a new BM, as opposed to the narrower alternative of focused commitment (Andries et al., 2013). Focusing on average market players in terms of performance, market position and size, Laudien and Daxböck (2016) have shown that the BMI process is emergent and often unintended. In her dissertation, Fallahi (2017) shows that unintended BMI is not limited to average market players. Rather it is experienced also among incumbents that have been world leader on their market for decades.

Adopting a cognitive perspective on emergent BMI, Doganova and Eyquem-Renault (2009) explore BMs as a market device. In their empirical study, they show how the BM act as a narrative and calculative tool in the construction process of a techno-economic network of an innovation and the unfolding of a new BM. Applying an actor-network perspective, Demil and Lecocq (2015) explore the BMI process in an established firm. They emphasize the role of artifacts in crafting a new BM, by showing how new artifacts are created, and old artifacts are modified or ignored. Using the analogy of planting trees to create a forest, they argue that the crafting of artifacts eventually leads to the creation of a new BM.

Continuous learning (Sosna et al., 2010), certain critical capabilities (Achtenhagen et al., 2013) and leadership (Doz & Kosonen, 2010) have been suggested as organizational characteristics facilitating the BMI process. In contrast, organizational inertia has been pointed out as a barrier to BMI among incumbent firms (Chesbrough & Rosenbloom, 2002). External drivers such as changes in the competitive environment (Johnson et al., 2008), strategic discontinuities and disruptions (Doz & Kosonen, 2010) and unpredictable

changes in the business environment (Voelpel, Leibold, & Tekie, 2004) are argued to trigger BMI.

Business models for sustainability

A decade ago, sustainability scholars started to show an interest in the BM concept and how it could be used to explore organizational sustainability (Stubbs & Cocklin, 2008). Some scholars have focused on how the organizational structure and culture contribute to social and environmental development (Bocken et al., 2013; Stubbs & Cocklin, 2008), while others have suggested that BMs enable sustainable innovations to reach the market (Boons & Lüdeke-Freund, 2013). The diffusion of green technology may be hampered by a firm's current BM, and BMI, for example, offering a service rather than a product could help spread sustainable technologies (Massa & Tucci, 2013). In a recent reflective piece, Lüdeke-Freund and Dembek (2017) ask themselves if sustainable BM research is an emerging field or passing fancy. After considering a number of alternative views, they conclude that the sustainable BM field is an integrative research field that depends on, but at the same time goes beyond, established fields such as the traditional BM and corporate sustainability field. Hence, by adding a sustainable dimension to the BM concept and literature we step into a slightly different field with its own research questions, scholars, definitions and outlets.

Although scholars have proposed what constitutes a BM for sustainability (Boons & Lüdeke-Freund, 2013; Rauter, Jonker, & Baumgartner, 2017; Schaltegger, Hansen, & Lüdeke-Freund, 2016; Stubbs & Cocklin, 2008), the concept is still vaguely defined. Nevertheless, a broader sense of value creation seems to be a key aspect, including economic, social and environmental value creation on a systemic level (Bocken, Short, Rana & Evans, 2014; Boons & Lüdeke-Freund, 2013; Schaltegger, Lüdeke-Freund & Hansen, 2012). Moreover, BMs for sustainability consider the needs of all stakeholders, by not prioritizing only shareholder needs (Stubbs & Cocklin, 2008).

In 2013, Boons and Lüdeke-Freund suggest that a BM for sustainability is a vehicle to bring sustainable innovations – technological, organizational or social in character – to the market. Building on the BM literature, they extend the four constructs commonly included in traditional BM definitions: value proposition, value creation and delivery, revenue model and customer interface. The value proposition provides social and/or environmental value

while also generating economic value. Value creation and delivery includes how value is delivered to the customer in a responsible way, including supply chain partners. The revenue model refers to how value – economic, social and environmental - is captured within the firm and among its stakeholders, and the customer interface includes relations and communication with customers that motivate them to take responsibility for their consumption. Hence, in line with the key aspects of BMs for sustainability this definition[1] considers social and environmental value creation in addition to economic value creation, and emphasizes all stakeholders' needs.

In addition to value creation, delivery and capture, some scholars have highlighted the importance of considering the value destroyed by maintaining an old, less sustainable BM (Roome & Louche, 2016; Yang, Evans, Vladimirova, & Rana, 2017). Yang et al. (2017) propose four forms of uncaptured value worth exploring to identify ways to innovate the current BM: value surplus, value absence, value missed and value destroyed. By identifying the uncaptured value, a company can recognize new opportunities for sustainable value creation that are eventually captured through a new BM. Although all four are relevant for increased sustainable value creation, value destruction is a negative outcome of the current BM with negative effects on the environment and society. Hence, BMI leading to the reduction of destroyed value will decrease environmental and social damage (Roome & Louche, 2016).

Business model innovation for sustainability

Similar to the development within the BM literature, scholars studying BMs for sustainability have explored a more dynamic perspective of the concept.

[1] This is the definition used in this thesis. Several other definition of a sustainable BM have been proposed in the literature. Schaltegger et al. (2016) have defined BMs for sustainability as *"describing, analyzing, managing, and communicating (i) a company's sustainable value proposition to its customers, and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries."* (p. 6). Other scholars have extended the BM canvas developed by Osterwalder et al. (2005) by adding a life-cycle (environmental) layer and a stakeholder (social) layer (Joyce & Paquin, 2016). The BM canvas has also been combined with the framework for strategic sustainability (Levy Franca et al., 2016). Evans et al (2017) recently developed five propositions to support the creation of a unified perspective on sustainable BMs.

BMI for sustainability takes the dimension of time into consideration by exploring how BMs for sustainability emerge. Adopting a process perspective on BMI, some scholars focus on how BMs for sustainability are designed by entrepreneurs (Jolink & Niesten, 2015; Rauter et al., 2017), while others pay attention to how already established organizations shift towards more sustainable BMs (Rajala, Westerlund, & Lampikoski, 2016; Roome & Louche, 2016). Building on Lewin's (1951) model of change, Rajala et al. (2016) suggest that BMI emerges in three phases: unfreezing, moving and re-freezing. Unfreezing is the phase in which a firm recognizes the potential of BM greening, moving is the phase of developing a new vision and BM, and re-freezing is when the business system is reconfigured for sustainability. It is concluded that managerial agency - sensemaking, sensegiving, intra-organizational influencing and eco-system-level influencing - is crucial in the process of BM greening (Rajala et al., 2016). In another important study, Roome and Louche (2016) explore two companies and their shift towards a sustainable BM. Based on empirical findings, they present a conceptual model of four phases: 1) identifying the need for a sustainable BM, 2) translating the new concepts and practices to the organization, 3) embedding the new BM and abandoning the old, and 4) sharing the new knowledge in the network. Throughout this process, a commitment to learning is crucial.

Schaltegger, Lüdeke-Freund and Hansen (2016) emphasize the importance among both start-ups and incumbent firms to develop towards serving the mass market for sustainability, rather than sustainable start-ups remaining niche players and incumbents adhering to minimal sustainability efforts. Comparing start-ups and incumbents, Bohnsack, Pinkse and Kolk (2014) show that they develop different types of BMs for electrical vehicles based on their different backgrounds. However, over time the BMs seem to converge. Moreover, Jolink and Niesten (2015) show that ecopreneurs within the organic food industry in the Netherlands approach BMI in various ways. While some have the ambition to scale up their businesses others are satisfied with remaining small, niche players. Similar to BM scholars, Gauthier and Gilomen (2016) have proposed a typology of different kinds of BMI for sustainability, including no change, marginal change, substantial change and radical change. Another parallel with the BMI literature is that scholars suggest learning, flexibility, and capability building to assist managers when dealing with the conflicting interests that may arise when engaging in BMI for sustainability (Kurucz, Colbert, Lüdeke-Freund, Upward, & Willard, 2017; Matos & Silvestre, 2013; Svensson & Wagner, 2011).

Business models for solar energy

Within the field of BMs for sustainability, scholars have explored BMs for solar energy. Studies exploring BMs for distributed solar energy have shown that a BM allows photovoltaic technology to spread in a market (Ahlgren, Wadin, & Bengtsson, 2015; Karakaya, 2015; Overholm, 2015; Strupeit & Palm, 2016), and that customer-oriented BMs are central both among emerging and established firms (Loock, 2012; Overholm, 2015; Richter, 2013). Initially, incumbent utility companies seemed reluctant to see distributed solar energy as a threat to their utility-side BM (Richter, 2013). However, utilities are increasingly engaging in transforming their BMs towards more customer-oriented and network-based BMs (Lagerstedt Wadin, Ahlgren, & Bengtsson forthcoming). Scholars have showed that BM choice among firms is influenced by the institutional context (Provance, Donnelly, & Carayannis, 2011), and that BM development and set-up differs between geographical markets (Ahlgren et al., 2015; Strupeit & Palm, 2016). For example, the TPO was developed by a number of solar service firms in California as a product-service system (PSS) or "cleantech-as-a-service business model" (Guajardo, 2017; Overholm, 2015). The TPO is now presented in media (e.g. newspapers, industry reports and renewable energy websites) as an archetype for offering a solar service solution and is being brought to European markets (Sharma et al., 2015). However, the context dependence of BMs has been suggested to imply that BMs cannot be easily transferred from one context to another (Strupeit & Palm, 2016), and scholars have expressed a need to increase our understanding of how market characteristics determine the success of the TPO should it be spread to European markets (Overholm, 2015).

Problematization

A dynamic perspective on BMs brings the notions of innovation, transformation, renewal, dynamics, development, and evolution to the BM literature. Although an increasingly common phenomenon in our globalized world, none of these types of BMI seems to refer to how BMs are brought between companies, markets and industries, i.e. spread in space and time. Baden-Fuller and Morgan (2010) touch upon this phenomenon when they theoretically explore BMs as models. These types of BMs, they argue, can be conceived as recipes that "lie between principles – general theory – and templates – exact and exhaustive rules" (p. 166) for firms to follow with

variations. Further, they depend on tacit knowledge, just as recipes for cooking depend on a chef's experience and knowledge. It has also been suggested that the assumptions associated with a BM model may not hold when the BM is applied in a new situation (Baden-Fuller & Haefliger, 2013). Rather, various forms of business modeling might be required for the BM to fit a new context (Aversa, Haefliger, Rossi, & Badem-Fuller, 2015), a process including both rational decision-making and more sensitive activities involving creativity and innovation (Baden-Fuller & Haefliger, 2013).

Few scholars have explored empirically how BMs – as models – spread in space and time. Applying a replication perspective, Dunford et al. (2010) explore how a new venture undergoes rapid internationalization. They argue that in the process of replication "business models do not emerge fully formed – rather they continue to evolve from the initial conception and throughout their repeated application" (p. 655). Other scholars adhere to BM imitation as a process among both entrepreneurs and incumbents of searching for BM inspiration outside the company and adapting the original BM to context-specific needs (Amit & Zott, 2015; Enkel & Mezger, 2013; Roome & Louche, 2016). However, in these studies adopting and adapting a BM is seen as a managerial and rational pursuit. Replication is strategically planned within one company, which differs from the seemingly random and unplanned adoption and adaptation of BM models between companies, markets and industries. Moreover, the imitation process is presented as a deliberate process among top managers of searching for and selecting among alternative BMs, to eventually adapt the chosen BM to the situation and need in the current industry. A few scholars have acknowledged that middle managers play a role in identifying the need of a new BM (Khanagha et al., 2014; ven den Oever & Martin, 2015).

Against this background, and based on the findings in this thesis, I suggest that there is a need for an emergent perspective on how BMs are brought to new contexts and adapted to fit their new settings. Building on a translation perspective provides an emergent and actor-oriented view on how BMs - as ideas, models or recipes - spread in space and time. Later in this chapter, I present in more detail why I believe a translation perspective contributes to the literature on BMI. First, I provide a background to the translation literature and the 'travel of ideas" concept.

The concept of translation

In this subchapter, a background to the translation perspective is provided. This includes an introduction to Scandinavian institutionalism (e.g. Czarniawska & Joerges, 1996; Sahlin-Andersson, 1996), a stream of research within the translation literature, and the "travel of ideas" concept which was developed within this stream. Thereafter, Latour's (1986) definition of translation is presented since it is central within Scandinavian institutionalism. Finally, recent developments within the translation literature are elaborated on.

Scandinavian institutionalism

New institutionalism contributes to an understanding of the role of institutions in organizations and acknowledges how organizations react to outside institutional pressure (DiMaggio & Powell, 1991). This stream of literature argues that organizational change occurs due to a desire for legitimacy and survival (DiMaggio, 1983). It has further been argued that in the search for legitimacy, organizations seek congruence with the institutions they are dependent on and want to be associated with, and consequently there is a growing homogeneity of organizational forms (Meyer & Rowan, 1977), a phenomenon called institutional isomorphism (DiMaggio & Powell, 1991).

One of the things new institutionalism has been criticized for is the limited attention paid to changes and variation in institutional systems. Rather, stability is considered the order of institutions. Scandinavian institutionalism has developed as a response to this, with a tradition of conducting studies of organizational change on a micro-level. Scholars within this line of thought have focused on the process of institutionalization, rather than the result, and on both stability and change as an institutional norm (Czarniawska & Sévon, 1996). Scandinavian institutionalism also has a larger focus on processes and study organizational change, rather than changes in organizational fields.

Travelling ideas

> *"We have noticed that the concept of translation is a good way to describe the emergence and construction of various types of connections around the globe exactly because it is polysemous: albeit usually associated with language, it also means transformation and transference. It attracts attention to the fact that a thing moved from one place to another cannot emerge unchanged: to set something in a new place is to construct it anew."* (Czarniawska & Sévon, 2005)

Czarniawska and Joerges (1996) have introduced the model "travel of ideas", which illustrates how ideas travel in space and time between different contexts. In this model, they combine Latour's (1986) ideas on translation and the idea of a process of institutionalization (Berger & Luckmann, 1979; Tolbert & Zucker, 1996). As an idea is spread, it changes shape and meaning in different contexts through a process of translation, which can eventually lead to the idea being institutionalized in a new context. For an idea to "travel" it is first separated from its institutional context (disembedded) and then translated into an object such as a text, prototype or picture (packaged), which allows it to be transferred in space and time. Then, it is translated to fit a new context (unpackaged), to, finally, be translated to fit the practices of the new location (reembedded). See Figure 2 for an illustration. Czarniawska and Joerges (1996) introduce idea carriers as organizations and professions (e.g. consultants, researchers) that translate an idea to an object (packaging, stage 2). However, idea carriers do not bring ideas into action in their new context, but rather spread them to idea receivers, who translate the idea into actions.

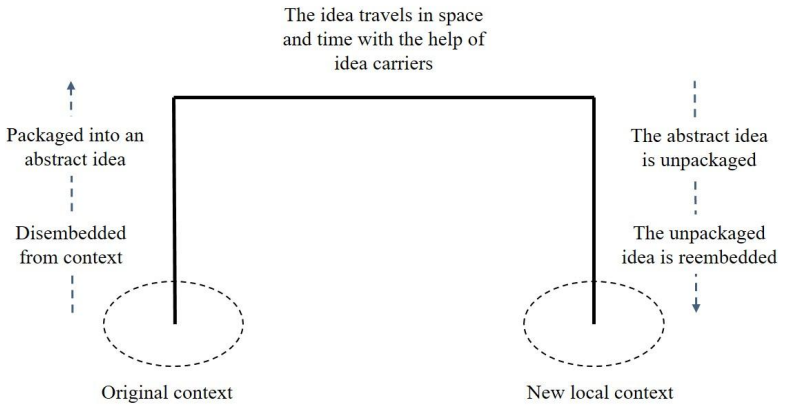

Figure 2: Travel of ideas model based on Czarniawska and Joerges (1996).

It is important that an idea is discovered by actors in an organization rather than forced upon them as a ready solution (Czarniawska & Joerges, 1996). This is done by linking an idea to established ways of doing things and thinking in the organization, industry or society. Sustainability is a good example of a social trend that could make an idea more attractive. Another way to help people in the organization discover an idea is by materializing it, e.g. in texts or images. Hence, from this perspective organizational change is understood based on how ideas are interpreted when they come to a new time/space and when they are transformed into action in organizations. It is important that it is the idea that is followed in the process, not people, organizations or fields. By studying actions and how they are linked to each other, the focus is on the process of organizing (Lindberg & Erlingsdottir, 2007). In this process we meet the people, organizations and fields that translate the idea (Erlingsdottir, 1999). Since translation is a central concept in the model, it is important to understand how Latour (1986) defines it.

Translation according to Latour

Latour (1986) presents his translation model as an alternative to the diffusion model. In the diffusion model, he argues, a token (i.e. order, claim, or artifact) is endowed with an inner force, and the token will spread in the same direction unless there is an obstacle. In this model, it is the slowing down or acceleration of the token that needs to be explained. The diffusion model is often used to explain the spread of new technology; the diffusion of technology can hardly be stopped but is slowed down or sped up by the people receiving it. In contrast to the diffusion model, Latour means there is no a priori force of a token that is spread in space and time. There is someone there to pick up the idea and pass it on, or there is not. A token has no momentum itself, but rather gains energy from people who in some way or another engage with it. These people do not pass on the token untouched but reshape it according to their own interest and experience:

> "*the spread in space and time of anything – claims, orders, artifacts, goods – is in the hands of people; each of these people may act in many different ways, letting the token drop, or modifying it, or deflecting it, or adding to it, or appropriating it*" (Latour, 1986, p. 267).

According to Erlingsdottir, this leads to three assumptions about how ideas spread (1999): 1) there is no a priori force of an idea that is spread, either there is someone who picks it up and passes the idea on, or there is not, 2) the idea

does not possess momentum of its own, it gets energy from all the actors who in one or another way engage with it. The force of the first person who touches the idea is not greater than any other person in the chain, 3) those who transfer the idea do not let the idea pass as it is, but re-create it based on their own projects and interests.

Developments in the translation literature

With the concept of translation as a vantage point, scholars have explored how management ideas travel between contexts, studying both that which travels and the process of how it travels (Czarniawska & Sévon, 1996). Lindberg and Erlingsdóttir (2005), study three cases of translation of ideas within the Swedish healthcare sector, concluding that translations of ideas differ. In contrast to isomorphism (the homogenization of organizations), some management ideas are packaged in several forms (polymorphism), leading to organizations adopting different kinds of practices (polypraxism) under the same name (isonymism). Moreover, Hwang and Suarez (2005) show that the same artifact (they study strategic plans and websites) can materialize differently when translated to an organizational setting. Rövik (1996) argues that ideas are re-shaped to various extents when "unpacked" in a new context, depending on how much room there is for interpretation in the travelling idea's descriptions of how actions should be taken.

Overall, the translation literature is still emergent and rather scattered. In a recent special issue of *International Journal of Management Review* (Spyridonidis, Currie, Heusinkveld, Strauss, & Sturdy, 2016), translation scholars outline various perspectives on the translation literature up to today, and propose avenues to take in the future. It has been concluded that the translation literature consists of actor-network-theory, Scandinavian institutionalism, and the knowledge-based theory; three streams of research that have developed rather separately from each other and with differing ontological assumptions (Wæraas & Nielsen, 2016). Van Grinsven, Heusinkveld and Cornelissen (2016) present a typology of four theoretical approaches to the translation of management concepts. Based on a literature review, they conclude there are two dimensions that divide the literature into different streams. The first dimension relates to the source of variation of a concept as it is translated, which could either be the context in which a concept is embedded, or the multiple strategic interpretations made by actors in the context. The second dimension relates to the view on the object that is translated. The variation occurs either due to interpretive and symbolic aspects,

or to structural and material changes and transformations. One of the central conclusions from this special issue of the *International Journal of Management Review* is that future research could bring together the different streams of research in the translation literature. For example, O'Mahoney (2016) suggest a critical realist perspective to overcoming the ontological differences and combining the various perspectives to gain new insights.

Business model translation

This thesis brings the concept of translation and the "travel of ideas" model to the BMI literature. Building on a translation perspective, I argue that the act of bringing a BM "circulating out there" into a new context – by transferring, receiving, adopting and adapting it - is a process of business model translation. This view sheds new light on how to understand a BM that travels from one place to another in two central ways.

First, it provides an emergent and actor-oriented view on how BMs spread in space and time, which contributes to an alternative perspective to the rational and top-down approaches presented in previous literature (Dunford et al., 2010; Enkel & Mezger, 2013; Roome & Louche, 2016). A translation perspective focuses on understanding the processes and practices among the actors who are involved in bringing an idea into a new context. In line with the reasoning of Latour (1986), actors regardless of level are considered central for an idea to gain energy and momentum. Although scholars have argued that companies use BMs as models to change, refine and re-invent (Baden-Fuller & Morgan, 2010; Magretta, 2002), and have suggested experimentation and trial-and-error learning as ways to cope with the uncertainty involved in BMI (Chesbrough, 2010; McGrath, 2010), we still have little knowledge of how the process of bringing and adapting a BM to a new context unfolds. A microlevel perspective on how BMI emerges over time – and how people influence this process - has been sought after in a recent literature review (Foss & Saebi, 2017). Moreover, Evans et al. (2017) recently pointed out the need to further explore how companies adopt BMs for sustainability, and the challenges and opportunities associated with such an endeavor.

Second, a translation lens highlights how the tacit and abstract nature of a BM (Baden-Fuller & Morgan, 2010; Boons & Lüdeke-Freund, 2013; Doganova & Eyquem-Renault, 2009; Massa & Tucci, 2013) allows for multiple interpretations that can exist within and between organizations. Throughout the

business model translation process, the actors involved in bringing a BM into a new context interpret and re-interpret the BM according to their own interests and experiences. Hence, cognitive understandings of a BM – including linguistic representations such as narratives, images and figures – are transferred and adapted to a new organizational context. Over time, this allows the BM to be enacted in the new organization. There are still only a few studies exploring the BMI process from a cognitive and linguistic perspective, especially on a microlevel (Massa et al., 2016). Moreover, Boons and Lüdeke-Freund (2013) suggest that one of the key future issues within the field of BMI for sustainability is to empirically explore the potential ability of sustainable BMs to link actors and create a market for sustainable innovations. The ambiguity of the concept and its openness to multiple interpretations makes various actors interested in – although possibly for different reasons - contributing to the sustainable value creation of a BM for sustainability.

How is "business model" defined in this thesis?

To sum up and answer the question initially posed in this chapter, a BM in this thesis is defined as a representation of how a firm creates, delivers and captures value. It consists of four constructs: value proposition, value creation and delivery, revenue model and customer interface. As a model that spreads in space and time, the BM in this thesis is represented on several levels of abstraction. When spread from one place to another, it is typically a representation on a high level of abstraction such as a narrative, archetype or graphical illustration. However, when contextualized in an organization, the BM is translated into a cognitive device that portrays "a way to organize". This device is continuously adapted by the actors that engage in it. Finally, this thesis acknowledges the tacit and ambiguous nature of a BM, which becomes especially relevant when it is transferred from place to place. BMI is defined as changes to one or more components of a BM that is new to the firm.

Research design and methodology

In line with the suggestions of Silverman (2013), this chapter presents the "natural history" of my research endeavors. It is intended to be a personal story of my discoveries, choices and reflections throughout the journey of my PhD studies. I outline my research strategy, design and methods, and look more deeply into the trustworthiness of the research. I conclude with reflecting upon methodological choices and limitations.

My research journey

Believing in a shift towards sustainable business, my vantage point when entering academia was to contribute to "the real world out there". With five years of experience as a future strategist and consultant, I was eager to understand organizational transformation on a deeper level and knew I wanted to follow Silverman's (2015) advice to soon get out from behind my desk and throw myself into the real world and do fieldwork.

Early on in my research endeavors, my supervisors Ola Alexanderson and Lars Bengtsson introduced me to PhD researcher Jessica Lagerstedt Wadin. We shared an interest in both BMs and sustainability and together decided to initiate a study in which to explore BMs for solar energy. Due to the nascent nature of the phenomenon, a multiple case study seemed suitable and we chose BMs for solar energy in two leading markets: Germany and California. As mentioned in the introduction, this study introduced me to the phenomenon of the TPO being brought from California to Europe, and could therefore be considered the pre-study phase (Swedberg, 2012) of this thesis. Since the "discovery" of the empirical phenomenon of the travelling BM, the objective of this thesis has been to understand how BMs spread to new contexts.

Consequently, my second study focused on a start-up bringing the TPO to the Netherlands. During this study, we observed that the process of transferring the TPO to the Dutch market turned out to be much more difficult than the

founders of the start-up had anticipated. This, despite an established collaboration with a Californian firm applying the TPO. These findings were reported on in Paper III, in which the concept of business model translation was first presented. While we were collecting data for this paper, the Dutch start-up initiated a partnership with a European MNE utility with which they entered additional European markets in a joint venture. Therefore, we extended the second study to include a case study of this joint venture for bringing the TPO to additional markets. This part of the second study resulted in Paper II. Still, the second study left me with a feeling of wanting to develop the concept of business model translation on a deeper level and in an empirical context where I had full access to do so.

During spring 2016, solar energy became a hot topic in Sweden. Finally, something was happening on the Swedish market and our research received attention in national media. In relation to this, a Swedish regional utility launched a solar panel leasing offer based on the TPO. I was thrilled! Perhaps this was my chance to explore the travelling TPO more in-depth. After a couple of meetings with the utility it was decided I would be given access to study how the TPO was adopted and adapted by the Swedish utility. For this third study, my ambition was to find a co-author with experience in conducting process studies (Langley, 1999; Langley, Smallman, Tsoukas, & Van de Ven, 2013). Céline Louche at Audencia Business School accepted my invitation to collaborate on this final study of my thesis work, which resulted in appended Paper IV. In Table 2 below, my contributions for each paper are outlined in more detail.

Table 2: Overview of my contributions in each appended paper.

	Paper I	**Paper II**	**Paper III**	**Paper IV**
My contributions	*I shared the responsibility for data collection, analysis and contributed to writing the publication with my co-author.*	*I shared the responsibility for data collection, participated in analysis and wrote parts of the publication.*	*I am mainly responsible for the data analysis and writing of the publication. I shared the responsibility for data collection with my co-author.*	*I am primarily responsible for the data collection, analysis and writing of the publication with contributions and advice from my co-author.*

Engaged scholarship

During my first year as a PhD student, I attended an extensive course on qualitative research methods. It gave me an intuitive understanding of my ontological and epistemological stance, but it was not until I became familiar with engaged scholarship (Van de Ven, 2007) that my philosophical positioning as a researcher became more heartfelt. This was during an intense and challenging course held by Professor Van de Ven himself at Copenhagen Business School at the beginning of my second year as a PhD student.

One of the main premises of engaged scholarship is to include other stakeholders and researchers of alternative perspectives in the research endeavor. In this sense, research is a social process and by engaging with other stakeholders, the researcher ensures that the chosen topic is relevant to society. Van de Ven (2007) presents four stages of the research process: situating the problem, developing theory, research design and solving the problem, and argues that all stages should include the input of other people and stakeholders. What each stage includes and how this process has influenced my research process is described in the subchapter *Following the process of engaged scholarship.*

The including aspect of engaged scholarship was very compelling to me. The topic I had chosen for my dissertation repeatedly reminded me of its trans-disciplinary character. I visited both management and sustainability conferences without feeling I really belonged in any of these two places. To sustainability researchers I focused on business management and technology diffusion, and to management scholars I focused on solar energy and sustainability issues. Of course, this experience is related to developing an ability to present my research differently depending on the audience. Yet, I have also learned that trans-disciplinary research is on the rise and that the pressing problems of sustainability encourage such a development for scholars to be able to find appropriate solutions (Rittel & Webber, 1984). During my time as a PhD student, I have experienced a change in attitude towards my research and research drawing upon several research fields in general. Nevertheless, at an early stage engaged scholarship became a guiding light for me by opening up for a research approach that encouraged multiplicity, transdisciplinarity and engagement with society.

A note on philosophy of science

Although open to the differences of alternative philosophies of science, Van de Ven reflects on his vantage point as an engaged scholar and critical realist (2007). This invited me to reflect upon my own philosophical view on science and in what aspects my stance is in line with engaged scholarship or deviates. Being attracted to the translation perspective and seeing the BM as interpretations of how firms do business, I position myself in the realms of a relativist rather than a realist. I do not believe that we can understand an objective reality "out there", but rather that our knowledge about it is socially constructed. Our shared meaning of reality is collectively constructed and the goal of research becomes "to understand the meanings people give to reality, not only to determine how reality works" (Van de Ven, 2007, p. 47). Introducing the participant frame of reference, Margareta Hendrickx's (1999) perspective on relativism is that the researcher is an active participant in the domain she/he attempts to study. Her perspective acknowledges the role of other scholars and stakeholders as opposed to promoting an authoritative role of the researcher. Langley et al. (2013) discuss different ontological views on process studies. I am drawn to that of a reality constructed of processes, dependent on the social practices in which actors are embedded. To do research in this vein means paying attention to activities and processes in the data collection. Adhering to these perspectives, I would position myself in the naturalist paradigm (Lincoln & Guba, 1985).

Against this background, I diverge from some of the philosophical assumptions underlying engaged scholarship but I adhere to others. In line with engaged scholarship, I find reflexivity a central aspect of good scholarship. I further agree that models are mediators between empirical data and theory, and I see abduction as one alternative to theorizing from qualitative data while also acknowledging the potential in purely inductive studies. Above all, what unites me with engaged scholarship is the importance of openness to multiple philosophical views. I believe that diversity rather than uniformity among researchers and stakeholders will help us solve complex research questions of relevance to society, including the pressing and urgent issues of sustainability research.

The overall research structure

To fulfill the overall aim of this thesis, the research has been structured around identifying, exploring and extending the two research questions, as illustrated in Table 1in the introduction. Although outlined in a seemingly linear nature in my research journey above, the three studies contributing to the four appended papers have not preceded each other chronologically. Rather, they have overlapped each other and my research focus has iteratively moved between them. At certain points, I have made active decisions on how to proceed but these choices and the succeeding process have in no way been straightforward. Still, the overarching structure in Figure 3 can be seen as an illustrative figure of how my thesis project has evolved over time, with my focus slowly moving towards the right.

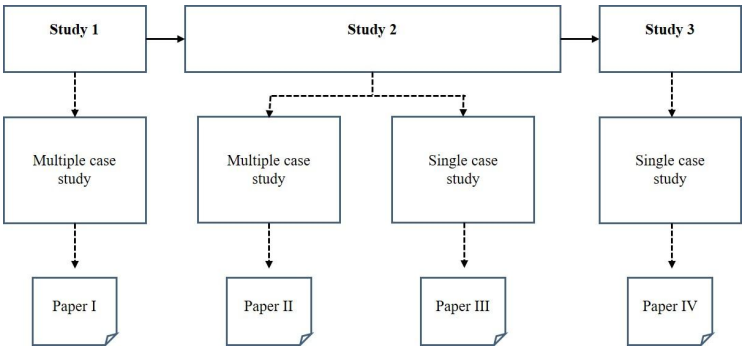

Figure 3: Overall research structure of the thesis.

As mentioned above, I identified the travelling TPO during my first study and my ambition with this thesis became to explore this phenomenon. Since doctoral theses have a certain degree of uncertainty and are explorative in nature, my approach to studying the travelling TPO has shifted over the course of my studies. Table 3 provides an overview of my unit of analysis in each paper, including how I define the BM I study and how I define changes to it. My stance has gradually shifted from focusing on the case company's BM to focusing on the organizational members shared and various interpretations of their BM. What implication this has is reflected upon in the subchapter *Reflection on methodological choices and limitations.*

Table 3: Overview of the unit of analysis in the appended papers.

	Paper I	Paper II	Paper III	Paper IV
Unit of analysis	BM development.	Learning process in joint venture for bringing BM to new contexts.	The process of adapting a BM to a new context.	The process of adapting a BM to a new context.
My conceptual definition of a BM (based on e.g. Chesbrough, 2010)	Value proposition: *what value does the company offer its customers?* Customer interface: *how does the company relate to its customers?* Value creation and delivery: *how does the company create and deliver value?* Revenue model: *how does the company capture value?*			
The BM I study	Case companies' BM.	The BM as an outcome of a learning process in a joint venture.	Case company's BM as a shared interpretation evolving over time.	Case company's BM as shared and diverse interpretations evolving over time.
How I define changes to the BM	Changes to at least one of the four constructs above.	BM changes was an outcome of the learning in the joint venture.	Changes to at least one of the four constructs above.	Changes to at least one of the four constructs above.

Following the process of engaged scholarship

Inspired by the research process of engaged scholarship (Van de Ven, 2007), my dissertation research builds on iterations of the four steps:

- Problem formulation – situating the topic or phenomenon in reality
- Theory building – develop conceptual models related to the problem
- Research design – empirical study to test or develop theory
- Problem solving – communicate and apply research findings

At an early stage of each study, the research team I have been part of has set up an initial meeting with key informants of the case firm(s) and other stakeholders (e.g. industry experts), to situate the problem formulation in reality. This has felt as an important step in conducting research relevant outside academia. In line with the second step, I have iteratively and continuously explored a rather wide range of theoretical perspectives (a selection of which are outlined in the introduction) relating to my empirical phenomenon of a travelling BM. The third step, research design, is unique for each appended paper and is elaborated on in the following subchapter. On a

general level, Van de Ven (2007) proposes four forms of engaged scholarship design: 1) informed basic research, 2) collaborative basic research, 3) design and evaluation research, and 4) action/intervention research. In the two first forms, the research purpose is to describe/explain while in the last two it is to design/control. Moreover, in form one and three the researcher examines the problem as an outsider, while in form two and four the researcher is an internal participant. Although informants and stakeholders have been involved in all stages of my research, the studies in this thesis followed an informed basic research design (descriptive/explanatory purpose with the researcher as an outsider). Van de Ven recommends this form of design to PhD students since it is the form in which the researcher has most control over project timeframe and how the research evolves. Finally, the problem-solving phase has included reporting on findings in papers and this thesis, as well as conference presentations. All papers have been accepted to, and presented at, at least one management conference (e.g. CINet conference, EGOS, and Academy of Management Annual Meeting). I have also been a member of two doctoral research schools, the Research School of Management and IT and ClimBEco, during my time as a PhD student. As a student in the Research School of Management and IT, I have presented and discussed my research twice a year and received generous travel funds. The research results have also been presented outside academia at industrial conferences, in panel discussions, in national news and at involved case companies. Parts of the research have been funded by the Swedish Energy Agency, and our results have been reported back to them regularly. I have also co-authored a paper arguing for the importance of academic research being both rigorous and relevant. Applying a critical discourse analysis to the relevance literature, we illustrate the importance of individual scholars reflecting upon how they contribute to research being rigorous while relevant and accessible to society (Bäckström & Ahlgren, 2018).

Qualitative case studies

A case study is a choice of what to be studied rather than a choice of methodology and can be of both quantitative and qualitative nature (Miles, Huberman, & Saldaña, 2014; Stake, 2000; Yin, 2011). A qualitative case study approach is motivated when the research interest is an unexplored phenomenon in the real world. To gain a better understanding of the complexities of the phenomenon that is being explored, it is studied in its real-life context (Yin,

2011). Since the objective is to develop a detailed understanding of the case, rich and thick empirical descriptions of the phenomenon at a certain point in time, or over time, is sought after (Gioia, Corley, & Hamilton, 2013; Langley, 1999). This is done by studying one, or a few, cases among many in depth (Stake, 2000). Based on these rich narratives, concepts are developed through theorization (Gioia et al., 2013).

Case sampling in qualitative research is seldom random and statistical, but should not be entirely personal. Stake (2000) identifies three types of cases: the intrinsic (the case itself is of interest), the instrumental (the case provides understanding of something else) and the collective (multiple cases) case. Similarly, Yin (2009) suggests a number of rationales behind a single case study including the critical case, the extreme or unique case, the representative or typical case, the revelatory case and the longitudinal case. In practice, Silverman (2013) argues that case sampling should be purposive and theoretically grounded meaning that we choose our cases carefully on the basis of what we intend to study. Stake (2000) further points out that cases are to be specific bounded entities, meaning it is possible to identify what features are within the case and outside the case respectively. Moreover, Stake (ibid.) argues that the opportunity to learn from a case (i.e. deep access) is of primary importance, more important than variety within a purposive sample. Multiple case studies are a type of a case study design, allowing the results to be more robust since the researcher can make analytical comparisons. The additional cases (to the single case) are selected according to replication rather than sampling logic, and the replication is either literal or theoretical (Yin, 2009). Still, each case within the study follows a single case study procedure. It is only after within-case analysis that the cases are compared in so called cross-case analysis (Miles et al., 2014).

In contrast to quantitative research, qualitative research is not statistically generalizable. Rather, qualitative researchers strive for analytical generalizability of their findings. This means that the act of generalizing from one case to another is based on matching the results with underlying theory (Miles et al., 2014). Yin (2011) argues that this is done in two steps: 1) researchers relate their results to already existing theoretical concepts and how they shed new light on these, and 2) theoretical results are applied in other studies where other researchers find them relevant. This emphasizes the importance of choosing a case on conceptual grounds that can be generalizable in as broad a context as possible. Moreover, it sheds light on the importance of

ensuring trustworthiness, for your arguments to seem reasonable and for other researchers to believe in them and potentially develop them.

Internal validity, external validity, reliability and objectivity are measures to achieve trustworthiness according to some qualitative scholars (Eisenhardt, 1989; Yin, 2009). However, proponents of the naturalist view have suggested replacing these with measures more suitable to their inquiries (Lincoln & Guba, 1985). Confirmability, transferability, dependability and credibility are the four new measures proposed. To achieve *credibility*, prolonged engagement with the field, triangulation, peer debriefing and member checks are some of the recommended techniques. Triangulation is nearly mandatory for all types of empirical research. Its basic meaning is to support a finding using three independent sources, and by showing that the three sources converge, the credibility of the findings strengthens. When the findings are inconsistent, Miles et al. (2014) suggest we should take a closer look on the issue. It may be a call to question the data collection methods or the data themselves. However, it may also disclose anomalies in the phenomenon that we study. Data can be triangulated by using different sources, collection methods (interview, questionnaire, observation), and multiple investigators (Lincoln & Guba, 1985). The researcher establishes *transferability* by providing the thick descriptions necessary for other researchers to conclude whether the findings are transferable or not. *Dependability* relates to qualifying the process of the inquiry and therefore relates to credibility. Finally, to ensure *confirmability* the researcher shows that the interpretations are grounded in data rather than being interpretations of the researcher.

This thesis is a compilation of papers based on case studies. As mentioned previously, a case study approach was considered suitable since the research topic was an unexplored and contemporary phenomenon for which a deeper empirical understanding was needed. In what follows, I will elaborate on the research design, data collection and data analysis for each paper in this thesis, including a reflection on the trustworthiness of each step. The reader is directed to each separate paper for even more detailed descriptions of the methodology and to appendix 1 for a full list of interviews. During my five years as a PhD student, I have gained increased understanding and knowledge regarding how I want to relate to methodology when pursuing the craft of qualitative case study research. Hence, I also intend to show the “methodological journey” I have been on throughout my thesis work. I reflect on my methodological choices and their limitations in the end of this chapter.

Research design and case selection

Paper I is a comparative multiple case study to explore BMs for solar energy in two leading high-income markets (Germany and California). It was indicated in the literature that BMs are context dependent and vary across countries and markets (Baden-Fuller & Haefliger, 2013; Boons & Lüdeke-Freund, 2013; Hart & Milstein, 1999). BMs for solar energy in Germany and California were suitable for comparison since the conditions in the two markets were different (e.g. solar energy incentives and market regulations). Two case companies were selected on each market. In California, the case companies were two of the so-called solar service firms that had developed over the last decade. In Germany, two new types of BMs growing out of drastically decreased incentives were selected. We identified all cases through snowball sampling, by talking to industrial experts and reading reports.

Paper II is a collective case study based on three cases within one case of a joint venture for bringing the TPO to new markets. Joint market entry in three European markets with different market conditions make up the three cases. In this paper, the interest was in understanding what influences the learning outcome of a joint venture between an "emerging David" (a solar energy start-up) and a "greening Goliath" (utility incumbent) in a joint venture for sustainable transformation (Hockerts & Wüstenhagen, 2010). This can be seen as an intrinsic case (of multiple cases), since there are few if any similar cases to be studied.

Paper III was designed to explore what happens with a BM (the TPO) as it is brought to a new market context. This question had been raised by other scholars studying BMs for solar energy (Overholm, 2015; Strupeit & Palm, 2016) and for BMs on a more general level (Baden-Fuller & Haefliger, 2013; Boons & Lüdeke-Freund, 2013). The initial idea was to conduct a comparative case study, but limited cases to select from to start with and denied access resulted in a single case study design. The case can be seen as an intrinsic case, since there were few cases at the time of companies establishing the TPO in Europe.

Paper IV was designed to extend the findings in Paper III, that the phenomenon of bringing a BM into a new context could be seen as business model translation. In this sense, Paper III could be considered a prestudy phase of Paper IV (Swedberg, 2012). At this point, BM scholars had acknowledged the need for further empirical research on how firms adopt new BMs, especially the micro-level processes involved (Evans et al., 2017; Foss & Saebi, 2017). The Swedish regional utility seemed like a purposeful case in regard to my

theoretical underpinning and there was once again only a handful cases from which to choose. It was also deemed valuable to be able to compare the process of bringing a BM into two different contexts: a utility company and a start-up. A single case study design was chosen since I wanted to study the adaptation of the BM in-depth and over time.

As presented above, several precautions have been taken to ensure trustworthiness in research design and case selection. Table 4 provides an overview of how confirmability, transferability, and dependability and credibility (Lincoln & Guba, 1985) has been dealt with in the four papers. A similar table is provided for data collection and analysis in the subchapters below.

Table 4: Trustworthiness in research design and case selection.

	Paper I	**Paper II**	**Paper III**	**Paper IV**
Confirmability	Snowball sampling through experts. Grounded in BM and BMfS literature.	Case(s) identified during fieldwork for Paper III. Grounded in literature on BMs, alliances and sustainable transformation.	Case identified in Paper I and through industry experts. Grounded in BM and BM for solar energy literature.	Case identified through media and industry experts. Grounded in theoretical findings of Paper III, and BM and translation literature.
Transferability	Instrumental multiple case study.	Intrinsic multiple case study.	Intrinsic single case.	Purposive single case.
Dependability and credibility	Representative case selection within purposeful group.	Intrinsic case selection with multiple subcases.	Intrinsic case selection.	Instrumental case selection within purposeful group.

Data collection

Data are organized pieces of information in the form of numbers, words or images and how you collect data depends on what you intend to study (Yin, 2011). Qualitative interviews resemble a conversation between a researcher and an interviewee and each interview is therefore unique. Although guided by research questions of thematic character and research guidelines, the researcher has no strict question protocol to follow (Stake, 2000). The aim is to understand how the interviewee relates to the underlying research themes

and to listen on several levels, e.g. listening to what is being said and being observant of other forms of communication, becomes an important aspect (Yin, 2011). Interviews are preferably triangulated by documents and observations. Which documents and observations to include in a study needs to be an active choice made by the researcher. Emotional impressions of the researcher should also be noted and part of the data material. Below, my approach to data collection for each study is outlined, and Table 5 presents how data collection was carried out to establish trustworthiness

Paper I was based on data from the specific case companies as well as data on each market in general. First, we wanted to gain a better understanding of each market by going through publicly available documents (e.g. web pages, reports, and media), talking to industry experts and visiting events addressing potential solar energy customers. This step also helped us to identify suitable case companies. The case interviews were semi-structured following a guideline based on the four constructs of our BM definition (presented in Figure 1), and how they had changed over time. We also asked questions about the market and company in general. Our aim was to understand how the case companies had changed their BM over time in relation to changes in the companies' business environment. In each market, we also met with existing solar energy customers to get their perspective.

Paper II included data from both the start-up and the MNE utility in the joint venture that was studied, and publicly available documents about the joint venture (e.g. press releases, company websites and daily press). The interview guideline was based on the four constructs of the BM, and how these differed from or resembled each other in the three markets. During our interviews, it became evident that how the two companies talked about their joint venture was very different, and that there seemed to be certain conflicts. This made us explore the partnership more closely and how the two companies influenced the joint venture. Although semi-structured interviews made up the primary source of data, additional types of data (e.g. internal presentations, informal conversations, and project reports) were collected to triangulate the findings. To get an overview and general understanding of the three geographical energy markets, we collected public reports and set up interviews with energy consultants and industry experts.

For Paper III, data were collected during three visits at the Dutch start-up company, which allowed observations to be part of the data material in addition to interviews and documents. The members of the top management team were

interviewed during all three visits, following a guideline based on the four BM constructs and how they had evolved over time. The intension was to explore the process of bringing the TPO into a new market context. While we visited the company, we also had the chance to engage in conversations with various employees about the company, their BM and method of working, which provided us with a richer and more nuanced understanding of the company's BM. In addition to external documents (e.g. press releases, and web sites) we got access to Power Point presentations, posters, sales material etc. A majority of the interviews were tape-recorded and transcribed verbatim, and the researcher(s) took detailed notes during and after the remaining interviews, and on observations throughout the visits.

For Paper IV the majority of the data was collected during two, one-week visits at the company, allowing observations, interviews and documents to be part of the data material. In this paper, I wanted to dig deeper into the shared and various meanings that the employees associated with the process of bringing the TPO into the company. I also wanted to understand how the BM had been adapted through the actions (or non-actions) of people. The BM concept and the translation perspective guided the interviews, but the emphasis was on the interviewees' interpretations of how the new BM had emerged. Prior to the fieldwork, I collected and analyzed publicly available data on the company and their new BM. During my visits, the focus was on a small group of employees ("Small Team") responsible for developing the TPO internally, but everyone considered to play a role in adapting the new BM was interviewed during the two weeks. Moreover, the time spent at the company allowed me to attend meetings, observe the daily life of the members of "Small Team", and get involved in casual conversations with various employees. These data were complemented with written documents (e.g. internal presentation, newsletters, and intranet access). During my second visit, I had two focus groups, one with the members of "Small Team" and one with a larger group.

Table 5: Trustworthiness in data collection.

	Paper I	Paper II	Paper III	Paper IV
Confirmability	Multiple sources: reports, interviews, media and press coverage.	Multiple sources: reports, interviews, documents, media and press coverage.	Multiple sources: interviews, documents, observations, press and media coverage.	Multiple sources: interviews, documents, observations, focus groups, press and media coverage.
Transferability	Detailed description of the case contexts and case companies.	Detailed description of the case contexts and joint venture.	Detailed description of the case context and company.	Detailed description of the case context and company.
Dependability and credibility	Thick descriptions of the market contexts and case companies.	Thick description of the two case companies, the BM and the joint venture.	Rich and thick narrative of how the new BM was adapted. Three field visits.	Rich and thick narrative of how the new BM was adapted. Four field visits in total.

Data analysis

Data analysis is a central activity in qualitative case studies. As Stake (2000) puts it: "qualitative case researchers orient to complexities connecting ordinary practice in natural habitats to the abstractions and concerns of diverse academic disciplines" (p. 440). This is both a logic and creative activity, for which the researcher should be able to read up on to in detail. The first step in the analysis process is to become familiar with the data through initial reading, coding and write-ups (Yin, 2011). As part of the next step, Miles et al. (2014) present various ways to structure the data analysis, for example by creating matrixes of different kinds. Software tools such as Nvivo allows the researcher to perform these tasks automatically. When studying phenomena over time and posing "how-questions", as done in Paper III and IV, process data are being analyzed. In her classic paper on how to theorize from process data, Langley (1999) concludes that process data consists of events, activities and choices and the sequence of these over time. To detect patterns in this kind of data she suggests seven strategies for sensemaking, for example, writing narratives and visual mapping. Gioia et al. (2012) nicely illustrate the process of abstracting process data, from action coding and staying true to the data, via second level categorization, and onto third level themes. When conducting process studies, it is essential to show how something evolves and changes over time, rather than how certain inputs lead to certain outputs (Langley, 1999; Van de Ven,

2007). Below, my approach to data analysis for each study is outlined, and Table 6 presents how data analysis was carried out to establish trustworthiness.

For Paper I, we first analyzed each case separately by coding data relevant to any of the four constructs of the BM, as well as contextual information considered important. First, the two researchers did this individually, followed by a collective analysis in which agreement was sought after. The analysis of each case was compared to a "base case" in each market created from existing literature on BMs for solar energy in California and Germany. Against this base case, we could see how the case companies had developed their BM. After within-case analysis, we did cross-case analysis, comparing both cases within the same market and between markets. This allowed us to detect how variances within the same market and differences between market contexts influenced BM development.

For Paper II, the work of analyzing the data started informally in discussions between the two researchers involved in the fieldwork after visits and interviews at the two case firms. The formal stage of the analysis was guided by a framework based on previous alliance literature, consisting of six factors influencing the learning outcome of an alliance. Field notes and write-ups of the development in the three markets were analyzed and coded based on these six factors, and the researchers asked themselves: *what factors influence the learning outcome of the alliance*? The individual analyses were discussed during case analysis meetings, in which consensus between the researchers was sought after, and conclusions from the data were drawn. Based on how the two companies acted, and how it influenced the outcome of the joint venture, a model emerged illustrating different directions in which a joint BMI venture can develop.

For Paper III both researchers started analyzing the data in discussions during field visits. After the first field visit, a case narrative and a process flowchart (i.e. timeline) were created (Langley, 1999). Throughout this stage of analysis, the results were related and compared to various theories, and eventually we found that a translation perspective resonated with our empirical data. Hence, for the second round of interviews, the interview guideline included a translation perspective. When all data were collected, I coded the interviews for actions related to changes in the BM. This allowed me to see patterns in the narrative over time, and to distinguish what external conditions and internal actions related to what changes. This was an iterative process between seeking abstract patterns and going back to the empirical data.

For Paper IV, the analysis was ongoing and especially intense between and after the two longer field visits. Between the visits, the collected data were analyzed to reveal any interesting themes in the data and to understand where to dig deeper. At this stage, a process flowchart was created, which I presented and got feedback on during my second week at the case company. After all data had been collected, it was action coded using the software tool Nvivo. In parallel, a case narrative was created and checked with the case company. As a second step, the actions related to the emerging BM were categorized in line with a translation perspective and the phases of the "travel of ideas" model. The coded data, in combination with the case narrative and the process flowchart, were creatively explored and a process model evolved. The model illustrates three mechanisms and three factors that enabled the translation process.

Table 6: Trustworthiness in data analysis.

	Paper I	**Paper II**	**Paper III**	**Paper IV**
Confirmability	Triangulation among multiple sources (informants) and methods (e.g. interviews and press realeases). Data analyzed by two researchers.	Triangulation among multiple sources (informants) and methods (e.g. interviews and documents). Data analyzed by three researchers. One researcher not involved in data collection acted as "critical outsider".	Triangulation among multiple sources (informants) and methods (e.g. interviews and observations). Data analyzed by two researchers.	Triangulation among multiple sources (informants) and methods (e.g. interviews and documents). Data analyzed by two researchers. Only one researcher involved in data collection.
Transferability	Extensive within and across case analysis.	Extensive within and across case analysis.	Extensive process data analysis to create narrative.	Extensive process data analysis using Nvivo to identify reoccurring themes.
Dependability and credibility	Triangulation (see confirmability). Peer debriefing.	Triangulation (see confirmability). Peer debriefing.	Triangulation (see confirmability). Two field visits allowing for debriefing with key informants. Peer debriefing.	Triangulation (see confirmability). Debriefing with key informants at the case company. Peer debriefing.

Reflection on methodological choices and limitations

In hindsight, there are of course things I would do differently in terms of the research design of the overall thesis and the individual appended papers. Moreover, the methodological choices I have made imply certain limitations. In this subchapter, I reflect on these choices and some of the limitations of the research.

My overall research design emerged gradually over the course of my PhD studies. This has allowed me to follow my empirical phenomenon as I gathered data and learned more about it. A more strict research design could have been beneficial in some ways. It could have created support for me as a PhD student to return to when I was struggling to find my way forward. It would also have made me reflect on the research design for each paper at an earlier stage, and how the papers created a coherent whole. At the same time, I see the benefits of a more emergent research design. In my case, it has allowed me to "follow my data" and make choices to be able to further develop the concept of business model translation. Moreover, one of the primary goals during PhD studies is to learn and develop your research skills. An emergent research strategy allows for continuous development and modifications to the research approach over time.

One methodological limitation is the gradual shift of my unit of analysis over the four appended papers. When I initially decided to study BMs for solar energy, I assumed that I could capture the entire BM by focusing on the four components of my definition, and that I studied "the one and only business model" of each firm. As I started to study the travelling TPO from a translation perspective, this view gradually changed. I realized that the BM of one firm could be interpreted, understood and communicated in many different ways. Hence, my understanding of a BM took on a sense of ambiguity, as referred to by Doganova and Eyquem-Renault (2009) and Boons and Lüdeke-Freund (2013). From being a formal and conceptual representation of how a firm organizes, "my" BM became an adaptable device that enabled actors to organize themselves in a change process. By circulating inside and outside the organization, the BM created a network of actors, stimulated to arrive at multiple interpretations and motivated to take actions that eventually led to the BM being enacted. This shift evidently has consequences for what it is that I study and what research questions I can pose. It also limits the comparability across the four papers in the thesis. Still, I can discuss the challenges included in adopting a BM - as a model - and make it fit a new context from different

contextual perspectives. This is elaborated on in the contributions and discussion chapter.

In Paper III, my initial intent was to study the process of bringing the TPO into a new market. When plausible theories seemed insufficient to explain my findings I wanted to explore a translation perspective. However, limited access to the case company made it difficult to collect data on shared and various interpretations of adapting the BM to a new context. Rather, the data was restricted to shared meanings of the business modeling process involved. This made it difficult to develop a translation perspective in Paper III fully. The event made me ensure data access at a very early stage of the third study leading to Paper IV.

Building on case studies, the primary source of data in this thesis is collected through interviews. This also implies certain limitations. Although it is my experience that interviewees like to share their experiences in interviews, in the end they decide what they want to mention during the conversation. Most likely, they will not bring up things that put them in a bad light, and they might even have a hidden agenda. Another aspect of interviewing is that the interviewees might want to please me as an interviewer. In my case studies, the interviewees knew I was interested in sustainability and BMs for solar energy. This probably made it more difficult to share negative opinions about solar energy and sustainability in general. During my PhD studies, I have also reflected upon and improved my interview skills. It requires skillfulness to cover the predefined research themes while making the interview resemble a conversation, and at the same time listen on several levels.

Over the course of my PhD studies, I have also made different choices in regard to data analysis. For Paper I and Paper II, the researchers developed and coded write-ups of the data. For Paper III and Paper IV, each interview was transcribed verbatim and action coded. For Paper IV the software tool Nvivo was used. Although it is easier to get "lost in the data" when starting the analysis with a transcription of each interview (and other data), I believe it made me stay closer and more true to the data. It also created a thicker and richer account of the case when writing it up. To first develop write-ups is of course less time consuming, and did create room for creatively seeking patterns in the data. A strict coding scheme made the process of reaching abstraction levels in the data more time-consuming and mentally cumbersome. It might also inhibit the researcher from "listening to the data". Using a software tool to analyze the data created a very good structure and made it easy to re-code and move around codes over time. It also made it easier to share the coding

with other researchers and included numerous analysis tools. However, to an even higher degree than “paper coding”, it felt more mechanical and it was more difficult to grasp the bigger picture.

As mentioned in the introduction, sustainability incorporates environmental, societal and economic perspectives. In this thesis, the empirical focus has been on BMs for solar energy. This does not mean that the BMs and organizations that I have studied are sustainably organized. For example, their supply chains were more or less sustainable and their employee policies were more or less socially sustainable. In my case studies, I have observed that some firms embraced a sustainable mission on a broad scale while others saw the solar energy market as just another entrepreneurial opportunity. Still, they all contributed to an increased production of renewable energy and a transition of the energy industry. They created sustainable value (renewable energy) and decreased the value being destroyed (by reducing the dependence on fossil fuels). Although I started as a PhD student with high ideals, I have realized that the shift towards sustainability needs to begin somewhere and that each step is important. It is perhaps too much to expect that companies, entangled in the current financial system, to embrace the goals of the Brundtland report over night.

Summary of appended papers

This chapter presents a summary of the four appended papers that make up a part of this thesis. The title for each paper is presented, followed by a brief background, overview of the research design, the results and main contributions. Where in the submission process the various papers are, is outlined at the beginning of the thesis, just after the table of contents.

Paper I

Title: Business model change in dynamic environments – the case of distributed solar energy.

Scholars increasingly recognize that BMs can constitute an important link in transforming high potential, sustainable ideas to marketable, sustainable innovations, thereby contributing to the sustainable transformation of markets and society. Hence, BMs for sustainability can function as a means to overcome barriers to adopting sustainable technologies, such as photovoltaic technology. However, there is a lack of research exploring the dynamics of BMs for sustainability in response to their business environment.

Paper I is a multiple case study exploring BMs for solar energy on the German and Californian markets. It explored relevant drivers for BM change in the business environment and what BM changes they caused. High governmental subsidies had characterized the German market, which paved the way for subsidy-based BMs. However, due to drastic regulatory changes, these BMs became obsolete and, as a consequence, new BMs developed. In California, long-term and stable regulations facilitated the development of new BMs and a lucrative market. However, a number of factors led to a hypercompetitive market with actors rivalling to acquire new customers.

Building on a contingency framework (Saebi, 2015), we analyzed the two market conditions and the types of BM changes they implied. Our empirical

data supported the conceptual framework by showing that in a market characterized by an environmental shift, BMI is prompted for, and in a market characterized by environmental competitiveness BM adaptation is called for. Our study also revealed that the companies focused on different components of the BM in the two business environments. When pursuing BMI, focus was on developing the value proposition and revenue model. On the other hand, when pursuing BM adaptation, focus was on fine-tuning the customer interface and value creation and delivery.

The main contribution of this paper is to increase our understanding of the dynamics of BMs in response to different business environments. This was done by empirically evaluating a conceptual contingency framework presented in previous BM literature. In addition to supporting the framework, we extended it by providing a more nuanced understanding of what BM components are more important to focus on under different environmental conditions.

Paper II

Title: Joint business model innovation for sustainable transformation of industries – a large multinational utility in alliance with a small solar energy company.

Small pioneers and large incumbents can both contribute to a transition towards sustainability. However, in the early stages of an industry's sustainable transformation, new small entrants are more likely to take the lead. By introducing new BMs, these entrepreneurial companies can bring disruptive sustainable technologies to the market and act as change agents. As the market starts growing, market incumbents are usually quick to follow. An alternative route to transforming an industry towards sustainability is through alliances and partnerships between small entrants and large incumbents.

In Paper II, we explored a joint venture between an emergent solar start-up and a large MNE utility with the objective to bring a BM (the TPO) to three European markets. The small firm had developed a service-oriented BM to offer solar panels to private customers. It was based on a digitalized sales process, a network of partnerships, and a sustainable mission to spread solar energy on a global scale. The large firm is an investor-owned energy service provider with a traditional utility BM. They wanted to provide a solar panel

offer to their customers and were interested in the BM developed by the small firm. In return, they offered financial resources and a large customer base in the three geographical markets.

Building on alliance research, the paper developed a theoretical framework for four different modes of joint BMI. Depending on the cooperative or competitive intent of the alliance partners, the learning outcome of joint BMI shifted for each partner. The framework further indicated that six factors – strategic intent, culture, transparency of knowledge, receptivity of knowledge, complementary assets and competing assets – influenced the mode of joint BMI and learning outcome of the alliance. The results showed that although both partners initiated the partnership with a cooperative intent, the large firm shifted to a competitive intent over time. This set the partnership in a "race-to-learn" mode, providing the large firm with a high learning outcome and the small firm with a low one. As the small firm perceived the (new) intentions of the large firm, it became less transparent and shifted to a competitive intent as well.

The main contribution of the paper was an extension of the theoretical framework for alliances by applying it to joint BMI. Within the framework, a race-to-learn mode is an optimal strategy for large firms in a joint innovation process concerning a new technology. A new technology is usually represented in codified form, making it easy for a partner to absorb. However, for a joint innovation process concerning a BM, the incentive for large firms to adopt a cooperative mode should become considerably stronger. A BM is a combination of codified and tacit knowledge, and to absorb tacit knowledge requires more time and a deeper understanding for the BM as a whole.

Paper III

Title: Business model translation – the case of spreading a business model for solar energy.

In several markets, emerging firms have established new BMs to bring photovoltaic technology to the market. In California, the TPO was successfully established during the last decade. With this BM, solar service firms give customers the opportunity to put solar panels on their roofs at a fixed monthly rate, instead of purchasing a solar panel system upfront. In addition, maintenance and guarantees are included for a period of 20 years. This leasing

setup turned out to make it much easier for customers to “go solar” and, over the last years, the TPO has been brought to European markets.

Based on an in-depth case study of a Dutch start-up brining the TPO to the Netherlands, the aim of this paper was to understand the process of transferring a BM to a new market context. One founder of the Dutch start-up was a former colleague of one of the founders of a Californian firm applying the TPO. Through a collaboration with the Californian firm, the Dutch firm gained access to knowledge on how to set up the TPO and specific tools to use in the digitalized sales process. The founders of the Dutch start-up thought it would be a rather straightforward process to bring the TPO to the Netherlands, but it turned out to be difficult in several ways.

Previous literature on solar energy had pointed to potential challenges with bringing the TPO to new markets. This case showed that, in addition to market characteristics, internal organizational factors influenced the process of bringing the TPO to a new market context. Based on their experiences and interests, the founders of the Dutch start-up adapted the original BM to fit its new context. Building on literature on BMs, there are four antecedents of BM design: goals, templates, stakeholders and environmental constraints. Market characteristics led to some adaptation of the BM, such as a leasing offer not being viable on the new market due to regulations and customer preferences. However, the goals of the founders, the template provided by the Californian firm and involved stakeholders also influenced the adaptation process.

The main contribution of this paper was to illustrate how external and internal factors influenced the process of bringing a BM to a new market context. It showed that existing theory provided a limited understanding of how BMs are transferred between companies, markets and industries. The paper suggested that translation theory and the “travel of ideas” model might provide an alternative, emergent actor-oriented perspective on how BMs are brought to new contexts. Building on a translation perspective, the success of the BM is in the hands of the people in the process rather than on market characteristics alone. Their actions, experiences and interests influence how the BM is adapted to fit the new context.

Paper IV

Title: Business models for sustainability – a translation perspective.

Despite the growing interest in BMs, there is a limited understanding in the literature of how BMs are identified as models to follow and brought to new organizational contexts. In this paper, we wanted to understand the emergent process of how a BM that circulates in space and time, ready to be adopted by organizations, is recognized, adopted and adapted to a new local setting.

Through an in-depth case study, we explored a utility company in Sweden that embarked on the adoption of the TPO originally developed in California. The idea was introduced to the company by a Swedish solar energy start-up, and picked up internally by a small group of employees ("Small Team") who believed in the idea. Over time, Small Team managed to get more people engaged and the BM enacted in the organization. Building on a translation perspective, we argued that this involved a continuous process of translation through which actors adapted the BM to its new local setting.

The case revealed that the new BM was enacted in the organization through three translation mechanisms: strategizing, interpreting, and embedding. Strategizing was an activity carried out by the so-called idea brokers (Small Team), who acted as catalysts in the adaptation process. Interpreting involved how the rest of the organization connected with the new BM on a cognitive level. Embedding was to connect the new BM with the organization on a structural level. In addition to the translation mechanisms, our case showed that three factors facilitated the process. The idea brokers acted as catalysts. The sustainability dimension of the TPO functioned as a magnet, attracting people inside and outside the company to engage with the new BM. Testing was an ongoing and iterative activity tying the three mechanisms together and allowing people in the organization to exchange their views on the new BM.

There were two main contributions in this paper. First, it presented a new perspective and terminology on how BMs – as models – spread in space and time. We introduced idea carriers as those actors packaging the BM into an abstract idea that can be brought to new contexts, and idea receivers as the organization receiving the idea and contextualizing it in its new local setting. Second, we presented a model of the translation process including the three translation mechanisms and the three enabling factors. Business model translation illustrates how a BM is enacted on a micro-level when adapted by an organization.

Contributions and discussion

In this chapter, I return to the research questions outlined in the introduction. By answering the two questions, I clarify the findings of and contributions in this thesis and its four appended papers. I further discuss the contributions in light of previous research.

Returning to the research questions

The aim of this thesis is to contribute to an increased understanding of how BMs spread in space and time. In this chapter, I present the key findings and point to the contributions of the thesis and its four appended papers. I further discuss these contributions in light of previous research. The chapter is structured around the two research questions presented in the introductory chapter:

> *RQ1: Why does a business model not work immediately when brought into new contexts?*
>
> *RQ2: How does the process of business model innovation unfold when a business model is adapted to a new context?*

In Paper I, I showed and compared how the business environment influenced the development of BMs for solar energy in two markets. Paper II illustrated that internal factors in a joint venture between a large MNE and a small start-up influenced the outcome of bringing a BM into a new context together. Paper III presented how external and internal factors influenced the process of bringing a BM into a new market and adapting it to the local setting. A translation perspective was suggested as an alternative view on how BMs spread in space and time. Finally, Paper IV revealed how an established organization received, adopted and adapted a new BM through a process of business model translation. Paper I and Paper II mainly contribute to RQ1, while the findings in Paper III and Paper IV relate to both RQ1 and RQ2.

Why does a business model not work immediately when brought into new contexts?

The findings of this thesis showed that there are several reasons for why a BM does not work everywhere and immediately. First, BMs are context dependent and when brought into a new setting they are adapted to the local business environment. Second, in addition to external factors, this thesis showed that a BM is adapted to fit the conditions in its new organizational setting.

All four appended papers showed that regulations and incentives in the local market influenced how BMs develop. Paper I illustrated that regulations and incentives in the local market influenced the business environment, which created the foundation for the BMI process and outcome. Moreover, the findings in this thesis showed that unstable incentives contributed to certain markets being unattractive to enter or to making a specific BM set-up unfeasible. For example, Paper III illustrated that a leasing offer (a central aspect of the TPO) was not viable on the Dutch market due in part to short-term incentives. The findings also revealed how regulations not directly linked to the solar energy market influenced the BM in its new context. In Germany, integrity regulations led to decreased quality of the digital maps used to generate leasing offers (Paper II) and in Sweden, consumer regulations made the original 20-year contract unfeasible and it was shortened to eight years (Paper IV).

In addition to regulations and incentives, the findings showed that local customer characteristics influence a BM brought into a new context. In the Netherlands, rooftops are generally much smaller than in California, which made the upfront investment in a solar panel system more reasonable. Hence, a leasing offer was less attractive than in California. In Germany, customers were reluctant to lease their solar panel systems compared to in California where the "credit mentality" was well established. Hence, the leasing contracts were shorter and more transparent in the German market to establish trust among consumers.

Scholars studying BMs have suggested that changing market conditions is an antecedent to BMI (e.g. Doz & Kosonen, 2010; Teece, 2010). The findings in this thesis showed that this also applies when a BM is brought into a new context with different market conditions. Moreover, scholars studying BMs for solar energy have pointed to the politico-institutional and socio-institutional influences on BM development (Provance et al., 2011). Specifically, it has

been suggested that market characteristics might influence the success of a BM if it is brought between markets (Overholm, 2015; Strupeit & Palm, 2016). The findings in Paper III and Paper IV empirically confirmed this assumption by showing that local market conditions triggered a BMI process and influenced the BM outcome when bringing a BM into a new context. In some cases, to the extent that the value proposition and revenue model were entirely changed (Paper III).

In addition to external political and social factors on the local market, the findings in this thesis showed that internal organizational circumstances influence a BM brought into a new context. Paper II provided one perspective by focusing on a joint venture between a large utility and a small solar energy start-up bringing the TPO to three European markets. The findings showed that the characteristics of the two partners influenced both the outcome of the joint venture and the BM in each market. For example, the BM set-up was adapted to consider already established supplier relations in one market, and to make up for the current reputation of one of the partners on another market. The joint venture eventually ended up in a deadlock, and terminated due to diverging strategic intents between the two partners. These circumstances influenced the outcome of bringing the TPO to new contexts.

The six factors – strategic intent, culture, transparency of knowledge, receptivity of knowledge, complementing assets and conflicting assets – influencing the outcome of the joint venture were identified based on previous alliance research related to technology innovation (e.g. Alvarez & Barney, 2001; Yang, Zheng & Zhao, 2014). The finding in Paper II showed that, in contrast to a technological innovation, the complexity of BMs and the tacit nature of some of their components make the knowledge less straightforward to transfer. Hence, a competitive strategic intent may be more fruitful when a partnership concerns a new technology, which mainly involves codified knowledge. On the other hand, a cooperative intention may be more rewarding when the joint venture concerns a BM, which consists of both codified and tacit knowledge. If entering a competitive mode in the joint venture too soon, there is a risk that the tacit knowledge related to the BM remains un-transferred. There is also a risk that the nature of the joint venture and its partner, including the six factors mentioned above, influence the level and extent of knowledge exchange.

The findings in Paper III revealed that the founders of the start-up bringing the TPO to the Dutch market influenced the process of adapting the BM to its new context. Their experiences led to certain choices, such as initially not bringing

"the way too American" sales process to the Dutch market. In the end, it turned out it worked very well on the Dutch market. The founders' skills and interests further influenced the decision to develop their own software platform rather than using the one provided by the Californian firm. On several occasions, the personal network of the founders played a crucial role in developing the BM further, e.g. to establish partnerships with a number of utilities. Indeed, the personal network of one of the founders gave her the opportunity to collaborate with a Californian firm applying the TPO in the first place, and motivated her to bring the BM to the Netherlands. These findings showed that the abstract and ambiguous nature of BMs allowed the founders to adapt the TPO when bringing it into a new context, both intentionally and unintentionally. Intentional adaptations were made to fit the BM with its new market context. However, adaptations were also the consequence of both intentional and unintentional interpretations, biases and interests among the founders. These findings were extended in Paper IV, which illustrated that a small group of employees adapted and interpreted the abstract representation of the TPO that the organization received. These findings are elaborated on in relation to RQ2.

To sum up, the findings in this thesis have showed that factors on the macro level, firm level and microlevel influence a BM brought into a new context. Therefore, BMs cannot work immediately anywhere. Especially, the abstract and ambiguous nature of BMs allow them to be interpreted and adapted by the actors involved in bringing them into new contexts. This, I argue, is an emergent and actor-oriented process of translation. How this process unfolds is what we turn to next.

How does the process of business model innovation unfold when a business model is adapted to a new context?

This thesis makes two main contributions to answer the second research question. First, by building on a translation perspective, it presents business model translation as an alternative view on how the process of bringing a BM into a new context unfolds. This provides an emergent and actor-oriented dimension to recognizing, picking up and adapting BMs as models to follow. Second, the thesis identifies a number of translation challenges associated with

translating a BM to a new context that the various empirical settings of this research uncovered.

Translating a business model to a new context

One contribution of this thesis is to provide an alternative view and terminology on how BMs spread in space and time as models to follow. By building on a translation perspective and the "travel of ideas" model, this thesis presents business model translation as an emergent view on how the process of bringing a BM into a new context unfolds. In this process, the actors involved play a central role in interpreting and adapting (i.e. translating) the BM. Without their energy and actions, the BM would not spread by itself. First, the original BM is disembedded from its original context and packaged into an abstract idea. At this stage, the BM is translated into a representation on a high level of abstraction, such as a narrative, archetype or graphical illustration (Massa & Tucci, 2013). One function of this representation includes being a "role model" to be followed (Baden-Fuller & Morgan, 2010). This abstract idea travels in space and time with the help of so-called idea carriers. Idea carriers present the BM idea to one or several receiving organizations, in which the abstract idea is unpackaged and reembedded to fit the new context. Figure 4 illustrates how a BM travels from one context to another.

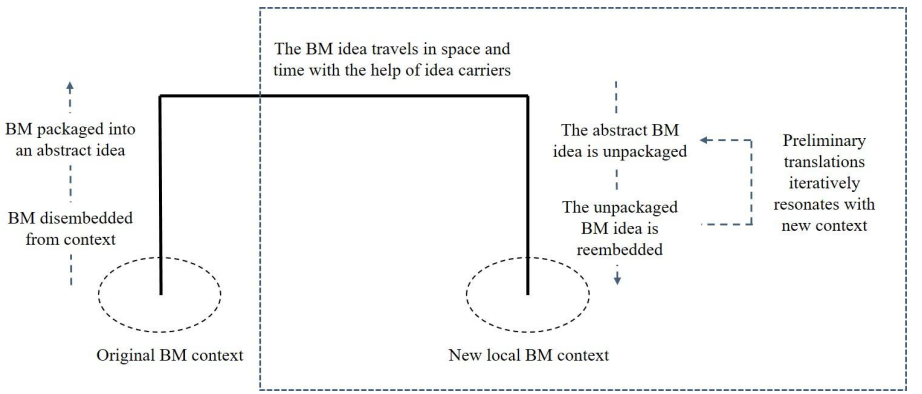

Figure 4: Illustration of how a business model idea travels.

The focus of this thesis has been on the second half the BM's "journey" (as indicated by the dotted square in Figure 4), namely on how idea carriers bring a BM to an organization and how the BM is unpackaged and reembedded by

actors in the new context. The findings showed that unpackaging and reembedding were characterized by an experimentation and trial-and-error learning process, during which preliminary translations of the BM iteratively resonated with the new context. Over time, this led to the new BM being enacted and embedded in its new context. The different empirical settings of the research in this thesis revealed some translation challenges related to 1) receiving and unpackaging, 2) picking up, and 3) embedding a BM in a new context. It is to these challenges that we turn next.

Receiving BMs at different levels of abstraction

One assumption in the "travel of ideas" model is that an idea is disembedded from its original context and packaged into an abstract idea that travels. In the BM literature, Massa and Tucci (2013) suggest that BMs can be represented at several levels of abstraction. In line with their categorization, the findings of this research showed that a BM idea travels in space and time at different levels of abstraction depending on the organizational circumstances. This implied different translation challenges.

In Paper IV, a regional utility received a BM idea presented to them by an idea carrier. This idea carrier was a Swedish solar service firm founded by a former researcher who had studied the TPO in California. Hence, the idea carrier had already disembedded and packaged the TPO into an abstract idea and brought it from California. By starting a business in Sweden based on the TPO, the idea carrier had also done parts of the unpackaging work on the Swedish market (e.g. considering Swedish regulations and incentives for solar energy). However, the BM that the regional utility received was still an abstract representation of an archetype (the TPO) including a narrative, a graphical illustration, a calculation tool and a customer contract. After receiving the BM, the actors in the organization had to unpackage the BM. This included understanding the abstract representation and developing the parts of the BM not delivered by the idea carrier (e.g. designing a customer sales process). It also involved making adaptations to the BM based on choices, interpretations and interests among the actors in the new context. Since the new BM was very different from the company's traditional BM, many employees were quick to question the abstract representation and did not see how it could fit their organization. Therefore, unpackaging was a challenging task performed by a few employees that we called "idea brokers".

In contrast to the more typical relationship between the idea carrier and the idea receiver in Paper IV, the translation process in Paper III did not include an external idea carrier. Since the Dutch start-up collaborated with a Californian solar service firm applying the TPO, a few key individuals in the Californian and Dutch firm were idea carriers. The founders of the start-up visited the Californian firm to study how they operated their business, and managers from California came to the Dutch start-up to share their expertise. Rather than a narrative and graphical illustration, entire processes and systems on a much lower level of abstraction were transferred. This close relationship between the original BM context and the new context implied other translation challenges. By directly receiving detailed knowledge on how to operate the TPO, the Dutch start-up was less free and open to adapting the BM to local circumstances. For example, they struggled for a long time to establish a leasing offer although there were several reasons for the offer not being viable on the Dutch market. They also received an ICT system but received no support adapting it to local differences since the developers in California were too busy. In the end, the founders developed their own ICT system instead.

Similarly, the TPO was transferred between two collaborating partners in Paper II. However, the findings in this paper showed that a competitive strategic intent from the receiving organization resulted in a shortened timeframe of the partnership. Consequently, there was not enough time to translate the tacit knowledge of the BM, while the codified parts were more easily picked up by the receiving organization. Moreover, the development of the joint venture prevented a willingness to openly sharing knowledge. Hence, a BM that travels between two partners in a joint venture can include a varying degree of codified and tacit knowledge on different levels of abstraction, depending on the nature and timeframe of the partnership. These findings point to potential differences in the translation process when it unfolds in a joint venture, a previously under-explored phenomenon in the translation literature (Spyridonidis, Currie, Heusinkveld, Strauss, & Sturdy, 2014).

To sum up, Paper IV showed that when the nature of the travelling BM was more abstract, the translation challenge lay in understanding the BM representation and recreating the knowledge that was not transferred. In contrast, Paper III illustrated that when a BM that travels is represented on a low level of abstraction, the challenge lay in understanding what parts of the BM that need to be adapted to the new context, and being able to make these changes. Moreover, tacit knowledge turned out to be more difficult to absorb and understand than codified knowledge.

Picking up and unpackaging a BM in a new context

Another central aspect of translation and the "travel of ideas" model is that someone needs to pick up an idea for it to travel to a new setting, since an idea has no momentum in itself (Latour, 1986). In Paper III and Paper IV, the findings illustrated how the actions of a few key actors were critical for the new BM to be picked up. In both studies, the translation process could have stopped when one or several actors decided to drop the BM idea by not acting on it.

In paper III, one of the founders was given the opportunity to bring the TPO to the Netherlands by her former colleague and friend who was one of the founders of a Californian solar service firm. This was several years before she actually decided to act on the opportunity, since she initially did not see the potential of either the BM idea or solar energy on the Dutch market. Once she had decided to bring the TPO to the Netherlands, she engaged others to get involved in the start-up and make it happen.

In paper IV, the CEO of the regional utility welcomed the idea carrier to present the BM idea at the company. A few actors in one of the business units immediately saw the potential of the new BM. However, the responsibility for investigating the BM ended up on the corporate level and nothing happened. After one year, the actors who initially liked the BM idea made themselves responsible for developing it in their organization. Throughout the translation process, they acted as "idea brokers". As idea brokers they unpackaged the abstract BM received by the idea carrier. This involved making sense of the abstract representation of the BM, developing the parts of the BM that were not included in the representation and framing the BM for other employees to understand, support and engage with the new BM.

To conclude, both Paper III and Paper IV showed that without the actions of key individuals, the TPO would not have been brought into these two contexts. The findings in both papers further indicated that the actors who picked up and initially unpackaged the BM idea first focused on developing the value proposition to make sure that they could provide a viable offer on the local market. This included ensuring that the revenue model was financially sustainable. Once the value proposition was in place, focus shifted to value creation and delivery, and to developing the customer interface. This work required embedding the BM in the new context and often involved more actors than those who initially picked up and unpackaged the BM.

Embedding a BM in a new context

Yet another central aspect of translation and the "travel of ideas" model is that an unpackaged idea needs to be reembedded in the new context. This involves adapting the idea to cognitive and structural dimensions of an organization. The findings in Paper IV, uncovered the micro-practices involved in embedding a BM in an established organization and the challenges they implied.

Paper IV revealed that embedding a new BM in the context of an established organization was a process of iteratively resonating preliminary translations of the BM with the new context. This was a process characterized by experimentation and trial-and-error learning (Chesbrough, 2010; McGrath, 2010; Sosna et al., 2010) in which the idea brokers played a central role. To stimulate the rest of the organization to engage with the BM, rather than showing resistance toward it, the idea brokers were continuously strategizing. Strategizing included making sense of how to adapt and develop the abstract BM received by the idea carriers, and understanding how to turn it into action. It also involved framing the BM (in narratives, descriptions, images and figures) so that the rest of the organization could understand, support and engage with it. Framing included connecting the BM to the current strategies and vision of the company. Eventually, strategizing led to the rest of the organization connecting with the BM on two levels. First, they connected with the BM on a cognitive level, which motivated them to engage in the translation process. Second, the BM was connected to the organization on a structural level, which involved integrating the BM with current systems and structures in the company. The latter connection often required the involvement of various actors in the organization, and therefore it was important for a cognitive connection to be in place first. Over time, cognitive and structural connections enabled the BM to be enacted in the organization. However, it required loops of iteratively resonating preliminary translations of the BM with the context. The preliminary translations were the result of the idea brokers unpackaging the BM. Their interpretations and adaptations to the BM were experimented with in the organization, which provided new input to the unpackaging actions.

Hence, to embed a BM in an established organization requires both a cognitive and structural connection. Paper IV showed that this was facilitated by idea brokers who unpackaged the BM and strategized to make it possible for the rest of the organization connect with it. It was an iterative process,

characterized by experimentation and trial-and-error learning, of resonating preliminary translations of the BM with its context.

Business model translation in light of previous research

In this thesis, business model translation is presented as an emergent and actor-oriented perspective on how BMs are brought into and adapted to new contexts. Below, this alternative view is discussed in light of previous research related to the phenomenon of a BM that is spread in space and time.

Bringing BMs into new contexts

In contrast to diffusion (Rogers, 2003) and replication (Winter & Szulanski, 2001) theory, a translation perspective sheds light on the importance of individual actions when bringing BMs into new contexts. The findings in this thesis showed that without the initiative of key individuals, the TPO might never have been picked up in the new contexts. Moreover, the abstract and ambiguous nature of the BM (Baden-Fuller & Morgan, 2010; Massa & Tucci, 2013) made it open to interpretation and adaptation as it was translated. Hence, the actors who engaged in the BM continuously adapted it to the new context, which further challenges the assumption within diffusion of innovations theory (ibid.) that innovations remain unchanged as they diffuse. This also challenges the assumption of replication strategy that once a BM core has been developed it can be replicated in large scale in a phase of exploitation (Winter & Szulanski, 2001). Dunford et al. (2010) have acknowledged that when replicating a BM into new markets, the BM is adapted to local circumstances. However, their top-down perspective neglects that all actors involved in the process of bringing a BM to a new context - not only top management - will interpret and shape the BM in its new context.

Spreading BMs between industries, markets and companies

That BMs are spread between industries, markets and companies as abstract models to follow, has been conceptually acknowledged in previous BM literature (Aversa et al., 2015; Baden-Fuller & Haefliger, 2013; Baden-Fuller & Morgan, 2010; Massa & Tucci, 2013; Teece, 2010). Linguistic

representations of these models – narratives, images and figures – create mental models of other organizations' BMs (Baden-Fuller & Haefliger, 2013; Baden-Fuller & Morgan, 2010). These mental models can be used as recipes to be followed or innovated (Baden-Fuller & Morgan, 2010). Some scholars have empirically explored the process of imitating BMs from other industries (Enkel & Mezger, 2013; Roome & Louche, 2016). Although acknowledging the need to adapt the BM to the new context, it is considered one step in a strategic top-down management process (Enkel & Mezger, 2013; Roome & Louche, 2016). From a translation perspective, bringing a BM to a new context is an emergent process of adapting the BM, which is in the hands of people on several levels of an organization. This is not a structured and rational process, in which a new BM is naturally adopted into an organization. Rather, business model translation emphasizes that a BM brought in from outside is initially "alien" to both the context and the organization and needs to be adapted (i.e. translated) to fit in. Throughout this process, all actors engaging in the BM shape and interpret it according to their personal experiences and interests. Moreover, it may be someone else than top management that initially sees the potential in the "alien" BM and decides to act on it.

How new BMs emerge

How new BMs emerge has already been conceptually and empirically explored in the BMI literature. Experimentation and trial-and-error learning have been pointed out as ongoing activities in the BMI process (Chesbrough, 2010; McGrath, 2010; Sosna et al., 2010) as well as in innovation processes in general (Börjesson, Elmquist, & Hooge, 2014). The findings in Paper IV showed that an experimentation and learning process is also necessary when bringing a BM into a new context, since the BM is innovated to fit it. By revealing three mechanisms – strategizing, interpreting and embedding – and presenting a model of business model translation the paper illustrated how actors participate in and influence this process. This actor-oriented perspective is a first step to opening up the "black box" of how experimentation and trial-and-error learning unfolds in an organization. Aversa et al. (2015) have conceptually categorized business modeling into three phases: to cognitively understand a BM, to articulate a BM in a simplified representation and to translate the cognitive BM into a set of activities. A translation perspective and the three mechanisms outlined in Paper IV resonates with these phases by touching upon the need to cognitively understand and articulate the BM, and bringing it into action. In addition, the findings in this thesis highlight the

important role of "idea brokers" in understanding and articulating the BM. A translation perspective also sheds light on how the ambiguity of the BM opened up for multiple interpretations, which facilitated the process of business modeling by overcoming resistance. Finally, the findings emphasized the importance of connecting the BM with the values of the organization to gain support and engagement. This recognizes the importance of the creative and innovative activities that emerge from non-rational and passion-driven pursuits among actors in an organization, as previously sought after by Baden-Fuller and Haefliger (2013).

How new BMs are enacted

A translation perspective further portrays the emergent process of how a new BM is enacted in an organization. Presenting the BM as a market device, Doganova and Eyquem-Renault (2009) emphasize the social aspects of BMI when establishing a stakeholder network of a business venture. By circulating between various actors in the network, the BM of the new venture unfolds. Similarly, the findings in Paper IV showed that a BM brought into an organization as a model to follow circulates inside and outside company boundaries. Throughout this process, actors adapted the BM by engaging in strategizing, interpreting and embedding. Hence, business model translation allowed the new BM to be adapted to and enacted in the organization and its system of activities (Massa & Tucci, 2013; Zott & Amit, 2010). Moreover, a translation perspective adheres to the understanding that the vagueness of a BM, and its openness to multiple interpretations, supports its enactment in an organization (Boons & Lüdeke-Freund, 2013; Doganova & Eyquem-Renault, 2009; Massa & Tucci, 2013). Business model translation shows that the existence of multiple interpretations of the BM facilitates overcoming resistance toward it. Building on an actor-network perspective, Demil and Lecocq (2015) suggest that BMI is enabled by the creation, adaptation and disappearance of artifacts. However, the findings in this thesis indicate that the actor-oriented process of business model translation precedes the crafting of artifacts. Although a part of contextualizing a new BM, artifacts are a consequence of people engaging with the new BM in different ways.

The facilitating role of a sustainable value

The emergent and actor-oriented perspective of business model translation further shows that the sustainable dimension of a BM can play a role in the

process of bringing a BM into a new context. The findings of this thesis showed that the sustainable value associated with the TPO facilitated its spread in space and time in three ways. First, the TPO was presented in media and news as a BM for bringing a sustainable technology - photovoltaics - to the market. Hence, its configuration was suggested as a solution to increase renewable sources and meet renewable energy goals. From a translation viewpoint, ideas that circulate in space and time connected to prevailing ideas and trends in society (e.g. sustainability) become more attractive to pick up (Czarniawska & Joerges, 1996; Lindberg & Erlingsdottir, 2005, 2007). Second, similar to environmental champions in the sustainability literature (Bansal, 2003), the actors who decided to pick up the TPO (the founder of the Dutch start-up and the idea brokers in the Swedish utility) were motivated by the sustainable dimension of the BM and solar energy. Third, when framing the TPO in the organization, the idea brokers connected the TPO to the sustainable vision of the regional utility. This allowed other organizational members to connect with the BM on a cognitive level. According to a translation perspective, one way to make people engage in an idea is to associate it with established ways of thinking inside the organization (Czarniawska & Joerges, 1996; Lindberg & Erlingsdottir, 2005, 2007). These findings show that the value associated with a BM for sustainability can facilitate its spread in space and time by making it more attractive to engage in (Boons & Lüdeke-Freund, 2013). This enabling role of having a sustainable value connected to the BM when engaging actors in BMI has previously been overlooked in the literature on BMI for sustainability (e.g. Rajala et al., 2016; Roome & Louche, 2016).

Implications and future research

This chapter presents this thesis' implications for research and practice. It also suggests paths for future research based on the findings and contributions of this thesis, including the four appended papers.

Implication for research

The research in this thesis has several implications for research on BMs, in particular BMI and BMI for sustainability. By presenting business model translation, an emergent and actor-oriented view on how BMs are brought into new contexts is proposed. It focuses on the central role of actors in bringing, picking up, understanding, interpreting and adapting BMs that spread in space and time. This adds an alternative perspective to how current literature views the process of bringing a BM into a new context. In contrast to a straightforward process of replicating a BM core (Winter & Szulanski, 2001) or diffusing an unmodified BM (Rogers, 2003), business model translation involves multiple adaptation of the BM as it travels from its original context into a new one. Moreover, business model translation provides a compliment to the top-down and rational approach to bringing BMs into new contexts proposed in previous BM literature (Dunford et al., 2010; Enkel & Mezger, 2013). The emergent and bottom-up approach to how BMs are brought into new contexts implied by business model translation has several implications.

First, it shifts the focus from top management to include the actions and non-actions of actors, regardless of level. All actors picking up and providing a BM with energy are equally important in the process of spreading a BM between companies, markets and industries. Herein, idea carriers and idea brokers play an especially important role. The idea carrier(s) can be both external actors and internal actors, which implies different translation challenges. When the idea carrier is external to the firm, the received BM is an abstract representation that needs to be interpreted and a more finely tuned, context-specific understanding

of it needs to be developed. When the idea carrier is found inside the organization, there is risk that the BM is still contextualized in its original setting, which limits the BMs openness to adaptations to its new context.

Second, business model translation is a first step to looking deeper into the important role of experimentation and trial-and-error learning in the BMI process. By focusing on the activities driving business model translation, this research uncovered that experimentation involves loops of iteratively resonating preliminary translations of the BM with the new context. The preliminary translations were the result of the idea brokers' unpackaging of the BM, e.g. interpreting it and developing a more finely tuned and context-specific understanding of it. These translations were presented and communicated to other actors inside and outside the organization. Over time, the iterative loops of translating the BM resulted in actors engaging in the BM, by first connecting with it on a cognitive level and then connecting the BM with the organization on a structural level.

Third, a translation perspective focuses on the microlevel performativity of a BM that is brought into a new context. By circulating inside and outside a company, and undergoing loops of preliminary translations, the BM is enacted in the organization. Hence, the BM is given power as a consequence of collective action and engagement (Diedrich et al., 2013; Latour, 1986) rather than as a cause of the same. One of the findings in this research is that the sustainable value of the TPO enabled a collective engagement in the BM. This implies that the value associated with a BM can entail creativity and innovation driven by passion and non-rational motives (Baden-Fuller & Haefliger, 2013).

Fourth, business model translation points to how the abstract and ambiguous nature of BMs influence the process of bringing a BM into a new context. Throughout the translation process, the ambiguous nature of the BM opens up for multiple interpretations. This makes it easier for actors to adapt and engage with the BM. However, it also implies that certain knowledge might get lost on the way when bringing a BM into a new context. In particular tacit knowledge, which is more difficult to transfer than codified knowledge. The findings in this research indicate that both tacit and codified knowledge is created anew when a BM travels in space and time. In a joint venture, the close relationship might facilitate the transfer of both tacit and codified knowledge. However, the timeframe and nature of the joint venture are critical factors in the translation of tacit knowledge.

Although the aim of this thesis is to contribute to the BM literature, the research findings do have some implications for the translation literature. First, this

thesis explores translation of a BM idea in the context of a joint venture. Under such circumstances, the idea carriers have less room to disembed the idea from its original context and package it into an abstract idea. Hence, different organizational forms, such as joint ventures, can imply that ideas travel at different levels of abstraction. The findings in this thesis illustrated that different translation challenges are associated with BM representations at various levels of abstraction. Second, previous translation literature has related the translations made to ideas to either cognitive or structural aspects in the organization, and to either contextual circumstances or strategic adaptations by actors. The findings in this thesis show that both cognitive aspects and structural differences in the new context can lead to variations of the BM (i.e. the idea that is translated). Moreover, both contextual conditions and the strategic actions among actors influence the translation process. Combining these four perspectives on translation was suggested in a recent review of the translation literature (van Grinsven et al., 2016).

Implications for practice

The research in this thesis has several implications for practitioners. The most vital of these implications are: 1) being aware of the need for local adaptations when bringing a BM into a new context, 2) balancing the level of BM abstraction with space for adaptations, 3) prioritizing communication and relations when adopting a new BM, and 4) recognizing the enabling role of a unifying value. These four implications are outlined below.

First, the findings in this thesis illustrated the importance of adapting a BM to both external and internal local factors when bringing a BM into a new context. Paper III showed that when a start-up brought a BM into a new market, the BM went through a translation process during which the BM was adapted to the local business environment and shaped by the actors involved. Paper IV illustrated that a BM picked up by an established firm also went through a process of translation. A few champions ("idea brokers") adapted the new BM to external circumstances, their own interests and existing organizational conditions. Through framing, they made the abstract BM understandable to the rest of the organization. Strict replication or diffusion strategies (Rogers, 2003; Winter & Szulanski, 2001) neglect this need for adaptations to the local business environment and the impact that local actors have on how the BM develops. Hence, this research implies that MNEs bringing a BM to new

markets and firms adopting a new BM from another company, market or industry, should consider differing market conditions and their impact on the BM. They also need to be aware that the actors involved in bringing a BM into a new context will adapt the BM according to their experiences and interests, eventually influencing the BM outcome and potential success. The tacit knowledge of the BM is especially easy to "loose" or re-interpret along the way, which means it will be constructed anew in the new local setting.

Second, the research highlighted the role of idea carriers when bringing a BM into a new context. Typically, idea carriers bring an abstract BM idea to a receiving organization (as in Paper IV). The challenge then becomes to understand the BM and turn it into action in the new context. The findings in Paper II and Paper III indicated that the role of the idea carrier is different in joint ventures, which posed other challenges in the translation process. In the context of a joint venture, the boundaries between idea carrier and idea receiver are not as well defined. The BM idea is not necessarily disembedded from its original context and packaged into an abstract representation before it is brought into a new context. Rather, the BM that travels is a combination of an abstract BM idea and context-specific knowledge and operations. This research showed that this facilitated the transfer of a more finely tuned, context-specific BM, but it also complicated the adaptation to the new context since the BM created less room for interpretations. Hence, it becomes important for managers bringing a BM into a new context to balance the BM's level of abstraction and the room for local adaptations. Paper II shows that it requires a longer timeframe to transfer tacit knowledge, leaving the receiving party with only codified knowledge if the timeframe is too short. Managers should be aware that the complex and tacit nature of BMs make them more complex to transfer in a joint venture than e.g. technological innovations, and adjust their strategic intent and timeframe accordingly.

Third, the key role of individual actors in the translation process implies that communication and relations are important to consider. In Paper IV, a few key individuals ("idea brokers") made sense of and framed the new BM to communicate it in the organization. Over time, this allowed actors in the organization to connect with and engage with the new BM, despite initial resistance to it. Allowing organizational members to first connect with a BM on a cognitive level made it easier to involve them in connecting the BM to the structures and systems of the organization. This implies that the role of idea brokers is critical when adapting a BM into a new context. Their work can be facilitated by continuously establishing strategic relationships with actors that

they believe are important to have "onboard" at different moments in time. Moreover, top management can play an important supporting role when the resistance toward the new BM and the idea brokers grows too strong. When resistance hinders the translation process, top management can take on an "interpreting" role, facilitating the communication between individual actors, as well as different functions and units. Although the soft aspects (e.g. communication and relations) need attention and support, this research showed that top management tended to focus on the hard aspects (e.g. systems and structures) of the translation process.

Fourth, the findings of this research highlighted the enabling role of sustainability as an organizational value anchored in the company vision and strategy. In the process of bringing the TPO into new contexts, the sustainable dimension of the BM attracted actors to engage with it. In the established company (Paper IV), the sustainable dimension of the new BM legitimized it and made the BM more difficult to openly criticize and resist among the employees. Moreover, the internal champions (the "idea brokers") were motivated to drive the adaptation of the BM due to its sustainable value. At the same time, the ambiguity of the BM allowed individual actors to interpret the sustainable dimension of the BM slightly differently. The sustainable dimension also created a legitimate reason to support the BM although the underlying and personal reasons for supporting the BM sometimes deviated. To facilitate the process of bringing a new BM into an organization, managers and internal champions should link the BM to organizational values. They should also consider maintaining some of the BM's ambiguity since it allows for multiple interpretations and facilitates the translation process.

Avenues for future research

Based on the findings in this thesis there are a number of interesting paths for future research to follow.

First, the concept of business model translation has been developed based on two single case studies of companies bringing a BM for solar energy into a new context. Additional case studies of travelling BMs are needed to elaborate the findings in Paper III and Paper IV. For example, it could be a fruitful path to study business model translation of other BMs in other industries and between other markets. It could also be useful to gain increased knowledge on the earlier stages of the translation process that this thesis puts less focus on

(as indicated by the dotted square in Figure 4). For example, by investigating how BMs are disembedded from their original context, and packaged into abstract representations that can travel in space and time.

Second, the findings in this thesis indicate that business model translation involves different components of the BM at different stages of the process. In Paper III and Paper IV, the actors involved in translating the BM first focused on the value proposition and revenue model of the new BM, and later on value creation and delivery and customer interface. One strength of the BM concept is that it offers a range of components to look at and the connectedness between these components. Hence, a more in-depth understanding of which components are important to consider at different points in the process of business model translation is suggested as an interesting avenue for future research.

Third, in this thesis the sustainable dimension of the empirical phenomenon plays an important role in the translation process as a value that motivated actors to pick up and adapt the TPO to new contexts. It could therefore be useful to explore travelling BMs and the process of business model translation driven by other dimensions such as digitalization, globalization and urbanization. For example, how these dimensions influence the work of idea brokers in driving the business model translation process, or how these dimensions legitimize a new BM if connected to the organizational values of the firm. These global trends might influence the translation process in other ways than sustainability did in this research.

Fourth, this research focused on an organization translating a BM brought in from outside and business model translation within a joint venture. It would be interesting to explore the process of bringing a BM into different market contexts within a firm pursuing internationalization. Recent empirical findings indicate that MNEs tend to only evaluate a BM locally before replicating it in several markets, which leads to unsatisfactory results (Fallahi, 2017). Moreover, previous BM literature has explored internationalization as a process of BM replication (Dunford et al., 2010). A translation perspective would provide an emergent perspective on internationalizing a BM, shed light on adaptation made to local conditions, and emphasize the role of local actors interpreting and shaping it. It would recognize that a BM is initially alien to a new context and that local actors play a central role in picking it up and adapting it to make it fit its new contexts.

Fifth, there is a need to explore the black box of BM experimentation further, and the trial-and-error learning associated with it. This thesis provides some

insights on the micro-processes and practices involved when experimenting and learning while innovating a BM. Future research could explore whether the same processes and practices play out when the BMI process emerges from within the company, as opposed to receiving and adapting a BM idea from the outside. It could also be useful to explore the different roles actors take on in the experimenting and learning process and how a new BM influences the existing dynamics of formal and informal roles in the organization. A more nuanced understanding of experimentation and learning on a microlevel would highlight how organizations overcome barriers to BM innovation, and the shift toward new BMs.

Finally, this research has a firm-level perspective on business model translation. BMs circulating in space and time can be picked up by several companies over time, and can be conveyed between markets and industries. It could be useful to explore how travelling BMs in general, and for sustainability in particular, influence the transformation of an industry on a systemic level. It has been argued in previous research that the scaling up of start-ups and the transformation of established firms are equally important for a shift towards sustainable industries (Hockerts & Wüstenhagen 2010; Schaltegger, Lüdeke-Freund, & Hansen 2016). To explore how the spread of BMs in space and time create opportunities and barriers for such a shift could indeed be an interesting path for future research.

Concluding remarks

This chapter summarizes the main contributions and implications of this PhD endeavor and therein concludes five years of doctoral studies.

This thesis contributes to an increased understanding of how BMs spread in space and time. The findings show that BMs are highly context dependent and that both external market conditions and internal organizational factors influence BMs that are brought into new contexts. A main contribution of the research is that it focuses on the actors involved in bringing and adapting a BM into a new setting. In addition to considering local market conditions, they shape the BM according to their experiences and interests. Inevitably, this means that the process of bringing and adapting a BM to a new context is different each time.

In line with this actor-oriented perspective, this dissertation presents *business model translation* as an alternative way to view the phenomenon of a travelling BM. In contrast to the top-down and rational approaches of replication, imitation and diffusion of BMs, business model translation considers an emergent perspective that acknowledges the actions and processes among actors regardless of level. Throughout the business model translation process, a BM is translated between different levels of abstraction. First, it is translated from its original context into a representation at a high level of abstraction that can travel in space and time. When brought into a new context, this abstract representation of the BM is again translated into a more fine-grained, context-specific representation. Through interpretations and adaptations among the actors in the new context, the BM is created anew to be enacted in its new setting.

A translation perspective introduces idea carriers as those actors spreading a BM idea and idea receivers as those organization that receive a new BM. Idea carriers transfer BM representations at high levels of abstraction from place to place, while idea receivers contextualize the BMs they receive. The abstract and ambiguous nature of BMs involves certain challenges and opportunities when bringing a BM into a new context. By opening up for multiple

interpretations and adaptations, the BM is easily shaped to fit its new context. However, the findings in this thesis also showed that the ambiguity of BMs allow them to travel at different levels of abstraction depending on the relation between the idea carrier and the idea receiver. The level of abstraction at which the BM is represented when it travels implies different translation challenges.

By uncovering the micro-processes and practices involved in adapting a BM to fit a new organizational setting, this thesis also sheds light on how organizations experiment with BMs. The findings show that the actors picking up a BM in a new context - the so-called idea brokers - are central in the business model translation process. Through experimentation and trial-and-error learning, these actors create preliminary translations of the BM that iteratively resonate with the context. In an established organization, this connects the BM with the rest of the organization on a cognitive and structural level. The empirical phenomenon of this research (a travelling BM for solar energy) also highlights the role of sustainability as a unifying value and enabling factor in the business model translation process.

With these concluding remarks, this final chapter of the thesis is coming to an end. It unavoidably means that my journey as a doctoral student is approaching its final destination. During my time as a PhD candidate, I have learned that as a researcher nothing is ever finished. Rather it is either a question of choosing to conclude something, or responding to deadlines set by others. At an early stage, my supervisor Jessica Lagerstedt Wadin advised to create a personal deadline for my doctoral studies by setting a date for my defense. I found June 1 2018 a good date since it was the start of a new month and a Friday. Since then I have learned a lot about conducting research, BMs, sustainability, and perhaps above all myself. Now, I am ready to embark upon new journeys, as a researcher and on a personal level.

“Now this is not the end.
It is not even the beginning of the end.
But it is, perhaps, the end of the beginning”

Winston Churchill

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Appendix

Appendix 1. Interviewees in the four appended papers

Paper I
2 industry experts, Germany
4 industry experts, California
4 solar energy customers
2 managers/founders at German TPO
2 founder of German Smart Grid
1 manager at California Horizontal
2 managers at California Vertical

Paper II
Vice president innovation portfolio management
2 renewable team members, one joint venture contact person
Sales manager
European solar energy coordinator
First six interview for Paper III

Paper III
3 interviews with founder, former CEO, Chief mission officer
2 interviews with International executive director
2 interviews with CEO
1 team member, lead generation
1 sales representative
1 team member, after sales

Paper IV
2 interviews with corporate business developer
3 interviews with each member in Small Team (four members in total)
1 interview with corporate CEO
2 interviews with strategy and innovation manager
1 interview with business administration manager
1 interview with customer service manager
1 interview with renewable energy manager
1 interview with solar panel installer
2 interviews with project leaders
1 interview with sales representative
1 interview with customer service representative
1 interview with marketing representative
1 interview with representative from other business units
1 interview with founder of idea carrier