Business model resilience in the context of corporate sustainability transformation

Author: Alexandra Palzkill-Vorbeck
Wuppertal Institute for Climate, Environment and Energy

Abstract

The transition to sustainability will not work without rebuilding the economy, i.e. changing its concrete production and consumption patterns. These changes are essentially triggered by corporate strategies (e.g. Sommer, 2012; Stubbs & Cocklin, 2008). Sustainable business models can be caused by transitions at different corporate levels and the paper will discuss the major challenges for the implementing pioneers. For incumbent companies the conservation of their structure and their identity is particularly important to continue being successful. Considering that the necessary changes may be wide-ranging and substantial, the major challenge is to identify ‘resilient’ transformation strategies for corporate business models.

In socio-ecological research Resilience generally means the capacity of a system to adapt itself to processes of change and to shape these processes at the same time without compromising the structure and identity of the system itself (Holling, 1973; Walker et al., 2004).

Similarly, business modell resilience can be understood as the ability of companies to adapt their business models in the face of external pressure (e.g. market pressure), without losing their identity built on its core business model or its brand.

To analyze such resilient business model transformations towards sustainability, the Multi-level-Perspective on sustainability transitions (MLP) (Geels, 2012; Grin et al., 2010) will be adapted, in order to conceptualize companies’ scope of action in existing unsustainable structures.

The hypothesis is that business models are not indefinitely flexible, but in most cases more resilient than assumed. It is proposed in this paper, that the scope of action for companies to change their corporate strategies towards sustainability should be discussed under the broader framing of business model resilience. A Resilience approach has not been applied to the study of companies and their business models, yet. However, joining the resilience approach and the MLP together could be useful to better understand companies’ scope of action for self-directed transformation processes within established regimes and, more generally, it might provide new insights for strategic management research.

However, an empirical basis is needed, in order to classify different types of business model transformation and draw conclusions with regard to their resilience. Exemplified by the fast food industry the paper will develop such an empirical framework.

Keywords: Resilience, Business Model, Transformation, Transition to Sustainability
1. Introduction

Although the ‘Limits to Growth’ (Meadows et al., 1972) are being discussed since 1972, global environmental pressure is continuously growing. Recent environmental studies confirm that we should stay within the ‘safe operating space for humanity’ (Rockström et al., 2009: 472), in order not to overstep planetary boundaries.

Since the transition to sustainability will not work without rebuilding the economy, i.e. changing its concrete production and consumption patterns, it is also interesting to analyze how this could be managed. Therefore, it is important to explicitly focus on influencing incumbent companies. Due to their power and the fact that they translate needs into concrete products and services, the rebuilding of the economy will essentially be triggered by corporate strategies or at least will hardly be possible without it (Sommer, 2012; Reichel & Seeberg, 2011; Lüdeke-Freund, 2009; Stubbs & Cocklin, 2008).

Despite of improved technology and innovations of many products and services, a change in (almost all) important sectors, like transport, energy or food, is still needed (van den Bergh et al., 2011). This includes not only a change of the technological production patterns (like technology, infrastructure, knowledge), but also a change in norms, cultural values and in consumption patterns (Geels, 2011; Elzen & Wichorek, 2005; Geels & Kemp, 2012; Grin et al., 2010).

In order to enable the reduction of environmental pressure in this way – thus enabling a transition – an interplay of strategies of efficiency (‘doing things in a better way’), consistency (‘doing things differently’) and sufficiency (‘doing fewer things’) (Stengel, 2011; Linz et al., 2002) and a substantial shift in the deep and underlying structure of the socio-technical system is needed (Elzen & Wieczorek, 2005: 651; Geels & Kemp, 2012: 49; Grin et al., 2010: 2 f.; Kemp & Loorbach, 2006; Meadowcroft, 2009; Rotmans & Loorbach, 2010; Shove & Walker, 2007).

Efficiency and consistency are macro- and micro-economic basic principles that can easily be linked with economic theories, at least in principle (in practice there is in fact still a considerable need to realize the full potential of efficiency- and consistency-oriented measures). Sufficiency, which according to Sachs (1993) and Sachs et al. (in progress) implies principles of ‘smaller’, ‘slower’,

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'subsisted’ and ‘short-distanced’ seems much more difficult to imagine on a macro-economic level (Paech, 2012; Kallis, 2011; van d. Bergh, 2011; Jackson, 2011; Latouche, 2009) and in particular on a firm level – in theory as well as in practice (Schneidewind & Palzkill, 2011; Reichel & Seeberg, 2011; Reichel et al., 2010; Paech, 2005; Bakker et al., 1999). According to the prevailing view, firms appear only to be interested in increasing their own production, revenues and profit margins as well as satisfying customer needs. However, severe environmental damages caused by firms are not reflected in monetary costs and thus, are not considered in their revenues and profit margins. So, many aspects of the exceeded planetary boundaries are outside their consideration. This promotes a systematic and structural overuse, which is due to the externalization of environmental costs and a lack of ‘involving’ firms monetarily.

However, considering the internalization of these external costs, in order to reduce environmental pressure and allowing firms to stay within the safe operating space, causes fear of companies losing their competitiveness, their profit margin, etc. as a direct outcome. So, for a transition to a sustainable economy, ways have to be found to fit the principles of sustainability (including sufficiency) and profitable business cases together and identify the respective scope of action for firms to transform themselves. Even though the constructions of current corporate structures are characterized by trajectories, it can be shown that the development of these structures are to some degree even contingent (Fichter et al., 2010: 72): The emergence of the ‘new economy’ has shown that massive, previously unimaginable, changes in business models are possible and that it is even possible for companies to modify given structures (Zott et al. 2011; Osterwalder, 2004; Dubosson-Torbay, et al. 2002; Afuah, & Tucci, 2001; Amit & Zott, 2001; Gordijn & Akkermans 2001, Weill & Vitale, 2001, Timmers, 1998; Daft & Lewin, 1993).

1.1 The multi-level perspective as the primary analytical framework

In order to understand and manage sustainability transitions, different approaches have been developed (see van den Bergh et al., 2011). One of them is the multi-level perspective (MLP): it describes transitions as an interplay of developments across three analytical levels: the level of landscape, which is the exogenous, given ‘environment’; the level of regime, which reflects the norms and values of the established socio-technical system; and the niche level, where radical innovations are initiated (Geels & Schot 2010; Kemp & Loorbach, 2006; Rotmans & Loorbach, 2010; Rotmans et al. 2001). Thus, a transition will take place when the current regime gets under pressure and increasing landscape pressure or new powerful niche-innovations create windows of opportunity to change the established regimes.

Following Geels (2011) and Geels and Kemp (2012), socio-technical ‘systems are tangible and measurable (as artefacts, market shares, infrastructure, regulations, consumption patterns, public opinion), regimes are intangible and underlying deep structures (as engineering beliefs, heuristics, rules of thumb, routines, standardized ways of doing things, policy paradigms, visions, promises, social expectations and norms)’ (Geels, 2011: 31; Geels & Kemp, 2012: 56 f.; Markard & Truffer, 2008: 605).

Based on Giddens (1984), the three levels of the MLP can be characterized by the ‘hierarchy of structuring processes’ (Smith et al., 2010: 6). They have ‘similar kinds of structures, but are different in size and stability’ (Geels & Schot 2007: 402). While in the regime stable norms and rules apply, stabilizing the established trajectories and influencing regime actors’ scope of action a lot, niche actors have more options, because the rules and norms are ‘unstable’ and ‘in the making’ (Geels & Schot 2007: 402) and not yet established (Smith et al., 2010: 7). So the lack of guiding structures and norms provides niche actors the chance to being innovative and successful (and change the regimes).
However, acting in niches means also acting in uncertainty, e.g. of being successful to penetrate and change the regime and thus involve risks (Geels, 2011: 27; Smith et al, 2010: 7).

So, for all actors – also for companies – the degree of structuration (Giddens, 1984) has an impact on the possible scope of action. This scope of action in structural changes depends on the degree of uncertainty and risks, which the firms could bear or are willing to bear.

This could help focus the question of how much we could expect from companies to manage a transition to sustainability, or, more accurately, what they are actually able to do – apart from the question of what they want to do. This is important to understand and differentiate, because only when considering firms’ actual scope of action, the development of sustainability management approaches can be more than a desirable dry run (Schneidewind, 1998: 14)).

Therefore, the paper will try complementing the heuristic of the MLP, which aims ‘to guide the analysts to the relevant questions and problems’ (Geels, 2011: 34), with the social-ecological resilience approach and the business model approach, to describe how ‘resilient’ business model of environmental frontrunners can be – and whether they can be at all.

2. Business Model Resilience

2.1 The concept of resilience in social-ecological research

Due to a high level of uncertainty regarding ecological tipping points, many ecosystems and social-ecological systems are faced with the challenge to survive and maintain their systems not knowing what they have to expect. Considering this uncertainty, future trajectories of social-ecological systems are also determined by the resilience of these systems. Resilience is defined as ‘the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks’ (Walker et al., 2004: 2). Therefore, resilient systems are able to maintain their essential ‘system services’ and increase the probability of survival of the social-ecological systems and their services, even under uncertain conditions (Fichter et al., 2010: 24).

To specify this vague concept, Walker et al. (2004) suggest four general aspects of resilience (1) Latitude, (2) Resistance, (3) Precariousness and (4) Panarchy.

According to Walker et al. (2004), Latitude describes the ‘width of the basin of attraction’ (p.2) and the diversity of options for the system. These options characterize the different opportunities for the system to maintain its system services. Resistance characterizes how difficult or easy it is for a system to change and thus the system’s capability to develop and learn. The distance to tipping points and the probability to exceed them – therefore the urgency to change – is described by the Precariousness of a system. Finally, Panarchy describes how dependent the system is from other (threatened) systems and how ‘cross-scale interactions’ (ibid: 6) look like.

Thus, it is important in how far a system is able to maintain its system service, how dependent it is on other systems (Panarchy), how close to important tipping points it is (Precariousness), how easy the system could be changed (Resistance) and how many opportunities for change a system has at all (Latitude) (ibid: 7). So, the resilience of a system could be increased by addressing these four aspects.

Depending on the concrete design and implementation the resilience approach can be described as a structurally conservative concept (because every system (service) should be maintained’), but it is always a normative concept (because ‘these system (services) should be maintained’). It is noteworthy that ‘resilience is not always a good thing. Sometimes change is
desirable, - generally at larger scales, and then effective management requires overcoming the resilience in the system to precipitate change at these scales’ (ibid: 5).

Furthermore, there is never an absolute certainty for a system to survive all shocks and changes, even if the resilience of a system is rather high. As a matter of fact, there is no concrete degree of resilience that guarantees a system’s persistence to all shocks (Fichter et al., 2010: 15).

However, resilient systems have a better chance to manage pressure against the background of evolving uncertainties.

2.2 The concept of business model

The concept of business model has been discussed extensively in the mid-1990s, due to the rising of the ‘new economy’ (Zott et al. 2011; Osterwalder, 2004; Dubosson-Torbay, et al. 2002; Afuah, & Tucci, 2001; Amit & Zott, 2001; Gordijn & Akkermans 2001, Weill & Vitale, 2001, Timmers, 1998; Daft & Lewin, 1993). As a new unit of analysis it should help to understand and describe the development and success of these new types of firms.

Despite of the many publications about the concept of business models (1,177 articles in peer-reviewed journals since 1995 (Zott et al., 2011: 1019), the term of business model is often used to describe different phenomena and without a clear definition (Zott et al., 2011: 1022; 1043)

Indeed this is one of the reasons why the concept of business models is often criticised to be unreflective and unclear (Shafer et al., 2005). Also, the failure of many internet start-ups increased the scepticism of the concept since they presented the most analysed cases (Nemeth, 2011: 65ff).

Nevertheless, a precise and clear concept of business model as an holistic unit of analysis, which integrates traditional strategic concepts (like marked-based view concepts (Bain, 1962; Porter, 1981; Porter, 1985) and resources-based view concepts (Penrose, 1959; Wernerfeld, 1984; Barney, 1991; Amit & Schoemaker, 1993; Barney, 1996)), has the potential to map the degree of structuration and the scope of action of a firm. A holistic framework is needed, which describes the relevant system, in which a firm operates, i.e. landscape factors and niche developments as well as the regime or the underlying deep structures. Thus, departing from the MLP, the framework in need should include a more elaborate perspective on firms and markets as the relevant system in which they operate.

Despite of the many different existing definitions (for an overview see Zott et al., 2011: Tabelle), there is a large agreement that ‘the business model is not a value proposition, a revenue model, or a network of relationships by itself; it is all of these elements together.’ (Zott et al., 2011: 1025). Thus Timmers (1998) describes business models for example as ‘(1) an architecture for the product, service and information flows, including a description of the various business actors and their roles; and (2) a description of the potential benefits for the various business actors; and (3) a description of the sources of revenues.’ (ibid: 4).

Therefore a business model is composed of a model-like characterisation of essential aspects of the value-adding activities and there utility for all stakeholders. This could be summarized in three main aspects: the value proposition of a firm with regard to the offered goods and services; the architecture of the added value, which includes the value chain but also the relevant stakeholders and target groups and the key-resources and processes to generate the value proposition and the financial logic of the firm (Stähler, 2001: 41). In addition, all these aspects are perceived as being embedded in the business environment (Sommer, 2012: 67ff).
However, the business model of a firm does not describe a business strategy in itself. But it provides the possibility to think about central questions which goes beyond the agreement of the value chains, like: what is the real value proposition of the firm or what are the essential given shared mental models (Schlegelmilch et al., 2003; Denzau & North, 1994) and underlying deep-structures (Hamel, 1996; Geroski, 1998; Hamel, 1998; Markides, 1998; Kim & Mauborgne, 1999).

2.3 Business model resilience as an analytical framework

To implement sustainable strategies in firms, a focus of the main aspects of value proposition, architecture of value added and financial logic, is needed. Thus to match the concepts of resilience and business model, in the first step, it is important to identify which (social) utility the business activity creates. In a second step, it must be analysed how the value proposition for the stakeholders, which could be defined as the respective maintained ‘system service’ of the firm, could be created in different ways (by utilizing current resources and processes and the suitable financial logic).

Hence, for a real transition to a sustainable economy it is necessary to obtain certain system services, i.e. the value proposition (like supplying mobility or nutrition) but in a more sustainable and resilient way. Whether and how a company can survive such a reconfiguration of the business model depends on the capability of the firm to manage internal and external change and pressure in a resilient way or the ‘ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments’ (Teece, et al., 1997: 516.); i.e. without losing their internal consistency (Floortje et al., 2011: 9). So for successful companies this conservation of their structure and especially their identity – e.g. as a brand – is particularly important to continue being successful. In the following, it will be argued that resilient sustainable business models could be built in an active and a passive way.

2.3.1 Passive business model resilience

Passive business model resilience should recognize the externally given market pressure and the current deep structures of the respective regime, i.e. the basic logic how a market functions. Since a transition will take place when regimes get under pressure by increasing landscape pressure or new powerful niche-innovations. Passive business model resilience could focus on how resilient an incumbent could react to such increasing landscape pressure (like rising oil prices) or competitive threats by the emergence of sustainable niches. Thus, companies with resilient business models would be able to maintain their ‘system services’ in cases where they build strategies to be prepared for the worst and most probable landscape pressures and emerging niches (e.g. by using Porters (1980) generic strategies). Firms need the ability to combine and use specific capabilities and resources – so specific assets – to be able to react quickly to a changing environmental (Teece et al., 1997; Penrose, 1959).

However, as companies are faced with great uncertainty, it is not always easy for them to identify the worst and most likely risks affecting them. This can result in spending time and money on unnecessary risks, which are not occurring in the end, or the firms are faced with unexpected risks, a firm might not be prepared for.

So, passive business model resilience is a reactive approach. It includes capabilities, such as learning new skills, coordinating and integrating present resources and skills, as well as reconfiguring and transforming present resources (Nemeth, 2011: 52).
However, in order for a firm to include more sustainable or sufficiency strategies in its business model, there has to be external pressure, like increasing oil prices or emerging organic food trends, which has severe and direct impact on the company, because it does not react to perceived risks alone.

Unfortunately, the reality shows that in current regimes other kind of pressure on companies are much more relevant (e.g. because they can externalize environmental costs). Thus, there is the possibility that non-sustainable strategies of companies are quite resilient because external incentives for sustainability simply do not exist from the point of view of the firm.

2.3.2 Active business model resilience

The second way to achieve sustainable resilient business models is not a reactive, but an active strategy. It is recognized that there are given market pressures and given deep structures, but it is also recognized that firms have a certain scope of action; thus, they are not only structure-reproducing agents, but there is also a structure-building role of firms (Schneidewind, 1998; Schneidewind & Petersen 1998). So, active business model resilience focuses on the deep structure of a regime and the question on what are resilient ways for firms to include sustainable (including sufficiency) strategies in their business models against these marked pressures – even in situations where no substantial landscape pressure or emerging sustainable niches exist.

The basic requirement for companies is to able to remain in the market and generate their value proposition. For this reason incumbents are often shying away from change and have an interest in preventing new sustainable trends and innovations, in order to solidify their status and position and reproduce the regime. Otherwise, they are quite capable of adapting or initiating change, even under short-term destabilization of their own market power (Floortje et al., 2011: 7; Hill & Rothaermel, 2003; Arend, 1999).

That it is possible that new business models transform socio-technical systems as well as the underlying deep-structures is shown by successful examples like Apple, Ikea and Dell.

With regard to transitions this implies that there are two options for firms; either to keep away from or constantly react to niche innovations and landscape pressure (passive business model resilience) or to be pioneers and initiate change by themselves and fully utilize their available scope of action (active business model resilience).

An active resilience approach increases not only the resilience of the business model, but also the resilience of the entire human-environment system (by including sustainable and sufficiency strategies in the business model proactively and before there are strong external incentives) and therefore should be identified and promoted.

According to the four criteria of a resilient system identified in social-ecological resilience research, a firm could develop an active resilience business model guided by the following heuristics:

1. Define the respective system service (or value proposition)

   In order to increase the resilience of the business model, the first step is to determine the relevant maintained ‘system service’ of the firm – consequently including the question of what the specific contribution to the prosperity of society is. Even if the following steps will not be performed, defining the own value proposition could be very instructive to the companies and could already have effects on corporate strategies. At best the definition of the value propositions is developed in cooperation with all stakeholders by determining which system service is important and indispensable for whom (Fichter et al., 2010: 26).
2. **Identify the diversity of the options to create the value in a different, sustainable and – if necessary – in a sufficient way (Latitude)**

If the system service has been defined, the firm has to figure out, if there are different ways of satisfying the respective needs. Depending on the system service, the company has to find new innovative – and sustainable – ways to fulfil their value proposition. Firms should focus on its unique effects, strategies of smaller, slower, subsisted or short-distanced.

3. **Identify how near or far away the economic tipping points are (Precariousness)**

Of course, fulfilling the value proposition in a more sustainable way will not change the importance of essential economic indicators – like revenues or profit margins – but could provide a more open perspective on corporate aims. A company will not reconfigure its business model to an extent where it will not be competitive anymore. So, a risk assessment of the worst and most probable pressures and deep structures, which impede the new strategies and could attack the new business model – therefore the economic tipping points – has to be carried out.

4. **Identify how fast or slow the new strategies could be developed (Resistance)**

If and how fast a company can reconfigure the way it creates value (and maybe the whole value proposition) is already related to the desired level of change (e.g. are the necessary changes related to the production or product level or of the level of consumer needs (for the different levels see e.g. Schneidewind, 1995) and the firms ability to learn (Teece et al, 1997). It should be carefully assessed how much structural change a company and its stakeholders could absorb effectively, how fast this could be done, and whether radical or more incremental changes are needed (Fichter et al., 2010: 22).

5. **Identify the dependence and the interaction with other systems (Panarchy)**

Because many companies are organized and act in corporate networks (Williamson, 1991; Sydow, 1992), the dependencies and interactions between the network operators have be taken into account. The dependence and interaction of the company with other (sub-) systems of the regime is important. So for some companies a weakened or strong finance sector, for example, is particularly relevant for the success of reconfiguring the business model in a resilient way.

In the next chapter, the analytical framework that was developed as a heuristic to conceptualize a potential increase in active business model resilience will be applied to the fast food sector.

**2.4 Business model resilience in the fast food sector**

Nutrition has become a considerable driver of increasingly exceeding some planetary boundaries (e.g. climate change, nitrogen and phosphorus cycle, change in land use). For example, about 20 percent of the total material flows of Germany are caused by the food sector (Mathews et al. 2000). The agriculture accounts for more than 13 percent of the German total greenhouse gas emissions (Hirschfeld et al., 2008).

Considering that there is continued population growth, change in world-wide eating habits (with increasing consumption of meat and dairy products) and the development of a western lifestyle-
oriented global middle class (Foresight, 2011; Koerber et al., 2008), the use of resources in food production and the resulting environmental pollution and emissions will continue to rise.

Broad societal trends, such as the rise of single households, due to urbanization and individualization, flexibility of labor and time constraints, further contribute to an increasing consumption of convenience products and fast food (Koerber et al. 2008; KPMG, 2012).

Especially in the classic fast food sector – often characterized by products with high meat and fat components – promotes thereby environmental (but also health) problems.

For this reason, the heuristic for increasing active business model resilience will be tested in the case of the very sensitive fast food sector:

1. **Define the respective value proposition (or system service)**
   First of all, the fast food company has to define its system service, which should be maintained. How important this definition is from a sustainability point of view is shown by the different possibilities and wide range of potential definitions: Whether the system service is seen as providing (healthy) nutrition in a ‘fast way’ or as selling meaty burgers has a decisive impact on social prosperity as well as environmental pressure.

2. **Identify the diversity of the options to create the value in a different, sustainable and – if necessary – in a sufficient way (Latitude)**
   If the system service is defined as providing ‘good food fast’ (McDonald’s Deutschland, 2012), the company has to control, if it meets this value proposition based on the current business model and product ranges. It is not enough to introduce efficient processes or shift the production processes to renewable energies. Providing good (thus healthy and sustainable) food for companies in the classic fast food sector means that they have to consider sufficiency strategies. Particularly from an environmental point of view (e.g., high energy and land use, high emission of greenhouse gases), but also from a health point of view (high caloric value with low nutrients), it is necessary to reduce meat consumption, e.g. by a limited meat product range and increased vegetarian offer. An interesting example in this respect is that even Mc. Donald’s experimented with the introduction of Veggi-Burgers (Stumböck, 2012) or with completely vegetarian restaurants (Simons, 2011).

3. **Identify how near or far away economic tipping points are (Precariousness)**
   How near or far the economic tipping points are, depends on different conditions, e.g. the type of enterprise, in which market it is acting, how powerful the firm is and how competitive it is. Focusing on incumbent firms, the worst case could be losing market leadership. However, the large companies often have enough monetary resources to be able to experiment with different strategies. They can test a number of innovations without fearing immediate negative impacts on its market share.

   A change of the product range could be a risk profit margin and lead to lower revenues just like any other innovation. How well and long a company can handle this, has to be estimated empirically in individual cases.

4. **Identify how fast or slow the new strategies could be used (Resistance)**
   For large firms a large resistance and low internal capability of change may often be a greater problem than economic tipping points - especially if the change means not only a transformation at the product and process levels. For fast food enterprises, which have
focused on selling burgers or other very unsustainable products so far, it is very difficult to change because they have to change not only the whole product range, but also the current internal consistency and self-defined system service (to deliver ‘good food fast’ for example). Since large firms are often characterized by structural inertia and also have to consider various stakeholders with different grades of power, it is difficult to internalize changed strategies.

What happens when there are substantial conflicts regarding the ‘right’ strategy among important stakeholders can be shown by the example of Pepsi: The CEO Indra Nooyi has tried to change not only the product range, but also to reconfigure the whole business model by restricting the commercials of thickeners (including Pepsi-Cola), investing in new social internet networks and offering whole grain snacks, yogurt and fruit juice. In the end, the business model transformation from a soft drink manufacturer to a provider of healthy nutrition has failed, which was mostly due to internal reasons of different opinions about the transformation and infightings (Hage, 2012).

5. Identify the dependence and the interaction with other systems (Panarchy)

Some food crises (like BSE or swine fever) have shown how strong the (fast) food industry is depending on upstream value chain levels. Such crises could promote a resilient transformation of a business model. The specific dependence and interaction with other systems of a fast food company have to be analyzed empirically in the individual cases.

3. Discussion: the potential of the analytical framework of business model resilience

The proposed framework for analyzing the scope of action of business in current regimes may be a fruitful heuristic for identifying and promoting ways of increasing the resilience of companies, as well as human-environment systems.

Since the transition to a sustainable society, which is required in order to stay within planetary boundaries, will not work without incumbents firms, it is important to involve them in the transition and find ways that avoid threatening their resilience.

However, current successful companies will only take responsibility for the necessary transition, if their success is not endangered by the transition and if they can avoid losing their core structure and identity – allowing them to continue to fulfil their system service. On the one hand, it is necessary for a company to keep in mind landscape pressure and niche innovations (passive business model resilience). On the other hand, it has been shown that companies are not only structure-reproducing, but also structure-building actors (Schneidewind, 1998; Schneidewind & Petersen, 1998). There are also possibilities to improve business model resilience in an active way – at least in theory.

On an analytical level it seems that – even in very unsustainable sectors, such as the fast food sector – there is scope to increase the latidude, the resistance, the panarchy and the precariousness of an business model in an active – and sustainable – way.

However, here are some critical aspects that need to be considered:

- In determining the firms’ system service or the value proposition it is very important that in this process all stakeholders are included. Without the involvement of all relevant actors, a mismatch between the stakeholders is possible and likely and the company's success is endangered by a lack of support for the (new) identity of the company shared by all stakeholders.
To be truly sustainable and stay within planetary boundaries, it is often not sufficient to consider only efficient technologies and processes for identifying a different and sustainable way to fulfil the value propositions. Greater emphasis should be put on sufficiency innovations and strategies – e.g. smaller, lower, subsisted or short-distanced – even if they are difficult to integrate with the current logic and strategies of the companies.

The speed of the transformation of business models has to be adjusted to the respective firms, the business situations of them and their specific assets and capabilities (Amit & Schoemaker, 1993; Teece, 1997). Too rapid transformations may endanger the companies’ resilience, because it is not possible to build needed capabilities or evaluate the individual experimental developments and to internalize learning processes.

The dependencies and interactions with other systems – maybe even resulting from the transformation of the business model itself – must always be kept in view, in order to enable a flexible and resilient reaction at all times.

However, in order to evaluate the active business model resilience of companies, of course more than a theoretical analysis is needed. It requires future empirical tests, which are still pending.

4. Conclusion

It was the aim of this paper to develop an analytical framework for studying the scope of action of incumbent firms in the regime. For that purpose, several theoretical approaches – the multilevel perspective on sustainability transitions, the social-ecological resilience approach and the concept of business models – have been introduced and discussed. Comparing these approaches has resulted in an integrated framework for describing the scope of action of business and how resilient an environmental frontrunner can be.

This framework focuses on two different ways in which a more resilient business model can be generated. Passive business model resilience is a reactive way to increase the resilience of a firm. Transformations towards more sustainable business models depend on external pressure on landscape or niche level, e.g. increasing oil prices or emerging organic food trends, which has severe and direct impact on the company, because it does not react to perceived risks alone.

The second way is to increase a firm’s active business model resilience, so that the firm is not only structure-reproducing, but also a structure-forming actor. According to the four criteria of a resilient system identified in social-ecological resilience research, a firm could develop an active resilience business model guided by defining its respective system service (or value proposition), its latitude, precariousness, resistance and panarchy.

The short example of the fast food sector has shown how this framework can help to identify sufficiency-oriented innovations and strategies for a company in a resilient way. This is not to say that there will in fact be a transition towards a more sustainable fast food industry – but a potential and possibilities could be demonstrated.
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