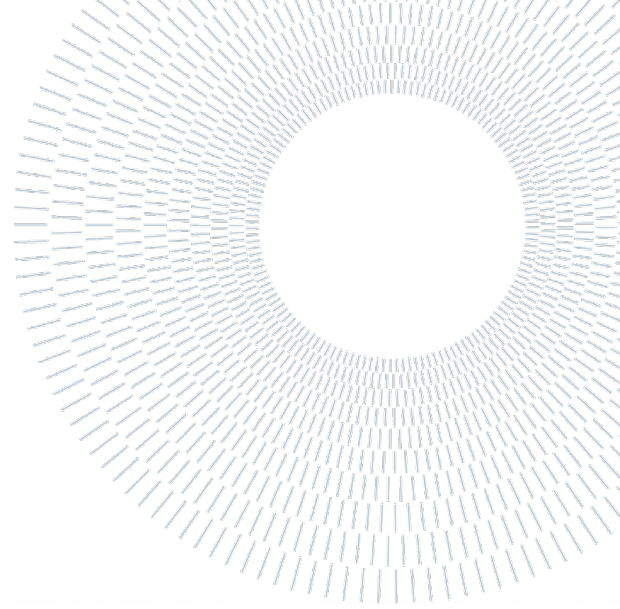




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EXECUTIVE SUMMARY OF THE THESIS

A framework for investigating Innovation and Institutional Change: the case of Sustainability

Master of Science MANAGEMENT ENGINEERING & PRODUCT SERVICE SYSTEM DESIGN

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1. Introduction

“It is not the strongest of the species that survives, nor the most intelligent. It is the one that is most adaptable to change” (Mogale, 2018). This simple principle of Darwin's evolutionism is as true in nature as in the economic markets (Chen, Yin, & Mei, 2018; Fagerberg, Martin, & Andersen, 2013; Lundvall, 2016). To run a durable business, adaptation is crucial and it comes from the ability of a business to innovate itself (Gloet & Terziovski, 2004). Yet, the ability to innovate is not the ability to create something new; innovation must meet and be accepted by the ecosystem it occurs or otherwise is an effort of creativity (Porter, 1990; Fetrati, 2018). To discover what an ecosystem accepts companies study rules, norms, values, and beliefs that govern it, therefore investigating institutions and institutional change theory (North, 1990; Koskela-Huotari et al, 2016; Bush, 1987).

The research has the goal to analyse two interconnected topics: Innovation and Institution. These concepts have been extensively studied (Koskela-Huotari et al, 2016). However, the authors of the paper contend that a framework of analysis on how to strategically leverage both the innovation and institutional change process is not recognized among the literature.

2. Literature review

The first part of the literature review aims at analyzing the concept of innovation. Due to the fragmented nature of such a concept, it is difficult to provide a unique definition (Oke, 2007). Furthermore, the perspective of innovation itself has evolved from pure internal operation to the result of a collaborative effort (Chesbrough, 2006; Kindström, Kowalkowski, & Sandberg, 2013; Rusanen, Halinen-Kaila, & Jaakkola, 2014). In this sense, the perspective adopted on innovation that is adopted in this research is that of the Service-Dominant (S-D) Logic, where innovation is the novel and better way for actors to co-create value through resource integration (Lusch & Nambisan, 2015; Vargo, Wieland, & Akaka, 2015).

Innovation may be classified in different typologies (Garcia & Calantone, 2002), but the main classification that is widely adopted through the literature is the one of Radical versus Incremental Innovation (Norman & Verganti, 2014). In this framework, Incremental Innovation is improving within a given frame or solution, while Radical Innovation is a process of changing the frame, with high risks and high rewards (Norman & Verganti, 2014). However, what is important to highlight is that without Radical Innovation, Incremental Innovation reaches a limit. Without Incremental Innovation, the potential enabled by radical change is not captured (Norman & Verganti, 2014).

In order to innovate, companies must take a strategic choice of defining the direction to follow (Ozkaya et al. 2015), for which it is particularly valuable to leverage the strategical asset of Market Knowledge Competence (Augusto & Coelho, 2009).

The second part of the literature review focuses on the field of institution and institutional change. These concepts have been analyzed deeply by many scholars (Coccia, M. (2018). it is not easy likewise to recognize a single and massively shared definition in literature (Hodgson, 2006). Hence, the research focuses on defining the concept of institutions as systems of well-established and widely followed social rules that structure social interactions (Knight; 1992), and distinguish between institutionalized rules and convention, while institutions and institutional arrangement are interchangeable (Hodgson, 2006). The role of the transformation of institutional arrangement in service ecosystems is studied through the institutional change theory. It is important to highlight that the institutional changes within a service ecosystem are not just the creation of new institutions, but three concurrently breaking former institutions of service ecosystems, making new ones, and at the same time also maintaining some of the former institutional arrangement governing the service ecosystem (Koskela-Huotari, Edvardsson, Jonas, Sörhammar, & Witell, 2016). Through the lenses of the institutional change theory, innovation is defined as the process of shaping the institutional arrangements in service ecosystems (Vargo, Wieland, & Akaka, 2015). Innovations are enhanced by megatrends (Greenwood et al., 2002), and they bring the development of proto-institutions, which represent “institutions in the making” in service ecosystems (Lawrence et al., 2002). The literature review holds as the basis of the analysis of the interplay between innovation and institutional change. Most of the theories studied in the literature review

are endorsed in the case analysis and the discussion. The theory supports the selection of the empirical context of analysis and works as the basis for the conceptual framework of analysis. The two fields of institutional change and innovation are intrinsically connected as previously illustrated. The authors aim at filling the literature gap by studying through the lenses of the theory a framework to classify different approaches followed by companies in the development of innovation and institutional change integration.

3. Methodology

The authors' objective is to develop a conceptual framework of analysis on the interplay of innovation and institution. To achieve this, the research decides to carry out a qualitative case analysis, investigating the empirical context of sustainability.

Sustainability is a megatrend that is enhancing new institutional arrangements in many companies in different industries (Lubin & Esty, 2010). In particular, the companies' effort to integrate sustainable practices and concerns is defined as sustainability orientation (Roxas and Coetzer, 2012). It is the institutional change enhanced by the megatrend of sustainability.

To understand the interplay of innovation and institutional changes, the cases are selected among those companies that have developed an eco-innovation, which is an innovation to create valuable products or services that can drastically reduce the environmental impact (Fussler & James, 1996).

In particular, the authors conducted a multiple case-based research study, performed following the replication logic (Eisenhardt, 1989; Yin, 2014) and thus facilitating the study of inter-personal as well as inter-organizational relationships at different levels of analysis (Robson, 2002). In replication logic, cases, which confirm emergent relationships, enhance confidence in the validity of the relationships. Cases that disconfirm the relationships often can provide an opportunity to refine and extend the theory (Eisenhardt, 1989).

According to Eisenhardt this method is suitable for theory building or finding cross-observational findings and leads to insights beyond and between individual cases (Eisenhardt, 1989). The cases are selected by looking among different industries, to have a wider perspective and test the presence patterns despite differences in products offered. All the cases selected are an example of companies operating in the B2C business model to guarantee coherency throughout the analysis concerning the business structure.

The selected cases belong to four different industries: fashion, furniture, beauty, and consumer electronics. The listed industries are selected as they represent crucial areas regarding the empirical context of the research: sustainability.

To standardize and to make each case analysis comparable to the others, the research adopts the frameworks introduced in the literature review, and an adaptation of the Advanced Business Model Canvas consisting of four blocks: Business Infrastructure, Customer Value, Customer Infrastructure, and Management Infrastructure. The analysis of each of the cases is structured in four sections as follows:

1. A brief overview of the firm: detailed description of the businesses. Here, the authors define the level of Market Knowledge Competencies (MKC) of the firm, which shows the firm's ability to develop a better understanding of both its customers and competitors (Li and Calantone, 1998), and its introduction makes the authors able to divide the companies into three approaches toward it: Low, High MKC.
2. Sustainability Orientation: description of the integration of companies' sustainability orientation. By evaluating for each block of the adaptation of the advanced BMC whether each company's performance is above or below the sample average, the cases are defined as having a High, Medium-High, Medium-Low, or Low Sustainability Orientation;
3. Innovation Case Analysis: description of the main characteristics of the innovation introduced by the company that enables the authors to reflect upon why all the selected cases are examples of eco-innovation. Here, cases are framed in Norman and Verganti, model regarding Technology and Meaning innovation . In addition to this, the authors reflected on whether the innovation in the analysis is a case of proto-institution creation or adoption, following Kleinaltenkamp's model previously introduced.
4. Micro-institution: analysis of every single innovation bringing micro-institutional change within service ecosystems (Huotari et al, 2016). To coherently proceed in alignment with the Sustainability Orientation analysis, the changes introduced by the innovation are illustrated in the same four clusters of the authors' adaptation of the Advanced BMC.

4. Case Studies

Sustainability is a concept that always existed, but the first and most recognized definition of the term, and more in particular of sustainable development, comes from 1987 in the Brundtland Report. Here, it was defined as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (Brundtland, 1987).

Later on, in the Agenda for Development, three main dimensions enter the definition of sustainability: the social, the economic, and the environmental (UN, 1997). Over time sustainability as a concept entered both politics and the economy, becoming essential for the contemporary assessment of progress, responsibility, freedom, and culture (Bachmann, 2010).

Today, sustainability is a megatrend (Lubin & Esty, 2010). Hence, it is a critical driver of organizational and technological innovation, and it is a key factor in companies' pursuit of long-term competitive advantage

(Nidumolu, Prahalad, and Rangaswami, 2009). Because of that, many companies across different industries are following a sustainability orientation (SO) (Roxas and Coetzer, 2012).

Institutions and SO can be seen as made by different nested and contained levels (Chandler and Vargo; 2011):

- Micro (e.g., companies);
- Meso (e.g., industries);
- Macro (e.g., nations, and global markets)

However SO did not receive yet global recognition among all the industries and companies (Roxas and Coetzer, 2012). Today, the service ecosystem is still in a transition phase where SO is shaping it to be aligned with the macro-trend of sustainability. In this sense, SO at the macro-trend can still be defined as a proto-institution; "institutions in the making" (Lawrence et al., 2002). Adopting the model proposed by Kleinaltenkamp in 2018, the macro service-ecosystem of the world appears to be in transition and sustainability orientation is perceived to be adopted as the proto-institution that guides the overall institutional arrangement toward the megatrend of sustainability (Figure 1).

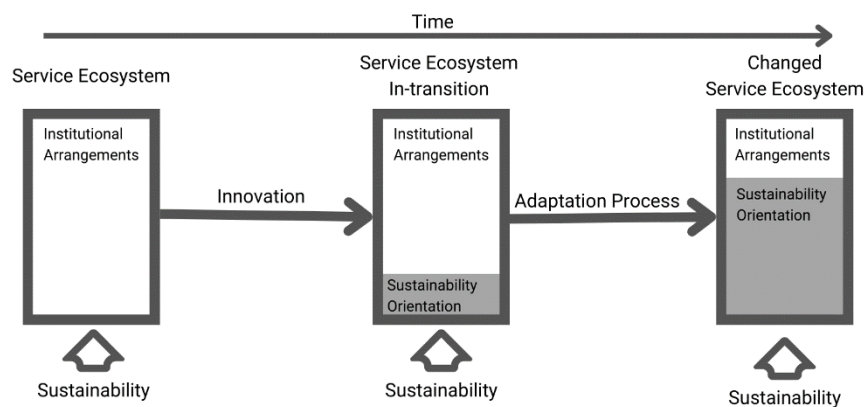


Figure 1: Kleinaltenkamp model of the transition towards a change in the service ecosystem

On the other hand, by changing the level of analysis and taking into account industry or company-level, sustainability orientation is often a well-established institution. However, as validated by the case analysis, the level of integration of SO varies among different companies. This offers the authors the opportunity to study a heterogeneous group of cases among distinct industries.

The concept of institutions, institutional change, sustainability, and sustainable development are intrinsically intertwined. Indeed, in 1987 the World Commission for Sustainable Development defines sustainable development as: "...a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change ... enhance both current and future potential to meet human needs and aspirations" (Brundtland, 1987). Therefore, sustainability orientation as an institutional arrangement can enhance behaviors, habits, and social structure to evolve toward more sustainable development.

Companies have to balance the forced trade-offs between sustainability goals and profitability targets (Claudy, Peerson, Pagell, 2016). To balance the two, Market Knowledge Competence is a fundamental tool to adjust economic, environmental, and social objectives (Ozkaya et al. 2015).

The authors focus on conducting a qualitative case study analysis of fourteen cases of eco-innovations to confirm the theory and get some insight to solve the research question. It is of paramount importance to clarify that the authors decide to run the whole analysis of the case studies at a micro-level, and companies level.

The analysis of the cases focuses on investigating four dimensions to frame the cases into two models and then each case of eco-innovation is analyzed by studying the micro institutional changes that originated from the innovation. The results of the case study are illustrated in Figure 2.

	Business Infrastructure	Customer Value	Customer Infrastructure	Management Infrastructure	
Patagonia	+	+	+	+	High
Fairphone	+	+	+	+	High
Save The Duck	+	+	+	+	High
Manteco	+	+	+	+	High
Carl Hansen	+	+	+	-	High
North Face	+	+	+	-	Medium-High
Apple	-	+	-	+	Medium-High
H&M	-	+	-	-	Medium-Low
Lush	-	+	-	+	Medium-Low
Ikea	-	-	-	-	Low
Moncler	-	-	-	-	Low
Zara	-	-	-	-	Low
Louis Vuitton	-	-	-	-	Low
Garnier	-	-	-	-	Low

Figure 2 Results from the analysis of the cases

After the end of the analysis, the research collects the findings through a framework of analysis able to study Sustainability Orientation (SO) and Market Knowledge Competence (MKC), defined SO-MKC (Figure 3). This framework is introduced to position the companies according to their ability to embrace the institutional change and to elaborate a first classification of the case study.

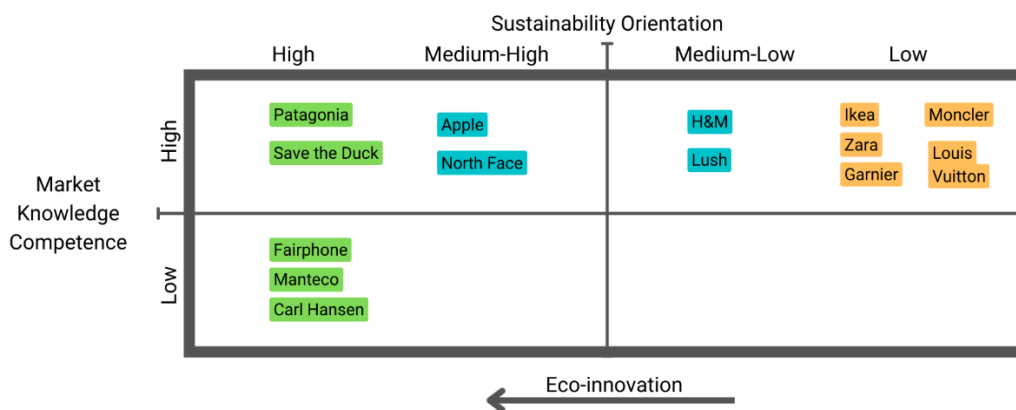


Figure 3 SO-MKC Framework

Then, the authors focus on companies' typologies of innovation by placing the cases in Norman and Verganti's framework Figure 4 (Norman & Verganti, 2014).

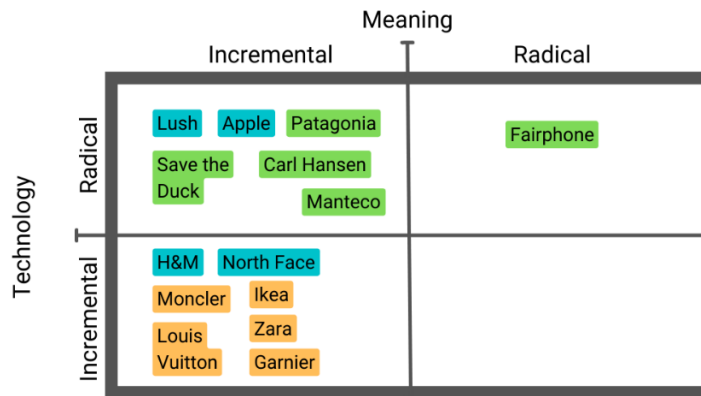


Figure 4 Verganti's framework on Technology and Meaning Innovation

Out of the two frameworks, the authors highlighted some of the main patterns that will be generalized from the context of institutional change and that will be illustrated in the discussion of the framework proposed.

5. Discussion

Through these two frameworks, the research discusses the results by first focusing on the two main typologies of innovations (Radical and Incremental) and on how the process of shaping the institutional arrangement varies.

In Radical Innovation, the change brings the creation of proto-institutions and then changed service ecosystems have higher levels of institutional change integration. On the other hand, Incremental Innovation is a quicker process of shaping the institutional arrangements.

Radical innovations require more steps and therefore effort and risk, but result in a bigger impact on the micro-institutions.

The two processes are illustrated in Figures 5 and 6.

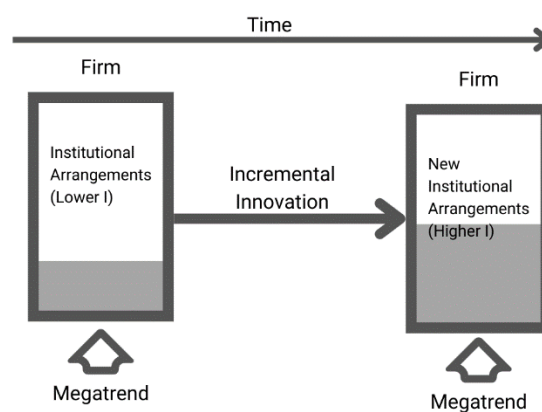


Figure 5 Incremental Innovation

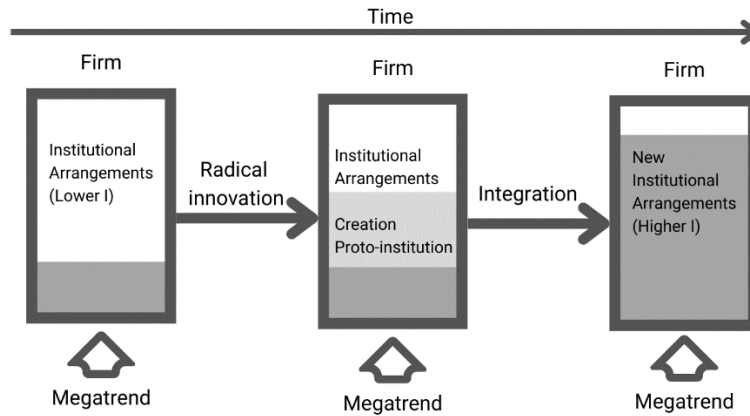


Figure 6 Radical Innovation

In the research, the authors create and propose a new framework to study institutional change interplay with innovation development Figure 7. Hereby, the authors decide to simplify the dimensions to differentiate between two main types of innovation (Radical and Incremental) and two levels of institutional change Integration (High, Low). The hypothesized matrix presented by the authors needs to be considered as a dynamic tool. The model is a qualitative validation based on the benchmark of the sample average over time, new innovations, and new institutional changes will modify the positioning of the companies.

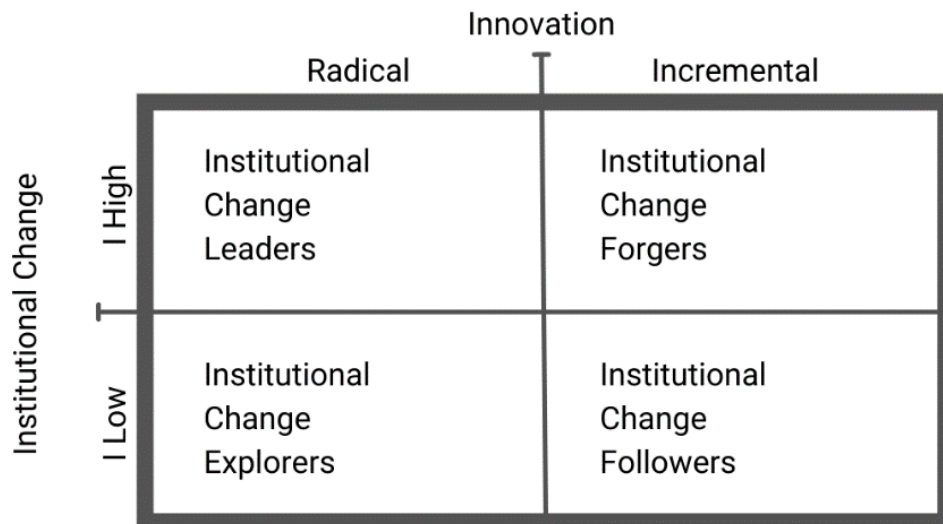


Figure 7 Framework proposed to study institutional change interplay with innovation development

Therefore, the authors define four different approaches companies to institutional change and innovation development:

Institutional Change Leaders: radical changes in technology and high integration of institutional changes in the firm. It shows the core belief of companies to integrate micro-institutional changes aligned with the megatrend.

Institutional Change Forgers: deep integration of micro-institutional changes in the business model without developing any radical innovation. The term “Forgers” is referred to the pretending of being more aligned with the institutional change than the company truly is.

Institutional Change Explorers: radical innovation without an entire integration of the institutional changes throughout the entire company. The term “Explorer” aims at highlighting the effort placed and the experimentation approach that companies place in developing innovation aligned with the macro institution.

Institutional change Followers: low level of integration on institutional practices and low investments towards innovation for the alignment of companies’ micro and macro-institutions.

Having defined the underlining features of the different quadrants, the authors place the fourteen cases within the framework and propose a series of common features able to describe different approaches Figure 8.

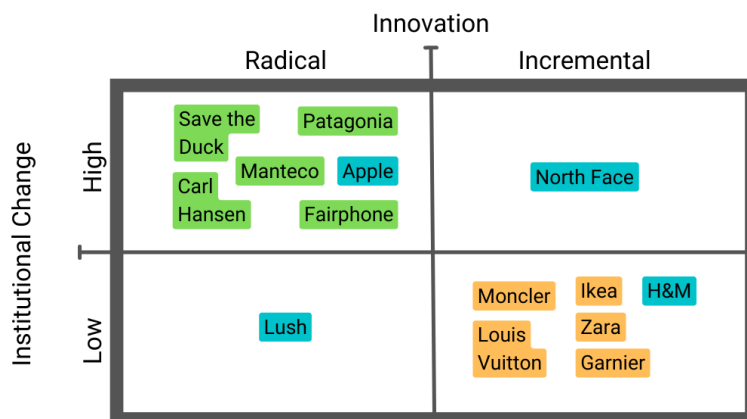


Figure 8 Selected cases placed in the framework proposed

The framework shows a high density in the upper-left and bottom-right quadrants, thus being Institutional Change Leaders and Institutional Change Followers. Indeed, they represent the more rewarding (Leader) and more efficient areas (Followers).

Companies placed in the two low-populated quadrants, Institutional Change Forgers and Institutional Change Explorers, are profitable and own a respectful share in their markets. However, by analyzing the cases the authors identified that both the areas present some criticalities.

Institutional Change Explorers are not able to convert the higher investment by developing a radical innovation in a strong institutional change impact on the firm. On the other hand, Institutional Change Forgers often integrate higher levels of institutional changes within the company while keeping a conservative

approach, developing incremental innovation, and therefore are not truly able to convert the integration of the institutional changes into products or services delivered. In the specific case of sustainability, the environmental impact of The North Face is not as high as its sustainable orientation.

The risk in both cases is to not be rewarded but penalized by the final customer.

Institutions influence the development and change of the service ecosystem on which they act. Strategically, it is more efficient to work on the institutional arrangement in a single block of the authors' adaptation of the advanced BMC than to drastically change the innovation process and approach of a firm. However, this depends on the strategic choices and plans of the firm, and both the field (institutional change integration and Innovation) are pursuable. Therefore, if companies would like to innovate in a new way since this may lead to higher rewards and a more profitable environment, the position can shift vertically and horizontally to move toward Institutional Change Leader or Follower.

Companies that are mainly focused on competing on price, mass-market businesses, face more obstacles in moving toward the Institutional Change Followers quadrant since for innovation the costs and inefficiencies are high (Norman & Verganti, 2014). Therefore, they should still work to innovate to be aligned with macro-institutional change, but they would best adopt an Institutional Change Followers approach.

On the other hand, those companies that position as Institutional Change Leaders can benefit from an offer more aligned with the global megatrend and thereby highly valued by the customers. This can justify higher price policies that justify the effort of the companies to develop a radical innovation. Institutional Change Leader can also leverage on a niche customer segment that is particularly aligned with institutional change value and therefore is loyal to the brand. In the case of sustainability, these are all the customers particularly conscious about their environmental impact, who therefore would not switch to other brands.

6. Conclusions

To conclude, the authors reflect on the theoretical and managerial implications of a company developing innovation aligned with global megatrends.

The research develops some managerial implications that can support strategical choices. As the beginning of the research starts with Darwin's theory, the need to innovate and adapt to the service ecosystem is the basis of any long-running firm.

The research provides some valuable insights to have a clearer overview of the company and competitor position and to advantage of the firm's assets in order to gain a competitive advantage. The findings can be applied to any megatrend and macro-institutional change.

Then, the managers can also adopt the research as a benchmark to analyze what are the main common variables in each quadrant and then decide to work on one of these in order to increase the overall institutional change integration level.

Lastly, the research can also be studied in other megatrend contexts, and further research should be carried out to forecast similar innovation development and evolution of firms reaching bigger competitive advantages.

The main theoretical contribution of the research is three. First, it contributes theoretically to the formalization of the process of innovation and shaping of new micro-institutions aligned with a megatrend. Second, the research represents a theoretical contribution to the new intermediary role that the MKC has to identify new megatrends and enable companies to reposition themselves to be aligned with them. Third, the research contributes to the literature by proposing a new conceptual framework of analysis of the interplay of innovation and institutional changes.

The findings have been interpreted in light of some limitations. The major limitations are connected to the qualitative approach, the sampling strategy, and the selection phase. More in detail, the qualitative approach led to a possible biased analysis. In addition to this, the low number of cases collected results in rich in understanding, but quite reduced in generalizability. In addition to this, the authors focused the selection on one single typology of innovation (Eco-Innovation), one institution (Sustainability-Orientation), and one specific typology of business model (B2C).

The previously exposed limitation can be overcome through future research. Therefore, the authors are suggesting to investigate other typologies of innovations and institutions currently emerging.

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