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Disruptive Thinking Needed: Reinterpreting Leadership for Sustainable Business Model Innovation

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ABSTRACT

The business model construct has gained important success in practice and theory for the range of potential applications it offers. One of the most promising is how it can enhance the creation of more sustainable businesses. This has generated an emerging field of its own: the sustainable business model field. Even if recent, it has gained widespread attention by researchers engaged in sustainability for its disruptive implications. Rethinking the role of the firm within its environment, opening the boundaries of the firm to stakeholders, the creation of sustainable value as measurement of success of the firm are some of the welcomed implications. However, sustainable business model innovations struggle to succeed. The aim of this work is to analyse the construct of business model and sustainable business model through a strategic driven approach. This highlights leadership as a key element in sustainable business model transition. Leadership is then discussed and analysed following the same strategic approach. Finally, we propose complexity leadership theory as a possible leadership style and organizational framework for successful business model innovation. Complexity leadership theory embraces the idea that leadership is not the individual action of a leader but a complex social dynamic which occurs when complex adaptive systems (CAS) react to determined conditions. At the end of the analysis we propose five propositions with the aim of adding a strategic driven approach to the business model theory and suggest the direction for further research and applications.

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INTRODUCTION

Sustainable business transition is a challenge of incredible complexity for firms. The aim of this paper is to contribute with disruptive ideas of business success, strategy formulation and leadership to the current discussion. The contribution of this work to the current literature is given by the merging of two recent theories; The sustainable business model innovation and the complexity leadership theory.

In order to argue that complexity leadership theory should be a matter of interest for sustainable business model innovation, we engaged in a deep analysis of the business model construct by cross referencing an important amount of the current, most cited literature.
The idea per cui strategy develops as a pattern in a stream of decision has been the playground in which we have entered all the players engaged with sustainable business model innovation. Leadership, leaders, stakeholders, organizational structure and managerial positions and moreover.

Thanks to the ideas presented in this work, the author has been selected by LUISS University as one of the participants of the project CEO for LIFE 2021/2022. In this project, students will engage with relevant corporation's CEOs and government figures developing concrete proposals in order to exploit the resources planned in the PNRR for the digital and sustainable transition. In the first meeting, all the CEOs involved in the project had a brief speech specifying the mission their company wanted to engage with in order to exploit such resources. Most of the proposals referred to the digital innovation side of the PNRR, which is of great importance, but not as vital as the sustainable transition we need.

On the other hand, the few which embrace the sustainability challenge have given beautiful speeches about corporate social responsibility, firm's boundary and stakeholder relationships. The transition's focal points have been identified. How to shift the organizational structure towards sustainable processes and products still remains the hardest challenge to face: realizing the plan. This work will highlight how shared leadership, embracing ambiguity and enabling autonomy will have a positive effect on sustainable business transition.

Conscious of the disruptive implications of the ideas discussed below, part of the author's contribution to the project will be provoking the people who are in charge now to act bravely for the people of tomorrow.

CAP 1 **BUSINESS MODEL**

1) Introduction

The term Business Model was firstly mentioned in an academic article in 1957 (Bellman et al. 1957). The article investigates the construction of business games for training purposes. The meaning of business model seems intrinsically connected with a representation of reality, a simulation of the real world through a model (DaSilva, 2014).

The term remained in the academic shadows until a quite delicate period. In the late 90's the finance world was excited by the dot-coms boom, thousands of new e-business were popping up, using business models to communicate new disruptive revenue mechanisms to potential investors in a convincing manner. (Zott et al., 2011).
The aim of the business model was initially to represent how a business works embedded in its environment. Eventually, in 2000 the dot-com bubble burst, but both the internet and the business model concept had well survived it.

The business model term is nowadays stalled in a limbo, while the concept has gained widespread use in the practice community, the academic literature is fragmented and confounded by inconsistent definitions and construct boundaries. (George and Bock, 2011).
De Reuver et al. (2013) even highlight differences between American and European scholars' approaches to business model research: the former focusing on classifications and the relation with open innovation, while the latter concentrates on causal modelling and design approaches.

After introducing the reader to the world of definitions generated by the researchers, and choosing the more holistic and functional, this chapter will dive into the elements of the business model that makes it from a term to a practical tool.

2) Business model literature review

Using the extensive work of Geissdoerfer et al., 2018. Here are some of the most influential definitions of the term.

Source	Definition
Timmers, 1998	The business model is “an architecture of the product, service and information flows, including a description of the various business actors and their roles; a description of the potential benefits for the various business actors; a description of the sources of revenues” (p.4)
Chesbrough and Rosenbloom, 2002	The business model is “the heuristic logic that connects technical potential with the realization of economic value” (p. 529). “The business model provides a coherent framework that takes technological characteristics and potentials as inputs and converts them through customers and markets into economic outputs” (p. 532).
Knyphausen-Aufsess and Meinhardt, 2002	A business model is a simplified representation of a profit aimed venture, consisting of its essential elements and their interconnections.
Magretta, 2002	“[Business models] are, at heart, stories - stories that explain how enterprises work [and answer the following questions,] Who is the customer? And what does the customer value? It also answers the fundamental question every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to the customers at an appropriate cost?“ (p. 87)
Richardson, 2008	A business model is “a conceptual framework that helps to link the firm's strategy, or theory of how to compete, to its activities, or execution of the strategy. The business model framework can help to think strategically about the details of the way the firm does business.” (p. 135) “The three major components of the framework- the value proposition, the value creation and delivery system, and value capture reflect the logic of strategic thinking about value. The essence of strategy is to create superior value for customers and capture a greater amount of that value than competitors.” (p. 138)
Doganova and Eyquem-Renault, 2009	“The business model is a narrative and calculative device that allows entrepreneurs to explore a market and plays a performative role by contributing to the construction of the techno-economic network of innovation.” (p. 1559)
Baden-Fuller and Morgan, 2010	“Business models have a multivalent character as models. They can be found as exemplar role models that might be copied or presented as nutshell descriptions of a business organisation: simplified, short-hand descriptions equivalent to scale models. We can think of them not only as capturing the characteristics of observed kinds in the world (within a taxonomy), but also as abstract ideal types (in a typology)” (p. 167)

Casadesus-Masanell and Ricart, 2010	“A business model is […] a reflection of the firm's realized strategy” (p. 195).
Osterwalder and Pigneur, 2010	“A business model describes the rationale of how an organisation creates, delivers, and captures value.”(p. 14)
Teece, 2010	“A business model articulates the logic, the data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value” (p. 179).
Zott and Amit, 2010	“we conceptualize a firm's business model as a system of interdependent activities that transcends the focal firm and spans its boundaries. The activity system enables the firm, in concert with its partners, to create value and also to appropriate a share of that value [and is defined by] design elements - content, structure and governance - that describe the architecture of an activity system; and design themes - novelty, lock-in, complementarities and efficiency e that describe the sources of the activity system's value creation.” (p. 216).
Geissdoerfer et al., 2016	“we describe business models as simplified representations of the elements e and interactions between these elements e that an organisational unit chooses in order to create, deliver, capture, and exchange value.” (p. 1218)
Wirtz et al., 2016	“A business model is a simplified and aggregated representation of the relevant activities of a company. It describes how marketable information, products and/or services are generated by means of a company's value-added component. In addition to the architecture of value creation, strategic as well as customer and market components are taken into consideration, in order to achieve the superordinate goal of generating, or rather, securing the competitive advantage. To fulfil this latter purpose, a current business model should always be critically regarded from a dynamic perspective, thus within the consciousness that there may be the need for business model evolution or business model innovation, due to internal or external changes over time.” (p.41)
Massa et al., 2017	“a business model is a description of an organisation and how that organisation functions in achieving its goals (e.g., profitability, growth, social impact, …).” (p. 73)

3) **Business model conceptual analysis**

The best definition to start a holistic reasoning onto the concept of business model is the one given by Casadesus-Masanell and Ricart (2010) in their brilliant article " From Strategy to Business models and onto Tactics".

"A business model is [...] a reflection of the firm's realized strategy" (Casadesus-Masanell and Ricart, 2010).

In order to unfold the meaning of this definition, we need to adopt an appropriate interpretation of the term strategy. In doing so, we will find our conceptual foundation in one of the articles that most influenced this work.

In "Patterns in Strategy Formulation", Professor Henry Mintzberg (1978) argues that the classical definition of strategy is incomplete and conceptually wrong.
Strategy is not an explicit, conscious and deliberate plan. Since the Human Being is incapable of forecasting the upcoming future, representing the planning and the execution as overlapping realities it's an abstract intuition.

If strategy formation is not a regular, nicely sequenced process running on a standard five-year schedule (Mintzberg, 1978), we must divide the strategies that are realized, also classified in emergent and deliberate ones, from the strategies that are intended but unrealized.

Unrealized strategies are intended strategies that do not get realized, perhaps because of unrealistic expectations, misjudgments about the environment, or changes in either during implementation. They remain hidden variables. Realized strategies are instead observable in a *pattern in a stream of decisions*. In other words, when a sequence of decisions in some area exhibits a consistency over time, a strategy will be considered to have formed. (Mintzberg, 1978).

It is in the centrality of the act of deciding- and- implementing that Mintzberg (1978) and Casadesus-Masanell & Ricart (2010) meet. When the latter argue that the business model is composed of two elements a) the concrete choices about how the organization must operate and b) the consequences of these choices, they argue that the business model of a firm is the reflection of a stream of decisions. Those decisions, which have consequences within the firm and its environment, are represented through a business model.

Citing Mintzberg once more, we can argue that the business model represents the strategic situation of a firm.

Unrealized strategies, our hidden variables, are possible business models that have not found the condition to be implemented. Are strategic decisions which have not taken place. This is why a business model is not comparable to a strategy.

We can see a representation of this concept in Fig.1 here below.

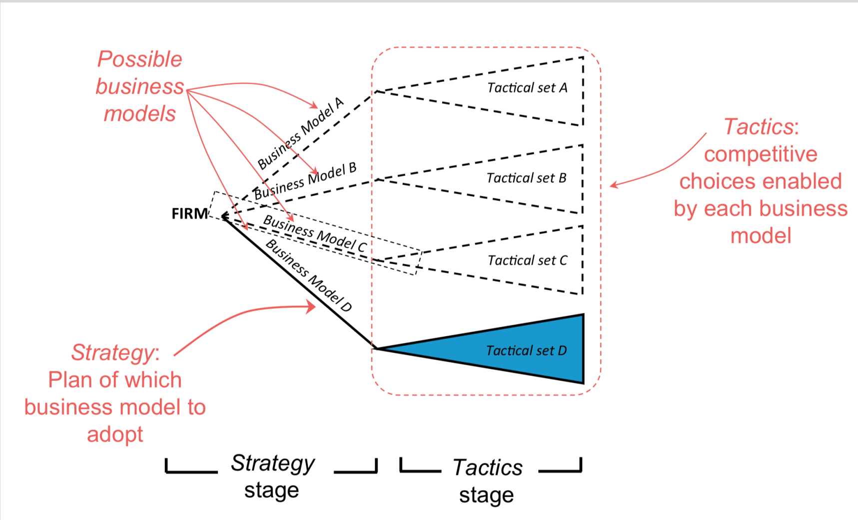

Fig.1 - Source: Strategy to Business Model onto Tactics, Casadesus-Masanell & Ricart 2010

Every organization has a business model, because every organization makes choices that have consequences. (Casadesus-Masanell & Ricart, 2010). In the evolution of those choices we recognize a pattern, this pattern is the strategy of the firm (Mintzberg, 1978).

Choices are implemented in order to achieve goals. Talking about firms in a competitive environment, the goal is to compete by generating sustainable competitive advantage. This is why it is useful to bring in the discussion the most influential definitions of a business model.

"A business model describes the rationale of how an organisation creates, delivers, and captures value." (Osterwalder and Pigneur, 2010)

This definition, contained in a book that counts more than 15 thousands citations on Google Scholar, defines what are the elements that constitutes the strategic situation of the firm, or, its business model.

Every firm has a business model (Casadesus-Masanell & Ricart, 2010) because every firm, in order to exist, must create, deliver and capture value. (Osterwalder and Pigneur, 2010). It is not always true that every organization is conscious about its business model, or strategic situation.

In a study conducted by the Accenture Institute for Strategic Change in 2000, 70 executives from 40 companies were interviewed regarding their company's core logic for creating and capturing value: the basis of the business model. (S.M Shafer et al., 2005). Surprisingly, 62 % had a difficult time describing succinctly how their company made money. (Linder & Cantrell, 2000).

This is the reason why, in order to have a complete overview of what actually is a business model, we must highlight the difference between a told business model and an untold business model.

"[Business models] are, at heart, stories - stories that explain how enterprises work [and answer the following questions,] Who is the customer? And what does the customer value? It also answers the fundamental question every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to the customers at an appropriate cost?" (Magretta, 2002)

Every firm has a business model, because every firm must create, capture and deliver value. Not every business model is consciously recognized by the firm. In order to make the business model comprehensible, it takes the shape of a story that explains how the enterprise works (Magretta, 2002). As quantum particles, the business model always exists in a firm, but it takes shape only when we look at it.

Our interpretation, given by the merge of multiple definitions on three levels: strategical, operational and representative, tries to give a holistic view of the term.
In doing so, we support the view of Spieth et al. (2014) suggesting that the business model concept goes far beyond simple storytelling of how a firm does business and has a potential to provide a holistic perspective of the firm's activities. And the one by Teece (2010) that explains the design of business models enables the reconfiguration of business capabilities to adapt the firm to the changing business environment.

4) Business model as a representation and design tool

As suggested above, the representative nature of the business model is a necessary aspect for its comprehension. As Berkley professor Henry Chesbrough (2010) confirms, building maps of business models is useful for clarifying processes within and outside the firm. By constructing these representation tools managers can take actions considering alternative combinations of the processes. The representation also enables firms to simulate various possibilities before committing to specific investments in reality.

In order to help managers assess this task, several representations of business model and canvas are being built up. Several online platforms offer managers this service.

One of the most famous one is the Osterwalder' s 9 point decomposition of a business model, here below in Fig.2

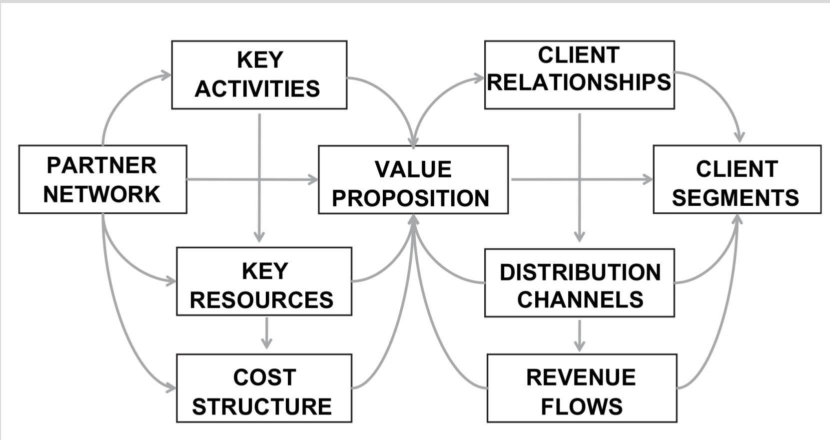

Fig.2 - Source: Business model innovation: opportunities and barriers. (Chesbrough, 2010)

Chesbrough and Rosenbloom (2002) decomposition of a business models includes instead 7 elements:

1. Articulates the value proposition;
2. Identifies the market segment and specify the revenue generation mechanism;
3. Defines the structure of the value chain required to create and distribute the offering and complementary assets needed to support position in the chain;
4. Details the revenue mechanism by which the firm will be paid for the offering;
5. Estimates the cost structure and profit potential;
6. Describes the position of the firm within the value network linking suppliers and customers; and
7. Formulates the competitive strategy by which the innovating firm will gain and hold advantage over rivals

In any case, firms are free to develop internally the representation of the business model they find the fittest. Here below in Fig. 3 we can see the Casadesus-Masanell & Ricart (2010) representation of Ryanair's business model.

Underlined elements are choices and non-underlined elements are consequences.

Consequences in boxes are ‘rigid,’ those not in boxes are ‘flexible’. A consequence is flexible if it is highly sensitive to the choices that generate it. For example, ‘large sales volume’ is a consequence of the policy choice ‘low prices’ - if the policy were to change to high prices, volume would be likely to fall rapidly.

In contrast, a rigid consequence is one that does not change rapidly with the choices that generate it; thus a ‘reputation for ‘‘fair’’ fares’ is a consequence that changes only slowly with changes in the choices that generate it. (Casadesus-Masanell & Ricart, 2010)

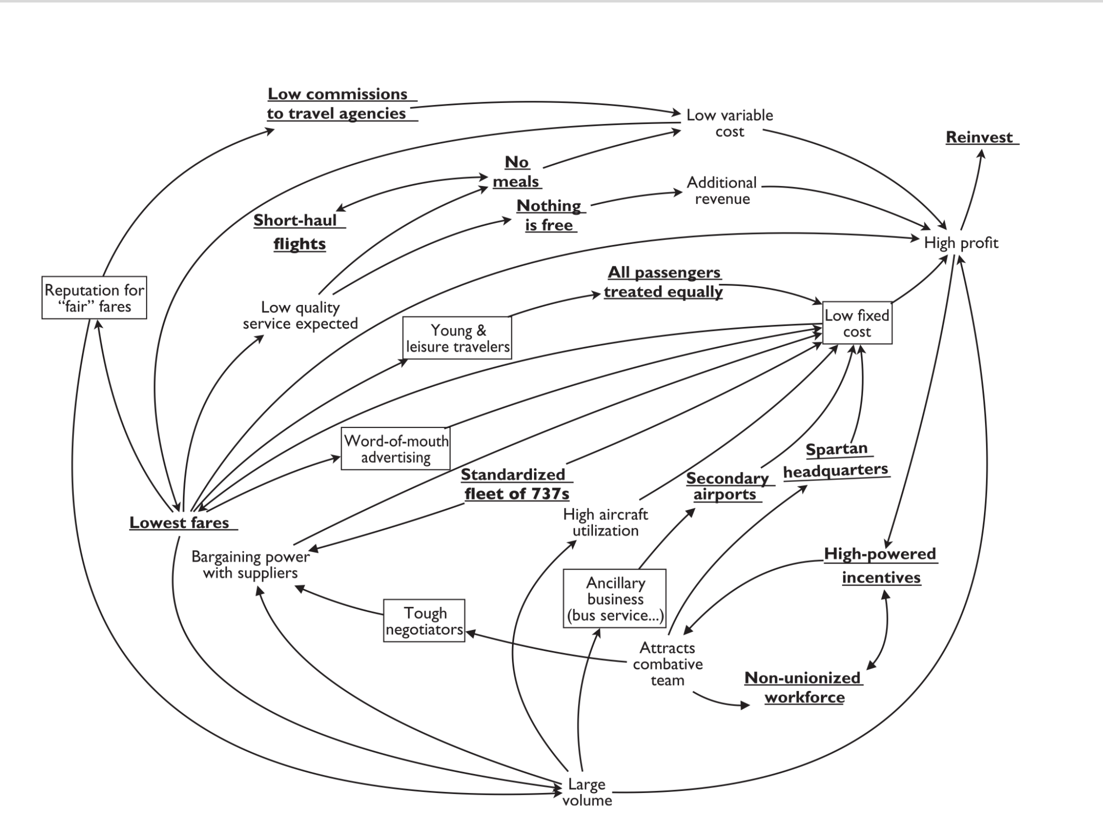

Fig.3 - Source: Strategy to Business Model onto Tactics, Casadesus-Masanell & Ricart 2010

In contrast, we see here in fig. 4 the IBM’s owned business model components canva. This mapping approach comes from the concept of “component business modelling”, whose IBM has been an early leader. (Chesbrough, 2010).

<table>
<tr><th></th><th>Business Administration</th><th>New Business Development</th><th>Relationship Management</th><th>Servicing and Sales</th><th>Product Fulfillment</th><th>Financial Control and Accounting</th></tr>
<tr><td>Direct</td><td>Business Planning</td><td>Sector Planning</td><td>Account Planning</td><td>Sales Planning</td><td>Fulfillment Planning</td><td>Portfolio Planning</td></tr>
<tr><td rowspan="2">Control</td><td>Business Unit Tracking</td><td>Sector Management</td><td>Relationship Management</td><td rowspan="2">Sales Management</td><td rowspan="2">Fulfillment Planning</td><td rowspan="2">Compliance Reconciliation</td></tr>
<tr><td>Staff Appraisals</td><td>Product Management</td><td>Credit Assessment</td></tr>
<tr><td rowspan="3">Execute</td><td>Staff Administration</td><td>Product Delivery</td><td rowspan="3">Credit Administration</td><td>Sales</td><td>Product Fulfillment</td><td>Customer Accounts</td></tr>
<tr><td rowspan="2">Product Administration</td><td rowspan="2">Marketing Campaigns</td><td>Customer Dialogue</td><td rowspan="2">Document Management</td><td rowspan="2">General Ledger</td></tr>
<tr><td>Contact Routing</td></tr>
</table>

Fig.4 - Source: Business model innovation: opportunities and barriers. (Chesbrough, 2010)

5) conclusions

Nowadays, while the researchers are still struggling to come up with a definition that will satisfy the academia, organizations and businesses are investing in innovating and creating new disruptive models. Casadesus Masanell & Ricart (2011) in an article for the Harvard Business Review argued that seven out of ten companies are trying to create innovative business models.

Our interpretation of the business model concept is a holistic one, that tries to capture the essence of the business model by a three level analysis, the strategic, the operative and the representative one.

We saw how a business model is not a strategy, but a momentum in a stream of decisions captured in a model. When this stream of decision follows a clear pattern, or a logic, we can recognize a strategy. Since firms follow a logic in order to compete, in every firm a business model can be identified.

We also saw how it is not granted that firms are conscious of their business model.
In order to take advantage of the business model it needs to be firstly recognized, secondly structured in a map. Several canvas and structures exist in order to help managers visualize it.

The business model is a flexible concept, and firms can structure a model themselves as well.

Having right in front of the eyes the strategic situation of the company helps entrepreneurs and managers make more informed decisions.

Those decisions define the intended strategy of the firm by changing its strategic situation. Using the business model as a unit of measure of the firms' strategies, we will call those decisions business model innovations.

CAP 2 **BUSINESS MODEL INNOVATION**

1) <u>introduction</u>

The attention reserved to the business model innovation issue confirms the direction taken by both businesses and academia.

The rise of the business model and business model innovation as focal points in the current research agenda is reflected by a range of special issues and by an exponential increase of related articles in peer reviewed academic journals (Zott et al., 2011). Also, conferences and management workshops on business model and business model innovation have likewise experienced a strongly growing demand for participation (Spieth et al., 2014).

On the other hand, a study published by the EIU (Economist Intelligence Unit) found that over 4,000 senior managers who were surveyed worldwide favored new business models over new products and services as a source of future competitive advantage (Amit & Zott, 2010). Moreover, a study conducted by tech giant IBM, in which over 750 corporate and public sector leaders from around the world were interviewed on the subject of innovation reported that "one key finding was that competitive pressures have pushed business model innovation much higher than expected on CEO's priority list." (Pohle et al., 2006).

Despite the rise of attention and application, by inheriting conceptual confusion and lack of consensus from the business model concept as we have seen above, the business model innovation still represents a "slippery construct to study." (Casadesus- Masanell & Zhu, 2013).

After a literature review of the most influential definitions given, we will instal the business model innovation concept in our holistic and strategic-driven analysis. Finally, we will analyze some applications of the business model innovation and look after the dynamics of it.

2) Business model innovation literature review

Taking advantage of the work of Geissdoerfer et al. 2018 which represents the most recent and extensive literature review, we present the most influential definitions of business model innovation.

Source	Definitions
Mithcell and Coles, 2004	"By business model innovation, we mean business model replacements that provide product or service offerings to customers and end users that were not previously available. We also refer to the process of developing these novel replacements as business model innovation."
Labbe and Mazet, 2005	A business model innovation changes one or more dimensions of a business model (which are perceived by the authors as product-market combination, the architecture of the value creation, and the revenue model) so that a novel configuration of the elements is created and implemented.
Osterwalder and Pigneur, 2005	"Specifying a set of business model elements and building blocks, as well as their relationships to one another […] a business model designer […] can experiment with these blocks and create completely new business models, limited only by imagination and the pieces supplied."
Chesbrough, 2007	Business model innovation is to "advance [the] business model […] from very basic (and not very valuable) models to far more advanced (and more valuable) models."
Lindgardt et al., 2009	"Innovation becomes BMI [business model innovation] when two or more elements of a business model are reinvented to deliver value in a new way. […] BMI can provide companies a way to break out of intense competition, under which product or process innovations are easily imitated".
Romero and Molina, 2009	"business models as definers of the value creation priorities in an organisation should be continuously reviewed in response to actual and

	possible changes in the perceived market conditions and evolve the enterprise strategy as the business environment and customers' needs change.”
Chesbrough, 2010	Business model innovation “[1] Articulates the value proposition (i.e., the value created for users by an offering based on technology); [2] Identifies a market segment and specify the revenue generation mechanism (i.e., users to whom technology is useful and for what purpose); [3] Defines the structure of the value chain required to create and distribute the offering and complementary assets needed to support position in the chain; [4] Details the revenue mechanism(s) by which the firm will be paid for the offering; [5] Estimates the cost structure and profit potential (given value proposition and value chain structure); [7] Describes the position of the firm within the value network linking suppliers and customers (incl. identifying potential complementors and competitors); and [8] Formulates the competitive strategy by which the innovating firm will gain and hold advantage over rivals.”
Johnson, 2010	“[Seizing the white space] calls for the ability to innovate something more core than the core, to innovate the very theory of the business itself. I call that process business model innovation.” “Business model innovation is an iterative journey“
Geissdoerfer et al., 2016	“Business model innovation describes either a process of transformation from one business model to another within incumbent companies or after mergers and acquisitions, or the creation of entirely new business models in start-ups.”

3) **Business model innovation conceptual analysis**

Going back to our roots, we have seen how the business model is the representation of a firm's strategic situation. The strategic situation of the firm is a momentum in a stream of decisions. The recognizable pattern in the stream of decisions is the firm strategy.

For Casadesus - Masanell & Ricart (2010), business models represent those decisions and the consequences of those within the firm and its environment. Following this logic, we can state that innovating the business model means altering the firm's strategic situation.

In a nutshell, through business model innovations firms shape their strategy.

The flow of business model innovations constitutes the stream of decision in which we recognize, a posteriori, the pattern. The realized strategy overall.

In this regard, it is important to remember the distinction between intended but unrealized strategies, which we have called hidden variables, and the realized ones (intended or emergent). This distinction gives centrality to the choices that are fully implemented and distinguish business models from strategy.
This distinction is also the very meeting point between Casadeus-Masanell & Ricart (2010) and Mintzberg (1978), which constitutes our conceptual foundation.

Another important distinguo to make is between the choices that constitute a business model innovation and tactical choices (Fig. 1), which do not alter the rationale of the firm, using Osterwalder's vocabulary.

One of the main discussions over the business model innovation concept is indeed the identification of the boundary between tactical choices and business model innovating choices. Which we can call strategic, or relevant, choices.

Mithcell & Coles (2004) saw this boundary in the offering of new services and products previously not available.

"By business model innovation, we mean business model replacements that provide product or service offerings to customers and end users that were not previously available.
We also refer to the process of developing these novel replacements as business model innovation." (Mithcell & Coles, 2004)

Others, like Lindgardt et al (2009) saw in the number of business model components that were changing the boundary to distinguish innovation from business model innovation.

"Innovation becomes BMI [business model innovation] when two or more elements of a business model are reinvented to deliver value in a new way. […] BMI can provide companies a way to break out of intense competition, under which product or process innovations are easily imitated." (Lindgardt et al., 2009).

In order to give our own interpretation of the concept, coherently with our holistic interpretation of the business model, let's get back to Osterwalder & Pigneur definition of business model.

“A business model describes the rationale of how an organisation creates, delivers, and captures value.” (Osterwalder and Pigneur, 2010)

Using Casadesus - Masanell & Ricart (2010) vocabulary we can state that the rationale of the firm is its logic.

A decision is a business model innovation when it changes the logic of the firm: how it creates, delivers, captures value and it’s value proposition.

When one of those aspects is changed, then we have another business model. Those choices are relevant choices that determine the strategy of the firm. Choices that do not alter those aspects are tactical choices. Tactics are the residual choices open to a firm after choosing its business model. (Casadesus - Masanell & Ricart, 2010)

According to our interpretation, the same choice can represent both a tactical choice or a strategic one depending on the logic that generated it.

For example, if a firm substitutes a supplier for being out of competition, this is a tactical choice. It doesn't even touch the logic of how a firm delivers or creates value.
If instead the firm is substituting a supplier because it doesn’t respect new sustainable standards required, that is a business model innovation. Something profound has changed in the core logic of the firm, involving the supply chain and the way the firm intends to create value in the future.

On this matter, another interpretation can help us understand our interpretation of the business model construct.

Zott & Amitt (2010) argued that we can look at the business model as how the firm is embedded in its “ecology” (suppliers, partners, customers and competitors). If the supplier's standard of a firm changes radically, the position in the “ecology” is altered.

The business model is the choices taken by the firm and the consequences that those choices have on the firm and the environment around. If those choices are so radical that we have to physically change the business model representation, and the story we tell about it, that is a business model innovation.

4) **Business model innovation in practice**

Moving on towards some practical examples of business model innovations, it’s worth making some assumptions that help us out structuring our reasoning.

Zott & Amitt (2008) in an article for the MIT Sloan Management Review contributed to the literature on two levels.

Firstly, they argued that business model innovation can occur on three different levels:

- Content level: by adding novel activities, for example through vertical or horizontal integration;
- Structure level: by linking activities in novel ways;
- Governance level: by changing one or more parties that perform any of the activities.

This view highlights the interpretation of the business model as “ a holistic perspective on how business is conducted, rather than a focus on any particular function as product market strategy, marketing, or operations” (Zott & Amitt, 2010). Which we support.

Secondly, business model innovations can be subtle.

While Johnson, Christebsen and Kagermann (2008) argue that there is “no point in instituting a new business model unless it is not only new to the company, but in some way game-changing for the industry or the market”.

Zott & Amitt (2010) suggest that “ [business model innovations] even when they might not have the potential to disrupt an industry, they can still yield important benefits to the innovator”. Following our conceptual analysis we fully support this view, firms can achieve remarkable achievements by changing their logic on different levels. Those are content level, structure level and governance level.

In order to have a view on how wide the range of business model innovation is on the firm and its environment, we will see different innovations with different consequences.

One of the business model innovations that mostly shaped our present world is the one from Apple in 2002. Launching the IPod and the associated music download platform ITunes, Apple became the first electronic company to include music distribution as an activity. (Zott & Amitt, 2010).

Rather than growing by simply bringing new hardware to the market, Apple radically transformed its business model to include an ongoing relationship with its hardware customers. (Zott & Amitt, 2010).

By expanding the locus of innovation from only product to business model Apple disrupted both electronics companies' competitive environment and the music industry. Moreover, revenues and net income started skyrocketing after the business model innovation, as we can see from figure 5.

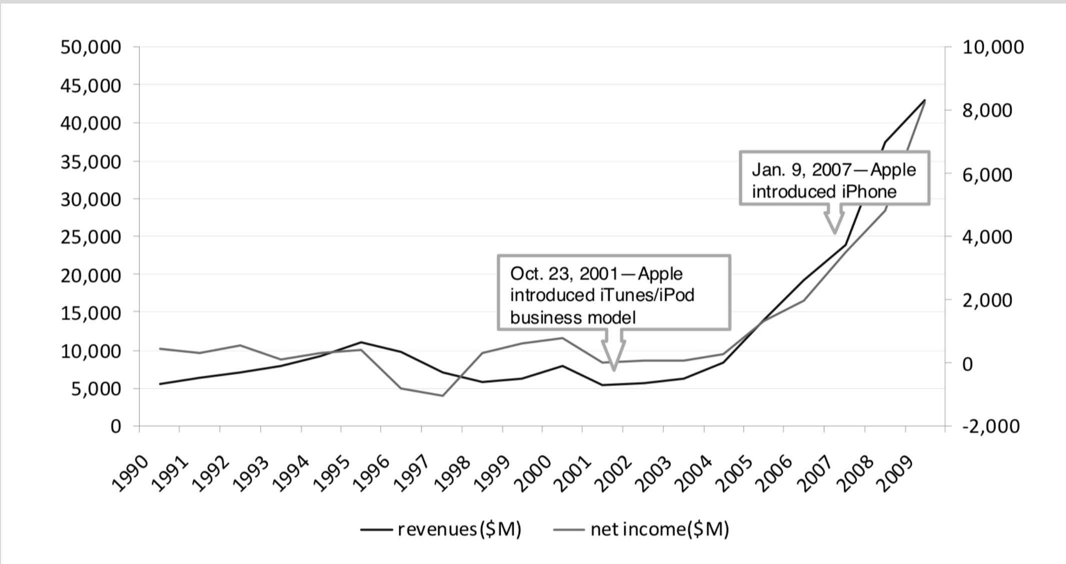

Fig.5 - source: Business model innovation: creating value in times of change

The second case study has a much lower effect on the industry of fast food but represents what are the “subtle” business model innovations from which firms can thrive.

Taco-Bell is a Mexican fast food chain. In the 1980s the firm decided to turn the restaurant ‘s kitchen into a heating and assembly unit in a program called “K-minus”. The food was sent pre-cooked in plastic bags from the headquarters to the restaurants, where it could be heated, assembled and served. (Zott & Amitt, 2010).

This innovation allowed Taco-Bell to realize economies of scale and improvements in efficiency and quality control, as well as increase space for customers within restaurants.

5) <u>Barriers and drivers for business model innovation</u>

As argued by Chesbrough (2010), “one of the best such studies [on barriers and drivers to business model innovation] is by Zott & Amit (2010) ”. Which are some of the most cited and influential researchers in the field.

Zott & Amit (2008) identify novelty, lock-in, complementarities and efficiency the key value drivers for business model innovation.

In order to better understand those concepts, it is worth the premise that the authors define “ a company’s business model as a system of interconnected activities that determines the way the company does business with its customers, partners and vendors”. Therefore, “activity system” and “business model” are interchangeable for Zott & Amit (2010).

1. Novelty - captures the degree of business model innovation that is embodied by the activity system;
2. Lock-in - refers to those business model activities that create switching costs or enhanced incentives for business model participants to stay and transact within the activity system;
3. Complementarities - refer to the value enhancing effect of the interdependencies among business model activities;
4. Efficiency - refers to cost savings through the interconnections of the activity system. (Zott & Amit, 2008)

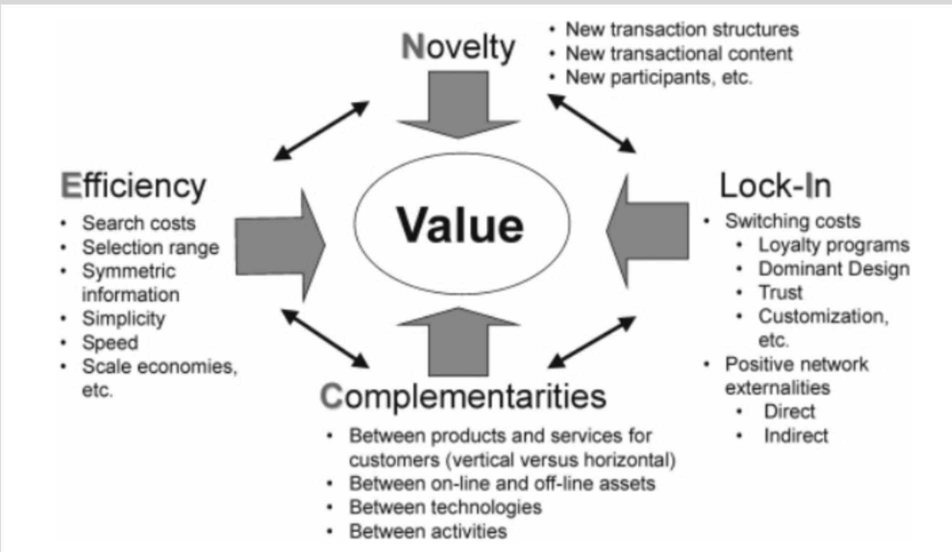

Fig. 6 - Source: Value creation in e-business (Zott & Amit, 2001)

Another important driver for business model innovation is the product innovation game and the competitive environment it generates. A good product that is embedded in an innovative business model is less easily imitable. Apple with IPod/ITunes business model innovation disrupted both the market of Mp3's and CD's. Afterwards, even the most advanced Mp3 would be a very weak competitor.

A mediocre technology pursued within a great business model may be more valuable than a great technology exploited via a mediocre business model. (Chesbrough, 2010)

However, those change drivers may often conflict with the traditional configuration of the firm structure, governance and content. Managers are likely to resist experiments that might threaten their ongoing value to the company. (Chesbrough, 2010).

Another barrier usually met in business model innovation is a cognitive barrier that finds conceptual basis in the dominant logic notion of Prahalad & Bettis (1986). Basically, the success of established business models strongly influence the information that subsequently gets routed into or filtered out of the corporate decision process. (Chesbrough, 2010).

The process organizations employ to generate order from chaotic environments seems to frame the firm into a strict cognitive pattern which limits its ability to change.

On this matter, once again we find very interesting affinities between the researchers who are building up the business model and business model innovation theory and the strategy interpretation of Mintzberg (1978).

Mintzberg (1978) argues that strategy formations within organization can be thought of as the interplay of three forces:

a) an environment that changes continuously but irregularly, with frequent discontinuities and wide swings in its rate of change;
b) a bureaucracy, or organizational operating system, that above all seeks to stabilize its actions, despite the characteristics of the environment it serves;
c) a leadership whose role is to mediate between these two forces, to maintain the stability of the organization's operating system while at the same time ensuring its adaptation to environmental change. (Mintzberg, 1978)

On the role of leadership in business model innovation we will reserve a full chapter subsequently.

Anyway the structure is beautifully logical. We have an environment which changes constantly and an activity system which tends to shut chaos and uncertainty down through standardization of the information flow and processes. This cognitive behavior slows down the responsiveness of the system.
In this situation, leadership is a membrane that mediates between the two for the organization's survival.

6) Conclusions

Finally, the match between Zott & Amit (2010) interpretation of business model as "boundary-spanning systems of activities centered on a focal firm" and the idea per cui strategy can be viewed as the set of consistent behaviors by which the organization establishes for a time its place in the environment, and strategic change can be viewed as the organization's response to environmental change, constrained by the momentum of the bureaucracy and accelerated or dumped by leadership (Mintzberg, 1978), gives us a clear and holistic interpretation of business model innovation.

Business model innovations are strategically relevant decisions, which alter the logic of the firm. Those decisions might act on different levels of the organization; the structure, the content and the governance of the firm.
Business models can be disruptive for the environment (Apple), or subtle but relevant (Taco-bell).

Through business model innovation, novelty, lock-in, efficiency and complementarities are exploited. The organization's internal processes can limit its ability for change.

The ability of the leadership resides on both the direction of those changes and their organizational implementation. The capability of the firm to position itself advantageously in its environment determines the success of the firm over time.

CAP 3 **SUSTAINABLE BUSINESS MODEL**

1) introduction

Business strategy and management disciplines are increasingly incorporating sustainable development into their assumptions and frameworks, stimulating diverse fields of study. (Winn and Kirchgeorg, 2005).

Theoretical and practical approaches to sustainability have been proposed with some common properties: improving sustainability often implies change, innovation or adjustment of an entity in relation to its surrounding or supporting environment. (Faber et al., 2005).

Given it's holistic and systemic view of the organization, the business model concept attracted researchers dealing with sustainable development quickly. The innovation drive of the business model field is emerging as a potential mechanism to integrate sustainability into business. (Schaltegger et al., 2012; Jolink and Niesten, 2015).

When the concept of sustainable business model was first conceived, its main purpose was to put companies into the service of the transformation to a more sustainable economic system and to provide a leverage for integrating sustainability considerations into organizations and helping companies to achieve their sustainability ambitions (Geissdoerfer, 2018).

Today, authors such as Porter & Kramer (2011) argue that the notion of a sustainable business model is increasingly seen as a source of competitive advantage. Growing discourse suggests that innovating for sustainable development can provide firms with valuable, rare, difficult-to-imitate resources, and thus can be a source of competitive advantage. (Hall & Wagner, 2012)

Several large cap firms are facing major challenges in the process of transforming their industries toward sustainable development. (Hockerts and Wustenhagen, 2010). Large cap firms react in the face of corporate scandals to stakeholder pressures and adopt responsibility and sustainability as an incremental process. (Kolk, 2016).

The sustainable business model is becoming a dominant issue on management and strategic paper. Sustainable business model is relatively a young construct; the first article who defined the issue was from Stubbs & Cocklin (2008). Thereafter a cascade of peer-reviewed articles came to light, stimulating major discussion within the management, sustainability and strategic subjects.

Nowadays sustainable business model research and practice can be seen as an emerging field on its own. (Lüdeke-Freund & Dembek, 2017).

However, the lack of consensus and clarity that characterizes the business model field is reflected in the sustainable business model concept, making it a "slippery construct" to study as well. Being an emerging field, few empirical case studies are available for further study.

Moreover, sustainable business model researchers and practitioners have a tendency to talk mainly to their sustainability peers, e.g in terms of how they frame and work on research and practice problems, the journals and other outlets they publish in. (Lüdeke-Freund & Dembek, 2017).

The sustainable business model construct and sustainable business model innovation practice, we argue, has the possibility to help out visionary entrepreneurs to access the possibilities given by the imminent sustainable transition.
While policies try to drive the economy towards sustainability and stakeholder pressure towards more responsible business operation grows up, leadership struggle to adapt the organization to the changing environment.

By evolving the boundaries and the concept of business model and business model innovation term, sustainable business model might be a precious tool for helping out firms who wish to thrive in the incumbent competitive environment.
Anyway, the challenge for future fit businesses is complex and it requires disruptive thinking. Sustainable business model theory embeds different disruptive concepts which we will see further on in this chapter.

After a literature review of the sustainable business model, we will analyse which are the concepts underpinning this emergent field of study.

2) Sustainable business model literature review

Following the work of Geissdoerfer et al. 2018, we present the most influential definitions of the sustainable business model.

Source	Definitions
Stubbs and Cocklin, 2008	A sustainable business model is "a model where sustainability concepts shape the driving force of the firm and its decision making [so that] the dominant neoclassical model of the firm is transformed, rather than supplemented, by social and environmental priorities."
Garetti and Taisch, 2012	Sustainable business models "have a global market perspective, taking into account the development of new industrialised countries as well as the need for more sustainable products and services."

Schaltegger et al., 2012	Sustainable business models “create customer and social value by integrating social, environmental, and business activities”
Bocken et al., 2013	“Sustainable business models seek to go beyond delivering economic value and include a consideration of other forms of value for a broader range of stakeholders”
Boons and Lüdeke-Freund, 2013	“A sustainable business model is different from a conventional one through four propositions, “1. The value proposition provides measurable ecological and/or social value in concert with economic value […] 2. The supply chain involves suppliers who take responsibility towards their own as well as the focal company's stakeholders […] 3. The customer interface motivates customers to take responsibility for their consumption as well as for the focal company's stakeholders. […] 4. The financial model reflects an appropriate distribution of economic costs and benefits among actors involved in the business model and accounts for the company's ecological and social impacts”
Wells, 2013	A business model for sustainability “would assists in the achievement of sustainability [by] following major principles […] for sustainability”, which Wells defines as 1) resource efficiency, 2) social relevance, 3) localisation and engagement, 4) longevity, 5) ethical sourcing, and 6) work enrichment”
Upward and Jones, 2015	“A (strongly) sustainable business model “is the definition by which an enterprise determines the appropriate inputs, resource flows, and value decisions and its role in ecosystems, [in a way that] sustainability measures [which] are those indicators that assess the outputs and effects of business model decisions […] might be claimed as successfully sustainable.”
Abdelkafi and Tauscher, 2016)	Sustainable business models, “incorporate sustainability as an integral part of the company's value proposition and value creation logic. As such, [Business models for Sustainability] provide value to the customer and to the natural environment and/or society.”
Geissdoerfer et al., 2016	“We define a sustainable business model as a simplified representation of the elements, the interrelation between these elements, and the interactions with its stakeholders that an organisational unit uses to create, deliver, capture, and exchange sustainable value for, and in collaboration with a broad range of stakeholders.”
Evans et al., 2017	“Sustainable business models are described with five propositions, “1.

	Sustainable value incorporates economic, social and environmental benefits conceptualised as value forms. 2. Sustainable business models require a system of sustainable value flows among multiple stakeholders including the natural environment and society as primary stakeholders. 3. Sustainable business models require a value network with a new purpose, design and governance. 4. Sustainable business models require a systemic consideration of stakeholder interests and responsibilities for mutual value creation. 5.Internalizing externalities through product-service systems enables innovation towards sustainable business models.”

3) **On sustainability: people, planet, profit**

Approaching a conceptual analysis of the sustainable business model theory is complex work to tackle. The field is very fragmented because it brings the academic confusion herited by the business model concept within the already shattered world of sustainable studies.

Several categories and subcategories can be highlighted both in the sustainable research field and in the business model construct. The first meaning of sustainability is itself a contested concept. (Stubbs & Cocklin, 2008).

However, there are “ well-rooted fundamental ideas” (Lüdeke-Freund & Dembek, 2017), which are at the very basis of the sustainable business model concept.

Before proceeding to list them, it is worth clarifying what is meant today for sustainability.

At the very core of the recent understanding of sustainability, humankind realized that corporate and human sustainability is a complex problem. The National Academy of Sciences of the United States (2009) demonstrated the level of complexity required to reach a sustainable human society. (Metcalf & Benn, 2013)

> *“...the task is huge and will take a concerted and sustained effort if we hope to make the transition a relatively smooth one. It will require a whole systems approach at multiple scales in space and time. It will require an integrated, systems-level redesign of our entire socio-ecological regime, focused explicitly and directly on the goal of sustainable quality of life rather than the proxy of unlimited material growth. It must acknowledge physical limits, nature's complex systems, a realistic view of human behaviour and well-being, the critical role of natural and social capital, and the irreducible uncertainty surrounding these issues.(p. 2488)”*

The literature is rife with attempts to define sustainability (Robinson, 2004) and there are many terms used in the literature such as sustainable development, human sustainability, social sustainability, ecological sustainability, and corporate sustainability as well as aligned concepts of corporate social responsibility and corporate citizenship. (Stubbs & Cocklin, 2008).

In order to extend the concepts of sustainability to broader comprehension an important work of simplification and democratization of the concept has been done. We can resume the broad concept of sustainability with a slogan. *People, planet, profit.*
This means that today sustainability is almost always seen in terms of three dimensions: social, economic and environmental.
This is embodied in the definition of sustainability adopted by the United Nations in its Agenda for Development. (Kuhlman & Farrington, 2010).

> *"..development is a multidimensional undertaking to achieve a higher quality of life for all people. Economic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development "*

This idea is the one at the core of the meaning of a sustainable business. Sustainable business model theory extracts from the concept of sustainability both systemic and operational implication in order to structure an organization which contributes to sustainable development.

Another important definition who deserves to be cited in this work is the one defining strong sustainability compared to weak sustainability. This distinction inspired a whole subfield within the sustainable business model emerging field which is the strongly sustainable business model.

Strong sustainability demands the understanding of the "macro-economy as a sub-system of the finite ecosystem" (Neumayer, 2013) informed by natural science. On the other hand, weak sustainability " can be interpreted as an extension to neoclassical economics" (Neumayer, 2013), where such containing systems are not considered. (Victor, 2008).

Businesses can position themself on a continuum between a strong sustainable business and a weak sustainable one. While the business model can describe the position of the firm within this continuum , a sustainable business model innovation represents the changing of the business model toward a stronger position.

Weak sustainability does not require disruptive rethinking of the core logic of the firm (value proposition, value capture, delivery and creation) since it does not require the change of the meaning of value.

Finally, we can argue that the aim of the sustainable business model theory is to drive the logic of the firm toward sustainability. Sustainable businesses are required to be financially viable, contribute to the social development of the community and reduce at the minimum the impact on the environment. Firms which manage to do so, create sustainable value. We can look at a logical representation of the concept of sustainable value in figure 7.

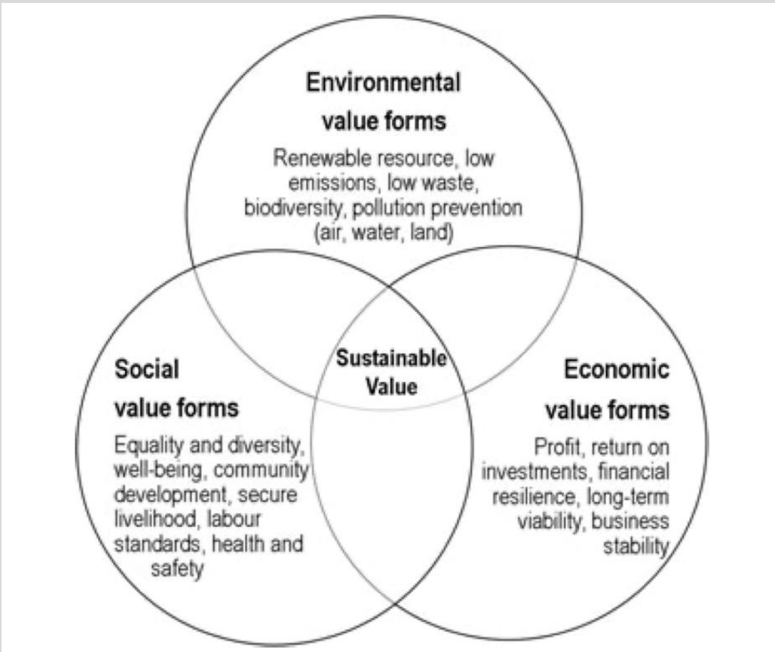

Fig. 7 - Source: Business model innovation for Sustainability: towards
a unified perspective for creation of sustainable business model (Evans et al., 2017)

4) Sustainable business model conceptual analysis

The sustainable business model inherited the fluidity of the business model since it can be used and interpreted in different ways. In our discourse, we tried to synthesize this continuum of possible interpretation on a three level analysis: strategical, operational and representative. This reasoning is adaptable to the sustainable business model as well.

Stubbs and Cocklin (2008) argue that a sustainable business model could be conceptualized in various ways such as a narrative of sustainability practices; a description of features, attributes, and or/characteristics; a list of necessary and sufficient conditions; a representation of a business processes; a firm level description; a system-level description; or some combination of all of these.

This fluidity of interpretation risks watering down the discourse in a broader academic discussion. What is focal is the concept that sustainable business model has been conceptualized as a new logic for the firm where sustainability concepts “play an integral role in shaping the mission or driving force of the firm and its decision making” (Wicks, 1996).

The decision making process is still central. The sustainable business model is meant to alter the logic of the firm, consequently, its decision making. The firm research of an adequate strategic position will be driven not only by the forces of competition but also by sustainability concepts.
In which ways the logic of the firm must be switched in order to install the aforementioned sustainable concepts?

As mentioned above, we can identify four main “well-rooted fundamental ideas” (Lüdeke-Freund & Dembek, 2017), in the sustainable business model emerging field which constitute the pillars of the theory.

We will proceed listing them.

As we will see, the quasi-totality of them represent quite disruptive idea, as highlighted by the authors which are recognized as the firsts to have conceptualized the theory, sustainable business model represent an “ideal type” (Stubbs & Cocklin, 2008) towards which the firm must tend in order to integrate sustainability in a successful way.

1. Overcoming neoclassical view

Surpassing the neoclassical view of the firm is one of the key pillars of the sustainable business model theory. We decided to address it first because it closes the loop of the whole reasoning. In some ways, we argue, overcoming the neoclassical view of the firm is the overall objective of the logical switch of the firm.

The neoclassical economic worldview is the dominant paradigm today.
This means that for well over 70 years, arguably the entire modernist era, business success has been broadly defined by monetary returns to shareholders via a share of profits and increases in firm valuation (Handy, 2002). This leads to the assumption that the primary goal of organizations is to maximize shareholder value.

(Stubbs & Cocklin, 2008).

Pollution and waste are externalized and high discount rates are used, which favour harvesting of resources over preservation for future generations (Shrivastava, 1995). Organizations must be highly competitive to gain the best resources and increase their profitability. The production cycle reflects a linear take-make-waste approach, which is energy and resource intensive (McDonough & Braungart, 2002).
Since the measure of success is only given by monetary output, environmental reforms are typically pursued only if it is in the organization's self-interest (Purser, Park & Montuori, 1995).

Firms that voluntarily engage in environmental or social programs beyond the minimum legally required level are thus motivated by the hope that this produces improvements in their corporate image or similar competitive advantages (Hall & Wagner, 2012). This leads to what we have previously called weak sustainability.

Finally, if the logic of the firm is stalled in considering itself (and being considered as such by stakeholders) as a mere economic entity, the ability to effectively address social and ecological degradation is inherently limited. (Shrivastava, 1995).

The unacceptable limit of the neoclassical view is the conception of organization as third parties towards society and environment. This leads to externalities acceptance which has largely contributed to well known financial, social and environmental problems. (Handy, 1991).

Sustainable business model theory represents the firm choices and choices' consequences within the reality: which is indisputably and strongly tied with the society and environment.

Some authors tried to substitute the neoclassical world view with other emerging holistic theories. Stubbs and Cocklin (2008) saw the emerging worldview of ecological modernization (Mol, 2006) as an alternative word view to the neoclassical economic perspective.
One of the core beliefs of ecological modernization is that economic growth can be uncoupled from environmental degradation and ecological modernization is achieved through environmental policies, innovation, and new technologies (Baker, 2007).

Authors such as Upward and Jones (2015) , whose articles on the strongly sustainable business model are some of the most cited, criticized Stubbs and Cocklin (2008) arguing that ecological modernization as conceptual basis underpinning the sustainable business model construct was inadequate. They see in the reflexive modernization theory (Beck, Bonss & Lau, 2003) the appropriate worldview for overcoming the neoclassical one. Upward and Jones (2015) highlight that one of the critical aspects of the neoclassical view is the definition of business success it prescribes.

The power of reflexive modernization is that it recognizes that a plurality of definitions and boundaries must be considered in any definition of organizational success, allowing actors to consider multiple positions as hybrids of facts and values (Upward & Jones, 2015). Moreover, reflexive modernization explicitly considers multiple feedback processes between society and environmental actors. (Upward & Jones, 2015).

The debate is meant to continue and it would deserve to be investigated further on, however this work's primary objective lies on a shallower surface.
Finally, we can argue that the neoclassical worldview is univocally considered the first and last impeding construct for future-fit businesses.

2. Creating sustainable value

As we have seen in the business model conceptual analysis, the concept of value is at the very core of the business model construct. The logic of the firm is realized in the operation implemented in order to create, deliver, and capture value.
Sustainable business model researchers argue that the current definition of value as a source of organizational or individual enrichment, measured only in monetary units (Blattberg, 2000) is a thin and limited view.

Adam Smith's view of “exchange value” has been the cornerstone of economic thought that largely prevails in today's business practice (Ueda et al., 2009). However, economics is not the only lens used to look at the concept of value. Psychology, sociology and ecology also offer perspective on value (Den Ouden, 2012) bringing both objective and subjective dimensions, such as belonging, eco-footprint and meaningful life. (Evans et al., 2017).

From a sustainability perspective, a firm’s value creation logic should consider the integration of social and environmental goals into a more holistic meaning of value (Schaltagger et al., 2011). We have already seen a representation of this broadened concept of value in figure 7.

The rethinking of the concept of value brings with it a broadened definition of profit. On this matter, the most relevant idea is to combine the economic, environmental and social outcome of the firm on a triple bottom line accounting framework. Authors such as Upward and Jones (2015) instead defined “tri-profit” as a new and inclusive conceptual metric to replace profit. Whether triple bottom line or the tri-profit account frameworks will be most adopted by firms, this switch will be difficult without public policies that favour corporate sustainability.

This economical driven concept of value criticism follows the surpassing of the neoclassical view as we mentioned. Reaching strong sustainability requires the rethinking of the firms’ role within society.
This role cannot be a separate entity whose logic is articulated only by financial thinking. Thus, the consequences firms have on society cannot be measured only by financial units, they must be broadened in their meaning, embedded in reality. The contribution of the firm operations cannot be measured only by the product outcome, but also by its social and environmental outcome.

3. Reconsidering stakeholder relationship

The stakeholder role and relationship analysis is focal in the business model concept.

Let’s remember that the business model can be seen as the activity system that enables the firm, in concert with its partners, to create value and also to appropriate a share of that value (Zott & Amit, 2010).
The organization activity towards the creation of value can’t be understood without the consideration of the stakeholder’s role. If the value to be created is changed, consequently it is to be changed the architecture of the activity systems and the partners role in it.

The main criticism of the current stakeholder relationship should not be totally customer driven.

In order to achieve flourishing businesses, considering the role of different stakeholders is a critical matter. (Carayannis et al., 2014). Rethinking the purpose of the firm as a part of a value network could enable innovation towards new sustainable business models. (Evans et al., 2017).
Sustainable business model should consider a collaborative approach between stakeholders to develop sustainability solutions for the whole system, rather than for individual components (organization) within the system. (Stubbs & Cocklin, 2008).

From the supply chain management to the relationship with customers and also competitors, strategies and plans could be shared in order to achieve greater results. This holistic and shared conception of sustainable value remarks the switch from sustainability as an add-on to be an integral part of firms’ strategies.

This entails constant and proactive communication with all the stakeholders as well as extensive stakeholder education on sustainability issues. (Stubbs & Cocklin, 2008). The role of the firm as educator is an action of social sustainability itself.

The idea of sustainable value itself is already informed by the need to be delivered to all the stakeholder's. Sustainable business model requires adding to the classical stakeholders both society and the environment. In considering stakeholder needs and in considering the firm itself as a node in the network, nature and society are both nodes in this network and the very surface on which this network lies.

Once again, a sustainable business model, broadening the concept of business model, is about considering the true relationship that the firm establishes within its environment.

5) <u>Conclusion</u>

Sustainable business model emerging field objective is to represent the firm within its true ecology. Which cannot be separated by society and environmental development or degeneration. This aim is what we have previously called the representative aim of the business model construct.

The business model fits perfectly for representing the firm in its honest strategic situation, since at the core of the concept there is the mutuality between firm choices and choices consequences and the environment around.

Secondly, by overcoming the neoclassical view of the firm, the developing of a broader concept of value, which is sustainable value, and rethinking stakeholders relationships (adding ecosystem and society), the sustainable business model changes the logic of the firm.
Since the firm operations are the reflection of the firm logic, the sustainable business model is supposed to bring firms toward a "stronger" degree of sustainability in firm operations. The sustainable business model has full meaning if it informs the operations of the firm.

Finally, the sum of choices firms make constitute the organization's strategic situation within its environment. The environment in which the firm is embedded is represented by the firm stakeholder; customers, clients, suppliers, employees, shareholders, institutions, environment and society.
Changing its relationships with them for a network based perspective in which the network tends towards sustainability, alters the strategic momentum of the firm within the environment. The sustainable business model acts on the third level of our analysis, the strategic one.

The sustainable business model in its holistic perspective requires shareholders', stakeholders' and organizations' values to be aligned around sustainability outcomes, which may only occur when sustainability is institutionalized in the society (Jennings & Zandbergen, 1995). This remarks what the "ideal-type" of business model that sustainable business model theory represents. However, sustainability has become a dominant issue, especially in the last ten years, especially by the youngest generations. The future leadership class and yet, consumers.

Anyway, the path towards future fit businesses is complex and uncertain. Especially in sustainable development innovation due to the interactions among economic, environmental and social variables, outcomes are not easily identifiable or predictable.
Sustainable business model is a step forward in the right direction because it takes consciousness of this matter, and tears away businesses from the enchanted tower where neoclassical economics placed it.

Sustainable business model is fascinating and of intuitive understanding until we leave it in Plato's Hyperuranium, where the ideas are as perfect as human intelligence can imagine. Bringing the concepts of a sustainable business model into reality, firms must make concrete choices, and "ideal-type" concepts take the shape of small, laborious steps from unsustainability to less unsustainability.

Through sustainable business model innovation, leadership tries to bring the logic of the sustainable business model right into the firm operations. Within that bureaucratic momentum whose main wish is to remain itself. This is done by changing both organizational culture and design. We will proceed further on assessing what is needed and what is meant for sustainable business model innovation.

CAP 4 **SUSTAINABLE BUSINESS MODEL INNOVATION**

1) <u>introduction</u>

As a branch in the emerging field of sustainable business model, research in sustainable business model innovation has started relatively recently.

We have seen that as the business model innovation aim is to change the organization design accordingly with sustainability logics. The business model structure is used for analysing, visualizing and changing processes within and outside the firm boundaries, thus business model innovation refers especially to process innovation.

Process innovation fits with sustainability. Being a process innovator significantly positively influences ecological performances, whereas being purely a product innovator or product recycler does not (Hall & Wagner, 2012).

While equally focused on innovating the value creation, delivering and capturing processes, sustainable business model innovation includes the introduction within the firm of new disruptive concepts. Which we have previously seen; surpassing the neoclassical view, rethinking stakeholder relationship and the development of a new concept of value.

When implementing these ideas in the organization, the leadership finds the obstruction of the bureaucratic momentum, that stabilizing force within the organization which resists change (Mintzberg, 1978).

Those concepts enable the firm's boundaries spanning and the loss of short-term strategies relevance. This is why sustainability innovation requires more integrated thinking and reconfiguration of several business aspects such as capabilities, stakeholder relationships, knowledge management, leadership and culture (Adams et al., 2012).

Businesses benefits of changing towards sustainability are not only moral. Schaltagger and Wagner (2011) reflect on sustainability innovation as those envisioned to make real and substantial improvements by developing superior production processes, products and services, exercising strong market influence. Moreover, sustainable business model innovation can lead to direct business benefits such as cost savings and new revenue streams (Bocken et al., 2014), and more amorphous advantages by being ahead of future stakeholder concerns and legislations (Schaltegger et al., 2012), and improving organizational resilience (Buliga et al., 2016), reputation (Homburg et al., 2013) and employee attractiveness.

However, the rate of successful sustainable business model adoption is low and alarming, as shown from the empirical researches conducted by Ritala et al., (2017).

After a literature review and the conceptual analysis of the sustainable business model term, we will deep dive into the barriers and drivers that affect the implementation of sustainable business models within the organizational structure.

2) <u>Sustainable business model innovation literature review</u>

Making precious use of the extensive work of Geissdoerfer, Vladimitova & Evans (2018) we present the most relevant definitions of sustainable business model innovations found in the present literature.

Source	Definition
Boons and Lüdeke-Freund, 2013	Sustainable business model innovation is understood as the adaption of the business model to overcome barriers within the company and its environment to market sustainable process, product, or service innovations.
Loorbach and Wijsman, 2013	Sustainable business model innovation describes businesses' "searching for ways to deal with unpredictable […] wider societal changes and sustainability issues."
Bocken et al., 2014	"Business model innovations for sustainability are defined as: Innovations that create significant positive and/or significantly reduced negative impacts for the environment and/or society, through changes in the way the organisation and its value-network create, deliver value and capture value (i.e. create economic value) or change their value propositions."
Geissdoerfer et al., 2016	"Sustainable business innovation processes specifically aim at incorporating sustainable value and a pro-active management of a broad range of stakeholders into the business model."
Roome and Louche, 2016	Sustainable business model innovation describes the "processes through which […] new business models are developed by businesses and their managers […] how companies revise and transform their business model in order to contribute to sustainable development."
Schaltegger et al., 2016	Sustainable business model innovation describes the creation of "modified and completely new business models [that] can help develop integrative and competitive solutions by either radically reducing negative and/or creating positive external effects for the natural environment and society"

Yang et al., 2016	“Sustainable business model innovation can be more easily achieved by identifying the value uncaptured in current business models, and then turning this new understanding of the current business into value opportunities that can lead to new business models with higher sustainable value.”

3) <u>Sustainable business model innovation conceptual analysis</u>

As conventional by now, in our conceptual analysis we try to explore closely the concepts presented, with the aim of a true understanding of their logic and consequences.

On this matter, we deep dive on the dynamics of sustainable business model innovation, what actions really need to be implemented and what are the strategic results it can bring.

Sustainable business model innovation seeks to incorporate deeply entrenched societal problems into core business practices, doing so, the firm is supposed to develop more sustainable products, run more sustainable operations and adopt a broader view of the firm, prioritizing long term growth.

As with business model innovation, firms are free to develop new structures and processes in order to reach stronger sustainable positions.
Nine archetypes have been synthesised first by Bocken er al. (2014), secondly by Ritala et al. (2018) as objective for increasing the firm's sustainability. They are listed here below.

1. Maximise material and energy efficiency;
2. Closing resource loops;
3. Substitute with renewables and natural processes;
4. Deliver functionality rather than ownership;
5. Adopt a stewardship role;
6. Encourage sufficiency;
7. Repurpose for society or the environment;
8. Inclusive value creation;
9. Develop sustainable scale up solutions.

In order to do so, the firm must engage several challenges, on different fronts, which add the difficulties for business model innovation to the ones concerning the logic shifting pillars introduction. This is why the literature on sustainable business model innovation, integrated with the business model innovation one, gives us a range of six cross-sector, interdisciplinary and inter-boundaries challenges. Which represents the novelties to be implemented as tools for innovation toward strong sustainability.

Challanges	Authors
Triple bottom line The co-creation of profit, social and environmental benefits and the balance among them.	Hart and Milstein, 2003; Stubbs and Cocklin, 2008; Schaltegger et al., 2012
Mind-set The business rules, guidelines, behavioural norms and performance metrics prevail in the mind‐set of firms and inhibit the introduction of new business models.	Johnson et al., 2008; Yu and Hang, 2010; Boons and Lüdeke‐Freund, 2013
Resources Reluctance to allocate resources to business model innovation and reconfigure resources and processes for new business models.	Chesbrough, 2010; Zott et al., 2011; Björkdahl and Holmén, 2013
Technology innovation Integrating technology innovation, e.g. clean technology, with business model innovation is multidimensional and complex.	Hart and Milstein, 2003; Yu and Hang, 2010; Zott et al., 2011
External relationships Engaging in extensive interaction with external stakeholders and the business environment requires extra effort.	Stubbs and Cocklin, 2008; Vladimirova, 2012; Boons and Lüdeke‐Freund, 2013
Business modelling methods and tools Existing business modelling methods and tools, e.g. Osterwalder and Pigneur (2010) and Johnson et al. (2008), are few and rarely sustainability driven.	Björkdahl and Holmén, 2013; Girotra and Netessine, 2013; Yang et al., 2014

The inertia of the organization that tends to stabilize its actions in order to exploit the maximum from its operations, represents the ontological challenge that leadership needs to assess in order to trigger change in the organization.

Several works have shown that a structured and pervasive sense making activity through the information channel of the firm can foster change towards sustainability (Seidel et al., 2013).

However, sustainable business model innovation is a change management effort. Kotter (2006) in a Harvard Business Review on leading change splitted in eight stages the change process within an organization.

Stage	Actions needed	Challenges
Establish a sense of urgency	Examine market and competitive realities for potential crises and untapped opportunities. Convince at least 75% of your managers that the status quo is more dangerous than the unknown.	Underestimating the difficulty of driving people from their comfort zones. Becoming paralyzed by risks
Form a powerful guiding coalition	Assemble a group with shared commitment and enough power to lead the change effort. Encourage them to work as a team outside the normal hierarchy.	No prior experience in teamwork at the top. Relegating team leadership to an HR, quality, or strategic-planning
Create a vision	Create a vision to direct the change effort. Develop strategies for realizing that vision.	Presenting a vision that's too complicated or vague to be communicated in 5min.
Communicate the vision	Use every vehicle possible to communicate the new vision and strategies for achieving it Teach new behaviours by the example of the guiding coalition.	Under communicating the vision. Behaving in ways antithetical to the vision.
Empower others to act on the vision	Remove or alter systems or structures undermining the vision. Encourage risk taking and non-traditional ideas, activities, and actions.	Failing to remove powerful individuals who resist the change effort.
Plan for and create short-term wins	Define and engineer visible performance improvements. Recognize and reward employees	Leaving short-term successes up to chance. Failing to score successes early

	contributing to those improvements.	enough (12 - 24 months into the change effort).
Consolidate improvements and produce more change	Use increased credibility from early wins to change systems, structures, and policies undermining the vision. Hire, promote, and develop employees who can implement the vision. Reinvigorate the change process with new projects and change agents.	Declaring victory too soon with the first performance improvement. Allowing resistors to convince “troops” that the war has been won.
Institutionalizing new approaches	Articulate connections between new behaviours and corporate success. Create leadership development and succession plans consistent with the new approach.	Not creating new social norms and shared values consistent with changes. Promoting people into leadership positions who don't personify the new approach.

We have seen in this paragraph which are the archetypes to be followed as objectives moving toward a more sustainable business. Afterwards, which are the new elements to be institutionalised in order to equip the organization for the sustainable business model innovation. Those elements not only represent a change in the operations, but are informed by a logic which is new for the organization, this is why sustainable business model innovation represents a harder job than business model innovation. Even when the latter is radical.

Organizations are first of all a network of people, and in order to infiltrate new logics in their activity there is the need to do work of convincing and involving.

Those two concepts are at the core of the eight stages’ change management analysis structured by Kotter (2006). Those stages are the one to be implemented for moving people toward a radical new concept of organization, besides, a work of sense making and sustainability issue education to be implemented as well. Since the vision must be communicated, and the vision underpinning sustainable business model innovation relies on a different logic related to classical innovation, employees and stakeholder in general should be educated towards sustainability.

The concept of businesses as educators, empowering the stakeholder community, is both a solution and a consequence of sustainable value creation.

The change management activity towards sustainable business model innovation meets barriers on its way, and typically firms fail in the successful application of the required elements for reaching strong sustainability (Geissdoerfer et al. 2018). In the next chapter we will assess which are the organizational design barriers and drivers the firm faces when innovating for sustainability.

4) **Sustainable business model innovation barriers and drivers**

The firm' skills to integrate, build and reconfigure internal competences to address changes in the business environment are referred to as the firm's dynamic capabilities (Teece, 2007).

The strength of a firm's dynamic capabilities determines the speed and degree of aligning the firm's resources in order to exploit the changes in the business environment.

Dynamic capabilities can be divided into three macro-categories.

1. Sensing: identifying and assessing opportunities;
2. Seizing: mobilizing resources to address opportunities and capture value from doing so;
3. Transforming: continued renewal of the organization.

Going back to our conceptual understanding of strategy, the ability of the bureaucracy to adapt, fostered by leadership, in response to environmental change is linked to those three activities. Which we can call dynamic capabilities.

Business model, dynamic capabilities and organization design are interlinked (Fjelstad & Snow, 2018).

Dynamic capabilities emerge as a result of organizational design (Leith et al., 2015), and organizational design is about realizing intended business models.

Successful business models enable the institutionalisation of the dominant logic, the dominant logic affects the information processes in order to limit uncertainty and exploit operations. Dynamic capabilities represent the ability to move from one logic to another one. The interlink between the three is complex and multi-faced and dynamic.

We can argue that dynamic capabilities, which are a consequence of organizational design, are essential for business model innovation success.

The relationship between dynamic capabilities and business model innovation is even deeper in sustainable business model innovation. Given the complexity of sustainable business model innovation, corporations need to invest in dynamic capabilities to move beyond the dominant logic they are accustomed to, which is no longer appropriate in the face of growing societal and environmental issues (Hart & Dowell, 2011).

Within the context of sustainable business model innovation, *sensing* involves companies becoming aware of emerging sustainability issues and understanding and appraising these as potential business opportunities (McWilliams and Siegel, 2011). We can recognize this concept also in Kotter's analysis' first step "Establishing a sense of urgency" and in fourth "communicating the vision" . *Seizing* is about mobilizing resources to address emerging opportunities and capture value from doing so, by translating this into sustainable business model innovation opportunities (Teece, 2018). Seizing is the ability to "Create a vision" and structure innovations for sustainability informed by it. Finally, *transforming* is about the deliberate continued renewal of the organization capabilities (Teece, 2018) towards becoming a sustainable business.

We previously assessed that the ability of the firm to sense, seize and transform is a consequence of the firm organizational design and structure. Which is the realization of the firm business model. We need to understand which are the organizational design barriers and drivers to dynamic capabilities, which foster successful change management. They key for implementing new processes and logic in the firm, towards the nine archetypes for sustainable business.

On this matter, Bocken & Geradts (2020) interviewed several top, senior and middle managers of multinational corporations in order to identify factors in the organizational structure that hinder or enable dynamic capabilities.
The managers interviewed are all committed in some way to sustainable transition and they come from six multinational corporations; Akzonobel, Interface, Johnson & Johnson, Pearson, Philips and Unilever.

Cross referencing the results of those interviews with other articles in the literature, we are able to identify three main drivers that are consequential for dynamic capabilities. Those drivers mirror barriers, so identifying one barrier will highlight a driver and vice versa. We can identify those barriers/drivers on three levels. Institutional, strategic and operational level barriers/drivers. (Bocken & Geradts, 2020). This takes us back to the distinction between strategy, business model and tactics from Casadesus - Masanell & Ricart, (2010).

Those three level analyses are very close to each other. Confirming the value of the core logics underpinning our work.

Institutional barriers for Bocken & Geradts (2020) are concerned with well-established rules, norms and beliefs that describe the reality of the organization and guide behavior accordingly. Strategic level barriers are the actions that contribute to core organizational objectives and shape the long term direction of a firm (

Jhonson et., al 2017). Finally, operational barriers are the one with the realization of the firm strategic choices.

The first barrier which we can identify for developing dynamic capabilities for sustainable business model innovation lies at the institutional level.

1. *Uncertainty avoidance* is the cause of investment decisions inside corporations that are driven by financial risk avoidance and low tolerance for uncertainty. Developing new capabilities for sustainable business model innovation requires instead upfront investments with uncertain returns. (Bocken & Geradts, 2020). Uncertainty avoidance can be interpreted as a consequence of the stakeholder relationship that the sustainable business model theory wants to switch. Being too much oriented as satisfying customers and shareholders leads to avoiding financial risks.

   On the other hand, *Embracing ambiguity* is seen as an institutional level driver for innovation toward sustainability. Embracing ambiguity entails that corporations move beyond perceived social-business trade-offs. A top manager commented on its importance to sensing by saying, "let's take waste as an example. If you actually drive waste down which is good for your costs, it's ethically right and it is sustainably right so you know that's the first point, so we need to break this narrative around 'it's more expensive'. It's not. It's really not." (Bocken & Geradts, 2020).

Secondly, at strategic level of the analysis we find as main driver;

2. *Collaborative innovation.* To address complex sustainability challenges, interviewees emphasized a need for collaborative innovation to foster dynamic capabilities (Bocken & Geradts, 2020). The collaborative innovation element is double faced and it's broadly recognized as critical for innovation. The first aspect of collaborative innovation is cross-functional collaboration between different departments of the firm. (Carayannis et al., 2014; Hall & Wagner, 2012). De Wall (2006) has argued that organizational design in high performance organisations should stimulate cross-functional and cross-organizational collaboration, and simplify the organization by reducing barriers around units. On this matter, the increased integration costs may also involve greater coordination costs and inefficiencies, argues Hall & Wagner (2012). The other face of collaborative innovation comes directly from sustainable business model principles and it prescribes the content of that constant and proactive communication with all the stakeholders. (Stubbs & Cocklin, 2008). A senior manager commented on the importance of stakeholder collaborative innovation and its effect on the sensing capability by sharing "That is the real stakeholder engagement - to understand what society's issues are and develop solutions according to that. (Bocken & Geradts, 2020). This also represents the extensions of the firm's boundary as prescribed by the creation of sustainable value

and the abandoning of the neoclassical economist view of businesses.

Finally, the third barrier for sustainable business model innovation lies on the operational (tactical) level.

3. *Standard Innovation Process and Procedure.* Interviewees remarked that innovation for sustainability is often incompatible with processes and procedures standardized for innovation. Logically, the shifts to a new emerging direction of innovation (sustainability) should be realized from new emerging processes and procedures. Standardization and formalization of procedures are indicated as innovation inhibitors in general by researchers and practitioners. A mid-manager said "[when] it becomes too standardized, it becomes too much procedures and processing, people tend to become mechanical in their work and lose a bit of the creativity, which is needed to be able to come up with new ideas." (Bocken et al., 2020). *Enabling innovation structure* instead is consequential to collaborative innovation. Managing stakeholder collaboration and cross-sectorial innovation cannot rely on typical procedures for innovations. Moreover, integrating sustainable development within the business model would require heightened integration of environmental management with general management (Hamschmidt & Dyllick, 2001). This adds new actors in the already complex environment of collaborative innovation. The tactical operation must change as well for realizing newer strategic objectives.

5) <u>Conclusion</u>

Sustainable business model innovation represents a complex challenge for any business which goes through it. It requires a deep rethinking of the firm's role within the social environment and invasive innovation in culture, processes and management practices.

The possibility for a firm to reduce its impact on the environment and the society are several and synthesized in 9 archetypes. Those new goals need to be deeply absorbed by the organization and the stakeholder community within the firm.

The radical switch in moving toward objectives which are not directly linked to an increase in profit or capital value represent the difference between weak and strong sustainability. Strong sustainability requires a new conception of the firm, a new logic. The logic of the firm is the one that determines the firm choices, the firm choices constitute the realized strategy of the firm. In order to realize the strategy that follows the sustainable logic, a long and costly work of change management must be done.

This work is meant to embed in the firm those new processes and tools which will conduct the firm reaching those new objectives.

The success of change management actions is linked to the development of dynamic capabilities within the

firm. Dynamic capabilities emerge from the established culture, processes and information system within the firm. Dynamic capabilities represent the ability of the organization to adapt in reaction to the external environmental changes. *Sensing* the change in the environment and assessing the opportunities that might come from it, *seizing* which are the instruments and challenges to be taken in order to expose those opportunities and *transform* accordingly. The level of these capabilities depends on the organizational design. Which is the realization of the firm business model, which prescribes the firm logic.
We can argue that the capability of a firm to change its logic relies within its already established logic.

Sustainable business model innovation is something that society, and broadly, humanity, needs in order to try to reduce the inevitable impacts that disruptive climate change will have on the next future.
Sustainable business model is an hopeful and attractive structure in order to reach sustainability because it represents the consequences that firms' actions have on the society and environment broadly, and it embraces the complexity of sustainability in a conscious manner, restricting simplifications.

CAP 5 **LEADERSHIP FOR SUSTAINABILITY**

1) <u>Introduction</u>

Public opinion’s growing awareness on sustainability issues and timid policies are still not enough in order to trigger massive sustainable business model adoption within firms. As we have seen, a strong sustainable transition requires a huge amount of resources, dynamic capabilities, technological innovation and stakeholder support. Moreover, this transition has to be implemented while running current operations. This requires a high level of ambidexterity, dynamic capabilities and vision.

The risks, the complexity and the uncertainties of the challenges towards sustainable business model innovations are severe, regardless, we drastically need business to switch part of their efficiency on creating sustainable value.
This brings the spotlight on the category which has the responsibility to foster change in organizations: Leadership.

From several examples given by the literature the role of leadership emerges as critical in introducing the firm on the path through innovation for sustainability.
Stubbs & Cocklin (2008) argued that until sustainability is institutionalized in organizations and within the mindset of stakeholder, “visionary CEOs” will push the sustainability agenda throughout organizations and

stakeholder networks. For Carayannis et al., (2014) the change towards innovation for sustainability is mainly driven by "the CEO himself". Leadership is seen as the most important issue that organizations must address to ensure effective business model experimentation for Chesbrough (2010). The literature is full of examples and case studies highlighting leadership's role.
Moreover, the conceptual foundation underpinning our work argues the same. The strategic discourse is structured as a three subject interplay.
Mediating between an environment which constantly changes (that is not to be meant as an ecological environment but as "what is not internal to the firm"), and a bureaucracy that resists change in order to stabilize its actions and exploit efficiency (the organization) , there is leadership. For the survival of the organization, leadership's role is to maintain the stability of the organization's operating system while at the same time ensuring its adaptation to environmental change. (Mintzberg, 1978).

Talking about leadership and sustainability is a delicate issue to face. There is the possibility to fall in the nihilistic observation that heroes don't exist. Even worse, in rhetoric chants on how we need great leaders to come up with a strategy to save us from the worst. Studying leadership theory has been helpful avoiding both of the options.
Even if it's true that the more great minds apply for this mission the best, we will further discover that leadership does not obviously coincide with leaders.
We will further see how the path towards a sustainable business does not have to rely on the subjective mission of some CEOs-*Übermenschen*, but might be realized by conscious networks of peoples aligned versus a same goal. Learning, adapting, creating.

In order to demonstrate so, we need to build our conceptual basis, vital for constructing our reasoning. Firstly, recognizing what is meant today for leadership. Assessing what is the role of leadership within organizations and what are the dynamics between leadership, organizational design, and sustainable innovations.

2) <u>Leadership; strategy; structure</u>

As already discussed, the leadership role in businesses is to foster adaptation of the organization in response to the changes of the environment. This implies to have situational awareness regarding the present state of the environment and an intimate understanding of the bureaucratic momentum of the firm, which we can call, the structure.

The structure is more than just a planned network; it is also what happens in the network, or the process that

takes place within and between the constituent parts. (Hall & Saias, 1980).
Moreover, any organization is a structure within a structure since the collaboration of others (the stakeholders) is required if it is to function and survive.

The visionary role of leadership is confirmed widely by the management and sustainability literature. (Augier & Teece, 2009; Bocken et Geradts; 2020; Carayannis et al., 2014; Mintzberg, 1978).

The efficacy of the business model construct comes from representing both the processes of the firm and the relationships that the firm establishes within the environment through it's choices. Reason why it has become so important for top-managers and decision makers.

Mediating from the two forces the leadership comes up with a vision for exploiting the opportunities from the environmental change (again, must be intended as external structure, not in it's ecological meaning), or at least, avoid the organizational pershiment on future threats.

The vision of the leadership is translated into a set of choices which constitute a plan for changing the organization. This plan is what we can call the intended strategy leadership wants to pursue. (Mintzberg, 1987). The intended strategy, the plan, the vision, is only a face on the coin of strategy formulation.
The bureaucratic momentum of the organization, the structure of the firm, constrains the change in the response of leadership to environmental change. This is why the intended strategy has to be compared with the realized strategy of the firm. The realized strategy is observable by the position of the structure (the firm) within the superstructure (the environment) in a given time.
This coincides, we argue, with the firm business model.

The organization has a crucial role in the realization of the intended strategy. This concept overcomes the classical understanding of strategy, embracing the complex reality of strategy formation.
The consequences of the complex and iterative relationship between strategy and structure has been pushed forward. Hall & Saias (1980) , challenging the established management theory , argued that in this complex dynamic the structure of the firm might influence the direction of strategy formation. The mainstream agenda saw the strategy formation as explicit, consciously and purposefully, and made in advance of the specific decisions to which it applies. (Mintzberg, 1980).

This school of thought is represented by Chandler's (1962) definition of strategy:

> *"...the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals..."*

The exclamation mark in the title of the Hall & Saias (1980) article " Strategy follows Structure!" explicitly provokes Chandler's well known edict "structure follows strategy".
The centrality of the organization design on the capability of firms to adapt and transform had been widely assessed by Teece (2018) on individuating within the organizational structure of the firm the formation of dynamic capabilities. Key for organizational transformation, flexibility and business model innovation.

This conceptual shift adds another important role to the figure of leadership. Leadership must transform the organizational design in order to fulfil the vision. Realize the intended strategy, which Mintzberg (1978) calls deliberate strategy.
Indeed, it is at the management team that Kotter (2006) indicates which are the challenges, the steps for "leading change".
Finally, we can argue that the leadership role in an organization consists in strategy creation and strategy implementation. Moreover, we have seen how the leadership is in charge of the dynamic capabilities development of the organization through its design.
Different styles of leadership and understandings of the concept have come with the evolution of the dynamics of the environment around and the internal organizational design.

3) Leadership and complexity

Previously in our work we have discussed the complexity of the challenges that need to be faced in order to achieve future-fit businesses. Describing a problem as complex does not mean it is just a very difficult problem.
Complex problems are characterized by a large number of interacting elements and from the absence of proven theoretical approaches for the solution (Learmonth et al., 2011).
A complex problem is one the fulfils the following criteria (Doner and Kreuzig, 1983) :

1. Aspects that are relevant to the solution process are large (complexity), highly interconnected (connectivity), and dynamically changing over time (dynamics);
2. Neither structure nor dynamics are disclosed (intrasparecy);
3. The goal structure is not straightforward: in dealing with a complex problem, a person is confronted with a number of different goal facets to be weighted and coordinated.

Leadership as we mean it, needs leaders which can embrace and coordinate several complex problems in their strategy formulation. These are proposed to be leaders who can think through complex problems, engage groups in dynamic organizational change and have high emotional intelligence to deal with the personal emotions associated with complexity (Metcalf & Benn, 2013).

We previously showed how sustainability is a complex problem. Complex problems in which the stakes are high, decisions are urgent and values are in conflict are also referred to as “wicked” problems. Sustainability is a wicked problem.
Strategy formulation and business model innovation are both complex problems as well.
Strategy formulation is about mediating between two different, dynamically changing and interconnected elements, the environment and the bureaucracy. The bureaucracy is a rationalized structure within an ever changing, dynamic overstructure: the environment.

Sustainable business model innovation is about facing the challenges of change management in business model innovation while implementing new disruptive logic and tools within the organizational structure. Moreover, balancing the transition with the successful prosecution of ordinary operation sustains the business.

Finally, the human cognitive process of complex problem solving and leadership-follower relationship represent two complex problems on their own. Funke (2010) has coined the term “complex cognition” recognising that complex problem solving involves more than just cognitive process, it includes emotion and motivation. We can see a representation of the human cognitive process to complex problem solving here below in fig. 8. This is one of the important findings that neuroscience applied to economics has given to us.

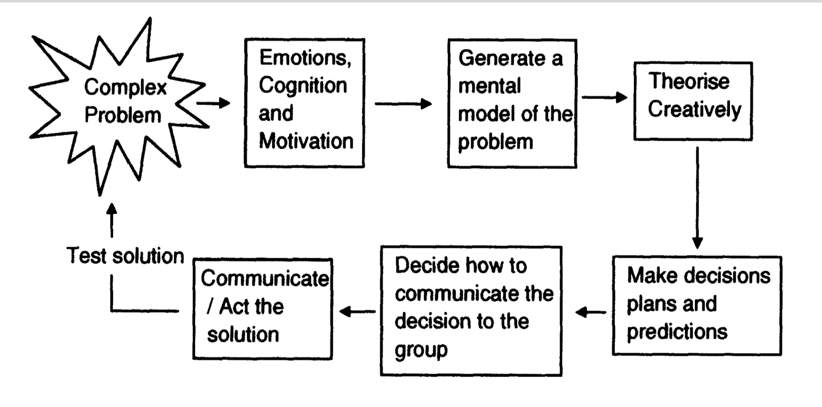

Fig.8 - Source: Leadership for sustainability: an evolution of leadership ability (Metcalf & Benn, 2013)

The follower-leader relationship as well is deeply connected with emotions and psychology. Followers' sensemaking of what makes a leader is shown to be influenced by childhood attachment styles of the follower (Keller, 2003). As seen before, sensemaking is critical for sustainable business model innovation (Seidel et al., 2013). This means that, as complexity problems prescribe (Learmonth et al., 2011), there is not a one-fits-all theoretical prescription for a leadership style to be adopted to maximize leadership effectiveness.

Sustainable business model innovation represents a multilayered complex problem in and of itself. Stated that we don't believe in heroes, how can we get ahead of this wicked problem ? It would appear that in a post-heroic era, leadership will abide in the capacity to leverage all of the elements of strength within an organization, rather than merely the strengths of a singular individual assigned the role of leader (Elkington & Upward, 2016).

4) <u>Leadership and dynamic capabilities: introducing enabling leadership</u>

There is perhaps no process in organization that is more demanding of human cognition than strategy formulation (Mintzberg, 1978), This process is ontologically assigned to the leadership. In sustainable business model innovation and, broadly , in competitive environments which require constant adaptation and innovation, leadership as the individual action of the leader seems inadequate.

Leadership in sustainable business model innovation is supposed to be aware of the external environment and look for opportunities for sustainability, developing a "vision" for exploiting those opportunities, which is the strategy formation process, and then implement successful and constant change management practices in order to install new logic and tools within the firm.

We argue that the role of leadership in strategy formulation and implementation is recognisable in the dynamic capabilities required to the organizational structure for successful sustainable business model innovation (Teece, 2018; Bocken & Geradts, 2020).

As extensively said and broadly accepted, part of leadership's role is strategy formulation. Strategy formulation is about the sensemaking of the external environment and the recognition of opportunities and threats. Sensing is described as the identifying and assessing opportunities (Bocken & Geradts, 2020). They coincide.

Strategy formulation also requires a deep understanding of the organizational structure in order to come up with an intended strategy (the plan) which takes in consideration the complex dynamics within the firm's structure (Mintzberg, 1978; Hall & Saias, 1980). Seize is described as design and refine business models and allocate resources (Teece, 2018). Design and refine business model is about business model innovation, innovating business model is about making relevant, strategic choices (Casadesus-Masanell & Ricart, 2010). We can argue that strategy formulation requires from leadership the sensing and seizing dynamic capabilities then.

Finally, we have seen how strategy implementation requires change management practices in order to transform the structure of the firm. Transformation, the ability to change consequently to sensing and seizing, the renewal of the organizational structure (Bocken & Geradts, 2020) is the last dynamic capability.

Several congruences can be found unifying the ideas of dynamic capabilities as vital for business model innovation and the one which sees the structure as central in strategy formulation.

As example, both Bocken & Geradts (2020) and Teece (2018) agree on the crucial role organizational structure has on the development of dynamic capabilities, and that dynamic capabilities are vital for business model innovation. This logically means that organizational structure has a crucial role on business model innovation.

Mintzberg (1978) and Hall & Saias (1980) assess that the structure of the firm, its bureaucratic momentum, dramatically affects the strategy formulation and implementation of the organization. If we look back at our business model innovation conceptual analysis , thanks to the matching of Casadesus-Masanell & Ricart (2010) and Mintzberg (1978) we identified business model innovation as strategy implementation. Since strategy formation is given by the choice of different business models. Fig.1.

The roles which are attributed to leadership are the dynamic capabilities that, emerging from organizational design, determines successful business model innovation. On a different perspective, strategy implementation is successful (intended strategy = realized strategy) if leadership is embedded in the organizational structure through dynamic capabilities.

In a nutshell, Bocken & Geradts (2020) and Teece (2018) saw an interplay between organizational design; dynamic capabilities and business model innovation. Mintzberg (1978) and Hall & Saias (1980) saw the interplay between organizational structure; leadership and strategy formation.

We argued previously that business model innovation is the strategic development of the firm. (Casadesus-Masanell & Ricart, 2010). Organizational design and organizational structure are both accountable as the network of people, processes and information flows which runs the operations.

We argue then that the dynamic capabilities needed for sustainable business model innovation (Bocken & Geradts, 2020; Teece, 2018) coincide as well with the actions leadership is supposed to implement in successful strategy formation. (Mintzberg, 1978; Hall & Saias, 1980).

There seems to be a missing point in this reasoning. The organizational structure is not a person, how can a network of people and processes make the same function of leadership, which is conventionally the action executed by the leader ?
In order to solve this riddle, we need to take a broader view on what leadership really is. We argue that the key needed to solve this riddle, rethinking leadership, is part of the solution for successful sustainable business model innovation.

There is a distinction that can be made between leader development which focuses on human capital and leadership development which focuses on the social capital within an organization. (Grandy and Holton, 2013; Vardiman et al., 2006). This means that leaders are not necessarily managers, although the study of leadership is dominated by a dyadic relationship between formally designed leaders and their subordinates (Metcalf & Benn, 2013). Leadership can be interpreted as a social process that contains complex relationships (Barker, 2001).

Focusing on leadership development compared with leader development, imply promoting an organizational culture in which leadership processes and emergence are fostered and supported and leadership can emerge from “surprising places and circumstances” (Elkington & Upward, 2016). Leadership development seeks to develop interpersonal capacity, social awareness and social skills (Schyns et al., 2012). From our understanding of the literature we can state that leadership development brings dynamic capabilities within the organizational structure.

We have previously assessed the level of complexity the sustainable business model innovation represents, and that it seems unlikely that a single leader will have sufficient capabilities to come up with correct decisions for the organization. Growing number of researchers and scholars argue that leaders encouraging leadership behaviour throughout the organization will be more effective in this type of environment. (Ireland & Hill, 2005; Pearce & Conger, 2003; Elkington & Upward, 2016). In a nutshell, leaders should enable leadership behaviour in the organization.

By interpreting leadership as a social process and the function of bureaucratic leaders (managers) as enabling that social process, we can have a hint of what it means to embed leadership’s role within the organizational structure.

Enabling leadership behavior requires increasing the complexity within the organization. McKelvey & Boisot (2003) theorized from the concept of requisite variety (Ashby, 1960) the law of Requisite Complexity.

This law states that it takes complexity to “defeat” complexity (Uhl-Bien et al., 2007); A system must possess equal complexity to that of its environment in order to function effectively. Requisite complexity enhances a system’s capacity to search for solutions to challenges and to innovate because it releases the capacity of a neural network of agents in pursuit of such optimization. (Uhl-Bien et al., 2007).

Also Metcalf & Benn (2013) assess that organizations that can get ahead of the sustainable transition issue are needed to develop a more highly evolved human system and more highly evolved “links” between the human system (the organization) and its environment.

In the following section we present the Complexity leadership theory. Complexity leadership theory embeds the enabling leadership function within an extensive and disruptive leadership model. The value that this theory adds to the enabling leadership concept is to put it within an organizational design framework.

5) Complexity Leadership Theory

Complexity leadership theory is a theory developed by the findings and principles of complexity science.

Complexity science is concerned with the dynamical properties of nonlinear and network feedback systems (Gleick, 1987). The developments of complexity science are recognizable in physics, biology and mathematics mostly. (Stacey, 1995). Given the success of its approach, the limits of this science are being tested on the strategic and managerial field of study. (Stacey, 1995; Uhl-Bien, 2002).

Complex adaptive systems (CAS) are the basic unit of analysis of complexity science. CAS are neural-like networks of interacting, interdependent agents who are bonded in a cooperative dynamic by common goal, outlook and need. They are changeable structures with multiple, overlapping hierarchies, and like the individuals that comprise them, CAS are linked with one another in a dynamic, interacting network. (Hedlund, 1994).

From the immune system functioning to the examples of shared intelligence such as a flock of birds, complexity scientists use CAS as a unit of measure for looking at the world.

Adaptability, learning and emergent creativity and innovation of CAS attracted management practitioners and researchers in using CAS as a unit of measure for businesses.

Complexity leadership theory seeks to foster CAS dynamics while at the same time enabling control structures for coordination formal organization and producing outcomes appropriate to the vision and mission of the organization (Uhl-Bien et al., 2007).

Complexity leadership theory implies the distinction between leadership as an emergent, interactive dynamic which produces adaptation (Heifetz, 1994), and leaders which are individuals that influence this dynamic. Complexity leadership theory consists in a framework for leadership that enables the learning, creative and adaptive capacity of complex adaptive systems in organizations or organizational units (Uhl-Bien et al., 2007). The CAS capacity of creative outcome is thought to be the answer for innovation and successful overcoming of adaptive challenges.

Adaptive challenges are problems that require new learning, innovation and new patterns of behaviour. (Heifetz & Laurie, 2001). They are different from technical problems, which can be solved with knowledge and procedures already in hand (Parks, 2005).
We can argue that adaptive challenges are faced when dealing with wicked problems. We saw how sustainable business model innovation is a wicked problem by the complex nature of overlapping challenges to be faced.
The adaptive, creative and learning ability which characterize CAS dynamics, we argue, should be a matter of interest for the sustainable business model innovation field of study.

CAS are unique and desirable in their ability to adapt rapidly and creatively to environmental changes (Holland, 1995). We saw how in sustainable business model innovation the same skills are required for dynamic capabilities. Diving into complexity leadership theory we will see how there are interesting similarities between the framework proposed by the theory and the organizational design barriers and drivers which resulted from the research conducted by Bocken & Geradts (2020).
The Complexity Leadership Theory framework envisions three leadership functions in order to exploit CAS adaptability and innovation emergence.
Adaptive leadership refers to adaptive, creative and learning actions that emerge from the interactions of CAS as they strive to adjust to tension. *Administrative Leadership* refers to managerial position, the bureaucratic structure of the firm which plans and coordinates activities and establishes general objectives. The interpretation given to the *enabling leadership* function is to catalyze the condition in which adaptive leadership can thrive and manage the relationship between the administrative leadership and the adaptive one.

Enabling leadership in the Complexity Leadership Theory framework has the work of enabling the emergence of creative, innovative ideas from adaptive leadership. Moreover, it has the function of mediating between the bureaucratic and formalized administrative leadership and the chaotic environment within which adaptive leadership emerges.

In this three-role play, we find again the necessity of mediating between the formalization and ambiguity as key roles in businesses. The main difference between this interplay and the one recognized by Mintzberg (1978) is that the chaotic environment in complexity leadership theory is embedded within the organization. This coincides with the openings of the firm boundaries towards chaos, the firm boundary permeability is primary in the sustainable business model innovation. Especially in the rethinking of stakeholder relationships.

In CAS, innovative behaviors can emerge from the interaction of a group of agents when they are meant to solve a problem, without the necessity of a centralized leadership form of control. (Boal and Schlutz, 2007). The innovative change is referred to as adaptive leadership. In order for CAS to develop adaptive leadership, and by that, adaptive, creative outcome, enabling leadership has to maneuver the conditions for the CAS to work efficiently towards the objective administrative leadership set.

The enabling conditions that catalyze adaptive leadership are three (Uhl-Bien et al., 2007);

1. Interaction
2. Interdependency
3. Tension

We will present them below, discussing the most relevant organizational design implications. We argue that interaction, interdependency and tension are bonded with the barriers and drivers for dynamic capabilities recognizable in Bocken & Geradts (2020).

1. Effective network conditions are catalyzed first by *interaction*. Let’s remember that CAS are firstly neural-like networks of agents. The network structure in which organizational CAS dialogue is the structure of the firm. Enabling leaders should foster interaction through tactics such as open architecture work places, self-selected work groups ecc.. (Jaques, 1989). Moreover, interaction can be achieved by cross-groups initiatives. Bocken & Geradts (2020) findings on barriers and drivers for dynamic capabilities saw as a strategic level driver *collaborative innovation*. Moreover, in the rethinking of stakeholder relationship as basis for sustainable business model innovation, Stubbs and

Cocklin (2008) saw in cross-organizational interaction a key for sustainable supply chains. This is again confirmed by Jaques (1989) idea that in the interaction between organizational CAS and environmental dynamics (stakeholder) there is opportunity for the importation of fresh information and an augmented adaptive capacity compared to the one of (bureaucratic) leadership acting alone. Enable leadership should then work towards the crumbling of internal and external boundaries of the firm. This also discourages *uncertainty avoidance* in favour of conflict and discussion. This emerges also from the interview of a senior manager by Bocken & Geradts (2020), who argues " breaking barriers should be part of the role of the sustainability leader by going through levels within hierarchy from top to bottom and … making bridges".

2. Interaction alone is not sufficient for complex functioning; the agents must also be *interdependent* (Uhl-Bien et al., 2007). Interdependency creates pressure to act on information. Interdependency's potency derives from emergent networks of conflicting constraints (Uhl-Bien et al., 2007). Autonomy is seen as an organizational tool for augmenting the interdependence of the system. (Jaques, 1989). Autonomy permits conflicting constraints to emerge and enables agents to work through those constraints without interference from formal authorities. (Uhl-Bien et al., 2007). Standard innovation process and procedures has been indicated as a main barrier for dynamic capabilities (Bocken & Geradts, 2020). The possibility to create independent and autonomous patterns of behavior for managing innovation towards sustainability emerged as a need. Moreover, interdependency is key in the sustainable business model concept, in analyzing the strategic situation of the firm contextualized in its environment.

3. *Tension* creates an imperative to act and to elaborate strategy, information, and adaptability. Tension is described by an environment in which heterogeneity, interdependency and conflicting constraints are enabled. Heterogeneity refers to differences among agents in such things as skills, preferences and outlooks (Schilling & Steensma, 2001). Tension should be fostered in sustainability transition by extensive work of sensemaking and managerial planning and setting of goals. Infact, by enhancing cross-functional groups working on the efficacy of processes for sustainability, tension between departments might occur and enabling leadership should mediate between remarking interdependency and stimulate tension. This could be done as an example by enabling an atmosphere that tolerates dissent and divergent perspectives on problems, one in which personnel are charged with finding solutions to their problems (Heifetz & Laurie, 2001). A mid-level manager interviewed by Bocken & Geradts (2020) stated that in order to achieve sustainable business model innovation objective cross-functional collaboration was vital but, the collaboration between different

departments would create tension and conflict: “ Issues relate to different people in different realms. Production vs R&D. In order to try new things, you need to bother production. But production doesn't want to try new things, they want to use all of their resources to develop products. So there is always a conflict there. Conflicts between sales and marketing, between engineering and maintenance, between production and quality.”. Complexity leadership theory argues that departments should find solutions on their own, tension, interdependency and interaction foster CAS dynamics within work groups. The tension instead is ontological between the firm and its stakeholder. By accepting and managing this tension, enabling leadership should produce learning and adaptability between the stakeholders in order to achieve greater sustainability. For example, in an industrial ecosystem companies in close proximity might coordinate their use of raw materials, energy, water and their waste management practices (Korhonen & Snakin, 2005). On this matter, as argued by Stubbs & Cocklin (2008) leadership is meant to institutionalize sustainability in the organizational culture of the firm, to create stakeholder and employee awareness on both the risks of environmental change and on the power of individual actions, inside and outside the firm.

Complexity leadership theory archetypes are being adopted by innovation driven businesses such as Microsoft, Netflix, Spotify and many others.
Microsoft strategy for developing software is built on interactive work groups and enabled interdependencies (Cusumano, 2001). Programmers operate independently and in small groups, but are periodically required to run their code against the code of other programmers. If there are problems, the team must repair the incompatibility before moving on. Microsoft gains the benefits of flexibility, adaptability, speed, and innovation while maintaining coordinated action. (Uhl-Bien et al., 2007).
Netflix’s CEO best seller “No rules, rules” advocate for autonomy, conflict and interdependence as key for the capability of Netflix of adapting and reinventing itself (Hastings & Meyer, 2020).
Massimo Mercati, Aboca’s CEO argues that the complexity and natural intelligence gives the guidelines for business management in his novel book “L’impresa come sistema vivente” (Firm as a living system). Firm’s boundaries are rediscussed as the role of leadership is. (Mercati, 2020).
Finally, Spotify coaches practice enabling leadership by increasing the context-sensitivity of others, supporting other leaders, establishing and reinforcing simple principles, observing group dynamics, surfacing conflict and facilitating and encouraging constructive dialogue (Backlander, 2019).

By the commonalities we found between the factors perceived as drivers (or barriers) for developing dynamic capabilities for sustainable business model innovation and the elements which foster CAS dynamics, we argue that complexity leadership theory should be a matter of interest for researchers and practitioners in the sustainability organization field.

6) Conclusion

Leadership, strategy formulation and organizational structure are interacting elements of businesses. Those elements are characterized by complexity, as complex are the relationships between them. The external environment and the organizational structure are characterized by opposite trends. The structure has the need to formalize its actions and reduce uncertainty in order to run operations. The external environment is ambiguous, dynamic and it rapidly changes. The conflict between chaos and formalization is inescapable, the evolution of management practice discusses whether to face it within the firm, outside the firm, or pretend it does not exist.

The challenges of the world we live in requires firms to adapt to the uncertainty of the environment rather than cut it out through bureaucracy structure and formalization. Leaders and leadership have the role to trigger the transition from the industrial-era businesses to knowledge-era ones. In order to do so, novel styles of leadership are needed to face more and more complex challenges.

Sustainable business model innovation represents the greatest and more complex challenge human organization will face in the next future. It represents an important part of the transition the human society needs to face in order to ensure a flourishing future for itself.

Businesses have to adopt disruptive logics and redirect most of their sources towards sustainability. In doing so, the leadership model must change in order to foster adaptability, learning, creativity and innovation. Dynamic capabilities and complexity leadership theory seem to be valuable tools for achieving such characteristics, both of them seem to rely on organizational design innovation. The organizational design implications for fostering dynamic capabilities; 1. uncertainty avoidance 2. collaborative innovation and 3. autonomy in innovation procedures are the conditions to be created by enabling innovation in the complexity leadership theory framework.

We have shown how enabling leadership is the conjunction's ring between dynamic capabilities, leadership and organizational structure in order to achieve sustainable business model innovation.
Moreover, the concept of enabling leadership, especially as interpreted by the complexity leadership theory, is by itself empowering and creates social value: at the very core concept of enabling leadership lies the beautiful consideration that a flourishing future goes through empowering people.

CAP 6 **CONCLUSION AND DISCUSSION**

1) Conclusion and discussion

This work has been conducted with the aim of adding to the present literature on sustainable businesses transition a new perspective on the relationship between leadership and sustainable business model innovation.

In order to structure a valuable discourse, there was the need of adopting a play-ground theory that would accompany us for the whole reasoning. Interpreting strategy as a pattern in a stream of decision (Mintzberg, 1978) was the pragmatic basis needed. Too often sustainable transition intentions remain only goodwill on paper, as human species we cannot afford this failure otherwise. Dividing conceptually strategy as intended and strategy as realized (Mintzberg. 1978) is the first step on acting for change.

Secondly, we needed an appropriate tool to insert in this theoretical playground. The business model is a fascinating, promising concept (Chesbrough, 2010). The fluidity of the concept and the multitudes of interpretations reveal the range of application of the business model. Representing within a chart the business processes and the business position within its environment gives a holistic view of the firm's strategic situation to people in charge of decisions (Zott & Amitt, 2011).
Here's where things started to get really interesting. The business model concept fits perfectly within the interpretation of strategy as a pattern in a stream of decisions concept. Business model representation states the strategic situation of the firm since the strategic situation of the firm is the sum of its choices and the consequences that those choices have on the competitive environment around it.
This theoretical match, that comes from the merging of Mintzberg's (1978) ideas on strategy and the Casadesus-Masanell & Ricart (2010) interpretation of the business model, represents the theoretical foundation of our further reasoning. Following this interpretation we propose our first proposition.

➔ **P1.** The Business model represents the firm strategic situation (or position) in a given frame of time.

The idea that through business model firms can observe their strategic situation does not end in itself. Through our first proposition we can look at the business model innovation as the realization of the firm's strategy. We propose an interpretation of business model innovation that is the more holistic one. Business model innovation occurs when the firm alters its logic. This might happen for exploiting internal technology, reacting to external threats (new competitors, new policies, etc…) or for exploiting external opportunities.

The firm logic is deeply rooted with the concept of value. The firm logic, or rationale, is the way in which a firm creates, delivers, captures value and in its value proposition (Osterwalder and Pigneur, 2010).
The firm logic is what the firm does in order to be successful.
Business model innovation occurs when there is a change in one of those processes or in the value proposition overall. Strategic (or relevant) decisions are the ones which alter the firm logic. Strategically relevant decisions are the ones that alternate one or more processes of delivering, capturing, and creating value, or the ones that alter the value proposition of the firms.
Choices are instead only tactical if they are meant to realize what the firm logic prescribes (Casadesus-Masanell & Ricart, 2010).

The implication of our first proposition leads us to consider that the firm's logic is not a matter of thought, but is instead material. The strategic situation of the firm is the realized strategy of the firm in a given frame of time. Is what actually happens within the organization structure and between the organization and the external environment (Mintzberg, 1978). Altering the logic of the firm is altering its processes, its information systems, its distribution channels and moreover (Hall & Saias, 1980).
The capability of the firm to renovate its logic through time it's vital for it to thrive and survive.

The sustainable business model has been the initial objective of the research and the initial interest. Since our aim is to contribute to the literature on sustainable business transition, the research conducted brought us to the sustainable business model concept. Understanding the concept was not possible without the business model theory as a background.
The sustainable business model is a business model in which the idea of value is substituted with sustainable value (Stubbs & Cocklin, 2008). This means that the basis for analysing the success of the firm is not merely its monetary profit, but a three layered analysis tool (onto which the literature is still divided) which considers societal value, ecological and economical value as a sum and as the real output of the firm. This idea is represented in the sustainability slogan: *people, planet, profit.*

The sustainable business model is radical since it requires a deep rethinking of the idea of the firm itself, more than a change in its logic. If business model innovation is a mind-change, sustainable business model innovation in its "ideal-type" prescription is lobotomy. Overcoming the neoclassical view of the firm, such as the firm only objective is to generate profit for its shareholders, reconsidering the position of the firm within its environment by rethinking the stakeholder relationship and adopting and favour long-term strategies of value creation are the pillars of this radical reconsideration of the firm (Ludeke-Freund & Dembek, 2017). This leads us to our second proposition:

➔ **P2.** Sustainable business model innovation implies the overcoming of the neoclassical view of business success, rethinking stakeholder relationship and favouring long-term strategy formulation in order to create sustainable value.

The objectives firms can direct their resources toward are synthesized in 9 archetypes of the sustainable business model. They are; 1. Deliver functionality rather than ownership; 2. Adopt a stewardship role; 3.Substitute with renewables and natural processes; 4. Encourage sufficiency; 5. Repurpose for society or the environment; 6. Inclusive value creation; 7. Develop sustainable scale up solutions; 8. Maximise material and energy efficiency; 9. Closing resource loops. (Bocken et al. 2014).

Sustainability measurement is not a scale but a continuum (Upward and Jones, 2015). The extreme points of this continuum are weak and strong sustainability. Weak sustainability is characterized by actions towards sustainability that are an add-on to normal operations, which remain unsustainable. Strong sustainability is instead reached when sustainability characterizes the firm's relevant, strategic decision making. Weak sustainability is a tactical choice because it follows the dominant, neoclassical interpretation of business success. Firms engage in timid responsible actions to augment brand image or enter new markets. The actions are anyway meant to generate greater monetary profit. Strong sustainability alters the core logic, because it's a strategic decision which is implemented in its operations and is revealed by the changes in organizational structure, that is represented through a sustainable business model.
Interpreting business model as the firm strategic situation, and strategic choices as business model innovation characterized by a change in logic makes us contribute with the strategic interpretation of weak and strong sustainability, summarized by our third proposition;

➔ **P3** Weak sustainability refers to tactical choices, which are meant to generate higher monetary value. Strong sustainability is reached when strategic relevant choices are taken considering the creation of sustainable value.

Relevant choices alternate the business model, relevant choices informed by sustainability issues generate sustainable business models when they get realized. Given the dramatic direction that the ecology of Earth heads through and the level of inequality our society provides, we drastically need sustainable business models to be adopted and realized.

In our theoretical foundation, strategy is not a plan. The plan is a side of the coin of strategic development. The plan is the strategy as intended. The other side of the coin is the strategy that gets realized instead,

which is not given to be the same as the intended. The strategy implementation process is seen as a three-role play in which the external environment (society and stakeholders), the bureaucracy (the organizational structure, processes and information systems) and leadership (managerial positions) play.
The leadership has the role to mediate between an environment which is ever-changing, ambiguous and unpredictable and a bureaucracy which refuses and obstructs change in order to maximize the efficiency of the operations (Mintzberg, 1978).

Sustainable business model innovation is then both a plan and an organizational change to be implemented. As already discussed, the logic of the firm is recognizable not in managerial meetings but in the operations runned by the organizational structure. This means that in order to realize intended strategies informed by a sustainability logic the firm must go through a deep process of change that goes from the decision making rooms to the touch points with stakeholders. Adaptability, innovation, ambidexterity in order to innovate processes while keeping up with ordinary operations and transforming skills are needed for successful sustainable business model innovation (Evans et al., 2017).

The set of skills needed in order to engage successfully in sustainable business model innovation are referred to as dynamic capabilities (Bocken & Geradts, 2020). Dynamic capabilities are generated within the organizational structure through proper design (Teece, 2010). Dynamic capabilities are three; 1. *Sensing*, identifying and assessing opportunities; 2. *Seizing*: mobilizing resources to address opportunities and capture value from doing so; 3. *Transforming*: continued renewal of the organization.

Developing dynamic capabilities is considered vital for sustainable business model innovation (Teece, 2010; Bocken & Geradts, 2020). Dynamic capabilities are not the set of skills of individual agents but macro-capacities of the firm overall. We argue that dynamic capabilities coincide with the role of leadership in the three role play theory which constitutes our theoretical playground. Being aware of the external environment changes (Sensing), developing a vision on how to exploit such changes by mediating with the bureaucracy dynamics (seizing) and finally implementing the strategy throughout organizational innovation (transforming).

As dynamic capabilities are vital for business model innovation, leadership is vital for strategic formulation and implementation. Organizational structure is seen as central in both sustainable business model innovation and strategy formulation. Additionally, organizational structure is meant to develop dynamic capabilities and play a crucial role in strategy formulation.
As we recognize an interplay between strategy, leadership and organizational structure. We recognize the

same pattern in sustainable business model innovation, dynamic capabilities and organizational structure.
Our theoretical grounding brought us to define business model innovation as strategy development. Organizational structure is the same in both of the theoretical constructs. Last, but not least, we have dynamic capabilities and leadership, which plays the same role related to the same elements. Thus, we argue they are the same.

Assessing that dynamic capabilities and leadership are the same construct means that when leadership is shared within the organization, dynamic capabilities are created.
This reasoning requires a new understanding of the concept of leadership. Leadership is not to be meant only as the individual action of the leader.

Leadership can be seen as a complex social dynamic that creates change and adaptation (Uhl-Bien, 2007). A social process that does not require the existence of a leader-type individual. Leadership does not coincide with managerial position. It is a natural process which occurs in complex adaptive systems, such as the immune system, a flock of birds or groups of humans when determined conditions are enabled.
Enabling leadership is a style of leadership per cui bureaucratic leaders goal is to enable the conditions in which leadership can occur as a social, dynamic process (Elkington & Upward, 2016).

Given these considerations, we believe that enabling leadership is the key to successful sustainable business model innovation. Thus, we propose our fourth proposition;

- ➔ **P4.** Dynamic capabilities are developed by enabling leadership as a social process within the organizational structure.

Our theoretical consideration, although already valuable, is enhanced by the credits given by practical research findings. We took advantage of the interview of several mid-level, senior and top level managers from six multinational corporations (Akzonobel, Interface, Johnson & Johnson, Pearson, Philips and Unilever) conducted by Bocken & Geradts (2020).

Those managers are all engaged in improving sustainability within their firms, and were interviewed about the barriers and drivers they saw in the organizational design in order to develop dynamic capabilities.
What emerges from the interviews of those managers is that uncertainty avoidance and standard innovation procedures and processes are barriers to developing dynamic capabilities, while collaborative innovation and enabling autonomous innovation structures are drivers for developing dynamic capabilities.

We argue that the barriers and drivers identified are comparable to the organizational design framework of complexity leadership theory, in which enabling leadership plays a crucial role.

Complexity leadership theory is a recent field of study inspired by the complexity science. Complexity science is the study of dynamical properties of nonlinear and network feedback systems. Complexity science approach is giving extraordinary results in physics, biology, mathematics and so on (Uhl-Bien, 2007). Complexity leadership theory has the credits for bringing complexity science into managerial studies. The unit of measure of the complexity science are complex adaptive systems (CAS). CAS are neural-like networks of interacting, interdependent agents who are bonded in a cooperative dynamic by common goal, outlook and need (Hedlund, 1994). In bringing complexity science in managerial studies CAS are interpreted as firms (or firms departments) by the complexity leadership theory, in which agents are human beings.

CAS dynamics have the potential to generate disruptive innovation, learning and adaptability if determined conditions are given. This dynamic is referred to as adaptive leadership in the framework. Adaptive leadership the result of CAS dynamics fostered by determined conditions. Part of the central role of enabling leadership is to enable the conditions in which CAS generates adaptive leadership. The second role of enabling leadership is to mediate between adaptive leadership, which is informal, chaotic and uncertain and administrative leadership, which is instead formal and bureaucratic. We find again the three role play dynamic, in which enabling leadership mediate from the internal bureaucracy (administrative leadership) and the internal/external CAS (adaptive leadership).

Back on our roots, we suggest that the organizational drivers for dynamic capabilities development emerge from the conditions that enabling leadership needs to foster for enabling adaptive leadership to emerge. The conditions for adaptive leadership to emerge in CAS are mainly three: 1. Interaction; 2. Interdependency; 3. Tension (Uhl-Bien, 2007).
Interaction, meant as cross-functional collaboration and cross-organizational dialogue emerges as the need of collaborative innovation within the department for dynamic capabilities. This is supposed to boost innovation and learning.
The second condition is interdependency among agents. Interdependence is linked to autonomy. The possibility to build up an autonomous structure for sustainable innovation research emerged as vital from the interviewees.
Finally, tension is the third condition. Vital for generating actions. Tension is described by an environment in which heterogeneity, interdependency and conflicting constraints are enabled. Tension is intrinsically

embedded in sustainable innovation, both for the emergency of action sensemaking is supposed to bring and between the firm and its stakeholders.

The congruences between complexity leadership framework and the organizational needs for dynamic capabilities are important and evident. While leadership in its enabling function has already been theorized as a driver for sustainability adoption, there is not a proper framework in which this function is institutionalized. Complexity leadership theory provides a framework for exploiting CAS dynamics in bureaucratic structure, which firms are. In doing so, enabling leadership results as a precious tool more than a solution. Given those evidences, we develop our fifth, last proposition as an indication for further studies:

- ➔ **P5.** Complexity leadership theory should be a matter of interest for the sustainable business model innovation field of study.

2) Embracing complexity

Strategy as a pattern in a stream of decision, the sustainable business model construct and, finally, complexity leadership theory have a common trait which informs this whole work. All of those fields of study refuse oversimplification and try to face reality for what it is. They embrace the complexity of reality and take consciousness of human limits in the current understanding of the world.

In the statement that strategy is not a plan there is the acceptance that humans are not in control of the consequences of their actions. From representing how businesses are truly embedded within their environment and how their choices affect it, the concept of negative externalities falls responsibility should rise. Finally, observing leadership as a social dynamic lets the figure of the hero-leader step back from the spotlight. Community, discussion, tension and interdependence are the drivers for change by complex, yet to understand dynamics.

Embracing complexity means accepting how little we are in control of our thoughts, our actions and the consequences of them. While the neurosciences, quantum physics and new sciences as the complexity science are decommissioning the idea of the word we had struggled to make, we are facing the most important and critical challenge the human species has ever met. We will need to use all the tools we have in order to face this challenge, enabling leadership in an exercise of shared intelligence will be one of the tools we must leverage on. Losing control while cruising towards an uncertain future. This may mean that the future of a thriving human society is not to be like an army of robots but more like a swarm of bees.

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