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Moving Business Models Forward for Positive Social, Environmental and Economic Outcomes: Managing Externalities (and Internalities) for Sustainability Innovation

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Abstract:

Purpose: Organisations are crafting business models to operate and be able to continue operating. While it is now common to mention the importance of the ecosystem surrounding a focal organisation, business models are often considered as internal configurations between resources, organisation and offers. Consequently, the ecosystem is only convoked as a matrix for value creation for stakeholders and value capture for a focal company. In this article, we contend that ecosystems are also the place where externalities of the focal business model operate, eventually destroying value for stakeholders. We suggest that a sustainable business model can only be designed and implemented with a complete account of externalities, and we propose that the business model is the key determinant between externalities and internalities.

Design/Methodology/Approach: We build on the research about business models and externalities to theorise at the crossroads of this literature. We then draw consequences from our theoretical development and advance business model recommendations for managers, consultants and researchers.

Findings: We propose to complete the concept of externalities with the symmetrical concept of "internalities" to analyse and design business models. We also offer eight policies to manage (or not) externalities and identify potential consequences of these policies for the business model of the focal organisation and its ecosystem. We conclude that business model thinking allows organisations to decide on what the externalities and internalities of their business model will be and thus induce management responsibilities.

Originality/Value: Instead of focusing on business models as an internal configuration, we contend that organisations must make decisions on externalities and internalities generated by their business model. We make propositions to design and preserve sustainable business models. Business models' future should focus on the management of externalities.

Keywords: Business Model – Externalities – Internalities - Framework – Sustainability – Business model for sustainability – Sustainable business model - Impact

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Introduction: The Need to Go Further on Business Models and Sustainability

The role of business in sustainability and organisations' responsibility for improving society and the environment are now primarily discussed. Calls to consider sustainability emerged more than 30 years ago Field (see Brundtland, 1987; Turner, 1987), and empirical evidence has progressively led companies to implement various marketing and communication initiatives to fit stakeholders' expectations. However, when social and environmental issues take centre stage, it becomes essential to go further and progressively integrate these concerns into the core of the business model (BM hereafter) that managers and entrepreneurs design and implement.

The BM literature has, for a while, proposed concepts and frameworks to position sustainability in the processes associated with BM innovation, from purpose definition to BM design and BM implementation (see, for instance, Bocken et al., 2014; Schaltegger et al., 2016a; Schneider and Clauß, 2020; Schaltegger et al., 2016b; Attanasio et al. 2022).

Nowadays, literature refers to business models designed to ensure sustainability as "sustainable business models" (see Bocken et al., 2014; Bocken et al., 2019), "business model for Sustainability" (see Schaltegger et al., 2016a) or "circular business models" (see Boldrini and Antheaume, 2021; Fehrer and Wieland, 2021), among others. While these terms acknowledge differences in points of view, they have in common that they go beyond mere economic logic (Laasch, 2018). For instance, Schaltegger et al. (2016a) contend that a BM for sustainability should create and capture value while "*maintaining or regenerating natural, social and economic capital beyond its organisational boundaries*" (p.6).

However, the conditions to ensure this sustainability still need to be more detailed. Indeed, as discussed by Schneider and Clauß, as far as sustainability is concerned, "*we have minimal insight into the interactions of these value creation processes and related choices and consequences*" (2020, p.385). Consequently, we are convinced that the processes associated with integrating sustainability into BMs need more research. Depletion of natural resources, climate change, social and economic precarity or pollution associated with some BMs cannot be left aside anymore, and this induces entrepreneurs and managers to consider the potential negative impacts of their activities on stakeholders (Juntunen et al., 2019; Attanasio et al., 2022). While externalities have seldom been discussed in the BM literature (exceptions include Walkiewicz et al., 2021 and El-Baz et al., 2022), it is time to consider them when considering value creation and value capture processes because sustainability reporting regulation soon will require this (Nielsen, 2023a).

In this article, we adopt a new point of view, focusing on externalities and the new status they should have in the cognitive repertoires of entrepreneurs and managers when designing and implementing a BM.

The following section describes how BMs usually operate at an original level, i.e., the extended enterprise. This should induce how the BM literature and practice considers loops of causes and consequences. Second, externalities should be included in the analysis and design of BMs. We convoke the notion of "internalities" to shed light on the role of BMs in the sustainability of organisations and their ecosystems. Third, we convoke the RCOV framework to illustrate the externalities and internalities of BM. Finally, the paper introduces several types of actions that an organisation could undertake to manage externalities.

Business Model as an "extended enterprise" Level

The "extended enterprise" (not so extended after all…)

We may wonder why the concept of "externalities" is rarely integrated into the BM literature and practices. We contend that the main reason is related to misconceptions concerning the level of analysis associated with BMs.

Organisations are crafting and implementing BMs to be able to operate, and the BM is often considered as a configuration of elements interacting to create

and capture value. Therefore, BMs are conceived from the point of view of a focal organisation while integrating various actors, including suppliers, distributors or customers. Thus, the BM has been described as an original level of analysis per se, the "extended enterprise" (Zott & Amit, 2013). However, we observe that the literature does not fully consider this original level of analysis (see also Ricart, 2023), as BMs are usually considered internal configurations. Boldrini and Antheaume (2021) were among the first-movers in treating the BM as more than at the "extended enterprise" level. The ecosystem, encompassing actors with whom the organisation is interdependent, is typically not included in the analysis or is considered another level of analysis than the BM. This may cause problems as BM-related processes may not be considered external actors.

The BM and the loops of cause and consequences

Boldrini and Antheaume (2021) noted that frameworks and reasoning to design and analyse BMs focus above all on linear material flows and need a systemic perspective. As Casadesus and Ricart (2010) and Demil and Lecocq (2010) put forward, adopting circular reasoning is essential to understanding the performance mechanisms of BMs, eventually including actors from the environment. This line of reasoning conceives a BM as composed of loops of causes and consequences. These loops are at the origin of virtuous circles or vicious circles and largely explain the performance of a given BM. For instance, scale economies, learning effects or recycling are virtuous circles within a BM.

These loops of causes and consequences (positive or negative) are internal to the focal organisation and include external actors to create inter-organisational processes (Casadesus & Ricart, 2010). Consequently, BMs are intertwined and co-evolve within an ecosystem (Lingens, 2023). A loop generated within a BM may have consequences on another organisation and initiate another loop (with positive and negative consequences) within this organisation.

Indeed, the BM of a focal organisation generate internal loops of causes and consequences within this organisation, and external effects on other actors who become *de facto* included in the ecosystem. Indeed, as Demil et al. (2018) noted, the BM itself is enacting the ecosystem through the external effects this BM generates. Understanding these external effects is crucial to studying and designing BM.

Considering Externalities (and internalities) of Business Models

Externalities and their naturalisation

An externality "*is an ambiguous concept*" (Demsetz, 1967, p.348). In 1946, Arthur Pigou, founder of welfare economics, described non-optimal situations (i.e. situations in which the well-being of one individual can be improved without worsening that of another), highlighting the decisive role of externalities. Externalities arise when one agent's actions impact another agent's situation without this relationship being subject to monetary compensation. Externalities include both external costs and external benefits, i.e. costs or benefits for external actors. Positive externalities occur when an agent renders a service to other agents without being rewarded, while negative externalities occur when an agent disadvantages other agents without compensating for the damage. There can be pecuniary or nonpecuniary externalities, but in every case, one or several individuals or organisations enjoy or suffer from externalities. As Ayres and Kneese (1969) noted, externalities can be associated with production and consumption. From a BM point of view, positive externalities create value for stakeholders, while negative externalities destroy value for stakeholders.

All externalities have in common that the market does not consider them. In the presence of externalities, if everyone pursues their interests, the result will be a sub-optimal situation at the collective level. Indeed, the main effect of externalities is that the private cost differs from the collective cost or cost for society (Demsetz, 1967). For example, when a company pollutes, its private cost is lower than the cost for society since it does not include the pollution it generates in its costs. Reasoning solely based on the private cost, a company will produce more than if it considered the total cost (which includes the cost of waste treatment). The negative externality will, therefore, lead to overproduction.

Consequently, we contend that there are externalities when the price of a product or service does not include the full costs and benefits associated with its production and consumption. Thus, externalities are transfers of value without monetary compensation that depend on the choices of other agents. Most of the time, there are no transactions between the agents whose activities produce externalities and those impacted by these externalities. When an economic agent produces or consumes, there may be potential costs and benefits incurred by third parties who were not involved in the transaction.

Externalities are a complex phenomenon and a real challenge for humankind. However, we can observe several things that could be improved in using this concept in the context of management.

First, externalities are often naturalised. Entrepreneurs, managers, and analysts may consider that externalities are naturally external to the organisation's responsibilities and the realm of action. Indeed, many individuals assume that what is considered outside of the organisation's scope is not their responsibility but a consequence of the mere characteristics of their sector. On the contrary, following Demil et al. (2018), we contend that the BM defines the type and strength of externalities that will occur for stakeholders.

Second, some externalities are only considered on their positive side. It is the case, for instance, of externalities based on network effects (so-called 'network externalities'). Indeed, it is often assumed that a network effect is a phenomenon whereby new users who use a product or service increase the value of that same good or service for other agents. An example is a communications network or a social network, where each agent benefits directly from the use of the network by a new agent. Network externalities directly or indirectly benefit the user of the good or service. This benefit depends positively on the number of people who have purchased the same or a compatible good or service. However, we must remember that traffic jams are also a negative consequence of network effects.

Third, in the case of negative externalities, it is often considered primarily the State's responsibility to manage those externalities. Indeed, public authorities may intervene through taxes and subsidies, as they may tax activities generating negative externalities and subsidise those generating positive externalities. We contend that the responsibility for managing those externalities can also be considered within the organisation's perimeter. Indeed, we propose to include the concept of "internalities" as a symmetry for "externalities". Externalities are a consequence of the choice of a BM, and the entrepreneur or the manager could have decided to internalise a given consequence or a set of consequences of the organisation's activities.

Externalities: the good, the bad, the undetermined

In a pragmatic approach, qualifying externalities as positive or negative may be challenging. In the meantime, A BM may generate both positive and negative externalities. Stakeholders may accept the coexistence of the two kinds of externalities. However, they may not accept if negative externalities are perceived as mainly exceeding the positive effects of the activity. For instance, in the case of Airbnb, positive externalities associated with the development of tourism in a given area also come with drawbacks, such as the increasing price of real estate for residents, depopulation of the neighbourhood, and noise in collective housing (Carrasco-Farré et al., 2022). Things are becoming even more complex when we consider distinctively each actor in the ecosystem. Some consequences of a BM may appear negative for some stakeholders and positive for others, depending on their own BM.

Moreover, from a dynamic perspective, the distinction between the good, the bad, and the undetermined consequences is complex, as these consequences may eventually evolve. For instance, social networks may generate positive network externalities in the first stage and then attract many adopters, among them haters and fake news producers. The success of such networks may lead, in the end, to adverse consequences on individuals (bullying…) and the whole community. Thus, positive consequences may become negative ones, or conversely.

Managing externalities and internalities through the BM

Because of the naturalisation of externalities generally observed, those externalities are usually considered the responsibility of the State or any other public or collective actor. In such a context, the stake of managers becomes more "how to externalise negative consequences for my organisation?" than "how to manage my externalities?" Organisations often seek to internalise the positive consequences of their activities and to externalise negative consequences. Thus, the performance of many organisations comes from the ability to let non-voluntary stakeholders cope with the negative consequences of their activities.

However, it is positive to see that externalities can be managed by the organisation and not only by public authority. As noted by Ayres and Kneese back in 1969 concerning the production of goods, *"residuals do not necessarily have to be discharged to the environment. In many instances, it is possible to recycle them back into the productive system"* (Kneese 1969, p.286). Thus, externalities can become internalities and become subject to management.

We define an "internality" to be a consequence of the BM that the organisation is managing. We propose that the BM of an organisation enacts if and how a consequence is an externality or an internality. Indeed, when an entrepreneur or a manager designs the BM of her company, she can decide if each of the consequences will be kept internally or externally. This arbitrage between internality and externality is defined by choices made to design the BM. However, it is also important to remember that each time an entrepreneur or a manager chooses to internalise a consequence of its activities, it implies changing various elements of the BM of its organisation, creating new loops of causes and consequences.

The RCOV Framework and Deciding Between Externalities and Internalities

Analysing or designing a BM considering loops of causes and consequences and deciding between externalities or internalities for the consequences require a suitable framework.

Starting in 2004, we developed an analytical framework to analyse the current BM or design and implement the future BM of an organisation (Lecocq et al., 2006; Demil & Lecocq, 2010). This framework, labelled RCOV (for Resources, Competencies, Organisation, and Value propositions), combines parsimony with the capacity to account for the dynamics of relationships between components in the BM (Casadesus-Masanell & Ricart, 2010; Demil & Lecocq, 2010). Figure 1 displays the circular RCOV framework, which allows for the analysis that creates the various loops for performance and sustainability. It differentiates from other frameworks for BM innovation thanks to its ability to deal with platform business models (Cusumano et al., 2020) and ecosystems (Lingens, 2023) through the inclusion of network externalities mechanisms but also through its ability to analyse and define circular business models (Boldrini & Antheaume, 2021). RCOV integrates, for instance, the potential successive cycles of resource deployment, the potential reinforcing mechanisms of scale economies, learning or technology diffusion, and, more generally, the loop effects within the value creation and value capture processes.

Spender (2010) mentioned that rigorous frameworks are those based on theories, something that Foss (2023) also is concerned with. The RCOV framework derives from Edith Penrose's theory of firm growth (Penrose, 1959). In this theory, the growth of an organisation involves, in particular, the interaction between resources (which can be insufficiently exploited) and managers included in organisational systems. Indeed, interactions between resources and the organisation lead to the developing of new products and services. However, the RCOV framework also allows the inclusion of other types of loops between resources, organisation and value propositions than those evoked in Penrose's theory. For example, the value propositions can yield resources capable of generating new value propositions supported by the company's internal and external organisations. This is the case for Google, whose search engine

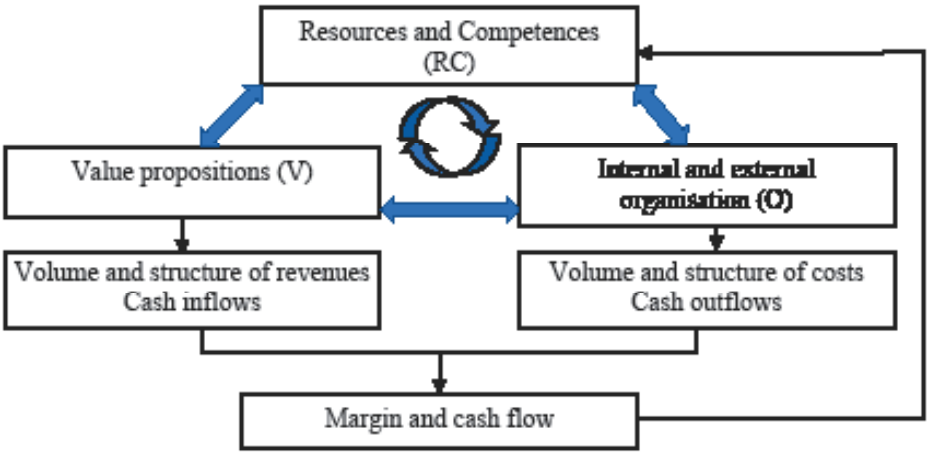

Figure 1: The RCOV framework

(value proposition) offered to the general public is used to collect data (resource) and to generate new offers for companies based on advertising or data (value propositions).

The RCOV framework comprises only three main components (Resources and Competences, Organisation, and Value Propositions) interacting together. As a consequence, it suits complex connections between components of the BM (Boldrini & Antheaume, 2021), and it is often mentioned as suitable to capture the dynamics of the BM (Casadesus-Mansanell & Ricart, 2010; Plé et al., 2010; Gerasymenko et al., 2015; Ziaee et al., 2016; Boldrini and Antheaume, 2021) compared to frameworks based on a linear approach. Indeed, value creation and capture processes can rarely be considered linear.

The RCOV framework allows us to consider positive and negative externalities arising from a BM. Figure 2 illustrates externalities emerging from loops of causes and consequences when operating a given BM. These externalities may include natural resource depletion, pollution, or network effects.

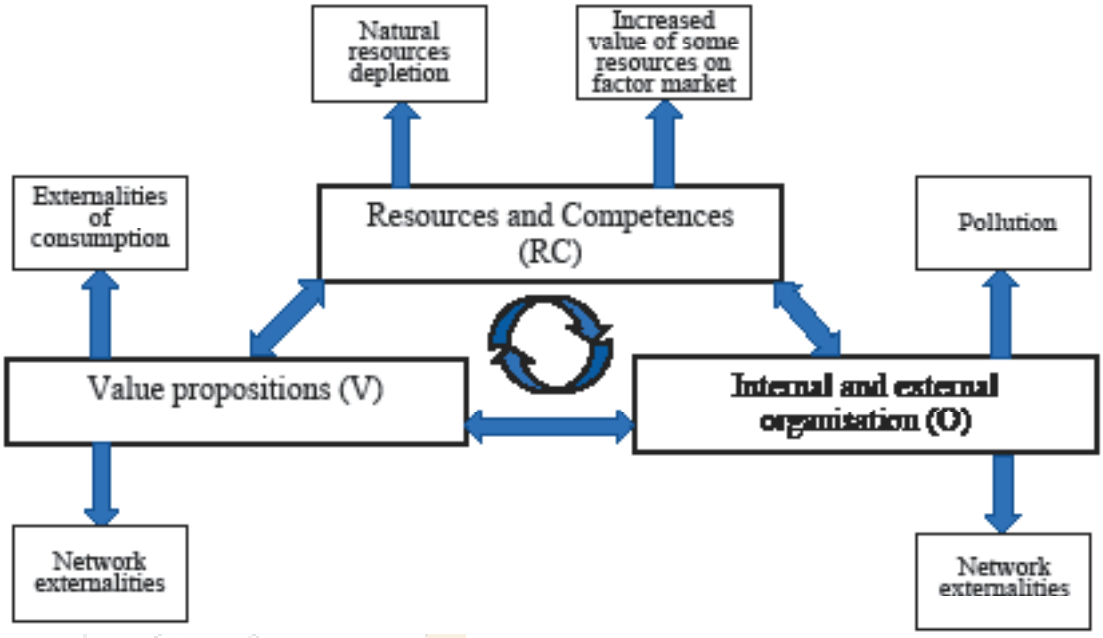

Figure 2. Examples of externalities of a BM using the RCOV framework

Beyond identifying externalities, managers may decide to change their BM to internalise some externalities, generating positive social or environmental impact. More generally, managing externalities is an essential activity for managers and entrepreneurs.

Taking Responsibilities in the Process of Business Model Design: On Consequences, Externalities and Internalities

Our preceding arguments lead us to consider that the fundamental dimension when designing and implementing a BM is the scope of responsibility it defines. This responsibility supposes the possibility of free will and the ability to do otherwise (Stanford Philosophical Encyclopedia, 2019[1]). Consequently, defining the scope of responsibility depends on the entrepreneur's purpose or values.

Milton Friedman (1970) defined this scope very narrowly several decades ago. He denied the interest in the concept of social responsibility except for an individual proprietor who may act to reduce the returns of his enterprise "to exercise his 'social responsibility'". Friedman considered that "*there is one and only one social responsibility of business — to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.*" (p.17). In his reasoning, Friedman excluded externalities, letting the government use taxes and regulations to fix social and ecological issues.

In the opposite position, some managers or academics have adopted a corporate responsibility view in which business sector decisions must go beyond the company's direct economic interests. This responsibility supposes managerial discretion and is driven above all by top managers who act for positive (e.g. attention to others) or negative motivations (e.g. threat of regulation or social control) (Swanson, 2008). Indeed, whatever their motivation, top managers define the ethical climate of the organisation.

These debates paved the way for adopting various positions concerning the scope of responsibility an organisation assumes. In this article, we propose that this scope is reflected in how a BM manages the consequences of activities through externalities and internalities. This allows us to avoid the slippery debates on moral convictions or ethical positions of managers and to focus on corporate responsiveness (Ackerman & Bauer, 1976). As Swanson (2008) points out, "Corporate *social responsiveness refers to how business organisations and their agents actively interact with and manage their environments, [whereas] corporate social responsibility accentuates the moral obligations that business has to society*".

Sure, it can be challenging to evaluate the responsibility of an organisation in observed negative consequences, as these may be produced by the intertwined BMs of various actors in an ecosystem and not only by the action of a single actor. Moreover, an organisation can sometimes correct these externalities. As aptly defended by Friedman in his tribune, managers or entrepreneurs are only experts in some of the social problems of society.

Adopting the view that the scope of responsibility can be apprehended by how the BM is dealing (or not) with externalities, we identify eight policies that could be adopted to manage (or not) negative consequences of a BM (See Table 1). These policies reveal the scope of responsibility an entrepreneur or an organisation accepts (or does not) to take charge. These policies display very differentiated levels of engagement from the organisation; some are unethical from our point of view. Most organisations

[1] 'Moral *Responsibility*', *Oct 16, 2019*, https://plato.stanford.edu/entries/moral-responsibility/

Table 1.

Policies of the focal organisation to manage the externalities of its business model	Typical actions undertaken by the focal organisation	Illustrative consequences for the business model of the focal organisation	Illustrative consequences for the ecosystem
Hiding negative externalities	Organisation tries to hide negative externalities	Delays social pressure, taxation, regulation or prohibition of the sector	Actors lack of information or suffer from mis-information
Expecting the ecosystem to manage negative externalities	De facto transfer of the negative externalities to other actors	Reduces costs	Actors have to manage the externalities of the focal organisation
Transferring the responsibility of negative externalities	Transfer of the negative externalities to other actors with their agreement	Limits risks Reduces social pressure by assuming that the externalities are managed	Actors voluntarily manage some externalities of the focal organisation
Compensating negative externalities	Inclusion of costs to compensate negative externalities	Increases cost Eventually adds new activities	Actors enter in the ecosystem as they beneficiate from and/or operate compensation schemes
Reducing negative externalities	Operate at smaller scale or slightly differently to reduce negative externalities	May limit the growth of the organisation	Value creation increases for some actors and decreases for others
Avoiding negative externalities	Change importantly the BM to avoid a type of externalities	Time needed to operate effectively the new BM	Value creation increases for some actors Change of the ecosystem with eventually new externalities appearing
Transforming negative externalities into positive ones	Convert by-products into a value proposition for other actors	May reduce costs, May creates new sources of revenues, Increases legitimacy	Value creation increases for some actors, Reconfigures the ecosystem through inter-organisational arrangements and coordination
Internalizing externalities	Innovate the BM to develop new activities and manage internally the externalities	Increases costs on the short term, May reduce costs and/or create new sources of revenues on the long term, Increases legitimacy	Value creation increases for some actors

Table 1: A typology of policies to manage (or not) externalities and their consequences (from the less virtuous to the more virtuous actions)

will use various policies simultaneously, depending on the type of externalities.

- **Hiding negative externalities:** In this situation, the BM of an organisation produces negative externalities, and the organisation tries to hide them to avoid taxation or prohibition. The archetypal example is the tobacco industry, when it made deliberate choices for decades, trying to create addicted customers but also to foster public ignorance and cast doubt on scientific knowledge (Proctor, 2012). The industry invested a lot of money to produce scientific studies to discard opposition and lobby regulators.

  This policy may delay social pressure and regulations but ultimately proves morally questionable when information spreads.

- **Expecting the ecosystem to manage externalities:** Some organisations may be aware of their externalities but transfer the consequences of their BM (at zero price) to other actors in the ecosystem. For example, the soft drink industry received harsh criticism for contributing to the obesity epidemic and "*The cost of obesity alone, in treatment and lost productivity, runs to hundreds of billions of dollars annually*" (Nestle 2015, cited in Gertner and Rifkin, 2018, p. 164). Health costs are primarily supported by public or private health insurance. This led Coca-Cola to communicate on integrating wellness and the fight against obesity as part of its core mission (Gertner & Rifkin, 2018).

  This policy implies, among other things, that other stakeholders "accept" to bear the costs of externalities of the focal organisation. It also implies that it is not concerned by its negative externalities.

- **Transferring the responsibility of externalities:** An organisation may be aware of the externalities that its BM produces but may decide to externalise or transfer some activities to other actors of its ecosystem with their agreement. These actors become responsible for managing these externalities (or a part of these externalities). For example, cascading subcontracting may be viewed as an inter-organisational practice to avoid the total liability of work-related accidents or occupational illness. As the European Trade Union Confederation argues, "*This development [to circumvent national legislation and workers' rights] is even more visible in subcontracting, which has become THE business model in certain sectors. Businesses have perfected their techniques to externalise risks and responsibilities while maximising power and profit*" (*Securing workers' rights in subcontracting chains*, July 2021)[2]. The Confederation mentions some sectors, such as food and agriculture, garment industry, road transport and construction.

  This policy supposes that other actors in the ecosystem formally accept the transfer of responsibility from the focal organisation. This focal organisation limits its risks and reduces social pressure by giving the impression of managing its externalities.

- **Compensating negative externalities:** The focal BM includes costs to compensate for total or partial externalities. This compensation may consist of money or actions once externalities have been observed. Referring to the "polluter pays principle" set out in the 1992 Rio Declaration, Grasso and Heede (2023) estimate the negative impact of fossil fuel producers on climate between 1988 and 2022. Their study concludes that the cumulative cost of climate damages attributed to the primary producers for 2025-2050 was about $70 trillion. The authors consider that these companies should pay around $200 billion annually until 2050 to compensate for the climate damages and help fight against global warming.

  While attractive, this policy raises questions such as: Are the compensation schemes equivalent to the costs borne by other public or private actors? How do we distribute compensation? Can money compensate for some irremediable damages? The compensation policy is generating costs for the organisation. It may

[2] https://www.etuc.org/sites/default/files/2022-01/Securing%20workers%20rights%20brochure_EN.pdf

also induce new activities within the organisation. Compensation may also necessitate the inclusion of new actors in the organisation's ecosystem. Indeed, these actors may operate compensation for the focal organisation (for instance, a company that wants to plant trees is often operating with a subcontractor) or benefit from this compensation (for instance, an NGO receiving compensation from the focal organisation).

- **Reducing negative externalities:** While most human activities may present negative consequences, a BM may be designed to limit its externalities. For example, ecotourism promotes reconciliation between the conservation of nature and local cultures while providing a unique experience for visitors. Its goal is to "*generate money in an ecologically and socially friendly way than other forms of land exploitation*" (Koens et al., 2009 p. 1226) and limit tourism's impact. However, ecotourism still has drawbacks and negative social, economic and ecological consequences.

  This policy may limit the growth of a company deciding to reduce its externalities with its current BM. It may also reduce the growth of suppliers, client organisations or organisations proposing complementary products or services. Other actors may observe an increase in value creation due to the reduction of negative externalities impacting their lives or activities.

- **Avoiding negative externalities:** Organisations may try to avoid wholly or partially generating negative consequences of their BM. To do so, they have to innovate and change their BM. For instance, it is the case when car manufacturers try to reduce the pollution generated by the consumption of oil engines by producing electric cars or hybrid electric cars (Helmers & Marx, 2012).

  This policy requires most of the time to design a new BM radically different from the previous one. It implies spotting and analysing existing externalities to propose alternative solutions. However, value creation tends to increase for the actors that used to suffer from these externalities. Other externalities may appear due to the implementation of a new BM. For instance, while electric vehicles decrease the carbon footprint associated with the use of cars, the production and lifecycle of batteries to power electric cars have generated new environmental consequences (Lave et al., 1995). Indeed, electric cars' batteries make them more carbon-intensive to manufacture than gas cars.

- **Transforming negative externalities into positive ones:** An organisation can design relationships with actors in its ecosystem to transform negative externalities into positive ones. For instance, the approach of industrial ecology or circular economy promotes specifically connections between companies located in the same area to recycle by-products of an industrial or an agricultural process in another company's process (Jambou et al., 2022). In this case, the negative externalities (pollution or waste) become positive externalities, as by-products of an organisation are used as inputs by another.

  This policy improves the management of material and energy flows by encouraging cooperation between different actors, such as companies or households, and potentially reduces the costs of a BM. It may decrease a BM's social or ecological footprint and decrease the costs borne by some actors in the ecosystem. Nevertheless, it requires the alignment of different actors' BMs in the ecosystem with formal or informal arrangements to implement virtuous inter-organisational loops.

- **Internalising externalities:** Organisations may explicitly internalise what used to be their externalities or those of other stakeholders in their ecosystem. **Internalising** externalities can be the function of some actors in the ecosystem, such as companies specialised in recycling or re-using products. However, a company may also choose to internalise the negative consequences of its BM, which would have become externalities if not taken seriously into account. For example, the 'extended producer responsibility' principle tries to solve the piles of clothes that end up in local landfill sites or are shipped in bulk to countries in the South.

Fashion companies may fund textile recycling programs by setting up recycling programs (Fortune.com, 5/31/2023)[3].

Such an internalisation policy increases costs (to internalise the management of the BM consequences). However, it may also decrease other costs or create new sources of revenue in the long term by generating new virtuous loops within the BM of the company. For instance, internalising externalities in the above fashion industry creates new costs as clothes need recycling. However, it also increases the cost of overproduction for producers. It thus incites companies to evaluate production quantities better and to move towards high-end products as they are concerned about recycling products in surplus.

The policy of internalisation requires the acquisition of new assets and the development of new competencies. Establishing new relationships with existing actors or extending the current ecosystem to find innovative solutions may also be necessary. Internalising externalities renders potentially the activity of some actors in the ecosystem useless.

Conclusion

The BM approach (Lecocq et al., 2010) brings an extended view of organisations by considering that a BM defines the ecosystem in which an organisation evolves and interacts (Demil et al., 2018; Lingens, 2023). This ecosystem is traditionally considered from the standpoint of value creation for stakeholders and value capture for the focal company. In this article, we adopt a different perspective by considering that the ecosystem is also where the externalities of a focal BM operate, eventually generating value destruction for stakeholders. While managers cannot constantly evaluate the full consequences of their BM (whether on the production side or the consumption side), the perspective introduced here gives a central role to their responsibility. Indeed, an organisation may take several stances concerning its externalities and ultimately decide to internalise some negative effects of its activities. Consequently, this perspective enables participation in the debate on environmental and social responsibility from a BM perspective, giving a pragmatic account of corporate responsibility.

To conclude, we can draw several implications from our developments.

From a normative point of view, designing a business model should be motivated by a potential increase in revenues or profit and by sustainability for its ecosystem (and not only for the company itself). For managers or entrepreneurs, this implies reviewing the externalities produced by the BM of their company and adopting a responsible stance, considering that managing these externalities is a central issue within their perimeter. Moreover, we suggest that some externalities only appear in the long term and that some unanticipated negative externalities may occur over time. This implies that managers and researchers should adopt a dynamic view of these phenomena.

Theoretically, we argue that externalities should not be reified and depend, above all, on the BM design. The design of a BM reveals choices made to assume (or not) responsibilities, first deciding between externalities and internalities and second deciding how to manage the externalities once they are generated. This enables them to adopt a pragmatic approach of responsibility that is not only based on the ethical principles supported by managers, nor on the discourses of these managers, but on the analysis of the externalities generated by their BM and the choices made to manage these externalities. Conceptually, it is important to realise that negative externalities that are appropriately managed may end up (in the case of the most virtuous policies to manage externalities such as 'Avoiding negative externalities', 'Transforming negative externalities into positive ones' and 'Internalize externalities') not being negative externalities any more (and eventually not externalities).

From a pragmatic point of view, the responsibility of managers or entrepreneurs is engaged when they

[3] https://fortune.com/2023/05/30/fashion-waste-recycling-programs-epr-proposed-laws/

decide to accept (or not) some of the consequences of their BM and then manage these consequences internally or externally. In this article, we provide a typology of policies to manage (or not) externalities and discuss their consequences on the business model of the focal organisation and its ecosystem. These policies are more or less virtuous (some are immoral and very negative for the environment and society). Our typology identifies the type of actions organisations may undertake and allows managers and stakeholders to work together to implement virtuous practices, creating progressively better business models.

Sure, virtuous practices for managing externalities are not easy to implement, as they are supposed to question the externalities produced by a given BM and consider its impact on environmental, social and economic outcomes. For instance, internalisation may cause a competitive disadvantage (on some business dimensions) if one company internalises some negative effects, whereas its competitors do not. To avoid this competitive disadvantage, an organisation could try to impulse best practices at the collective level (with competitors) or could incite public actors to regulate some business practices. Managers should be aware that current and forthcoming regulations may also influence the public's perception of externalities and internalities (Nielsen, 2023b).

Finally, considering externalities in a BM perspective could change the rules of the competitive game. In most sectors, some BMs are competitive vis-a-vis more responsible BMs only because they externalise responsibility for the consequences of their operations. In other words, they are competitive because they do not bear the cost of their externalities. Considering these externalities could give responsible business model innovation a chance to flourish.

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