

Article

Business Models Addressing Sustainability Challenges—Towards a New Research Agenda

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Abstract: From just another buzzword a few decades ago, sustainability has become a hot topic on strategists’ agenda—and it is here to stay. The growing pressures on businesses to address the ever-complex sustainability challenges and to (consequently) assess their performance against a variety of sustainability-related goals are imperatively asking for a new paradigm—grounded on a global business ethics perspective and able to support a fundamental change in the traditional ways of doing business; placed at the heart of any company’s way of doing business, business models are instrumental in these transformative changes, both as triggers (in the short run) and backbones (in the medium to long run). Building on existing literature and capitalizing on the opportunities provided by inter- and trans-disciplinary research, this theoretical analysis aims to (re)frame the (research in) search of the most appropriate business models to address sustainability challenges. Thus, the purpose of the study is: (1) To advocate for a complex yet contingent approach at the business level—able to capture the bigger picture (the sustainability imperative) without missing its idiosyncrasies (the best fitted to the business model context)—when searching for strategic performance; (2) to propose an integrative, multi-level conceptual framework (able to provide widespread synergies for companies and their broader environment) as guidance for this kind of approach, and to suggest specific directions with respect to its implementation.

Keywords: bibliometric analysis; business ethics; business model; complexity; integrative approach; performance assessment; profitability; strategic performance; sustainability; sustainability of business

1. Introduction

Basically, a business model depicts a company’s way of doing business and making money [1], as money, and particularly profits, represent prerequisites for any company’s survival and future existence. This makes business models critical determinants of organizational success, while reflecting the managerial performance against the challenges of the (broad) business environment. Although the logic behind this framework is still the same, what are quite disruptively new nowadays are the challenges facing organizations (together with their increasing complexity) on the one hand, and, somehow consequently, the paradigm shift in the assessment of organizational success (in light of these challenges) on the other hand.

In its capacity of being both a global challenge and an immanent goal, sustainability—“the long-term maintenance of systems according to environmental, economic, and social considerations” [2]—represents one of the driving forces shaping these transformative changes; over the last decades, sustainability has managed to surpass the level of ideological debates and/or political endeavors that used to define its approach, and to boldly penetrate the more pragmatic business

world [3,4]. The deterioration of sustainability parameters—which largely occurred as an externality of ethically questionable business decisions and practices [5,6]—has led to a global awareness on the ripple effects that this phenomenon may have, while placing businesses under high scrutiny. Thus, driven by practical or moral reasons [7], profit-seeking or legitimacy-seeking [8], sustainability has entered the strategists' agenda. The growing pressures towards sustainability—coming from a variety of increasingly powerful global actors (ranging from international bodies/institutions to governments and non-governmental organizations/groups, or even individuals) [9,10]—have determined companies and their strategists to progressively address the sustainability-related challenges and to reconsider the businesses' goals—through the lens of sustainability [11–14].

However, this kind of approach—able to eventually recouple businesses with the environment and the society at large, while adding specific content, consistency, and measurability to sustainability's multiple valences—asks for a new, enlarged (in “space”), and deeper (in “time”) perspective on doing business; grounded on “a new way of thinking and acting at a global level—a new global ethic” [15] and transposed into a “moral frame in the sustainable business space” [16]—this new perspective should be able to support and optimally balance, both statically and dynamically, financial and non-financial objectives, while satisfying (often) contradictory interests, demands, and concerns.

All of these innate difficulties—coupled with a plethora of: (1) Criticisms—on the real motivators of such endeavors; (2) complexities—regarding the variables to be considered and their interconnections; (3) uncertainties—on the best strategic choices to be made in specific circumstances; (4) unknowns—regarding the practicalities to be deployed in order to operationalize this approach; and (5) skepticisms—on the resulted outcomes, for both companies and the environment at large—energetically (re)vitalize the debate on business models amongst academics and practitioners as well [17–20]. The long list of “unsolved problems” just mentioned sets the parameters of this debate, while providing the opportunity for a turning point in the way that companies are setting the standards of their success and position themselves on the coordinates of the sustainable (global) business environment.

So, what could/should companies do in order to optimally manage, through their business models, the increasingly complex relationships between the financial and non-financial dimensions of their (short- as well as long-term) success? Should the existing (approaches to) business models just be fine-tuned by companies in order to properly address the multi-faceted challenges of sustainability, or they should be totally reinvented, as the entire paradigm of doing business is about to change when companies will fully embrace the challenges of sustainability? These are the broad questions that this study is trying to shed some light on.

Four (hypo)theses (Figure 1) will guide the search for answers to these questions: (1) The unprecedented complex sustainability-related challenges that organizations are facing nowadays ask for a new research agenda (as precursor of a new paradigm) for strategists—built on an integrative, multi-level, and trans-disciplinary approach; (2) “old” profitability and “new” sustainability are not opposite (mutually exclusive), but rather complementary targets, able to creatively reinforce each other on the long term into a “virtuous spiral” of organizational success (with positive externalities); (3) in the short to medium term, the proper search for, choice, design, and execution of a company's business model (BM), as well as its change/innovation (BMI) when necessary, are prerequisites for sustained and sustainable competitiveness; and (4) there is no such thing as a panacea, “one size fits all” kind of solution, neither “in space” (as regards different companies), nor “in time” (during a company's lifespan), so the strategists' agenda should continuously be updated, as new challenges are changing the decision-making frameworks and new tools and instruments are developed to address these challenges.

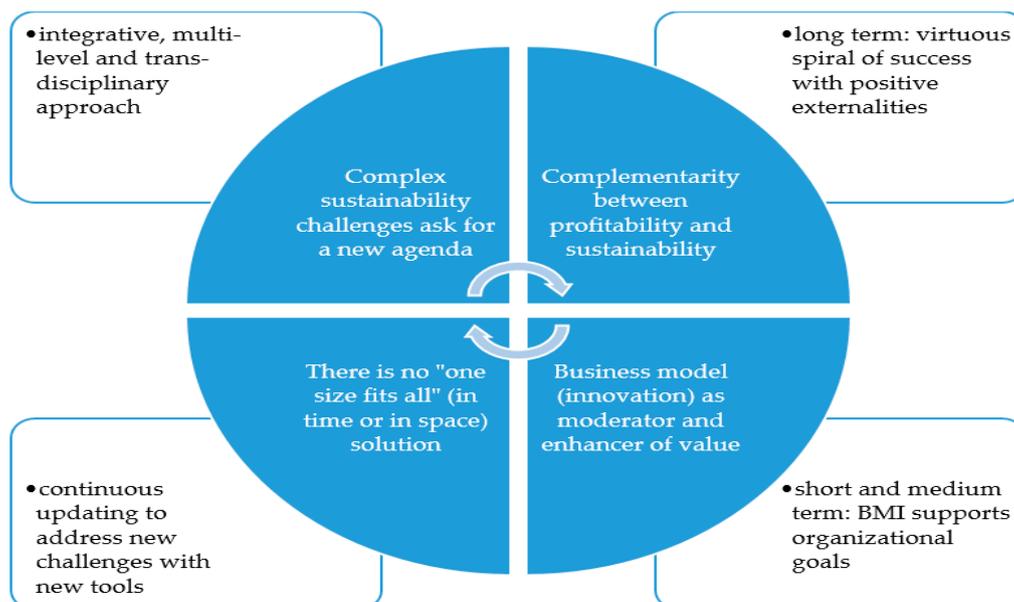


Figure 1. Hypotheses of the study.

Against this background, the purpose of the study is: (1) To highlight the need for a complex yet contingent approach at the business level—able to capture the “bigger picture” (of sustainability) without missing its granular idiosyncrasies (the most appropriate business model in a specific context)—when searching for strategic sustainable performance; and (2) to propose an integrative, multi-level conceptual framework—able to provide (both diachronically and synchronically) widespread synergies for companies and their broad (social and natural) environment—as guidance for this kind of approach, and to suggest specific directions with respect to its implementation.

Whilst companies are facing increasingly complex sustainability-related challenges—which impact not only their ability to financially succeed in the short run, but also their global performance on the long run, and, through propagated effects, the quality of life (in general)—it is important for academia to search for a new paradigm of doing business, able to properly address the (new) challenges while capitalizing on the opportunities brought by the (new) inter- and trans-disciplinary research results; as part of this endeavor, this paper aims to (re)frame the (research in) search of the most appropriate business models and to suggest a new research agenda for strategists.

2. Conceptual Background

2.1. Dynamics of Organizational Goals—From Profitability to Sustainability

At a time when the debate on businesses’ social responsibilities was at its dawns [21]—and the impact of man/business on the natural environment had just been acknowledged as an issue needing further consideration [22]—Friedman made his seminal statement, which, often taken out of context and/or truncated, has ever since served as justification for the unethical-to-irresponsible behavior of many businesses (and their strategists): “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” [23].

Although echoes of Friedman’s argument are still audible nowadays [24], its interpretation has been nuanced [25] and its power has progressively faded, as the tremendous pressures on businesses “to manage responsibly as well as profitably” have turned responsibility into a “new business imperative” [26]; moreover, they have opened the door to a “new era of corporate sustainability and responsibility [... when ...] ultimately, the purpose of business is to serve society, through the provision of safe, high quality products and services that enhance our wellbeing, without eroding our

ecological and community life-support systems" [27]. The newer "sustainability imperative" has the privilege of framing and supporting the completion of this transformative journey regarding the ways that businesses approach their responsibilities (and, consequently, define and follow their goals in search for survival and success)—as the emergence and crystallization of the sustainability megatrend is forcing "fundamental and persistent shifts in how companies compete" [28].

Under these circumstances, concepts and practices such as business/corporate sustainability have increasingly started to challenge both the theory and practice of strategy and strategic management [29,30]. Thereby: (a) Van Marrewijk and Werre have analyzed and categorized the different manifestations of corporate sustainability (CS) based on six "ambition levels"—from pre-CS (which basically reflects "no ambition for CS") to holistic CS, where "CS is fully integrated and embedded in every aspect of the organization, aimed at contributing to the quality and continuation of life of every being and entity, now and in the future" [31]; (b) Dyllick and Muff have provided a framework on how business sustainability (BST) is able to gradually replace the business-as-usual paradigm while leading to the BST 3.0 firm—one that "translates sustainability challenges into business opportunities making 'business sense' of societal and environmental issues" [13].

Although the two theoretical models just mentioned are referring to open-ended evolution frameworks (that are quite far from being fulfilled) on the one hand, and emphasize the diversity of the particular solutions that businesses could embrace on the other hand, one thing is for sure: In order for businesses to survive and to further succeed, the sustainability megatrend and its "mega challenges" can no longer be ignored [29,32]. Shifting organizational goals from "simple" profitability to "complex" sustainability will allow businesses to effectively address these challenges, while forcing them to focus on both the ethical foundation and the strategic operationalization of sustainability [33]. If taking "seriously the idea that strategic management and business ethics are inseparable" [34], which is now more true than ever if considering the sustainability imperative, the "global business ethics" [35] embodying the foundation of sustainability becomes a crucial dimension of the "integrative" approach that should characterize the operationalization of sustainability [12].

Accordingly, "all three dimensions of sustainability—economic, environmental, and social—must be integrated into all aspects of an organization's strategy and need to be addressed on an ongoing basis" [36]. If properly managed, through "the integration of corporate sustainability into strategic management" [30], they could become opportunities—while capitalizing on the "embedded sustainability" propensity to be(come) "the next big competitive advantage" [37]—to the (long-term) benefit of both businesses and the society at whole.

In light of the above, many authors have argued that, at the company level, non-financial, sustainability-related concerns and goals should accompany the financial-related ones (expressed in terms of "old" profitability) [38], while building the "business case" for corporate sustainability [39]. Some of them have gone even further when advocating for "an extended framework for corporate sustainability", able to address not only the "business case", but also the "natural case" and the "societal case" of corporate sustainability [40]. Aware of "the impact of corporate sustainability on organizational processes and performance" [41], a series of companies have managed to bring profitability and sustainability together—by integrating sustainability into their strategic approaches [42] and corporate identities [43]—and to properly balance them [44] into "a positive feedback virtuous circle" [45].

In order for this process of integrating sustainability (alongside profitability) into the business core to become effective, companies have to identify and employ the most suitable business models, able to make operational their strategic choices while providing the desired outcomes, for both businesses and the broader society, in the long run. Therefore, as challenging (almost counter-intuitive for many companies, if considering the business-as-usual paradigm) as this "integration endeavor" might be, it is likely to open new perspectives on doing business and new approaches to addressing (the challenges of) sustainability by forcing entrepreneurs and strategists to (re)think their business models.

2.2. Bringing Organizational Goals to Life—The Role of the Business Model (Innovation)

Although the history of business models (BM) basically overlaps with the history of businesses themselves, the documentation of business models by researchers has started far more recently, while getting an impetus “with the development of information and communication technologies (ICT) and the emergence of Internet companies” [46]. Since then, the literature in the field of business models has been quite massively enriched [47,48], but at the same time, it remains rather diverse and fragmented due to “the lack of a common definition and understanding of business models” [49].

Amongst the most expressive (and relevant for the purposes of this work) conceptualizations of business models could be mentioned those provided by: Shafer, Smith, and Linder: “We define a business model as a representation of a firm’s underlying core logic and strategic choices for creating and capturing value within a value network” [50]; Osterwalder and Pigneur: “A business model describes the rationale of how an organization creates, delivers, and captures value” [1]; Casadesus-Masanell and Ricart: “Put succinctly, business model refers to the logic of the firm, the way it operates, and how it creates value for its stakeholders” [51].

In addition to the obvious emphasis on “value creation”, all of these definitions of business models (among others) have in common that they also raise some critical issues, which set apart the different (lines of) approaches, providing, at the same time, background for further consideration: (1) Who the beneficiaries of value creation (which, broadly, is a matter of “strategic positioning”) are—the business itself, its specific stakeholders, or the entire system (value network) that the business is a part of; (2) what value actually is—a unidimensional money-related concept, a multidimensional business-related concept (encompassing different facets for different stakeholders), or a pluristratified business-and-ethics-related concept (encompassing the ethical foundation of its understanding as well as its business operationalization).

A closer look at the literature on business models reveals the complexity of the concept and the heterogeneity of perspectives and approaches addressing it; still, a series of (review) articles categorize the main themes and streams of thoughts, while identifying the remaining gaps and limitations in order to serve as a basis for clarification and future developments in the field.

Accordingly, Zott, Amit, and Massa found four “emerging common themes among scholars of business models: (1) The BM is emerging as a new unit of analysis; (2) BMs emphasize a system-level, holistic approach towards explaining how firms ‘do business’; (3) firm activities play an important role in the various conceptualizations of BMs that have been proposed; and (4) BMs seek to explain how value is created, not just how it is captured” [52]. Later on, Massa, Tucci, and Afuah depicted “three interpretations of the meaning and function of ‘business models’: (1) BMs as attributes of real firms, (2) BMs as cognitive/linguistic schemas, and (3) BMs as formal conceptual representations of how a business functions” [53].

Regardless of the variety of viewpoints on their conceptualization, their role of translating strategy into action [54] makes business models essential strategic tools, with a significant contribution to the operationalization of a company’s strategic vision, goals, and choices. Consequently, business models are usually associated with organizational performance [55], success [56], and profitability [57], while being considered as potential sources for competitive advantage [58].

However, with both performance and competitive advantage likely to rapidly erode in our era of hypercompetition [59], “business model innovation is becoming one of the main forces driving strategic renewal efforts of businesses around the world” [60]. Moreover, if considering that business model innovation (BMI) “may refer to (1) the design of novel BMs for newly formed organizations, or (2) the reconfiguration of existing BMs” [61], the crucial importance of BMI becomes more evident, making Massa and Tucci argue that the “organizations that embrace business model innovation will embrace the possibility to shape industries and possibly change the world” [61]. Given the above, an entire new branch of literature on business model innovation has emerged, with its own conceptualization-related differences, streams of research, and further limitations [62,63].

Within this new research area, Spieth, Schneckenberg, and Ricart have proposed “a role-based approach to categorize the literature and argue[ed] that the respective roles of explaining the business, running the business, and developing the business can serve as three interrelated perspectives to present an overview of the current business model innovation field” [64]; based on these findings, they then suggested a guiding framework for future research avenues in the field.

More recently, Foss and Saebi pinpointed four streams of research on BMI, as follows: “Conceptualizing BMI, BMI as an organizational change process, BMI as an outcome, and consequences of BMI” [65]; when referring to the “gaps and challenges in BMI research”, and particularly to “the focus on BMI in relation to sustainability”, although the authors noticed the momentum that this research area has recently gained, they also concluded that “the question of how managers can innovate their BMs toward greater sustainability has not been addressed sufficiently to date” [65].

2.3. Adding the Sustainability Dimension to the Business Model (Innovation)

The last few decades’ increasing concerns for and pressures towards sustainability have determined companies to continuously search for new approaches as regards their business model (innovation), either reactively or proactively, by “changing their business models to adapt to the sustainability issue or [. . . by . . .] designing business models that actively contribute to solving the problem” [18]. With sustainability progressively emerging as the “key driver of innovation” [66], the process of “sustainable innovation”—integrating sustainability considerations into company systems, including their business models [67]—has become its main vehicle. Therefore, the efforts businesses have made in order to align themselves with the new realities and trends shaping their existence have varied from developing “innovation activities oriented towards making the business models more sustainable” [68] to engaging in incremental or radical “organizational processes of business model innovation for sustainability” [69].

This pursuit of sustainability has substantially enriched the business model (innovation) thinking, designing, and execution, leading to remarkable advancements in both practice and academia, while opening quite promising avenues for future research in complementary areas, such as “sustainable business models” (SBM)/“business models for sustainability” (BMS) and “sustainable business model innovation”/“business model innovation for corporate sustainability” [19,70].

Stubbs and Cocklin were among the first to “develop a ‘sustainable business model’ (SBM)—a model where sustainability concepts shape the driving force of the firm and its decision-making” [71]; their case-study-based research generated “an ‘ideal-type’ SBM” built around a series of propositions referring to: The organization’s triple purpose and performance (measuring); the equal preeminence of all of the stakeholders’ needs to be addressed, including those of nature; the driving role of sustainability leaders in implementing sustainability; and the complex—system- and firm-level—perspective necessary to be embraced by such an endeavor [71].

Later on, Schaltegger, Hansen, and Lüdeke-Freund proposed “the following definition of a business model for sustainability: A business model for sustainability helps describing, analyzing, managing, and communicating (i) a company’s sustainable value proposition to its customers and all other stakeholders, (ii) how it creates and delivers this value, and (iii) how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries” [72].

As concerns the “innovation” dimension of the SBMs/BMS, two streams of research could be identified: One that aims at contributing to a common/unified understanding of SBMs/BMS—in order to facilitate/accelerate further progress/innovation in the area, and another one that aims at contributing to the development of a new, dedicated (sub)field of research.

Thus, Bocken et al. introduced the “sustainable business model archetypes”—namely: “Maximize material and energy efficiency, create value from ‘waste’, substitute with renewables and natural processes, deliver functionality rather than ownership, adopt a stewardship role, encourage sufficiency, re-purpose the business for society/environment, and develop scale-up solutions”—as “exemplars

for sustainable business model innovation" [73]. Then, Joyce and Paquin developed "the triple-layer business model canvas", which adds an environmental layer and a social one to Osterwalder and Pigneur's original business model canvas [1] with the intention of both making it parallel and extending it, in order to provide "a tool for exploring sustainability-oriented business model innovation" [74]. Later on, Lüdeke-Freund et al. advanced a "sustainable business model pattern taxonomy", which comprises 45 SBM patterns developed around "five major categories of value creation" and "11 SBM pattern groups", in an effort "to support sustainability-oriented business model innovation" [75].

On the other hand, Geissdoerfer et al. grouped the specific forms of sustainable business model innovation into four types, derived from their specific goals (start-ups, transformation, diversification, and acquisition) [76] and complemented them with "certain sustainable business model types and strategies"—aiming "at developing a sustainable business model innovation framework [... as guidance for ...] companies through their business model innovation process" [76].

Focused on providing "a unified theoretical perspective for understanding business model innovations that lead to better organizational economic, environmental, and social performance" [70], Evans et al. developed "five propositions that support the creation of SBMs: (1) Sustainable value incorporates economic, social, and environmental benefits conceptualized as value forms; (2) SBMs require a system of sustainable value flows among multiple stakeholders, including the natural environment and society as primary stakeholders; (3) SBMs require a value network with a new purpose, design, and governance; (4) SBMs require a systemic consideration of stakeholder interests and responsibilities for mutual value creation; (5) internalizing externalities through product-service systems enables innovation towards SBMs" [70].

3. Methodology

Albeit theoretical, and advocating for interpretivism in finding the most adequate solutions to the (research) questions raised, this paper preferred to embrace pragmatism as its research philosophy. In line with this approach, it combined deduction and induction while pursuing (built on an extensive, quasi-systematic review of the literature, complemented by critical thinking) exploratory, descriptive, as well as explanatory purposes [77] as follows: (1) Exploring the literature on sustainability and business models—in search of new insights and/or for assessing topics in a new light—allowing the further setting of the main coordinates of the study from a comprehensive, trans-disciplinary perspective; (2) describing the situations/phenomena (derived from both literature and real organizational life)—in order to produce an accurate representation of them—serving as support for the refining of exploration (up to the building blocks of the eventual conceptual framework) on the one hand, and for the scientific substantiation of explanation (regarding the impacts/relationships governing the design of the conceptual framework) on the other hand; and (3) explaining the impact of different factors and the relationships between different variables (within the proposed conceptual framework) both statically and dynamically.

Considering the above, the paper's scope was to develop a dynamic, multi-level conceptual framework (open to further improvements—inputs and/or corrections) suitable to be embraced by any (kind of) company searching for sustainable competitiveness. The main variables, as determined in the previous section, are: Organizational goals/performance, profit(ability), sustainability, business model/business model innovation, sustainable business model/business model for sustainability, new context/challenges, and new research agenda (Figure 2).



Figure 2. Theoretical framework supporting a new research agenda.

As regards the research strategy, given the paper’s research questions and objectives, probably the most appropriate would have been an action research strategy, but it would have limited the scope of the paper, while providing a one-lens kind of answer; however, such research is mandatory in the future in order to test the validity and to correct/improve the (theoretical) results of this study. On the other hand, a grounded theory strategy could also be embraced by future research to address the questions if an appropriate amount of empirical data are available (maybe in the form of a comparative study of best practices). However, because these two strategies are either inconclusive or impracticable at this point/moment, evidence-based management has emerged as the most suitable approach. Built on the basic idea that “good-quality decisions require both critical thinking and the use of the best available evidence, (. . .) evidence-based management is about making decisions through the conscientious, explicit, and judicious use of the best available evidence from multiple sources (. . .) to increase the likelihood of a favorable outcome” [78].

Therefore, the study has critically appraised evidence from the scientific research literature in order to answer the research questions; aware of the “methodology for developing evidence-informed management knowledge by means of systematic review” [79], the research methods employed were the cross-sectional and longitudinal analysis and reanalysis of secondary data (literature in the field of “sustainability” AND “business model”).

As concerns data collection and data analysis to complete the endeavor, besides the narrative literature review—based on a bibliographical data search (on Web of Science, Scopus, and Google Scholar) and aimed to set the theoretical background of the study—a bibliometric analysis was performed using Web of Science (WoS) publications (<http://apps.webofknowledge.com/>), as a series of the studies have previously done [80], including a recent one, on sustainability research in business and management [4].

Scanning the entire universe of existing literature in the field of <<“sustainability” AND “business model”>> on WoS was performed in order to have access to the mainstream (most cited) research, but also to the new and/or heterodox approaches; thus, from the WoS Core Collection database, the records for <<“sustainability” AND “business model”>> since 1994 (the first year in which a publication checked the two topics) until (the first quarter of) 2020 were searched to serve as main variables of the theoretical framework, and a total of 1074 records were returned and extracted for analysis.

The two topics/variables were chosen mainly because of the fragmentation of the (management) field [79] on the one hand, and the particularity of “trans-disciplinary research in sustainability science” [81] on the other hand—features asking for a broader view, able to encompass multiple research perspectives and areas. A narrower search—e.g., for <<“sustainability” AND “business model” AND “profit”>>, generating a total of only 146 records—would have been quite insufficient

and inconclusive for the purpose of the paper; although, to tunnel the analysis and refine the results, a filter was then applied to capture the core “business and economics” categories in WoS (Management, Business, Economics, Business Finance), which returned a total of 365 records. No additional filters were applied, as a (pure) “systematic review” of existing literature [82] is beyond the paper’s scope.

The bibliometric analysis was made using the VOSviewer version 1.6.15 software tool (<https://www.vosviewer.com/>), which is “a freely available computer program (. . .) developed for constructing and viewing bibliometric maps. (. . . It uses) the VOS mapping technique (. . .), where VOS stands for visualization of similarities” [83]. Regardless of its limitations [84], VOSviewer is increasingly used (either alone or together with other tools) by researchers in the fields of business and management to achieve systematic reviews [85,86]. Following an overall (quantitative) evaluation of the research in the field of <<“sustainability” AND “business model”>>, based on WoS Analyze Result tool, a more in-depth analysis—based on the VOSviewer tool—was made, capitalizing on the maps created for both text and bibliographic data. Once exported to VOSviewer, the results provided by WoS (containing Full Record and Cited References) became data sources for creating/generating new maps [87]: Text data were used to construct networks of co-occurrence links between terms, while bibliographic data were used to construct networks of co-occurrences of keywords and citations (of sources and documents).

According to the VOSviewer manual [87], the “items are the objects of interest” (terms, publications, or authors) that “may be grouped into clusters”, while “a link is a connection or a relation between two items; (. . .) each link has a strength, (. . . and . . .) the higher this value, the stronger the link”. Moreover, “for a given item, the Links and Total Link Strength attributes indicate, respectively, the number of links of an item with other items and the total strength of the links of an item with other items”. Two kinds of map visualizations were generated and displayed in the study to maximize the impact of results: Network visualization and density visualization; “in the network visualization, items are represented by their label and (. . .) also by a circle. The size of the label and the circle of an item is determined by the weight of the item”, while “in the item density visualization, items are represented by their label in a similar way as in the network visualization (. . .). Each point in the item density visualization has a color that indicates the density of items at that point. (. . .) The larger the number of items in the neighborhood of a point and the higher the weights of the neighboring items, the closer the color of the point is to yellow/red (depending on the color panel applied).

In this way, the conceptual background previously provided, complemented with the results of the (following) bibliometric analysis, will allow a qualitative analysis [88] able not only to delineate and understand the main coordinates that define the complex interplays between businesses and their broader environment, but also to analyze their structure and dynamics and, further on, to provide rationale for designing a new research agenda on business models addressing sustainability challenges.

4. Results

4.1. Bibliometric Analysis

Searching on the Web of Science (WoS) for <<“Sustainability” AND “business model”>> returned a total of 1074 results/publications (Figure 3) between 1994 and (the first quarter of) 2020. A brief analysis of these records reveals the following features:

- Document types (and their respective number of records—higher than “total results”, as some of them belong to more than one category): Article (733), Proceedings Paper (274), Review (65), Book Chapter (44), Editorial Material (17), Early Access (16), and Meeting Abstract (1);
- Top 10 WoS categories (and their respective numbers of records): Green Sustainable Science Technology (274), Environmental Sciences (265), Management (233), Business (192), Environmental Studies (169), Engineering Environmental (136), Engineering Industrial (68), Economics (58), Engineering Manufacturing (53), and Computer Science Information Systems (47);

- Top five source titles (and their respective numbers of records): *Journal of Cleaner Production* (111), *Sustainability* (95), *Procedia CIRP* (28), *Business Strategy and the Environment* (19), and *IFIP Advances in Information and Communication Technology* (11);
- Top five authors (and their respective number of records): Evans, Steve (19); Bocken, Nancy M.P. (17) / Bocken, Nancy (8), Ludeke-Freund, Florian (14), McAloone, Tim (7), Pedersen, Esben R.G., Pigosso, Daniela, C.A., and Rana, Padmakshi (6);
- Citation report: Average citations per item—12.44; sum of times cited—13362 (11105 without self-citation); citing articles—8760 (8311 without self-citation).

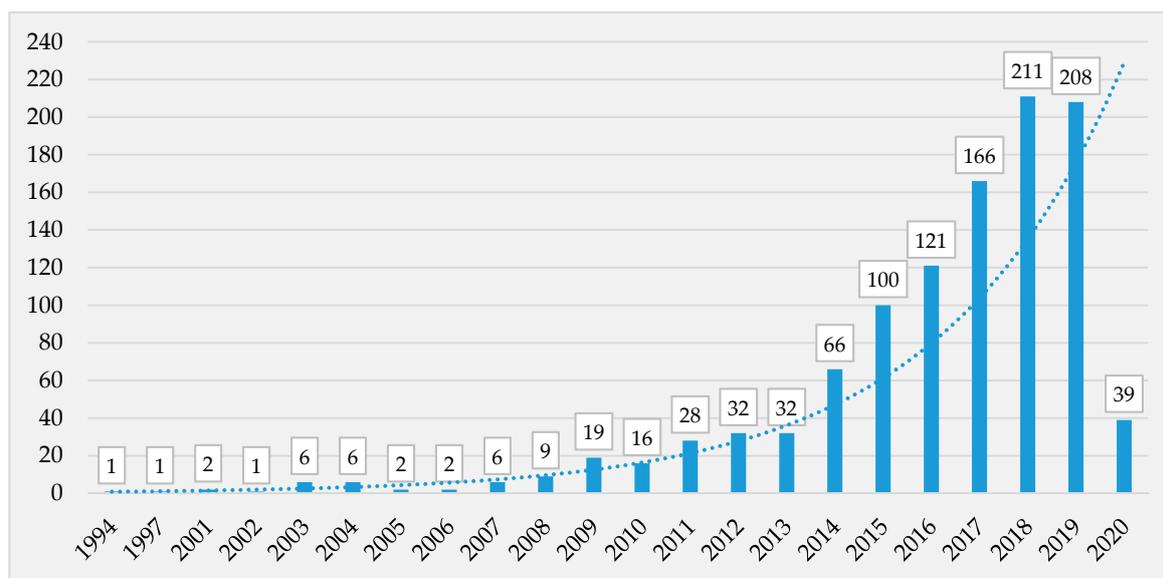


Figure 3. Web of Science (WoS) records for <<“sustainability” AND “business model”>>.

Out of the total 1074 documents, 163 (15.18%) were published between 1994 and 2013, while 911 (84.82%) have been published since 2014. The exponential growth in number was accompanied by major content-related changes; in order to properly capture these changes, the bibliometric analysis was performed on three time-related data sets: (1) Documents published during 1994–2013, to outline the emergence and early evolutions of the research on <<“sustainability” AND “business model”>>; (2) documents published in 2019 (208 records), to assess the most recent interests and developments; and (3) documents published during 1994–2020, to extract the main dynamics and trends characterizing the research field.

Imported from WoS to VOSviewer, these data have served as inputs enabling the construction of bibliometric maps to back the analysis further; all the figures and tables in this section have been generated accordingly (using WoS data and VOSviewer tool). Thus:

Between 1994 and 2013, the “term co-occurrence map based on text data” (Figure 4) generated 25 items—grouped into three clusters, developing 282 links and a total link strength of 1691:

- Cluster 1 (12 items): Analysis, business model, case, environment, implementation, lack, model, organization, quality, study, sustainability, world;
- Cluster 2 (8 items): Activity, challenge, company, country, customer, number, opportunity, product;
- Cluster 3 (5 items): Article, firm, innovation, new business model, way.

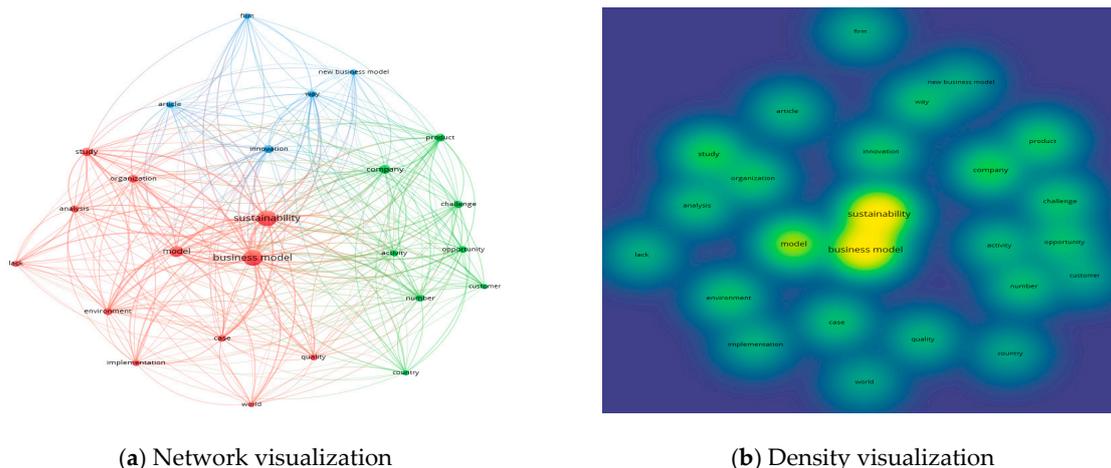


Figure 4. Term co-occurrence map based on text data (1994–2013).

In 2019, the “term co-occurrence map based on text data” (Figure 5) generated 73 items—grouped into three clusters, developing 2431 links and a total link strength of 7443:

- Cluster 1 (31 items): Action, activity, application, author, context, country, demand, economy, end, enterprise, example, factor, field, future research, gap, interest, knowledge, lack, number, operation, opportunity, platform, principle, relation, researcher, sample, survey, sustainable development, time, tool, user;
- Cluster 2 (23 items): Addition, attention, business model innovation, case study, characteristic, customer, element, firm, implication, importance, influence, literature, need, new business model, relationship, review, service, stakeholder, sustainable business model, theory, type, value creation, value proposition;
- Cluster 3 (19 items): Actor, barrier, challenge, circular business model, circular economy, consumption, design methodology approach, driver, interview, literature review, manager, methodology, originality value, product, product service system, production, supply chain, transition, understanding.

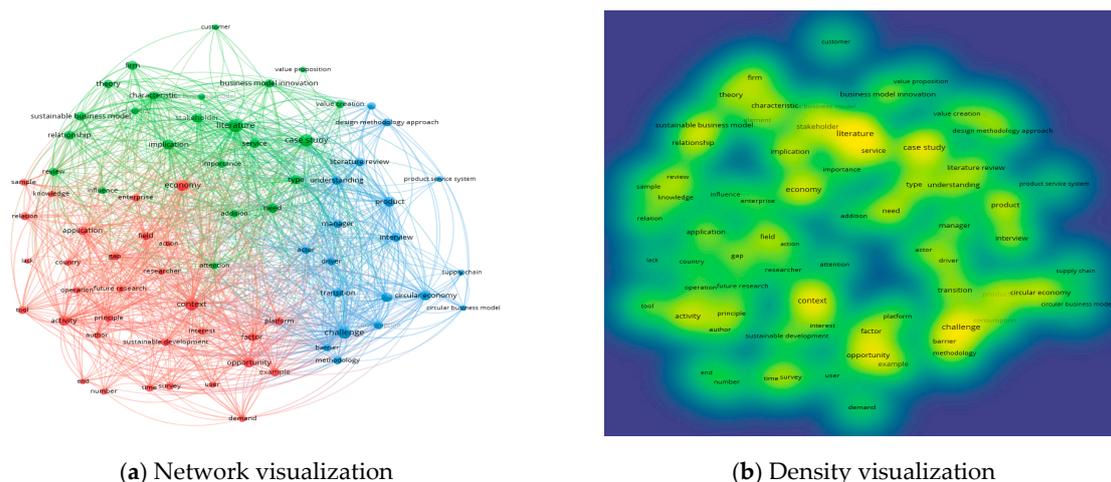


Figure 5. Term co-occurrence map based on text data (2019).

As regards the entire time frame under analysis (1994–2020), the “term co-occurrence map based on text data” (Figure 6) generated 362 items—grouped into three clusters, developing 32,251 links and a total link strength of 52,720. Amongst the most relevant items within each cluster (together with their respective total link strengths) are:

- Cluster 1 (157 items): Platform (718), program (495), effectiveness (456), consequence (434), long term (391), connection (388), vision (372), trust (363), decision making (355), emergence (349), new approach (336), cooperation (316), feasibility (285), diffusion (277), recycling (258), flexibility (261), transparency (284), bmi (243);
- Cluster 2 (152 items): Sustainable business model (1104), firm (1072), sustainable development (742) enterprise (766), business model innovation (891), value creation (681), circular economy (580), value proposition (513), product service system (432), environmental impact (419), competitive advantage (389), partnership (384), corporate social responsibility (335), business models (344), environmental sustainability (300), competitiveness (299), circular business model (266), profitability (249), reporting (223), business model canvas (222), corporate sustainability (209), social value (208), social enterprise (185), csr (183), business case (177), sustainable innovation (171), social entrepreneurship (154), sustainability performance (153), sustainable business model innovation (152), climate change (153), financial performance (150), sustainable business (150), current business model (143), triple bottom line (139), integrated reporting (138), circularity (134), sustainable business models (132), energy efficiency (132), business model concept (129), environmental performance (127), sustainable development goal (124), value capture (122), tension (121), sustainability issue (120), best practice (120), social sustainability (118), sustainability transition (117), traditional business mode (116), economic value (107), economic performance (105), environmental value (113), negative impact (110), sustainable value (104), business model perspective (104), positive impact (103);
- Cluster 3 (53 items): Investment (663), infrastructure (609), report (594), financial sustainability (267), mission (233), adaptation (190), social impact (146), business sustainability (142), key stakeholder (129), long term sustainability (108), digitalization (100).

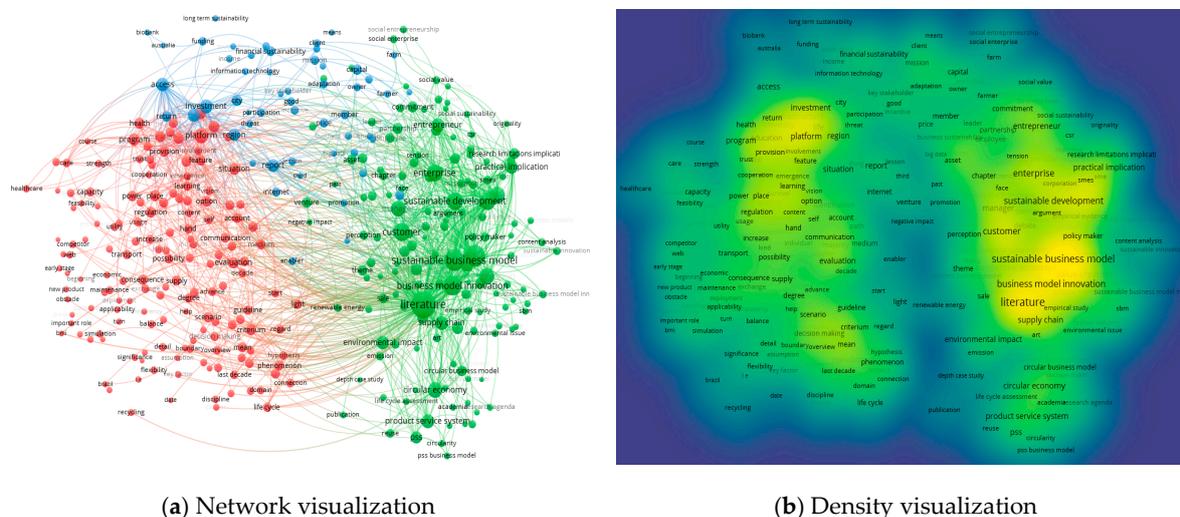


Figure 6. Term co-occurrence map based on text data (1994–2020).

The above illustrated results mainly suggest: (1) The constant (need and) search for “innovation”, especially in relationship with or in terms of: new business model (during 1994–2013), business model innovation (in 2019), business model innovation, eco innovation, innovation management, innovation process, innovative business model, sustainable business model innovation, sustainable innovation, technological innovation (as concerns the entire period under scrutiny); (2) the refinement of research on “sustainability” and the emergence of: Corporate sustainability, environmental sustainability, social sustainability, sustainability performance, business sustainability, financial sustainability, long term sustainability; (3) the diversification and increasing consistency of research on “business model”, focused on: Business model canvas, business model concept, business model innovation, business model perspective, circular business model, current business mode, innovative business model, pss

business model, sustainable business model, sustainable business model innovation, traditional business models. Together, the three tendencies have led to new theoretical constructs and new organizational practices, such as: Circular business model, sustainable business model, or sustainable business model innovation.

The most relevant citation sources of the entire period under analysis (Figure 7) are presented in Table 1.

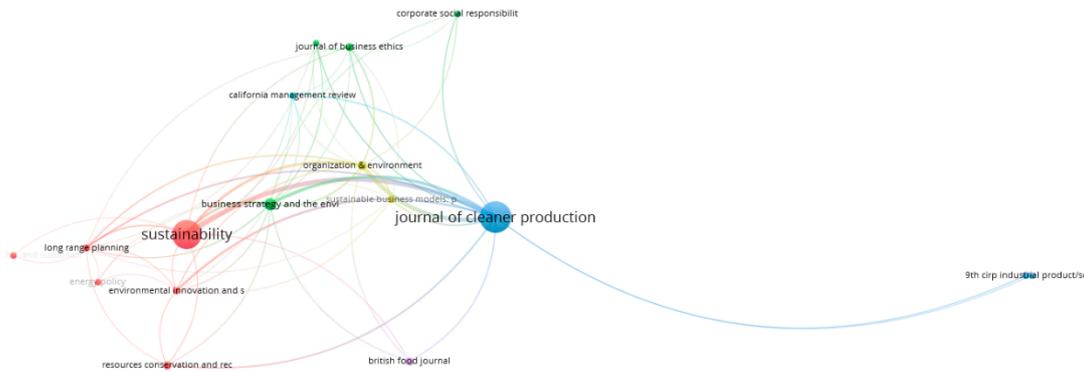


Figure 7. Most relevant citation sources (1994–2020).

Table 1. Top five most relevant citation sources (1994–2020).

Source	Documents	Citations	Total Link Strength
1. Journal of cleaner production	111	3731	549
2. Sustainability	95	307	291
3. Organization and environment	10	913	263
4. Business strategy and the environment	18	485	156
5. Long range planning	6	745	65

As regards the most relevant citation documents (Figure 8) during 1994 and 2020, they are extracted in Table 2.

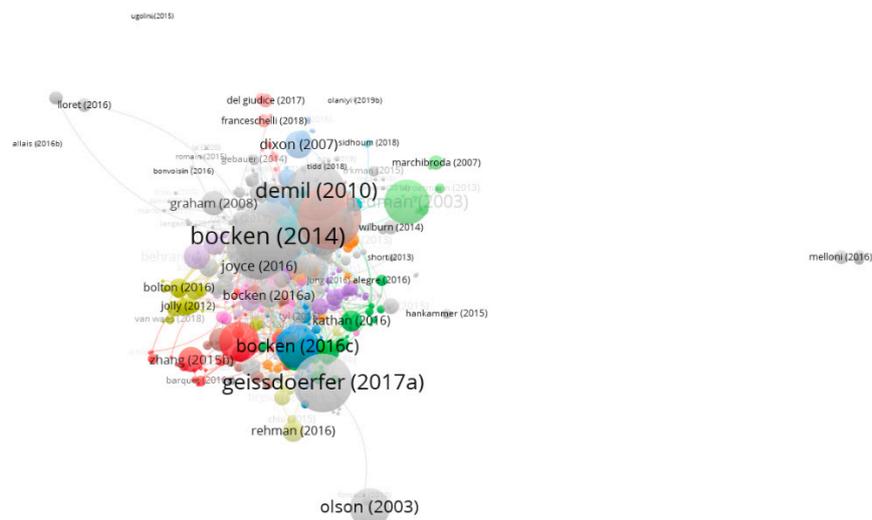


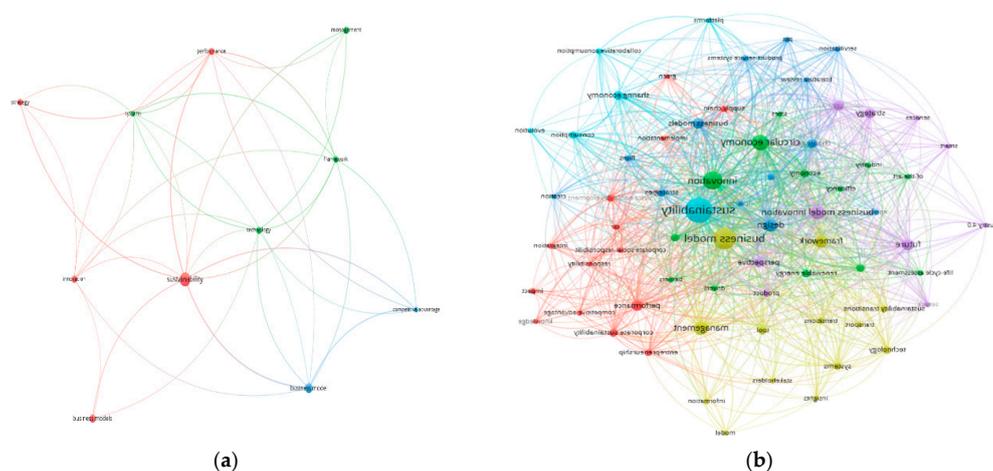
Figure 8. Most relevant citation documents (1994–2020).

Table 2. Top five most relevant citation documents (1994–2020).

Document	Citations	Links
1. Bocken, N.M., Short, S.W., Rana, P., and Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. <i>Journal of Cleaner Production</i> , 65, 42–56.	657	189
2. Boons, F., and Lüdeke-Freund, F. (2013). Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. <i>Journal of Cleaner Production</i> , 45, 9–19.	558	174
3. Stubbs, W., and Cocklin, C. (2008). Conceptualizing a “sustainability business model”. <i>Organization & Environment</i> , 21(2), 103–127.	346	133
4. Schaltegger, S., Hansen, E.G., and Lüdeke-Freund, F. (2016). Business models for sustainability: Origins, present research, and future avenues. <i>Organization & Environment</i> , 29(1), 3–10	173	81
5. Pieroni, M.P., McAlone, T.C., and Pigosso, D.C. (2019). Business model innovation for circular economy and sustainability: A review of approaches. <i>Journal of Cleaner Production</i> , 215, 198–216.	28	67

The “keyword co-occurrence map based on bibliographic data” (Figure 9) reveals the following:

- For the 1994–2013 time span (163 records): 11 items were grouped into 3 clusters: Cluster 1 (five items): Business models, innovation, performance, strategy, sustainability; Cluster 2 (four items): Framework, management, systems, technology; Cluster 3 (two items): Business model, competitive advantage; in terms of total link strength, the ranking of the 11 items is: Sustainability, performance, business model, framework, technology, competitive advantage, systems, innovation, strategy, management, business models.
- In 2019 (208 records): 69 items were grouped into six clusters: Cluster 1 (14 items): Competitive advantage, corporate social responsibility, corporate sustainability, csr, entrepreneurship, green, impact, implementation, integration, knowledge, performance, responsibility, supply chain, sustainable development; Cluster 2 (13 items): Barriers, circular economy, drivers, economy, efficiency, industry, innovation, life-cycle assessment, of-the-art, opportunities, renewable energy, smes, sustainable business model; Cluster 3 (13 items): Business models, challenges, creation, design, develop, energy, firms, literature review, product-service systems, pss, servitization, strategies, sustainable business models; Cluster 4 (13 items): Business model, framework, information, insights, management, model, stakeholders, sustainability transitions, systems, technology, tool, transitions, transport; Cluster 5 (10 items): Business model innovation, future, industry 4.0, perspective, product, service, services, smart, strategy, value creation; Cluster 6 (six items): Collaborative consumption, consumption, evolution, platforms, sharing economy, sustainability; in terms of total link strength, the ranking of the top 10 items is: Sustainability, business model, innovation, circular economy, business model innovation, design, framework, management, future, perspective.

**Figure 9.** Keyword co-occurrence map based on bibliographic data in (a) 1994–2013 versus (b) 2019.

With respect to the entire period under analysis (1994–2020), the “keyword co-occurrence map based on bibliographic data” (created by considering the minimum number of occurrences of a keyword at ten, as compared to just five in the previous cases), encompassing 123 items grouped around five clusters, is presented in Figure 10; it captures the entire picture from both general (density visualization) and particular perspectives (the five items governing the five clusters).

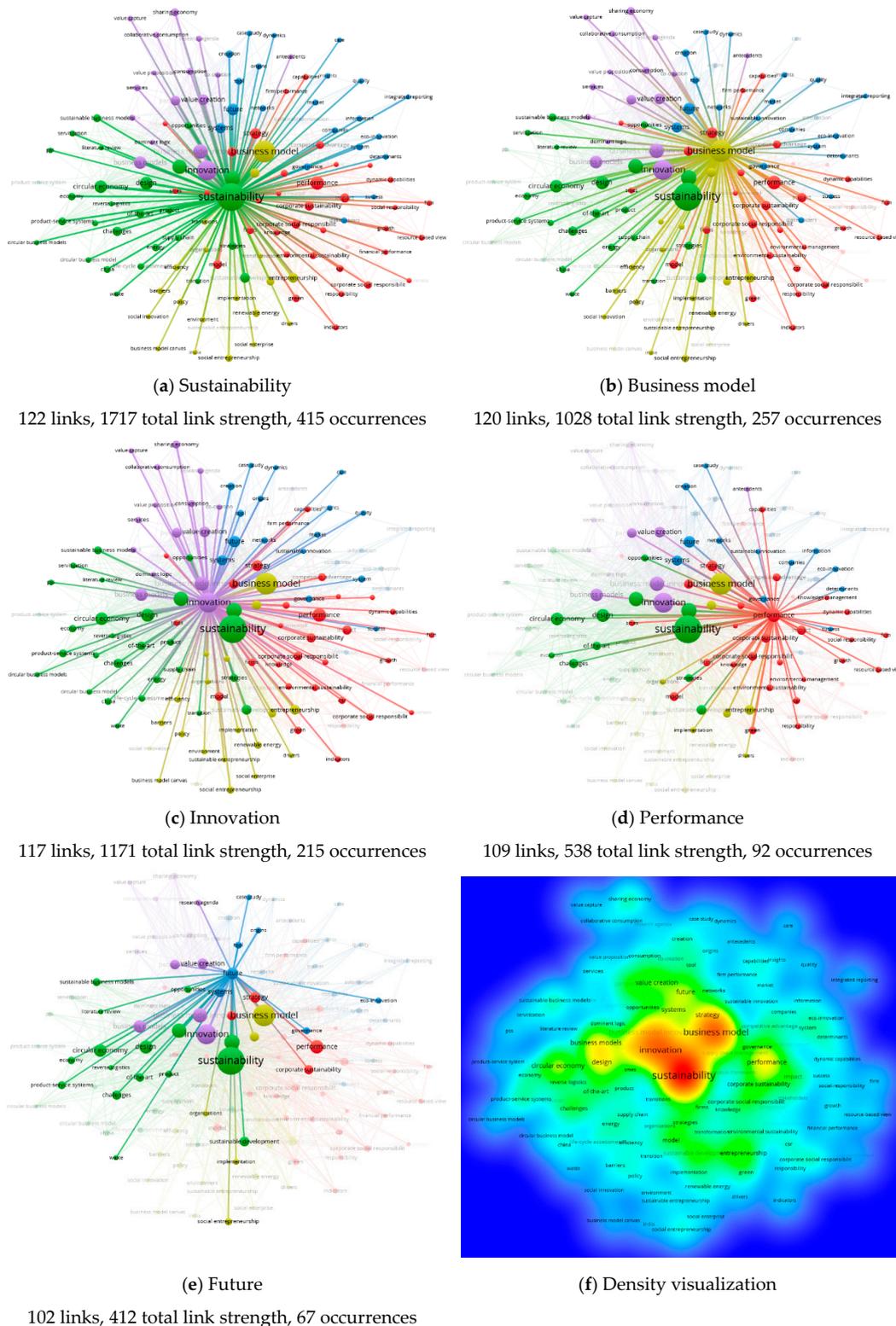
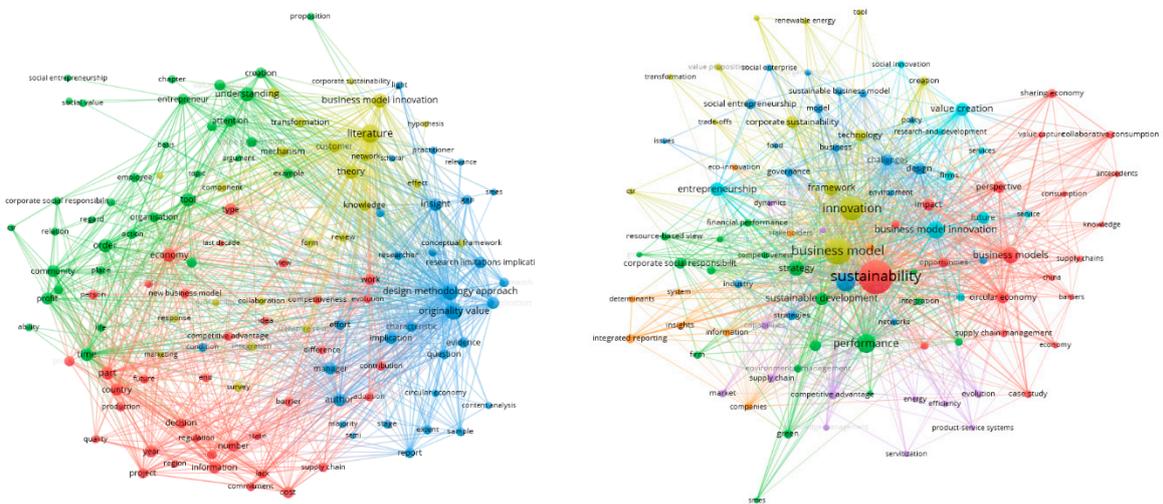


Figure 10. Keyword co-occurrence map based on bibliographic data (1994–2020).

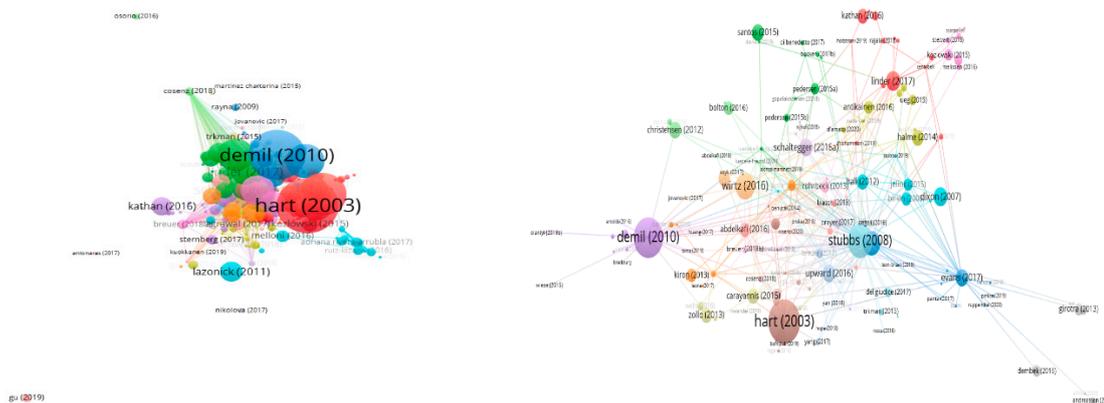
If considering the two figures above, capturing the keyword co-occurrence map based on bibliographic data: (1) Competitive advantage is a recurrent concern (in relationship with: Business model, sustainability, technology, framework, and performance – during 1994–2013; corporate sustainability, performance, management, business model, life-cycle assessment, framework, design, sustainability, innovation, strategies, opportunities, circular economy, and product–service system – in 2019; firm performance, firm, resource-based view, impact, corporate sustainability, governance, business model, sustainability, management, innovation, framework, business model innovation, and value creation – during 1994–2020); (2) the five items/keywords governing the five clusters in the reference period (1994–2020)—sustainability, business model, innovation, performance, and future—are not only indicators of the previous research directions, but they can also guide future research (especially by considering their not necessarily “most obvious” links, but the emerging, new ones).

If tunneling the analysis to the core “business and economics” categories in WoS (Management, Business, Economics, Business Finance), a total of 365 records (during 2008 and 2020) were returned for <<“sustainability” AND “business model”>>. The main results are found in Figure 11.



(a) Map based on text data: 125 items, 4 clusters

(b) Co-occurrence of keywords: 102 items, 7 clusters



(c) Bibliographic coupling: 326 items, 15 clusters

(d) Citations: 155 items, 23 clusters

Figure 11. Map visualization for <<“sustainability” AND “business model”>> in core “business and economics” WoS categories (1994–2020).

Despite expectations, tunneling the search did not lead to (more) clarification in terms of returned results; on the contrary, the acute scattering of results reveals a territory still in search of shape as regards both its boundaries and its inner relationships.

To summarize, both the narrative literature review and the bibliometric analysis support the general assessment of the high complexity of the issue (multiple components and relationships, accompanied by accentuated dynamics) and raise awareness of the need for a more coagulated yet complex and trans-disciplinary approach in order to address it.

4.2. Guiding Lines for a New Approach at the Business Level and a New Research Agenda

To sum up, over the last few decades, the dynamics of the relationships between profitability and sustainability at the business level—and particularly, the ways that they are captured and translated into successful business models—have drawn the attention of many scholars (with different scientific backgrounds and lenses of approach), leading to considerable contributions, derived from both theoretical developments and empirical investigations.

Still, the increasing complexity of the issue continuously raises new challenges—in terms of untapped areas and/or unanswered questions—while providing new perspectives, tools, and instruments for addressing them—mainly derived from previously unrelated and/or inexistent sciences/theories, such as: Complexity theory [89], paradox theory [90], co-evolutionary economics [91], or sustainability science [92]—as well as new solutions to be explored and conceptualized based on practical, business-level advancements.

Therefore, the need for a complex yet contingent approach at the business level—able to capture the “bigger picture” without missing its idiosyncrasies, while providing widespread (both diachronically and synchronically) synergies—becomes both evident and compulsory; by bringing together different streams of research (originating in different research areas) and “connecting the dots” in order to develop new synapses, the rationale of the current endeavor is to suggest a conceptual framework as guidance for this kind of approach (Figure 12).

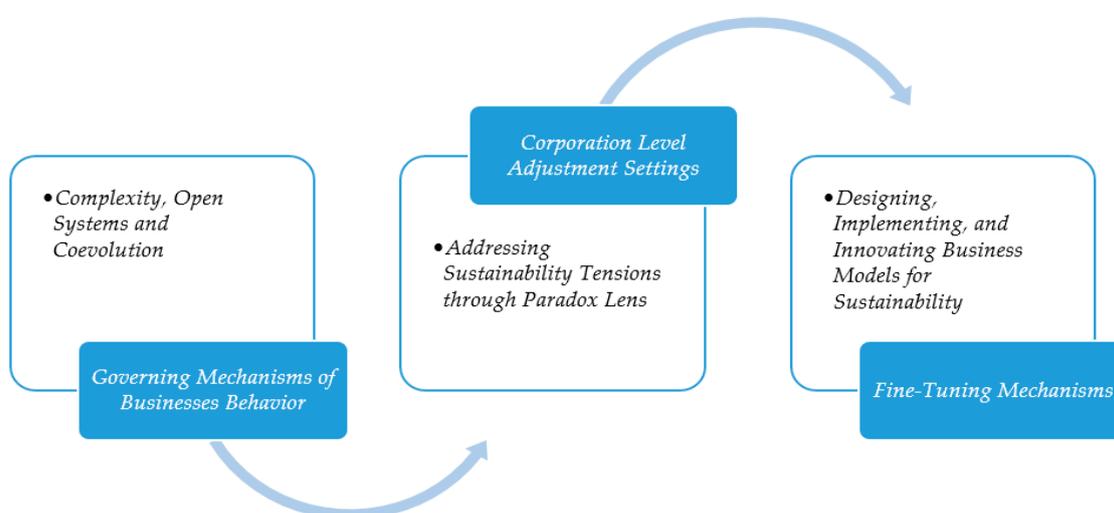


Figure 12. Suggested conceptual framework.

4.2.1. Governing Mechanisms of Business Behavior—Complexity, Open Systems, and Coevolution

The complex system that defines the global economy of today [93], on the one hand, and the progresses registered towards the encapsulation of complexity into a theory of its own, with multiple valences and applications [94], on the other hand, have introduced complexity economics [95] and the approach of “organizations as complex adaptive systems” [96], namely “systems that involve many components that adapt or learn as they interact” [97].

Acknowledging the key properties of complexity—“nonlinear interaction, decentralized control, self-organization, non-equilibrium order, coevolution, and collectivist dynamics” [98]—and the major features of complex adaptive systems—“parallelism, conditional action, modularity, and adaptation

and evolution” [97]—will allow managers to better understand organizations and their (relationships with the) broader environment from an ecosystem perspective, governed by and leading to co-evolution.

Within this extended framework: (1) Organizations are “open systems operating under conditions of substantial turbulence, risk (...), and uncertainty (...) and seeking to balance stability and coherence with flexibility and change in pursuit of higher levels of efficacy and organizational sustainability” [99]; (2) the ecosystem perspective—integrating “the focal complexity aspects (... of ...) self-organization, emergence, co-evolution and adaptation” [100]—“offers a new way to obtain a holistic view of the business network and the relationships and mechanisms that are shaping it, while including the roles and strategies of the individual actors that are a part of these networks” [101]; and (3) coevolution “encompasses the twin notions of interdependency and mutual adaptation, with the idea that (...) organizations evolve in relation to their environments, while at the same time these environments evolve in relation to them” [102].

Accordingly, “coevolutionary research in the organizational sciences has concluded that organizations and their environments are locked into perpetual coevolutionary cycles of change in which the ever increasing turbulence of the business environment leads to more flexible, innovation-driven organizational structures and processes” [103]; more specifically, the theory of coevolutionary economics argues that “the economy, society, and the environment are linked together in a coevolutionary relationship” [91]—a fundamental assumption that imperatively asks for (business) managers to eventually transform their businesses into “sustaining corporations”—“the regenerative organizations of the future that act as constituent cells in a complex and fully self-renewing world” [104].

This “ultimate” (level of) corporate sustainability not only goes beyond the nowadays commonly accepted approach of “strategic proactivity”, while calling for “an integrated approach to coordinating strategies in the three main streams of sustainability: Economic, social, and ecological” [104], but it also amplifies a recurrent (unsolved) issue of sustainability—that of the “tensions between different desirable, yet interdependent and conflicting sustainability objectives” [105]. These “tensions” are inevitable if considering the three pillars of sustainability and the difficulties of their integration into a “triple bottom line” perspective [106] at the business level on the one hand, and the time dimension requested by sustainability, reflected into “the ability of the firm to balance the short and long term” and thus surpassing short-termism [107], on the other hand.

Although not formally expressed (and/or addressed), the conflicting objectives have been an immanent presence in sustainability research (and practice): In one of the early (and highly referred to) studies, Dyllick and Hockerts defined corporate sustainability in terms of “meeting the needs of a firm’s direct and indirect stakeholders (...), without compromising its ability to meet the needs of future stakeholders as well” [40]. In line with the stakeholder management approach when referring to the beneficiaries of a corporation’s endeavors and their (often) conflictual needs and expectations, the two authors were, on the other hand, way ahead of their times when: (1) Advocating for “the six criteria managers aiming for corporate sustainability will have to satisfy”, thus enlarging “in space” the perspective beyond the business case for sustainability, and (2) emphasizing the (somehow forgotten/neglected) original, time-related dimension of sustainability, thus deepening the perspective on corporate sustainability “in time”.

4.2.2. Corporation-Level Adjustment Settings—Addressing Sustainability Tensions through a Paradox Lens

However, strategic dualities and tensions amongst objectives (and the means to achieve them) are neither new nor unusual for businesses [108]. Moreover, researchers in organizational theory suggest that “oppositional demands represent core features of organizational life” [109], while strategic management scholars claim that “at the heart of every set of strategic issues, a fundamental tension between apparent opposites can be identified” [110].

Therefore, De Wit and Meyer developed a generic framework on dealing with strategy tensions “as puzzles, dilemmas, trade-offs, and paradoxes”, and concluded that “viewing strategy tensions

as strategy paradoxes is the ultimate intellectual challenge (because it . . .) will encourage the use of creativity to find out ways of benefiting from both sides of a tension at the same time" [110]. On the other hand, Smith and Lewis identified three "alternative approaches to managing organizational tensions" [90] corresponding to the evolution of management theories/perspectives; then, arguing that "paradox becomes a critical theoretical lens to understand and to lead contemporary organization", they advocated for a theory of paradox, which "at its core (. . .) presumes that tensions are integral to complex systems and that sustainability depends on attending to contradictory yet interwoven demands simultaneously" [90].

Challenged by the dualities that have always accompanied strategic choices, managers and researchers alike have been forced to search for and develop new, innovative solutions—sometimes by even redefining the rules of the game and/or reshaping the boundaries of the strategic management field. Accordingly, relatively recent concepts and practices, such as blue ocean strategy [111] or organizational ambidexterity [112], are solid proof of how particular pairs of apparent irreconcilable opposites (low cost/differentiation and exploitation/exploration, respectively) can be successfully managed, if: (1) Considering them as inevitable presences and defining features of an increasingly complex business context; (2) replacing the traditional reductionist mindset with a more integrative, holistic view; and (3) searching for specific creative solutions, able to optimally accommodate the conflicting requirements; if enlarging this frame—from particular issues to the entire organizational picture—(4) acknowledging the simultaneous presence of multiple pairs of opposites needing to be handled is the fourth dimension that has to be taken into account.

The "bad news" that sustainability has the "privilege" of bringing together the most complex duality-related strategic challenges—financial and non-financial (social and environmental) goals, accomplished against the long-term and short-term needs and expectations of myriads of (known as well as unpredictable) stakeholders—can only be overshadowed by the "good news", that decision-makers are increasingly addressing (to different degrees and in various forms) the sustainability megatrend, while academia is making considerable progress towards dealing with the sustainability-related strategic dualities by embracing a paradox perspective.

Thus, in a review article on "tensions in corporate sustainability", Van der Byl and Slawinski identified "four general approaches to how tensions are examined: Through a win-win, trade-off, integrative, or paradox lens" [113]; arguing that the paradox approach "seeks to understand the nature of tensions along with how actors work through them", the authors emphasize its value in providing "an opportunity to evaluate complex sustainability issues and generate creative approaches to them" [113].

Later on, Hahn et al. proposed a comprehensive "paradox perspective on corporate sustainability" based on a definition of the concept and "a framework to delineate its descriptive, instrumental, and normative aspects", as well as the interconnections amongst them, and concluded that "responses to sustainability challenges that allow businesses and society to thrive, paradoxically, require giving up the categorical primacy of profitability so that firms can iteratively attend to various interrelated, yet competing demands for achieving economically prosperous, environmentally healthy, and socially equitable development paths" [105]. Although not yet entirely configured at the firm level, this kind of perspective sheds some light on the ways businesses should address the sustainability-related dualities and opens wide avenues for the desired reconciliation between business and society.

4.2.3. Fine-Tuning Mechanisms—Designing, Implementing, and Innovating Business Models for Sustainability

Building on a complexity view aiming for coevolution, while contextually addressing the challenges of sustainability through a paradox lens, managers will then have to (dynamically) transpose the resulting vision into reality—a "business model that aims to integrate business, society, and nature" both spatially and temporally [12]. Orchestrating this entire process will require a new, "responsible management", which integratively "assumes responsibility for the triple bottom line (sustainability),

stakeholder value (responsibility), and moral dilemmas (ethics)” [114] as the main driver for the “prime business”—“a superior type of business that leads to performance that is in the same time socially, environmentally, and economically sustainable, optimizes stakeholder value, and displays moral excellence” [114].

In order to “ultimately transform trade-offs into synergies” [115], managers will basically have to search for (co)creating sustained and sustainable value by: (1) Fully overlapping their sustainability and business strategy [116] in the long run; (2) continually (2.a) building resilience [107] as feedback loops for the long-term outcomes, and (2.b) developing dynamic capabilities [46] to support business model innovation in the medium run; and (3) thoroughly implementing best-fitting business models in the short run (Figure 13).

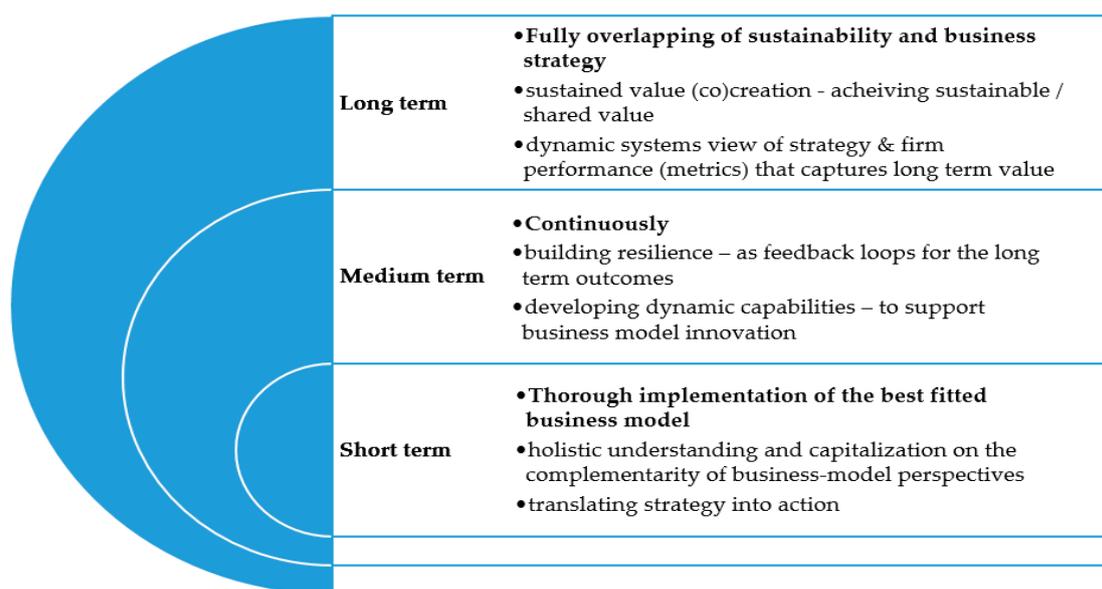


Figure 13. Granular steps/components of the general framework.

Within this (holistic and dynamic) framework governed by the multiple dimensions and valences of “value”, the different (time-related) levels of approach are (inter)connected and support each other, while their outcomes/performances are likely to be cascading and synergistically enhanced. The comprehensive ultimate goal of (co)creating (and delivering/capturing) sustained and sustainable value for multiple stakeholders encompasses:

- Sustained value creation, which “relies on successfully shaping, adapting, and renewing the underlying business model of the company on a continuous basis” [117], and sustained value co-creation, which requires a company “to possess the capacity to structure its resource portfolios, including those of its collaborating partners (. . .), bundle the resources to create capabilities and leveraging/reconfiguring the capabilities to (efficiently) exploit market opportunities, and (flexibly) explore innovations for latent market demands” [118];
- Achieving “sustainable value—shareholder wealth that simultaneously drives us toward a more sustainable world” [119] or shared value, “which involves creating economic value in a way that also creates value for society by addressing its needs and challenge” [120], based on the “shared value creation framework” [54], able to generate myriads of opportunities in areas such as reconceiving products and markets, redefining productivity in the value chain, and enabling local cluster development [120];
- Adding the time dimension to the sustainable/shared value created—or “mainstreaming sustainability in strategy” [107]—which implies: (a) “A dynamic systems view of strategy (. . . where . . .) the firm’s outcomes are seen as part of a larger system of outcomes, and issues of sustainability and organizational viability over time become important”, and (b) “firm

performance that captures long-term value (. . . namely . . .) a wider measure of firm performance (. . .) that can convey not only the firm’s profitability at a point in time, but also its sustainability over time” [107];

- Building resilience and developing dynamic capabilities as coping mechanisms able to connect the different time-level frames (upstream and downstream, respectively): (a) Resilience—“the capacity for an enterprise to survive, adapt, and grow in the face of turbulent change” [121]—will serve as precursor and enabler of sustainability while valorizing “dynamic, adaptive management rather than static optimization” [121]; (b) dynamic capabilities—“the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” [122]—will shape a company’s business model [46] while moderating its business model innovation capacity [49];
- Designing and implementing the most appropriate business model will crucially rely on managers’ ability to holistically understand and capitalize on the “complementarity of business-model perspectives” [49]: Business model activities (detailing the flow of value-adding processes); business model logics (detailing the consequence chain); business model archetypes (detailing overall approaches); business model elements (detailing the set of necessary parts); and business model alignment (detailing the connections between parts).

This kind of “virtuous spiral” approach—with “value” as an underlying principle, common thread across timeframes, and complex performance measurement criterion—will be able to (continuously) connect the end results of a business’s endeavors with the (time-related) progressive means to achieve them, while eventually contributing to the (re)coupling of businesses and their broader environment. However, in order to become effective, it needs to be founded on “a pluralistic logic of responsible management [. . . and driven by . . .] responsible managers as institutional leaders and strategists” [123].

5. Discussion

As “recent evidence has shown that companies have increased the management commitment and investments they are dedicating to sustainability” [68], “the question of whether or not to embrace sustainability is being replaced by another question: How do we do it?” [32], causing the raising of awareness about the sustainability megatrend and its ever-complex challenges to gradually become dominant and global. Consequently, myriads of contributions have enriched both the literature and the practice in the generic field of corporate sustainability, aiming (each one of them) at providing (specific) solutions to the “how” question, while (together) advancing towards a (new) paradigm of doing business through the lens of sustainability and grounded on an emerging global business ethics perspective.

Considering the “business model as a key initiating component of corporate sustainability”, Schaltegger et al. argued that “the business model perspective is particularly interesting in the context of sustainability because it highlights the value creation logic of an organization and its effects, and potentially allows (and calls) for new governance forms, such as cooperatives, public private partnerships, or social businesses, thus helping transcend narrow for-profit and profit-maximizing models” [72]. Thus, the solution of considering business models as building blocks of corporate sustainability would allow organizations to translate a rather distant and blurry target into concrete (series of) decisions able to be implemented and then assessed against tangible and measurable criteria; moreover, it opens new avenues for out-of-the-box ways of organizing and managing, while redefining organizational success and performance.

The proposed framework and its guidelines are consonant with this theory, as they lie instrumental on business models in the transformative process induced at the business level by the sustainability imperative. In addition to the contributions the *Guiding lines for a new approach at the business level and a new research agenda* bring to the literature (by gathering together different streams of research originated in several research areas), the *Suggested conceptual framework* (Figure 12) and the *Granular*

steps/components of the general framework (Figure 13) encapsulate the potential practical value of the paper, aiming at providing guidance for strategists in the search for sustainable competitiveness.

Accordingly, business models serve both as triggers—aiming to reach (different forms of) shared value in the short term, as a specific outcome of a particular strategy that they translate into action—and backbones—supporting, in the medium to long term, the time-related dimension of sustainability, while capitalizing on different forms and facets of innovation, including business model innovation. Moreover, the approach is in line with Visser’s anticipated (need for and) emergence of a holistic/systemic perspective on corporate sustainability and responsibility (CSR), which “focuses on understanding the interconnections in the macro-level system (. . .) and changing a company’s strategy to optimize the outcomes for this larger human and ecological system (. . . while . . .) identifying and tackling the root causes of our present unsustainability and irresponsibility, typically through innovating business models” [27].

Thus, the suggested conceptual framework has advanced a cascading, multi-level, and complexity-based approach at the business level, able to dynamically position a company on the coordinates of its broader environment, and to effectively mediate its continuous search for performance; within the general framework, granular steps/components have been generically formulated in order to both complete the picture and provide guidance on its implementation. Considering the theoretical approach of this paper as representing its main limitation, future studies should complement it by addressing the same research questions and objectives through empirical enquiries—both action research strategies and grounded theory strategies might be employed in order to test the proposed model (depending on the availability of data—collected from one or multiple units of analysis). Moreover, the conceptual framework may be improved/refined as a result of both systematic bibliographical analysis and empirical studies.

Although beyond the purpose of this study, a series of specific practicalities should be mentioned in order to provide a glimpse on the different facets that contribute to the complex composition of the kaleidoscope that the new proposed agenda is. Thus, “old” (approaches of) business models have been upgraded and/or refined and new ones have come to light while (re)designing “certain forms of organizations—e.g., B-Corporations, Worker-Owned Corporations, Crowd-Funded Corporations, and Cooperative Corporations” [17] and/or leading to a multitude of “sustainable business model types: Circular business model innovation, social enterprises, bottom-of-the-pyramid businesses, and product–service systems” [76]. Furthermore, the findings of a recent review article “reveal that the application of sustainable business models can be classified into fourteen unique categories: Innovation, management and marketing, entrepreneurship, energy, fashion, healthcare, agri-food, supply chain management, circular economy, developing countries, engineering, construction and real state, mobility and transportation, and hospitality industry” [19]. All of these practicalities are also suitable for being integrated into a future more comprehensive framework, developed based on modularity and dynamic/changeable patterns.

According to Roome and Louche, “three elements contributed to the path of transformation toward business models for sustainability: Building networks and collaborative practices for learning and action around a new vision; the deployment of new concepts drawn from outside the company; and elaborating an implementation structure within a reconfigured network” [124]. This transformative process is still in its growing phase, if considering the current stages of “business sustainability” and “global sustainability”, as well as the anticipated dynamics of the complex interplays between these two ongoing processes and goals.

On the other hand, the search for (and research of) the most appropriate (approaches to) business models—able to properly accommodate both statically and dynamically financial and non-financial goals and outcomes to the benefit of both businesses and their broader environment—seems to have reached a turning point, where it calls for a new paradigm of doing business. Fueled by the unprecedented complex sustainability-related challenges shaping a company’s strategic choices and their translation into action, the emergence of this new paradigm is favored and supported by a

series of recent advancements derived either from new (or not yet explored in relationship to the issue) theories/sciences, or from practical solutions that have already been successfully experimented by businesses.

In light of the above considerations, the study has advanced a possible solution to (re)frame the search for (research of) the most appropriate business models addressing sustainability challenges, and suggested a new research agenda for strategists as a precursor/component of the new paradigm. In order to accomplish this goal, a cascading, inter-disciplinary approach has been taken—able to delineate the main coordinates that define the complex interplays between businesses and their broader environment, while supporting the need for an integrated, trans-disciplinary new research agenda—that was proposed later on. Thus, built on four hypotheses, the theoretical analysis has advocated for a complex, yet contingent approach at the business level—able to capture the “bigger picture” (of sustainability) without missing its granular idiosyncrasies (the most appropriate business model in a specific context)—when searching for strategic performance. An integrative, multi-level conceptual framework—able to provide (both diachronically and synchronically) widespread synergies for companies and their broad (social and natural) environment—has been provided as guidance for this kind of approach, as well as specific directions with respect to its implementation.

The paper contributes to the development of a more coherent and consistent theory on business models addressing sustainability challenges by capitalizing on the opportunities brought by (new) inter- and trans-disciplinary research results; without pretending to be exhaustive, but rather to represent a skeleton in search for shape, the proposed agenda is open for discussion and further improvements, as regards the general framework, its granular steps/components, and/or its implementation.

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