

Review

# Triple Bottom Line toward a Holistic Framework for Sustainability: A Systematic Review



Triple Bottom Line em Direção a um Quadro Holístico para a Sustentabilidade: Uma Revisão Sistemática

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## ABSTRACT

**Context:** 25 years after it was coined, the triple bottom line (TBL) is now considered a failure by its own author. The concept can be considered the foundational base for the development of a necessary new business model for sustainable operations management. **Objective:** this paper aims to present systematic literature updates, controversies, limitations, and future framework developments of the TBL concept presented by Elkington in 1998. **Methodology:** through a systematic literature review spanning from 1998 to 2019, considering two main bibliographical databases, it was possible to evaluate the use of the concept in the sustainability literature. **Results:** the main results present that the concept has not lost its credibility; on the contrary, it reached its peak in the past five years, due to environmental and societal pressures. Also, it has been used inadequately considering only two of its three spheres (either financial and social, or financial and environmental). **Conclusion:** the study also exposes capabilities that if included to the TBL concepts can result into success of the business model. Therefore, our aim is to scrutinize how the concept has been used along these years, reflect on its impact in the academia and the business segment, and draw some conclusions on future research agenda and the transition toward a holistic framework for sustainable operations.

**Keywords:** systematic review; holistic framework; triple bottom line; sustainability; sustainable operations management.

## RESUMO

**Contexto:** 25 anos depois de ter sido cunhado, o *triple bottom line* (TBL) é agora considerado um fracasso pelo seu próprio autor. O conceito pode ser considerado a base fundamental para o desenvolvimento de um novo modelo de negócios necessário para a gestão sustentável de operações. **Objetivo:** o presente trabalho tem como objetivo apresentar atualizações sistemáticas da literatura, controvérsias, limitações e desenvolvimentos futuros do arcabouço do conceito de TBL apresentado por Elkington em 1998. **Metodologia:** por meio de uma revisão sistemática da literatura de 1998 a 2019, considerando duas bases de referência principais, foi possível avaliar o uso do conceito na literatura de sustentabilidade. **Resultados:** os principais resultados apresentam que o conceito não perdeu sua credibilidade; pelo contrário, atingiu seu pico nos últimos cinco anos, devido a pressões ambientais e sociais. Além disso, tem sido empregado inadequadamente considerando apenas duas de suas três esferas (financeira e social, ou financeira e ambiental). **Conclusão:** o estudo também expõe *capabilities* que, se incluídas nos conceitos da TBL, podem resultar no sucesso do modelo de negócio. Portanto, nosso objetivo é examinar como o conceito tem sido utilizado ao longo desses anos, refletir sobre seu impacto na academia e no segmento empresarial e tirar algumas conclusões sobre a agenda de pesquisas futuras e a transição para uma estrutura holística de operações sustentáveis.

**Palavras-chave:** revisão sistemática; estrutura holística; *triple bottom line*; sustentabilidade; gestão de operações sustentáveis.

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## INTRODUCTION

In 1994, the concept of triple bottom line was introduced into the business world as the new sustainability taxonomy embracing new guidelines for industries to undertake and address the set of sustainable development goals (SDGs) established in the United Nations Rio+20 summit and the following Millennium Development Goals (MDGs) from 2015 on. The concept was introduced as a new challenge for businesses to include security of people and the planet in the strategic business model and to develop new instruments and taxonomies to assess the prejudices that are being caused to society and environment (Griggs et al., 2013).

In *Cannibals with forks: The triple bottom line of 21st century business*, Elkington (1997) postulates the 3Ps designation for people, planet, and profits as a triple goal toward true sustainability. By his definition, industries should assess the three segments when planning their strategies as all three of them are characterized by the same importance, not only accounting for the financial returns (Moneva, Archel, & Correa, 2006). To be successful in a truthful triple bottom line development, a company should consider having all three aspects with positive returns. Decreasing the level of negative outcomes is not considered by Elkington (1998) a solution to the environmental and societal problems we have been facing, as settled and established in the MDGs.

25 years after the term was coined, the author comes back analyzing the current situation and the use of the term as companies wield the approach erroneously. The win-win assumption is replaced by the constant alternative of trade-offs as either people or planet dimensions are set apart as not being as important as profit (Banerjee, 2003; Hahn, Figge, Pinkse, & Preuss, 2010). Also, it was made accountable that the academia has been using the term positively from 1998 until today, having its pick in 2017 and 2018, considering it still an up-to-date approach for sustainable development.

On the other side of the coin, companies have found its use troublesome as a reporting tool, as in the problem of measuring and labeling the impacts of non-financial repercussion in reports (Norman & MacDonald, 2004), enhancing its use as a legitimate solution to the government and public pressures (Moneva et al., 2006; Sridhar, 2012).

In that regard, this paper depicts a literature review of the triple bottom line concept, its underlying assumptions, and its association to other sustainability concepts along these 25 years in the research field since its formulation, considering an operations management and sustainability literature focus. With this aim, the purpose of the study is to verify the use of the framework in the sustainable operations area, whether its use has increased or decreased

in the last few years, and its association to other capabilities and/or sustainability concepts that might be necessary to be applied for a successful real case scenario.

The first part of the study consists of an overview of the main concepts of TBL, going back to its origins, reassessing the importance Elkington was trying to convey and highlighting concepts that Elkington considered essential for the framework. Following, the methods include a thorough review of two noted databases, considering main journals of the area, cross-citations, and topics-objectives of the considered researches. The main steps for literature review, extraction, and selection will be detailed in this section. The third part presents the evidence found during the analysis, providing an up-to-date glance at how the academia represents the term positively against its own author's contradiction considering it a downfall.

The results express still an indiscriminate acknowledgement of the TBL, resulting in a general acceptance of the approach, notwithstanding the intentions its author was trying to fulfill delivering the framework, which rely on having positive returns in all three aspects. We finally propose and highlight the urgency of developing a holistic framework, with the purpose of including emerging elements and concepts identified during the review. The conclusion is set to reevaluate the TBL stating points and initial associated concepts to what is expected after 25 years of development, and propose some guidelines for future researches, considering new capabilities and business models depending on the area of influence, expressing the values and benefits that the framework could grant.

This methodology was useful to achieve the results as it considers an extensive reference related to the field and allows connections and positioning among sources, identifying new problems and literature gaps that need attention (Finn, 2005). The main motivation of this study considers a topic that needs explanation and a deeper generation of understanding, rationalizing the significance of a potential framework of sustainability in the operations field. As regarded, the sustainability area in relation to operations management literature and theories is still scarce, and a holistic framework in the field is even rarer. Despite an increased interest in TBL, very few studies have been conducted criticizing its applicability and reliability.

## TRIPLE BOTTOM LINE

Dating back from 1997, Elkington's concept has been constantly applied and reformulated in several contexts. In the next sections, it is first presented the original formulation of the concept and its desired objectives, representing the historical background. Next, the second part proposes the

current context, new developments of the concept, and the author's reading 25 years after the term was coined.

## Overview of the concept: Elkington, 1998

First published in 1997, *Cannibals with forks: The triple bottom line of 21st century business* (Elkington, 1997) depicts a business world with outstanding performances in three main areas: social, environmental, and economic. According to the book, sustainable development depends primarily on the formation of long-standing partnerships, the sharing of knowledge and sustainable business models, and the solutions found conjointly, either between private and public sectors, between companies, between different peers along the supply chain, or between companies and main groups of interest which relate to the problem to be solved (Elkington, 1998).

The solutions to be found to attend industries with societal, environmental, or financial problems are considered to involve win-win strategies, which integrates financial and non-financial performance of the industry (Marcus, Kurucz, & Colbert, 2010) with general objective aspiration to maximize developments along the whole system and chain (Barbier, 1987). This represents the first underlying assumption of the concept enhanced by Elkington. It is of extreme importance establishing partnerships that aggregate win-win solutions to fully commit to the problem-solving situation (Elkington, 1998). This win-win approach contradicts other literatures of sustainability that recognize some types of trade-offs as the main component for any sort of business partnership.

Brandenburger and Nalebuff (2011) affirm that it is possible to pursue win-win outcomes required by a sustainable development under the principle of triple bottom line, adding value, setting rules to deal with trust issues, build perceptions, and set boundaries between stakeholders.

The essence of coopetition, as well as the involvement of multiple stakeholders to develop strategies to succeed in a sustainable development, rests on the Brundtland definition of sustainability, which attributes different sets of conditions with different types of actors resulting in a certain situation on which depends the planetary survival (World Commission on Environment and Development [WCED], 1987). Opposite to this viewpoint is the firm-level sustainability, which only applies strategies to the organizational level and acts consistently for a partial and narrower aim (Loorbach, Bakel, Whiteman, & Rotmans, 2010).

The main conclusion for this framework to be effective is that there is no possibility for a company, an industry, a government alone to succeed in triple bottom line sustainability without establishing long-relation

partnerships, engaging in win-win strategies to succeed in a sustainable development business approach.

## Elkington: 25 years after the TBL was coined

In the 1990s, sustainability had already gained a huge space in the academia and in the market, creating an annual revenue at around \$1 billion and an estimate of \$12 trillion a year by 2030 (Elkington, 2018).

In 2019, 25 years after the term was introduced, the author proposed a recall and some considerations as it seems, until now, that industries are measuring sustainability goals only in terms of profit and loss, neglecting the wellbeing of millions of people and the environmental situation of our planet. While few initiatives have been introduced, and new frameworks for triple bottom line development have come to use, it is still troublesome to succeed in positive returns in all three aspects (Elkington, 2018).

Despite the introduction of a varied amount of platforms and indexes (e.g., Global Reporting Initiative, Dow Jones Sustainability Indexes, Full Cost Accounting, BCG's Total Societal Impact) to promote and give support to businesses, involve stakeholders, and promote coopetition, the final outcome resulted in confusion, due to all this heterogeneity, and a consequent excuse for inaction (Beal et al., 2017).

Elkington now recognizes the paradigm as a failure, since the capitalist system was unsuccessful to give more space to the social and environmental spheres over the economic one. It can be assumed that the complexity to embrace the vision is not merely an accounting or policy-making reality but a real system change. As Elkington concludes:

To truly shift the needle, however, we need a new wave of TBL innovation and deployment. But even though my company, Volans, consults with companies on TBL implementation, frankly, I'm not sure it's going to be enough. Indeed, none of these sustainability frameworks will be enough, as long as they lack the suitable pace and scale — the necessary radical intent — needed to stop us all overshooting our planetary boundaries (Elkington, 2018, p. 5).

Elkington recalls a 'wave of innovation and deployment,' since the few capabilities highlighted when the framework was developed have not been enough to assess the challenges we are facing.

Following, we discuss the methods implemented to verify Elkington's reflection on his own framework against the evaluation made by his peers and scholars that have been applying TBL in business models. Based on the previous

considerations, the methodology pretends to understand whether the main assumptions posed by Elkington have been incremented in subsequent studies and if they have developed into a holistic framework for sustainable operations planning.

## METHODS

In order to provide evidence for the development of the triple bottom line concept, this paper presents a look at how academic articles are using the concept. To this end, this study proposes a literature review based only on the framework introduced by Elkington.

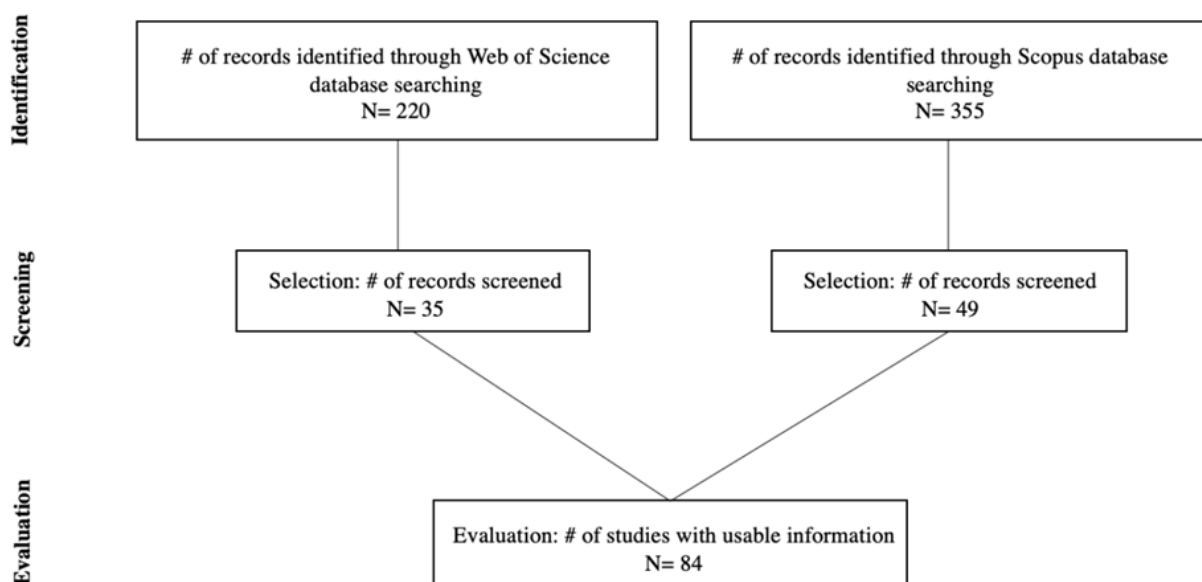
Literature review is an important step for allowing a broad understanding of a concept and to start a research toward an unnoticed problem that needs attention. It also promotes the possibility for new knowledge creation, frameworks and theory development, and open suggestions for future researches (Meredith, 1993). The data collection and selection were conducted following three main steps of identification, screening (selection and extraction), and evaluation (Agrawal, Singh, & Murtaza, 2015; Reim Parida, & Örtqvist, 2015), but also considering the four-phase flow diagram as a guideline for a more vigorous analysis (Moher, Liberati, Tetzlaff, Altman, & The Prisma Group, 2009).

The first step, identification, was made including the title “triple bottom line” in two bibliographical databases, Scopus and Web of Science, which are two main databases that cover big amounts of titles and publishers, peer-reviewed journals in top-level subject fields, are easy to navigate and provide an in-depth coverage, both multidisciplinary and time-spanning (Burnham, 2006). The purpose was finding

literature related to our topic. The research tracked a total of 220 articles in the database Web of Science, and 355 in the database Scopus, spanning from 1998-1999 until 2019. Even supposing that the choice of only including researches with the TBL appearing solely in the title might be superfluous, it was later noticed (in the following step) that even in the articles with these characteristics, the concept of TBL was not a central topic, these studies being, therefore, irrelevant to our aim.

The second step, screening, consists on selecting the articles we are going to analyze, which target the literature of TBL, and eliminating the ones that only invoked the TBL as a brief mention, or as a secondary topic. At this point, we inspected the abstracts, keywords and, if we still dubious about the relevance of the article, intensified the analysis reading through the literature bases. Since the focus was still too vast, we decided to include a keyword for the research: “triple bottom line” (title), and “literature” (title, abstract, keywords). The outcome resulted in 35 articles for Web of Science and 49 articles for Scopus.

In the third step, evaluation, we focused on the articles with strong or direct links to TBL. As Bolderston (2008) suggests, we speculated on whether the article relates to the focus proposed by this literature review, if the scope of the article included the TBL concept, and if the literature in the article fairly relates to TBL. The focus was directed to: (a) the development of the framework and its association with other sustainability concepts and capabilities; (b) literature updates; and (c) positioning for or against the concept. Figure 1 presents a representation of the data collection and analysis phases.



**Figure 1.** Flow chart of phases for selecting articles.

Source: elaborated by the author.

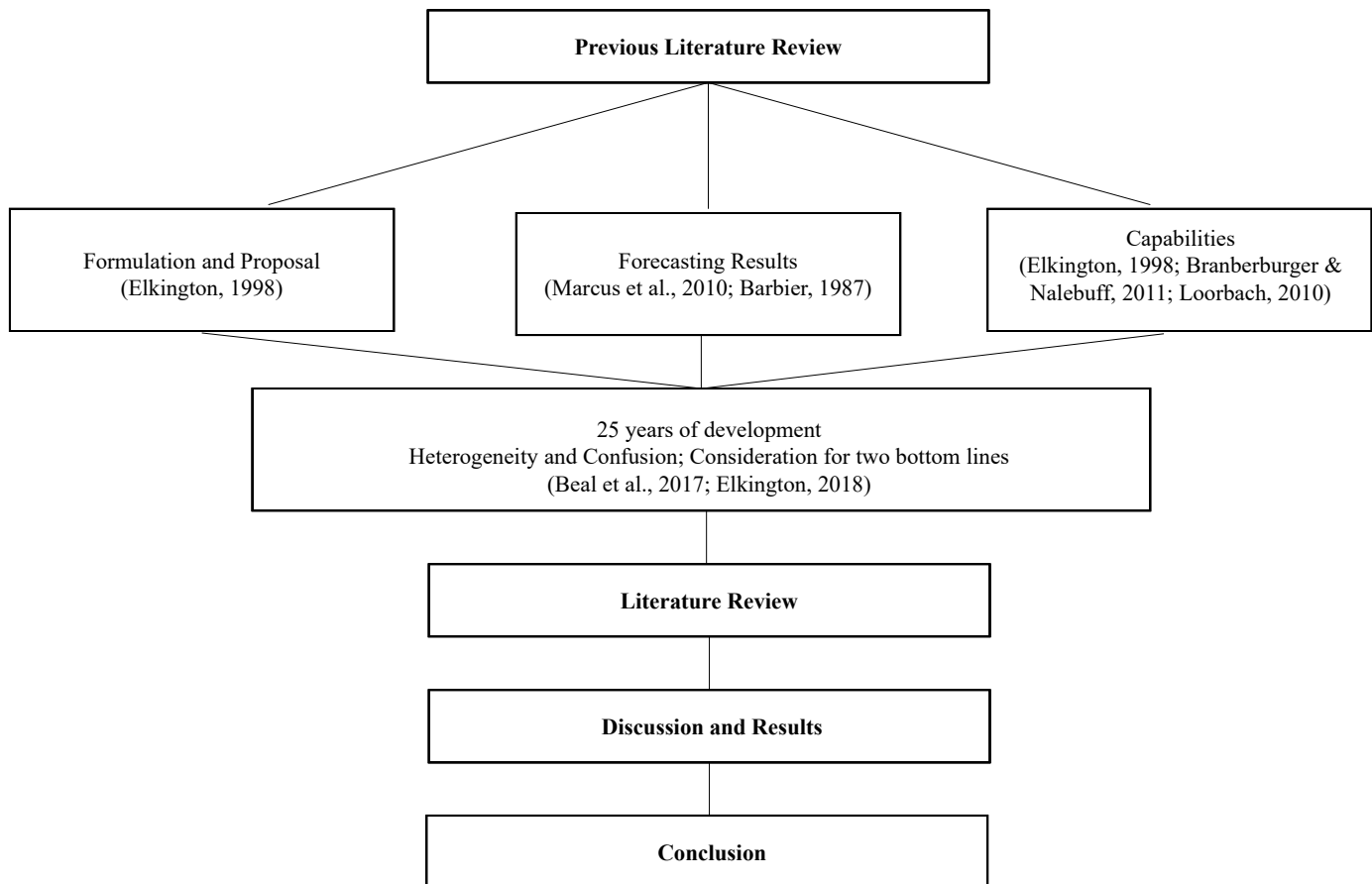
In the following section, we discuss the results obtained from the analyses of the 84 articles from Scopus and Web of Science, present a framework for the study, and discuss a research gap that gives possibilities for the development of a future holistic framework.

## DISCUSSION AND RESULTS

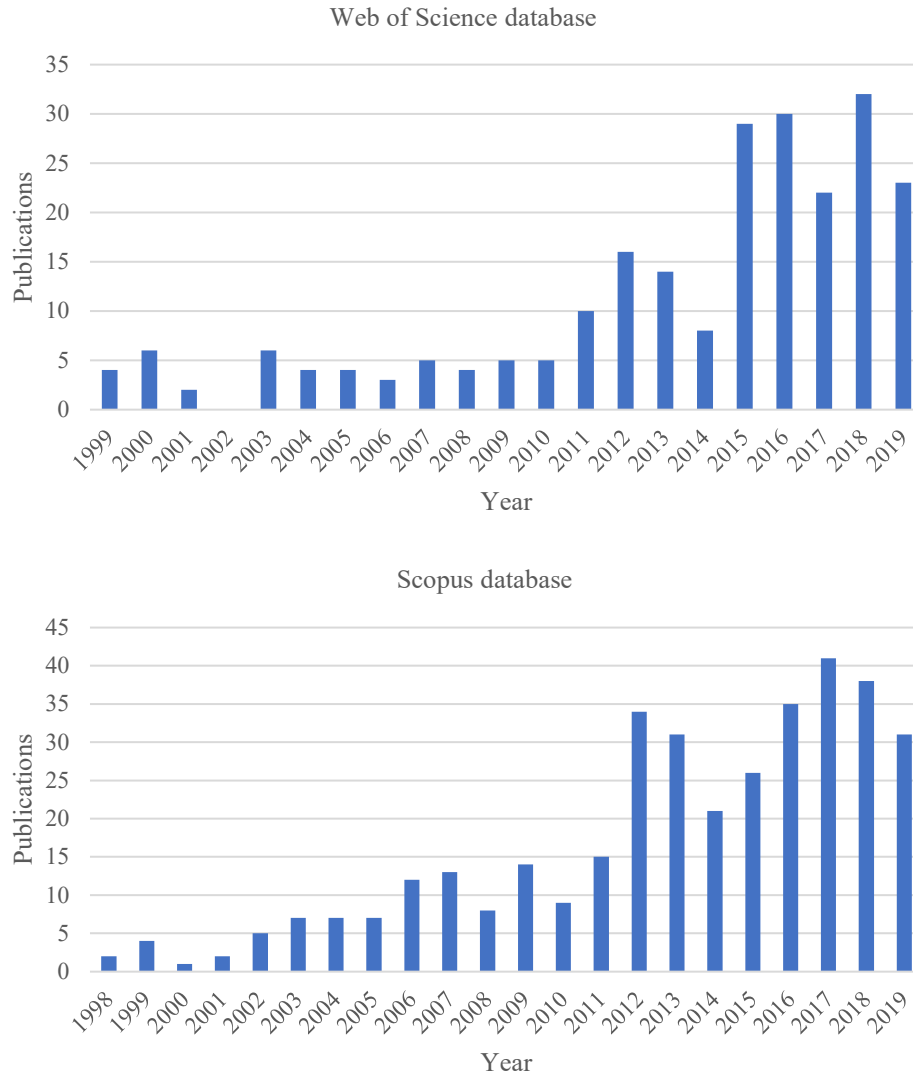
To verify our purpose on whether the concept of TBL has been in use along 25 years of studies, if the framework has been considered relevant and useful in the sustainable operations literature, we count on the selected articles to shed some light on state-of-the-art studies on TBL and consider some factors that have been included in the sustainability literature along the years. Figure 2 presents the framework of the study, how it was conducted and its logical reasoning. The analysis is based on the frequency of publications by

year in each database and a qualitative overview of how authors are evaluating Elkington’s concept throughout the years. The results will clarify the current gaps and future directions for research.

Considering the frequency of publications, results, and evidence brought from the selected articles, and contradicting Elkington’s observation about his own concept, TBL has not been losing credibility along the years, considering the overwhelming acceptance of the TBL with an increase of publications from 2015 to 2019 in both databases (Figure 3). This evaluation was made considering the first phase of data identification. It is set to consider all articles in the area of operations management and sustainability that mention the TBL, even if it is not a central point to the discussion. The following qualitative overview relies on the 84 articles selected after the screening process.



**Figure 2.** Framework of the study.  
Source: elaborated by the author.



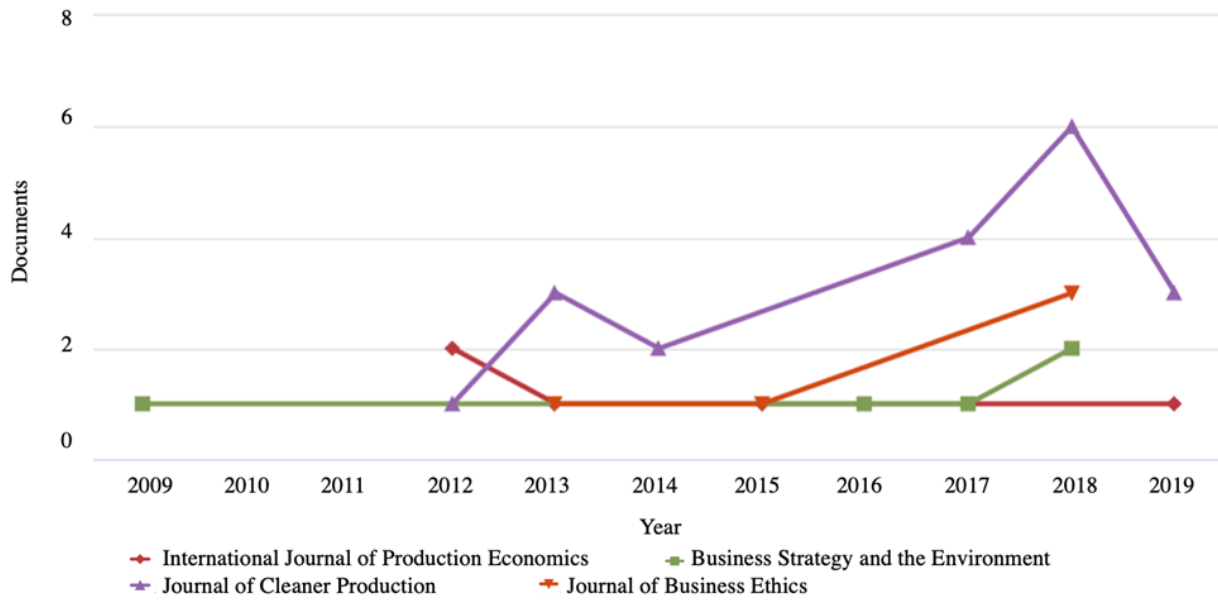
**Figure 3.** Frequency of triple bottom line in publications by year.  
Source: elaborated by the author. Collected in November 8, 2019.

Besides the frequency of occurrences, TBL is also relevant in theoretical discussions on sustainability. Svensson et al. (2016; 2018) have conducted two literature reviews about sustainability framing the triple bottom line approach in 2016 and 2018, respectively. From their studies, it was possible to notice that there is a strong association between the TBL and other business sustainability efforts involving either one or two of the bottom lines (Svensson et al., 2016). It seems hard to separate the framework from other sustainability strategies and approaches, and the concept was considered as an enhancement of other sustainability efforts, concurrently incrementing the shareholder value stimulating a competitive advantage (Svensson et al., 2016).

Figure 4 reflects the main journals that have been publishing most articles about TBL along the years. It

is possible to notice that the concept has been addressed by top journals of different areas, since the framework can (and must) be applied to all business segments, even so still directing the focus to sustainable operations management. The journals in Figure 4 represent the ones with most publications since a total of 118 journals have been publishing one or more articles about TBL. The data suggests that, after 25 years, it is still a hot topic and useful theoretical framework, conveying reliability and validity to the subject of sustainability.

Aiming to investigate if scholars have been evaluating TBL positively or negatively throughout the years, we analyzed articles from two perspectives: (a) development of the initial TBL paradigm; and (b) shifting of TBL paradigms in sustainability discussions, as we depict in the next lines.



**Figure 4.** Documents framing triple bottom line and sustainability. Source: Scopus database. Collected in November 8, 2019.

### Triple bottom line as a paradigm for sustainable development

TBL was used as a sustainability paradigm in operations management and a classification system for research of sustainable supply chain management. As Winter and Knemeyer (2013) pointed in their literature review, the concept has gained suggestive preeminence in research, but it is also worrisome how the term has been

used controversially to denote only the economic and either the social or the environmental bottom line, despite Elkington holistic-based idea. Also, Walker, Seuring, Sarkis, and Klassen (2014) perceived from their review that the majority of sustainable supply chain management researches from 2002 to 2014 did not mention the social bottom line. Table 1, below, presents a few statements that reinforce this view (chronologically).

**Table 1.** Criticism for the misinterpretation of triple bottom line concept.

Authors	Journal	Year	Citation
Winter and Knemeyer	International Journal of Physical Distribution & Logistics Management	2012	“...until recently research on the environmental dimension has been more pronounced than the social and even less attention has been paid to the linkages between dimensions” (p. 24).
Walker, Seuring, Sarkis, and Klassen	International Journal of Operations & Production Management	2014	“...it is clear that the majority of sustainability research published in IJOPM still focuses on environmental issues (64 per cent). Social issues in OM have seen a recent increase since 2010”.
Marcelino-Sádaba, González-Jaen, and Pérez-Ezcurdia	Journal of Cleaner Production	2015	“...sustainability has become a very important qualitative and quantitative step, particularly in the project’s environmental aspects. However, in social matters, slightly less progress has been made” (p. 14).
Svensson, Høgevold, Ferro, Varela, Padin, and Wagner	Journal of Business-to-Business Marketing	2016	“...sustainability has become a critical facet of organizational life, particularly in terms of environmental aspects and the limited progress that has been made, especially from a social perspective” (p. 157).
Martins and Pato	Journal of Cleaner Production	2019	“...environmental oriented articles account for 42% (83 reviews) of the total number of sources, whereas the social perspective is engaged by only 7% (14 reviews)” (p. 1005).

**Note.** Source: elaborated by the author.

A sustainable development is a phenomenon involving all aspects of human activities, encompassing the triple bottom line and considering the system and the chain's performance as an integrative process (Montabon, Pagell, & Wu, 2016). The problem we are facing nowadays is described by Beck (1992) as a lack of institutions to control and limit the negative impacts that industries and human activities are causing to the environment and the society. There is no legitimate body higher than the main government to demand conformity to environmental and societal requirements, as at the same time, there is no metrics or general standards to impose positive returns along the supply chain (Montabon et al., 2016). These considerations relate to the need for some type of theoretical inclusion in the framework to enable its progress and hope to be considered as a holistic method for sustainable development.

### Toward a new SSCM paradigm shift

Along these 25 years since the introduction of the approach by Elkington, the framework has been associated with other strategic aspects related to the development of a sustainable supply chain. In this review, we noticed a few concepts and capabilities related to sustainable operations management that should be integrated to the framework, as in the articles reviewed, they emerged as integral parts of the research. Gladwin, Kennelly, and Krause (1995) rely on risk management since the business has to consider threats caused by harmful destructions like climate change, resource scarcity and insecurities, population growth, and all concepts related to the security and maintenance of the business.

Transparency is another aspect that is considered as crucial to settle good relations with partners and all involved stakeholders (Carter & Rogers, 2008). Ashby, Leat, and Hudson-Smith (2012) also highlight the need for cooperation, coordination, and collaboration and put an emphasis on focusing the priority on long-term relationships as part of the strategic management. The strategy involves not only simple reporting to stakeholders but also receiving feedbacks and plans of cooperative actions to create knowledge value and share essential and significant data to all involved parties to reach new bases for positive returns in all segments of the chain (Hart, 1995). Kudřak and Low (2015) and Marcelino-Sádaba et al. (2015) also noted the importance of managing multi-stakeholders' initiatives and the role transparency is set to play, establishing values and responsibility both in the internal corporate structure and the external environment. Integration is therefore necessary as the previous considerations cannot be explored without the next set of characteristics.

The third and fourth main aspects associated with a sustainable supply chain development are strategy and

culture. As Shrivastava (1995a; 1995b; 1995c) points out, the corporate social responsibilities and the sustainability initiatives must be aligned to one another and must be included in the strategic management of a business as a whole inclusive program. For this reason, the necessity to undergo a process of transformational and cultural change, not only in the corporation environment but in the outer scenario as well, may result in a successful reaction to social and environmental occurrence (Ferro et al., 2017; Linnenluecke & Griffiths, 2010; Schulz & Flanigan, 2016).

Matthews, Power, Touboulic, and Marques (2016) articulated the need for a new paradigm shift since new actions are required and new aspects need to be included in the TBL framework. The concept can also be designed as a direction to take and consider a double bottom line as a starting point toward the aim of a sustainable development, which has the possibility to be reached through the adoption of an integrating framework, since TBL by itself is considered an insufficient instrument to reach financial, social, and economic sustainability (Milne & Gray, 2013). The natural sciences can contribute with metrics for businesses to assess the ecological impact along the supply chain and the necessary changes and initiatives to be applied. The results obtained are helpful to inform both the public sector for implantation of new policies and the corporation to fulfill a strategic corporate social responsibility routine (Hahn et al., 2010).

Until now, theory of sustainable operations management has not yet been able to develop a holistic framework for a successful win-win design. Montabon, Pagell, and Wu (2016) suggest the need for a new paradigm shift toward a holistic framework that encompasses the triple bottom line as the main paradigm for sustainable development and the association of aspects and strategies related to resource dependence, uncertainties, coordination, and resiliency along the whole supply chain.

## CONCLUDING REMARKS AND FUTURE RESEARCH

The concept of triple bottom line has been gaining attention along the sustainability business path for sustainable development, even if mentioned inappropriately, not attending all the bottom lines proposed by the author. The paper considered a first overview of the framework, its association to other capabilities and/or strategies to implement to reach sustainable development, its use in academic researches, and its implementation in business models, investigating its propriety and usefulness. The reality of nowadays does not leave any more space to set one or more negative impacts aside, and encompassing the TBL as part of the corporate strategy to run managerial operations



has become and imperative, not only due to the growing pressures imposed by society but also to the uncertainties related to the stakeholders' heterogeneity and aggravating environmental situations we are facing (Høgevold & Svensson, 2012; Schaltegger & Burritt, 2010).

Through the analysis, it was possible to notice that the concept of TBL has not lost its importance since its development; on the contrary, it has been a much-considered topic having its zenith in the last five years. It has been denoted repeatedly in an unmannered way, contradicting Elkington disappointment as the framework has been used erroneously, considering two and not all three of the bottom lines. The literature of sustainable operations recognizes the principles of reaching win-win approaches and cooperation posed by the concept. The main problem of the framework not evolving into practice and obtaining positive results is an indicator signaling the need for other conditions or characteristics that could promote implementation.

It was possible to understand that to reach development in three different dimensions, an additional capability approach should be included in the framework. There is a necessity to implement different capabilities to a general context framework, each associated with its area of interest. This means that if my objectives are to solve problems related to the social sphere, I would need to investigate which capabilities and strategies are associated with the social area that, if implemented in the TBL framework, can help me reach a sustainable environment.

The qualitative overview helped identifying, in the operations management and sustainability literature of these past two decades, the necessary ingredients to be added to the model: integration with stakeholders, transparency, and a strategic and cultural change. For these reasons, the concept of triple bottom line and the literature of sustainable operations management still lack theories, models, and frameworks for the development of win-win business models, design of supply networks, and strategic initiatives.

There is a need for future researches involving quantitative methods, investigating how these capabilities can be implemented in the framework successfully, with the subsequent result of a theory building that finally considers all TBL dimensions (Svensson et al., 2016). Eskandarpour, Dejax, Miemczyk, and Péton (2015) also consider the urgency to involve the social bottom line to the equation to formulate multi-purpose models that consider all the aspects previously discussed: risk assessment, transparency, strategy and culture.

This study contributes to clarify the state-of-the-art of the TBL concept and to shed some light on the need for future research and how to implement a holistic framework to fulfill sustainable development in all the three elements conjointly, extending the current knowledge and structure of sustainability of supply chain management. It is set to take a step forward, with the intention of guiding future studies and assessing elements and characteristics that can help make the transition needed to attend the three spheres.

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