International Journal of Applied Engineering & Technology

EFFECT OF TRIPLE BOTTOM LINE ON SUSTAINABLE OPERATIONS

Dr. J Krithika[1], Nithya Sree R[2] and Sneha C J[3]
[1]Senior Assistant Professor, [2]II-PGDM Student and [3]I-PGDM Student, Xavier Institute of Management & Entrepreneurship, Chennai

ABSTRACT
In contemporary business strategies, there is a growing emphasis on the significance of sustainability to diminish environmental impact, uphold social responsibility, and ensure financial viability. To evaluate performance in these crucial areas, a framework known as the "triple bottom line" (TBL) has been devised. Research indicates that incorporating sustainable practices can result in significant enhancements across the triple bottom line, spanning financial, social, and environmental dimensions. Companies that embed sustainability into their operations can reap various advantages, including cost reductions, revenue growth, enhanced operational efficiency, the establishment of a more positive work environment, increased brand visibility, improved community relations, and a decrease in both greenhouse gas emissions and waste production. The ultimate conclusion of the study emphasizes that organizations aiming for long-term success must make sustainability an integral part of their operations. Focusing on the three aspects of the triple bottom line – People, Planet, and Profit – enables companies to generate value not just for shareholders but also for employees, customers, and the communities they operate in.

Keywords: Sustainable operations, Triple bottom line, Financial, Social and Environmental performance

1. INTRODUCTION
In the realm of operations management (OM), companies are increasingly showing a growing interest in managing sustainability and corporate social responsibility (CSR). This evolving trend highlights the essential need for OM research and practices to incorporate sustainability considerations. Factors such as environmental concerns, including climate change, the well-being of communities and workers, and broader societal expectations, have driven this shift. Sustainable Operations Management, as we define it, involves the comprehensive pursuit of social, economic, and environmental goals, commonly known as the "triple bottom line" (TBL). This commitment extends from a company's internal operations to its supply chain and the communities it engages with.

The perspective on OM through the lens of sustainability is multifaceted. It involves a range of elements, such as procurement, supply chain management, process optimization, lean operations, the incorporation of environmental and social standards, eco-design, product development, performance measurement, and risk management.

Over the past two decades, there has been a notable increase in research pertaining to sustainable Operations Management (OM), a trend attributed to changes in both industry and society. In the 1990s, there was a heightened emphasis on resource efficiency and the necessity to use resources more judiciously while reducing overall consumption. The concern stemmed from the realization that maintaining the prevailing rate of resource use would demand the resources equivalent to more than three planets (Weizsacker et al., 1997). The intersection of environmental consciousness and competitiveness fueled a focus on resource productivity, aiming to achieve financial benefits and a competitive advantage by enhancing environmental performance (Van de Linde and Porter, 1995). Environmental performance, with an emphasis on recycling, waste reduction, CO2 emissions reduction, and the adoption of environmentally friendly products and practices, has consistently been a focal point of interest.

The term "triple bottom line" (TBL), introduced by Elkington in 1997, is rooted in sustainability. The concept of sustainability itself dates back over 130 years to the notion of "spaceship earth" articulated by George in 1879/2009. The term gained significant traction with the introduction of "sustainable development" in the 1987

Brundtland Report, defining it as development meeting present needs without compromising future generations' ability to meet their own (Brundtland, 1987, p. 43). TBL, founded on sustainability principles, provides a framework for assessing organizational performance across social, environmental, and economic dimensions (Goel, 2010). Elkington's TBL model combines social and economic dimensions to expand the environmental agenda (Elkington, 1997), using the terms profit, people, and planet to represent economic, social, and environmental aspects, respectively.

As TBL inherently integrates social, environmental, and economic dimensions, it consistently references all three lines simultaneously. In contrast, a literature review reveals varied interpretations of the term sustainability. Some research emphasizes sustainability in the environmental context (Yan, Chen, & Chang, 2009), while others encompass all three dimensions or focus solely on the social aspect (Bibri, 2008; Marcus & Fremeth, 2009). TBL assigns equal importance to each dimension, ensuring coherence and balance (Elkington, 1997; Epstein, 2008; Harmon, Bucy, Nickbarg, Rao, & Wirtenberg, 2009; Russell, Abdul-Ali, Friend, & Lipsky, 2009; Savitz & Weber, 2006). In contrast, certain sustainability studies reveal an uneven emphasis on the three dimensions, with the economic dimension often receiving less attention (Collins, Steg, & Konan, 2007).

2. LITERATURE REVIEW

The study conducted by Onyali et al. in 2014 sought to establish the link between sustainable corporate performance management and TBL accounting. To achieve this goal, the researchers formulated research questions, hypotheses, and conducted an extensive review of pertinent literature. They utilized a descriptive survey research design, involving 56 certified chartered accountants from the Awka district, the capital of Anambra State in Nigeria, as participants. Data collection involved a standardized five-point Likert scale questionnaire. Subsequently, the collected data underwent analysis using SPSS version 20, and results were presented in the form of frequency tables and percentages. The formulated hypotheses were evaluated through multiple regression analysis. The study's findings underscored the significance of implementing TBL accounting practices, enabling organizations to recognize, quantify, and allocate environmental and social costs linked to their operations. The recommendation is for businesses to adopt TBL accounting methodologies not only to identify, measure, and allocate these costs but also to provide managers with tools and techniques for effectively managing performance across all three TBL dimensions. Additionally, this approach allows businesses to identify products with higher environmental and social costs, facilitating an overall profitability assessment.

In Timothy F. Slaper's 2011 article titled "The Triple Bottom Line: What Is It and How Does It Work," it's pointed out that there is no single universally accepted method for determining the TBL. Moreover, the specific measurements within each of the three TBL categories lack widely recognized standards. This, however, can be viewed as a strength because it allows the TBL framework to be customized to suit the needs of diverse entities, be they businesses, nonprofits, projects, or policies like infrastructure investments or educational programs, and across different geographical boundaries such as cities, regions, or countries. The TBL's versatility allows it to gauge impacts over broad geographic areas, cater to specific cases or projects, and even concentrate on smaller geographic contexts, such as individual towns. In practice, a case-specific TBL can be applied to evaluate the outcomes of a particular project within a specific setting, like a community facility or park. The TBL framework is also relevant at higher levels, including national energy strategies and state-level infrastructure initiatives.

In their 2019 publication titled "Sustainable Operations Management Through the Perspective of Manufacturing & Service Operations Management," Atalay Atasu and co-authors conduct an extensive evaluation of the impact of sustainable operations management research within and beyond the field of operations management. Their review aims to offer a comprehensive summary of prevailing trends in sustainable operations management research, particularly within Manufacturing & Service Operations Management (M&SOM). The authors employ a thorough citation analysis and provide a concise historical assessment of papers related to sustainable operations management in the M&SOM domain. The collective results of these analyses reveal that the research topics in sustainable operations management in M&SOM predominantly align with pertinent business-related issues.

Moreover, the research in this area has made a significant scholarly impact not only within the field but also in broader academic and professional contexts.

In their 2013 study titled "Modelling and Analysis of Sustainable Operations Management: Certain Investigations for Research and Applications," Angappa Gunasekaran and colleagues delve into the concept of "sustainable operations management" (SOM). The authors observe that while some publications address the intersection of economic and environmental aspects or the trade-offs between profitability, competitiveness, and environmental considerations, the majority of papers tend to primarily focus on the environmental dimension of sustainability. Additionally, the study underscores a notable gap in the modeling and analysis (MA) of SOM, emphasizing the need to integrate and balance the requirements of both economic and environmental interests. In response to this gap, the authors conduct a comprehensive review of existing SOM literature. Their objective is to gain a profound understanding of SOM's essence, provide an overview of the state of research in MA, and outline potential directions for future research inquiries. To ensure the relevance of their study, the authors specifically concentrate on literature related to the MA of SOM from the year 2000 onward, considering the recent shifts in the focus of this field.

In her 2019 work, titled simply "Maria Salome Correia," the author highlights the increasing significance of sustainability awareness in society and its growing interest among both academics and professionals. The article delves into the three key facets of the most widely embraced sustainability models, which encompass environmental, economic, and social dimensions. It also offers a comprehensive explanation of the overarching concept of sustainability, particularly emphasizing the Triple Bottom Line approach. The author underscores the critical role of sustainability in organizational strategy and emphasizes its importance for businesses. The essay goes on to address various challenges and real-world examples of evaluating and measuring sustainability. This comprehensive exploration aims to provide insights into the practical application of sustainability principles, highlighting its relevance in contemporary society and business practices.

In the 2011 article titled "Does Sustainable Supplier Co-operation Affect Performance? Examining Implications for the Triple Bottom Line," authored by Daniel Hollos, Constantin Blome, and Kai Foerstl, the primary focus is on investigating the correlation between collaborative involvement with sustainable suppliers and business performance, particularly in the context of the TBL. The TBL assesses a company's overall performance by considering economic, environmental, and social factors. The authors contend that engaging with sustainable suppliers has the potential to improve performance across all three dimensions of the TBL. For example, when businesses collaborate with suppliers on environmental initiatives, they may achieve cost savings, enhance product quality, and strengthen their reputation with customers. Likewise, involvement in social initiatives with suppliers can positively impact factors such as employee morale, labor turnover reduction, and the improvement of community relations.

In the study "Corporate Governance and Sustainability Performance: Analysis of Triple Bottom Line Performance," authored by Nazim Hussain, Ugo Rigoni, and René P. Orij in 2022, the focus is on exploring the connection between corporate governance and the performance evaluated through the TBL framework. The TBL framework takes into consideration economic, environmental, and social factors when assessing corporate performance. The authors' examination of existing research in this area suggests a notable correlation between corporate governance and sustainability performance. The article also sheds light on the challenges that businesses face when implementing sustainable practices. Notably, the absence of standardized sustainability reporting systems poses a hurdle, making it difficult for companies to effectively assess and report on their sustainability performance. Additionally, the pressure to deliver immediate financial results to investors and stakeholders presents another obstacle, potentially hindering businesses from making long-term investments in sustainability initiatives.

The article "Green capabilities, green purchasing, and triple bottom line performance: Leading toward environmental sustainability" by Syed Abdul Rehman Khan, Zhang Yu, and Khalid Farooq (2023) examines how a company's green capabilities and green purchasing practices affect its TBL performance. The TBL framework considers economic, environmental, and social factors when evaluating a company's overall performance. The authors argue that a company's green capabilities, which include its ability to integrate environmental considerations into its operations and its capacity for green innovation, play a crucial role in shaping its green purchasing practices. Green purchasing involves incorporating environmental criteria into the procurement process, selecting suppliers based on their environmental performance, and collaborating with suppliers to reduce environmental impacts throughout the supply chain. The authors emphasize the importance of developing green capabilities as a foundation for implementing effective green purchasing practices. These capabilities enable companies to identify and prioritize environmental considerations, collaborate with suppliers on sustainability initiatives, and continuously improve their environmental performance.

The 2021 article by Iqra Sadaf Khan, Muhammad Ovais Ahmad, and Jukka Majava, titled "Industry 4.0 and Sustainable Development: A Systematic Mapping of Triple Bottom Line, Circular Economy, and Sustainable Business Models Perspectives," explores the correlation between Industry 4.0 technologies and sustainable development. The investigation encompasses various viewpoints, including the TBL, the circular economy, and sustainable business models. The TBL framework evaluates a company's performance by taking into consideration economic, environmental, and social factors. The authors' conclusions indicate that Industry 4.0 technologies have the potential to assist organizations in improving their performance across the three dimensions of the Triple Bottom Line, integrating circular economy principles, and establishing and operating sustainable business models. This research emphasizes the pivotal role of advanced technologies in advancing sustainability and fostering responsible business practices.

3. TRIPLE BOTTOM LINE

The TBL is an accounting framework that includes three essential elements: social, environmental, and economic. Many organizations have embraced the TBL framework as a means to evaluate their performance more comprehensively and improve their overall business value. The term was originally coined by business author John Elkington in 1994. The foundation of the TBL concept is the idea that companies should be held responsible for both their financial performance and social and environmental impact. It gives companies a tool to assess and control their sustainability. The TBL is not a method that works for everyone. Businesses must adapt their TBL approach to fit their particular market, size, and resource levels. To measure and monitor their sustainability performance, firms can use the TBL idea, which offers a useful framework.

3.1 3 Ps of Triple Bottom Line

3.1.1 People

The effects, both favourable and unfavourable, that an organization has on its most significant stakeholders. These stakeholders include employees, their families, customers, suppliers, communities, and any individuals who have an impact on or are impacted by the organization.

There are a number of ways that businesses can focus on the people pillar of the TBL, including: Offering fair wages and benefits to employees, providing training and development opportunities to employees, creating a safe and inclusive workplace, Supporting diversity and inclusion in the workplace, Working with suppliers to ensure that they are meeting ethical and labour standards, Developing products and services that are beneficial to society.

3.1.2 Planet

The effects, both positive and negative, that an organization has on the natural environment. This encompasses efforts to minimize the organization's carbon footprint, its utilization of natural resources, and the management of toxic materials, as well as proactive measures like waste reduction, reforestation, and the restoration of ecological damage.

In terms of the TBL, businesses can prioritize the "planet" aspect by decreasing their energy consumption, adopting renewable energy sources, minimizing waste generation, investing in sustainable technologies, and creating environmentally friendly products and services.

3.1.3 Profit

The impact, whether positive or negative, that an organization has on the local, national, and global economy. This includes aspects such as job creation, promotion of innovation, tax contributions, wealth generation, and any other economic consequences associated with the organization.

Businesses can concentrate on the TBL's profit pillar by: Supplying clients with goods and services they need and want, keeping their costs under control, making research and development investments, developing new markets.

3.2 Measurement of Triple Bottom Line in Operations

When evaluating the TBL, businesses might find themselves in uncharted territory. Traditional accounting regulations provide clear guidelines for how a company must report its financial profits. However, there may be limited to no established framework for measuring the triple bottom line, especially when it's not a requirement for external reporting.

3.2.1 Measuring Profit

Within the scope of the TBL, a company usually continues to disclose its overall net income. Profit, being a well-established metric, is consequently the most straightforward element to report. Nevertheless, a company may also emphasize or provide information on various other financial or profitability indicators, such as: (i) Geographic breakdown of gross margins to demonstrate price consistency across different demographic segments, (ii) Historical federal income tax payments, illustrating the effective tax rate, and (iii) Details regarding prior instances of late payments or penalties, serving as evidence of sound financial management.

3.2.2 Measuring People

The "people" dimension of the triple bottom line includes both financial and non-financial metrics known as "social measures" or "social metrics." While certain metrics may be required by generally accepted accounting principles (GAAP) or other reporting standards, others may be internally gathered. Examples of ways to measure the impact on people include: (i) Calculating the average employee payroll to ensure that employees earn a wage that exceeds the local standard, (ii) Determining the average employee benefits per employee, which goes beyond compensation to encompass the complete employee benefit package, (iii) Tracking the average number of vacation days taken by each employee to ensure that employees can take necessary time off, (iv) Examining employment statistics, such as the representation of workers from different racial, gender, and religious backgrounds. It's important to note that some of this data may be sensitive, and employees typically provide certain demographic information voluntarily, (v) Analysing vendor demographics, including those from minority-owned, veteran-owned, LGBTQ-owned businesses, or small enterprises, (vi) Monitoring the number of product returns by geographic area to ensure that specific populations continue to receive high-quality products.

3.2.3 Measuring Planet

Within the triple bottom line, the "planet" component is often the most challenging to quantify. Measuring the organization's impact on the environment can be a complex task, as it requires an understanding of both its current environmental footprint and the potential impact of eco-friendly initiatives. Nonetheless, there are several widely utilized environmental metrics, including: (i) Assessing emissions reductions by comparing existing processes to expected changes in new processes, (ii) Calculating the amount of waste generated over a specified timeframe, which may include recycled materials, (iii) Determining seasonally adjusted energy consumption figures, (iv) Evaluating fossil fuel consumption, potentially adjusted on a per-employee or per-sales basis if the business is growing, (v) Analyzing the percentage of ethically sourced raw materials.

3.3 Environment, Financial, Social performance

Businesses gauge their overall societal impact by measuring the financial, social, and environmental performance of the triple bottom line's three components. By improving their performance in each of these three areas, businesses can create a more sustainable and equitable future for all.

3.3.1 Financial performance

Financial performance pertains to a company's capacity to generate revenue and cash flow while ensuring profitability. Traditional financial indicators like net income, earnings per share, and return on equity are utilized to gauge this performance. Strategies for enhancing financial performance include augmenting revenue through the introduction of new products, expanding into different markets, and enhancing customer retention. Cost reduction is achievable through operational streamlining, efficiency enhancements, and effective negotiations with suppliers for better pricing. Furthermore, optimizing capital allocation ensures investments are directed toward the most lucrative opportunities.

3.3.2 Social performance

Social performance denotes the influence a company has on its workforce, clientele, and the local communities where it conducts its operations. Measurement of social performance involves assessing metrics such as employee satisfaction, customer satisfaction, and community involvement. To establish a favorable work environment for employees, businesses can offer competitive compensation and benefits, create avenues for professional growth, and promote a culture of respect and inclusivity. Additionally, they can design products and services that cater to customer needs and enhance their quality of life, while also engaging with their operating communities through support for local charities and organizations and the allocation of time and resources to volunteer initiatives.

3.3.3 Environmental performance

Environmental performance relates to a business's impact on the natural environment, with measurements including factors like greenhouse gas emissions, water usage, and waste generation. The triple bottom line represents a comprehensive approach to business that takes into account all three of these elements. By prioritizing the triple bottom line, companies can establish enduring value for their stakeholders, encompassing shareholders, employees, customers, and the communities where they operate. Approaches to improve environmental performance involve reducing greenhouse gas emissions by adopting renewable energy sources, enhancing energy efficiency, and reducing waste. Conservation of water can be accomplished by using water-efficient fixtures and appliances, as well as recycling wastewater. Furthermore, the reduction of waste production can be realized through the design of products and packaging that promote recyclability and the implementation of food waste composting practices.

3.4 Advantages and Disadvantages of Triple Bottom Line

3.4.1 Advantages

While John Elkington introduced the term "TBL" in 1994, the concept of integrating socially and environmentally conscious practices into business has a history spanning many decades, if not centuries. Despite the relatively recent coining of the term "TBL," businesses have long recognized the importance of factors beyond profit. Historical instances include labor unions advocating for improved working conditions in the 1700s, conservationists pushing for more efficient resource utilization in the late 1800s, and consumers demanding reduced pollution in the late 1900s. The formal introduction of the TBL serves to acknowledge and highlight this enduring trend of social responsibility and sustainability within the business domain.

Giving equal weight to profit and the planet represents a significant stride in the business realm. Businesses in the United States, and elsewhere, have been depleting natural resources, generating substantial pollution, and contributing to various environmental challenges for nearly as long as they've existed. The TBL acknowledges that companies neglecting environmental concerns will deplete or pollute resources faster than they can be replenished, ultimately jeopardizing their own existence. Embracing this realization can lead to cleaner, more diverse, and more sustainable environments for all.

While some environmentalists may prioritize environmental solutions and put social involvement on the back burner, economic equity, resilient communities, and a strong foundation of racial and gender equality are vital for thriving in the face of the climate crisis and beyond. Social crises are as crucial as environmental ones. The TBL underscores that businesses will lose customer support and, ultimately, face closure if they do not uphold high standards in terms of equality, human rights, and the well-being of communities.

3.4.2 Disadvantages

The Triple Bottom Line (TBL) is essentially a flexible model that companies can choose to adopt. Not all organizations are obliged to align with the TBL, and those that profess to do so are not subject to external oversight or compelled to make substantial changes in their operations. This means that companies might merely pay lip service to the TBL without taking concrete actions to substantiate their claims. Moreover, since the TBL lacks specific guidelines, companies seeking to enhance their sustainability may express their intent but struggle to determine how to initiate and track their progress. Consequently, the TBL by itself is viewed as impractical and lacks mechanisms for accountability.

This "con" closely relates to the previously discussed issue. Given the absence of stringent criteria, any business can assert adherence to the TBL, potentially diluting the significance of the term. If all companies claim to embrace the Triple Bottom Line without making significant efforts to advance social and environmental causes, the phrase could lose its credibility. Much like the overuse of "green" labels on food products, the TBL might be misused and reduced to a mere marketing gimmick aimed at attracting customers.

As a result, this is undoubtedly more complicated than a simple "con" because capitalism offers advantages as well as disadvantages. But as far as our surroundings go, the American capitalist system as it exists today has mostly proven to be a scam. A significant negative impact of capitalism on the environment is its promotion of unnecessary purchases by customers. This emphasis on consumerism has resulted in huge environmental damage and excessive resource use in the United States and around the world.

Regrettably, the Triple Bottom Line (TBL), being primarily designed for enterprises and the heart of capitalism, tends to uphold the existing capitalist status quo. The TBL implies that we can achieve sustainability by making minor adjustments to the way current business models serve both people and the environment. However, it's highly unlikely that tweaking business strategies alone will be adequate to significantly mitigate the impacts of climate change. Instead, companies should consider making substantial changes in how they utilize resources, manage waste, and execute other fundamental processes. Perhaps, the pursuit of profits should take a backseat to the well-being of people and the environment. To effect enduring change, both businesses and consumers must embark on a complete system overhaul rather than merely integrating TBL concepts into their existing business models.

3.5 Business benefits of Triple Bottom Line

It is not only morally correct to prioritise people and the environment before profits in your business; it is also the appropriate thing to do from a business integrity standpoint. The triple-bottom-line strategy has good business benefits as well. Putting people and the environment first can:

3.5.1 Enhance your company culture

To benefit from increased employee engagement and loyalty, better hiring and retention, and the ability to capitalise on the advantages of a more inclusive and varied workforce.

3.5.2 Improve customer relationships

Sixty-four percent of US consumers base their purchase decisions on a company's ethical performance. Establish a business where ethics, society, and the environment are valued highly, and you will gain a reputation that draws in business.

3.5.3 Boost company performance

The triple bottom line extends beyond mere financial profits. However, if the other two components are properly addressed, profitability should naturally follow. Ethical companies consistently surpass other organizations in terms of their financial performance.

3.5.4 Reduce the risk associated with governance and regulatory compliance

ESG reporting is optional. Still, with consequences for noncompliance, it's becoming the standard practise more and more. Furthermore, at a deeper level, mistakes in areas like employee relations and pollution can result in costly fines, reputational harm, and remediation expenses.

3.5.5 Boost your supply chain

Sustainable supply chains are more than simply best practises; they may also make your business less susceptible to the negative effects of business disruption and more resilient.

3.5.6 Improve your appeal as an investment opportunity

It makes financial sense to take care of your impact on people and the environment since ESG performance is becoming more public and is a key factor for potential investors.

CONCLUSION

Operations that are sustainable can result in decreased expenses, higher income, and increased operational effectiveness. Firms that allocate resources to renewable energy and energy efficiency initiatives, for instance, can lower their energy costs. Companies can raise the calibre of their goods and services while lowering the danger of disruptions by using sustainable supply chain practises. Businesses with a solid reputation for sustainability can charge more for their goods and services, attract and keep customers, and retain workers. It can enhance employee morale at work, foster better ties with the community, and boost brand reputation. Companies can boost productivity and staff morale, for instance, by investing in employee training and development. Businesses can enhance the working conditions of the staff at their suppliers by implementing sustainable practises in their supply chains. Businesses with a solid reputation for sustainability may win over customers, gain the trust of their communities, and retain top staff. Additionally, it can conserve natural resources, lessen waste, and minimise greenhouse gas emissions. Companies that invest in renewable energy, for instance, can lower their carbon impact. Businesses can lessen the environmental impact of their goods and services by using sustainable supply chain practises. Customers that care about the environment might be drawn to and kept by businesses with a solid reputation for sustainability.

Adopting sustainable operations has the potential to significantly improve the triple bottom line, covering financial, social, and environmental aspects of performance. Businesses that implement sustainable practises can save costs, boost income, enhance operational efficiency, foster a better work environment, promote brand recognition, improve community relations, and reduce greenhouse gas emissions as well as waste.

REFERENCES

- https://economictimes.indiatimes.com/news/et-evoke/the-triple-bottom-line-is-better-than-esg-to-measure-a-companys-financial-environmental-and-social-performance/articleshow/89165160.cms?from=mdr
- https://www.forbes.com/sites/sap/2021/07/06/how-industry-40-helps-firms-address-the-triple-bottom-line/?sh=40e365405b19
- https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it
- https://www.diligent.com/resources/blog/triple-bottom-line
- Walker, P.H., Seuring, P.S., Sarkis, P.J. and Klassen, P.R. (2014), "Sustainable operations management: recent trends and future directions", International Journal of Operations & Production Management, Vol. 34 No. 5.
- Syed Abdul Rehman Khan, Zhang Yu, Muhammad Umar, Muhammad Tanveer, (2022), 003.

- Atalay Atasu, Charles J. Corbett, Ximin (Natalie) Huang, L. Beril Toktay (2020) Sustainable Operations Management Through the Perspective of Manufacturing & Service Operations Management. Manufacturing & Service Operations Management.
- Gunasekaran, A.; Irani, Zahir; Papadopoulos, T, (2013), Modelling and Analysis of Sustainable Operations Management: Certain Investigations for Research and Applications.
- Maria Salome Correia, (2019), Sustainability: An overview of triple bottom line and sustainability implementation.
- Logan Crace, Joel Gehman, (2022), What Really Explains ESG Performance? Disentangling the Asymmetrical Drivers of the Triple Bottom Line, Volume 36, Issue 1.
- Iqra Sadaf Khan, Muhammad Ovais Ahmad, Jukka Majava, (2021), Industry 4.0 and sustainable development: A systematic mapping of triple bottom line, Circular Economy and Sustainable Business Models perspectives, Volume 297.
- Nazim Hussain, Ugo Rigoni, René P. Orij, (2016), Corporate Governance and Sustainability Performance: Analysis of Triple Bottom Line Performance.