Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 4430 – 4469
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.6334

Examining the Impact of Triple Bottom Line Approaches on the Economic Performance of Emirati SMEs

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Abstract

This paper serves the purpose of finding statistical and empirical evidence of TBL influenced approaches mediated by Sustainable Supply Chain Management, Sustainable Marketing and Sustainability Oriented Innovation on Economic performance. The paper delved back to foundational theories that shape the traditional management functions into developing them into sustainable practices thus studying the sustainable practices as mediators. Followed by developing positively toned hypotheses as suggested by previous studies and finding measurement scales adapted by previous studies to cover accurate items. The survey results were analyzed using the Jamovi and Warpl_PLS systems to ensure that the hypothesis accepted or rejected followed s two-system rigor calculations. The results point out that all the Triple Bottom line influenced methods all have a strong positive relation with Economic performance and accept 9 hypotheses. Sustainable practices such as Sustainable Supply Chain Management, Sustainable Marketing and Sustainability Oriented Innovation all were statistically partial mediators after using the direct effect, indirect effect and total effect calculations which lead to conclusive results in the Emirati context. The study could support the practical implications of sustainable practices as the empirical evidence shows a strong connection to Economic performance. Thus, the practitioners could influence their current practices to a more sustainable approach influenced by the Triple Bottom line theory.

Keywords: *Triple Bottom Line, Sustainable Supply Chain Management, Sustainable Marketing, Sustainability Oriented Innovation & Economic Performance*

Introduction

A globalist definition of sustainability as the development that meets the needs of the present without compromising and denying the future generation from its own needs (Brundtland & Khalid, 1987). Sustainability advocates for a global effort to achieve sustainable development. Few years down the line, the triple bottom line (TBL) approach contributes to the sustainable development movement by including the environmental impacts to protect the planet and the social impact that focuses on the people aspect besides the financial and economic performance (Elkington, 1994). Sustainability practice includes interactions with customers, shareholders, employees and societies to achieve higher customer engagement and higher perceived value proving a link between sustainability practices and performance (Servera-Francés et al., 2020). The subject of the study revolves around the SMEs that are described as the cornerstone of the Arab Economies as they create jobs for the younger generations and diversifies the economic structure. It is perceived to transition economies (Stepanyan et al., 2019).

Steering away from sustainability practices by SMEs; international performance is indirectly discussed by the Eclectic Paradigm which can be seen as how firms with unique assets can leverage in foreign markets that are either attractive by investment opportunities or natural resources and managing the foreign markets without the reliance of contractors in the host country (Dunning,1988). The Eclectic Paradigm doesn't directly measure Economic performance as it is more of a theoretical framework which contributes to understanding international performance. The Economic performance metrics and understanding is diverse. However, to fulfill the purpose of this research the Economic performance is leaning towards sustainability goals instead only on financial and economic performance.

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The research questions are as follows:

(RQ1) What are the dimensions of sustainability practices adopted by SME as studied in previous literature.

(RQ2) What are the theories backing each sustainability practice from fundamental theories to modern adaptations?

(RQ3) How to describe the empirical relation between the triple bottom line approach, sustainable practices and economic performance.

(RQ4) What are the recommendations proposed by the authors after gathering enough empirical analysis.

The Research Objectives are as follows:

(RO1) Identifying the sustainable practices which are backed by literature.

(RO2) Aligning the sustainable practices with fundamental theories

(RO3) Performing linear regression tests between each sustainability practice and economic performance to either prove or disprove hypotheses developed from previous literature.

(RO4) Proposing refined scales and action points to conclude the empirical findings that are unique to SMEs in the UAE.

The research problem revolves around the role of sustainability in promoting economic performance and whether each practice is contributing to the enhancement in the international scene. The following gaps in literature are cited and derived from the conclusions and recommendations from previous literature. To demonstrate the gaps are as follows:

(GAP1) It is recommended to perform cross-regional and cross-economy studies to link practices and also policies harvesting SOI followed by sustainable supply chain practices (De et al., 2020) which provides three variables to be studied in this paper.

(GAP2) The legislative bodies are keen on environmental sustainability; innovative adaptation is essential for sustainable performance in the long-run (Khurana et al., 2021).

(GAP3) It is proposed that cross-sectional design and poor participation can lead to a gap in literature and international studies are recommended; for the purpose of this study the participants are in Dubai. If the data collection runs smoothly, the questionnaire can be used for longitudinal studies (Tsvetkova et al., 2020). The previous studies used a generic metric or classifications for sustainable practices in a small sample size (Malesios et al., 2018). Thus, this study will use practices backed with theories and expand the practices for better results optimistically. To fit the purpose of this study SOI will be used instead of technological innovations in Dubai to fit the previous gaps with slight adaptations to the model used in Kenya (Chege & Wang, 2020).

Literature Review and Theoretical Framework

Sustainability Practices

TBL Approach

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The TBL approach built the fundamental framework for incorporating social equity and environmental health alongside financial gain. The framework recommends companies to commit to all the three pillars of sustainability which are social, economic and environmental or profit, planet people (Elkington, 1998). It is evident that the approach considers the effect on people and planet as costs if negative impacts were ever recorded. To elaborate further, the approach aims for a long-term sustainability perspective rather than a short-term profit. Steering to modern findings, the TBL approach guides good corporate governance to achieve all three pillars in sustainability performance. However, empirically not all hypotheses linking good corporate governance and sustainability are supported as the number and education of the board of governors and top management plays a significant role (Tjahjadi et al., 2021). Moreover, the TBL approach is adopted by the B Corp certification that allows the companies to specialize the area of sustainability with 50,000 corporations using the online assessment tool instead of ISO 26000 and GRI which lacks quality and accuracy (Liute & De Giacomo, 2021). Furthermore, the TBL model can be used to quantify the impacts. In sustainable reverse logistics, it is recommended to consider all the three pillars that are redeemed to be successful (Budak, 2020). To conceptualize the TBL approach, for the purpose of this paper. It is fair to say that Elkington (1998)'s definition remains prevalent as the approach provides insights to all three pillars of social, economic and environmental to assess impacts. However, the approach seems to allow the organizations to arrange their items freely within the given pillars.

For a comprehensive view on TBL, it is fair to say that the approach is heavily critiqued in accordance with international performance. Starting with the possibility of corporations dealing with tradeoff and opportunity costs which ends up sidelining the ecological factor (Milne & Gray, 2013). Moreover, the TBL approach is considered to be diverse and vague with the use of metrics that can't serve as an indicator for comparisons (Norman & MacDonald, 2004). Moreover, The TBL approach is claimed to be a philosophy which is not based on a real concept with practical implementation (Srivastava et al., 2021) To tackle the criticism, the approach is daily adaptive as organizations occupy different sectors thus their sustainability aims will also differ. Sustainable development through TBL seems to connect economic values from the neoliberal perspective and the ecological point of view (Tulloch & Neilson, 2014). The paper claims the validity of the neoliberal views as corporations thrive on profit. It is deduced that the TBL approach will require organizations to deal with trading off the economic sustainability to pour more money in either the social or ecological.

The TBL approach seems to be implemented regardless of the outdated criticism as it could successfully quantify moral motives in the sustainable supply-chain practices (Kitsis & Chen, 2019). Moreover, its TBL approach is utilized in the construction sector to measure the performance of the maintenance process (Breesam & Kadhim Jawad, 2021). Going back to using the approach, the tradeoff is definite as the resources are scarce whether financial or not. Organizations will logically adopt trade-offs and opportunity costs. In addition to applying the TBL approach to an administrative study to measure the impact of board composition to sustainable disclosure which proved the suitability of the approach and provided positive results (Kouaib et al., 2020). It is apparent that the TBL approach is flexible to incorporate the variables the organizations prioritize without compromising the pillars. Through research the drawbacks seem insignificant in addressing the approach's shortcoming as it can satisfy nearly all industries and sectors. The criticism and critiques seem to underestimate the economic factors as organizations aim for profit so steering the approach extremely is not ideal. Considering the economic development perspective the TBL empirically supports economic growth (Nogueira et al., 2023) which questions the previous criticisms of being purely a philosophy rather than a practical approach.

Sustainable supply chain Management (SSCM)

Sustainable supply chain management (SSCM) has emerged due to the depletion of natural resources, leading to a global movement of meeting today's needs without compromising next-generation access to resources (Sánchez-Flores et al., 2020). Thus, over time SCCM became a strategy that is adopted by businesses to incorporate environmentally and socially responsible practices into a product's lifecycle; from procuring raw

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materials to waste management (Tsai et al., 2021). Its objective is to minimize harmful consequences on society, the environment, and the economy while ensuring favorable long-term outcomes. Most mentioned initiatives of SSCM in studies are, decreasing carbon footprint, preservation of natural resources, implementing ethical labor practices, and encouraging associations with suppliers (Zimon et al., 2020). SSCM is not just about employing ethical and environmental standards; it also promotes innovation throughout the supply chain. By accepting sustainability practices, businesses are expected to pursue innovative solutions, tailored to their industry, that decrease waste, and energy consumption, and maximize resource conservation (Gupta et al., 2020). This drive for innovation often leads to the development of new technologies, processes, and business models that can enhance efficiency and competitiveness (Negri et al., 2021). For instance, implementing renewable energy sources, adopting circular economy principles, and utilizing advanced analytics for supply chain optimization are all examples of innovative practices within SCCM (Mardani, et al., 2020). Furthermore, companies that embrace sustainability as a core value often attract top talent and foster a culture of creativity and continuous improvement, further driving innovation across the organization. Thus, sustainable supply chain management not only benefits the environment and society but also serves as a catalyst for innovation and long-term business success (Guo et al., 2020).

SSCM is closely linked to international performance for several reasons. Firstly, as global markets become increasingly interconnected, consumers and stakeholders are placing greater importance on sustainability practices (Md. Habib et al., 2020). Companies that demonstrate a commitment to SCCM can enhance their international reputation and competitiveness, attracting environmentally and socially conscious consumers and investors (Haitham et al., 2020). Moreover, SSCM can help companies navigate complex international regulations and standards related to environmental protection, labor rights, and ethical sourcing. By ensuring compliance with these requirements, organizations can mitigate legal risks and avoid potential disruptions to their international operations (Wieland, 2021). Additionally, SSCM can lead to cost savings and operational efficiencies, which are crucial for maintaining competitiveness in the global marketplace. For example, reducing waste, optimizing transportation routes, and improving energy efficiency not only benefit the environment but also contribute to lower production costs and improved profitability. Furthermore, SSCM fosters collaboration and partnerships across international supply chains, encouraging suppliers and partners to adopt sustainable practices. This collaboration can lead to greater resilience and agility in the face of global challenges such as climate change, natural disasters, and geopolitical uncertainties.

Overall, SSCM plays a vital role in enhancing international performance by driving innovation, managing risks, reducing costs, and fostering collaboration across global supply chains. As a result, companies that prioritize sustainability are better positioned to succeed in the increasingly competitive and interconnected international marketplace (Bechtsis et al., 2022). By implementing SCM practices, organizations can enhance their brand reputation, mitigate risks, achieve cost savings through efficiency improvements, and contribute to the long-term well-being of communities and ecosystems (Xu et al., 2022). Ultimately, SSCM strives to create a balance between economic growth and environmental stewardship, ensuring that present needs are met without compromising the ability of future generations to meet their own needs (Narimissa et al., 2020).

Sustainable Marketing (Green Marketing)

Green marketing does not have a universal definition, this led to several interpretations of its definition and adoption measurements. However, researchers have agreed that sustainable environmental practices are the core of its implementation (Nekmahmud & Fekete-Farkas, 2020). In theory, it is defined as the process of creating products and services and endorsing them to meet customer's preferences of decent quality, performance, and accessibility at a reasonable cost, which at the same time do not harm the environment (Szabo & Webster, 2021). Therefore, consumers and businesses must aim to embrace sustainable environmental practices and behaviors. Also, in concept green marketing strategies try to build sustainable capability by endorsing green products and brands that are considered to be environmentally safe for healthy consumption (Amoako et al., 2021). In today's economy, green marketing has proven its success and importance in increasing

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DOI: https://doi.org/10.62754/joe.v4i1.6334

competitive advantage by appealing more to consumers who care about their ecological footprint (Gelderman et al., 2021). Businesses that adopt environmental consciousness through green marketing attract consumers globally who feel that the company resonates with their eco-friendly values (Li et al., 2021). This appeals to consumers and promotes loyalty among those who associate with the brand's environmental efforts. Furthermore, by aligning themselves as eco-friendly heroes, businesses can develop their brand reputation as CSR adopters, which can lead to a high-quality reputation, increased market share, and better customer confidence (Sun & Wang, 2020). International marketing strategies that focus on sustainability have highlighted that green marketing or environmental marketing enables companies to access new supply chains and markets. As global warming and environmental alarms become more critical on a global scale, consumer awareness and accessibility are increasing, thus leading them to seek products and services that are eco-friendly (Chen et al., 2020). Consequently, adopting green marketing into the business international strategy can lead businesses to access new markets by recognizing the demand for sustainable contributions globally. Furthermore, green marketing has been linked to sustainable innovation practices, which highlights a business's dedication to tackling environmental responsibility in the long run (Sahoo et al., 2023). Thus, leading to businesses recognizing the need to invest in research and development of new eco-friendly products and solutions, businesses not only associate themselves with current consumer preferences but also contribute to the development of sustainable practices within their sector (Singh et al., 2022). This enhances the image of a company to be a leader of sustainability in the sector, nurturing long-term success and agility in an increasingly environmentally aware market.

Sustainability Oriented Innovation

Doe & Smith (2021) define sustainable innovation as the development and implementation of new business models that address societal and environmental challenges while ensuring long-term economic viability including the Implementation of new business models includes the adoption of principles related to the environment and society, and leave a positive impact for current and future generations. It can be perceived that sustainability shouldn't negatively impact the ability of the future generation to meet their own requirements and needs According to Wagner et al. (2019), organizations that embrace sustainable innovation tend to achieve competitive advantages, enhanced brand reputation, increased market share, and improved financial performance. Studies show that innovation impacts sustainable development. It is deduced that innovations that can lead to transformations in individuals, organizations, supply chains, and communities toward a sustainable future. Silvestre et al. (2019) explain how innovation impacts creativity, problem-solving, and the adoption of new ideas and processes. Sustainable innovation approaches encourage organizations to rethink their processes and business models and it includes certain dimensions such as ethical practices, and resource conservation, just to name a few. According to (Horbach & Rammer, 2019). Despite the resilience addressed by Horbach and Rammer, Schaltegger et al. (2016) examined the impact sustainable innovation has on societies as it drives societal transformation, foster inclusive growth, and give space for individuals and organizations to develop green initiatives, and keep sustainability in mind.

Lopes et al. (2022) studied the key drivers of sustainable innovation and their impact on increased competition among companies. Their study suggests that companies develop strategies, adopt practices and business models based on the challenges they face which in turn translate into sustainable initiatives carried out either proactively or reactively. Moreover, the claims and action points emphasized that companies that incorporate sustainability into their value proposition add more value to their business models, allowing them to improve their performance compared to their competitors. Companies that aim to integrate innovation processes are more likely to unlock new opportunities to grow, develop, sustain, compete, and face challenges. Sustainable innovation is a driving force in the transition towards a circular economy that efficiently uses resources, minimizes waste by recycling and reusing. and designs sustainable products (Ghisellini et al., 2016). It is perceived and it is safe to conceptualize Sustainability Oriented Innovation as the creation of new products, services, and processes that meet current needs and expectations and can develop to meet future needs and

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expectations. In this context, the development of new ideas, products, processes, and services is usually aimed to reduce negative consequences and leave a long-term impact.

Economic Performance

Economic Performance is the manner and form in which the business entity orchestrates its resources in the fulfillment of its economic objectives Economic Performance, thus refers to how the business entity system conducts its operations with regard to the achievement of its economic goals (Haiyun et al., 2021). Economic performance is a measure of the total outcome of corporate efficiency to reflect the company's stability and a measure of growth. This variable is mostly measured using different financial indicators such as profit margin, RONA, ROI, revenue, EBIT, and market share (Habib et al., 2020). These measures are crucial to enable the possible stakeholders to determine the company's profitability as well as the potential for profitable future operations on the market (Gupta & Gupta, 2020). In the framework of the WB, ecological aspect broadens the concept of economic effectiveness to the impact on the economical indices as a result of the implementation of environmentally and socially responsible initiatives (Govindan et al.,2020). The broader perspective includes assessing the cost savings that are made possible by minimizing resource use, the economic value that organizations get from CSR programs (Govindan et al., 2020), and the return on investment made in compliance with environmental standards. Stated here therefore is that sustainable economic performance combines the more conventional domineering financial performance results with those of the above gray area sustainability induced financial indices, to give a more holistic view of the state of a business organization's financial viability in light of its commitment to its impacts on the environment and society (Friedman & Ormiston, 2022).

Previous Literature measures economic performance of companies and organizations based on different indicators namely stock returns, economic value added and total shareholder returns pegged on the following objectives (Fathollahi-Fard et al., 2020). The performance measurement and evaluation in economic sustainability includes both traditional, past-financial based approaches while also including new, sustainability-based approaches. Calculation of core ratios stays relevant, as they certainly provide original estimates of the financial position and performance of a company during the selection period (Ecer & Pamucar, 2020). These are ROI, which shows the profitability of investments, ROA, which takes the view of how efficiently the businesses utilize its acquired assets to generate income and EBIT which gives an insight of the companies' profitability based on operating income adjusted for taxes and borrowings (Dzhengiz & Niesten, 2019).

However, when calculating the economic performance from the sustainability standpoint, other factors are essential too. These could be the Environmental Profit and Loss Account (EPL), which calculates the environmental cost and income of the firm, and the Sustainable Return on Investment (S-ROI), which is merely an extension of ROI taking into consideration the values of sustainability (Di Vaio & Varriale, 2020). They assist in measuring the compatibility of sustainability measures like waste minimization, energy conservation, and ethical employees' treatment and their impacts on competitive performance (Ching et al., 2021).

Another tool is a life cycle assessment, LCA: A life cycle assessment is an assessment of a product's total cost and completed on the life cycle of a windows product, production, use, disposal, and so on. This method can assist companies in determining further means of cutting even such costs as energy consumption, material usage, and waste disposal (Chen et al., 2020). These aspects are vital for those firms or companies that concentrate their activities on sustainable development because they have to know such crucial factors to make effective decisions which will provide success and, at the same time, will be more effective concerning the environmental effects (Centobelli et al., 2022).

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Companies' economic performance within the TBL context can be defined as the marked economic accomplishment of any firm in relation to their financial and organizational impacts towards accomplishing the TBL goals (Centobelli et al., 2021). Following the TBL model, the method of organizational performance and sustainability is inextricably linked between the economic, environmental, and social dimensions that comprise the company's overall success (Bui et al., 2021). Such a strategic framework makes firms extend their focus on shareholders' wealth to aspects of the effect on other business stakeholders such as employees, communities, and ecological systems (Birkel and Müller, 2020). The third concept in TBL is based on the belief that sustaining practices will improve an organization's economic performance as well as the social and natural environments of the communities in which the organization operates or has an impact on (Bhatt, et al., 2020). For instance, cutting waste and enhancing management of resources, organizations stand to cut on their expenses hence increasing their economic productivity. By extending good treatment to its employees and engaging in proper treatment of employees, a company is guaranteed to curb high turnover hence cutting on costs of training, not forgetting the fact that it leads to increased economic performance (Benzidia et al.,2021).

In addition, organizations that are able to incorporate design for sustainability considerations into firms' innovativeness on products and or operational processes, can access new markets or make their products unique, which could lead to higher market share, and thus raise the overall business profitability (Belhadi et al., 2021). They can also turn organizations into more appealing investments for investors who are also looking for sustainable opportunities. Rotruth (2015) stated that the drivers of economic performance can be relevant in identifying the extent to which organizations should take and invest in sustainability practices concerning environmental sensitive issues (Bag et al., 2020). The importance of economic performance in the context of sustainability covers several realms since it emphasizes the sustainability of business solutions. In other words, by proving that these practices have positive economic implications, organizations make a rationale for their sustained or enhanced investment into sustainability activities (Bag et al., 2022).

Measurable economic outcomes connected to sustainability might be arrangements for resource usage; compensational and penalty average in terms of ecological compliance; and product revenues with providential sustainability features (Asadi et al., 2020). Moreover, others are: enhanced brand image, customer retention, and appeal to investors- factors that could significantly affect financial gains (An et al., 2021). Sustainability practices also manage various risks resulting from the scarcity of resources, changes in the legal requirements, and the fluctuation in consumer trends, which causes significant impacts on the economy (Alzoubi et al., 2020). They are those companies which are ready to assume these risks and integrate sustainability into their strategic management plans, thus being in a better way to deliver sustainable, stable, and consistent economic performance (Alshurideh et al., 2022). Therefore, this work supports economic performance, if viewed from the perspective of sustainable business practices by acknowledging environmental and social impact, as a valid useful measure of a firm's capability to compete and operate appropriately within the context of the contemporary market environment (Alkaraan et al., 2022). Thus, we see that this approach is twofold – allowing to prevent earning profits at the cost of the environment and preventing managing the latter at the cost of those very profits; in other words, this approach contributes to furthering sustainable development goals (Alazab et al., 2020).

Hypothesis Development of direct relationships

TBL & SSCM

The Triple bottom line accounting model undoubtedly supports the guidelines of a sustainability chain supply by looking at the company's performance from financial, in addition to social and ecological standpoints (Zhou, Govindan and Xie, 2020). This kind of approach guarantees that enterprises take into account global consequences of the supply chain logistics, which contributes to a more responsible and legal approach in the management field (Yu et al., 2021). This paper argues that by applying the TBL framework of doing business, organizations are forced to review, and subsequently transform their supply chain activities in sustainable ways.

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This includes assessing the supplier activities, conserving the resources, wastage control, and improving the standard of social justice in the supply chain (Yingfei et al., 2022). Emphasis on these three dimensions enables the firms to develop the buffers, better create the brand image and establish sustainable competitive advantage and long-term strategic objectives. Therefore, what is seen here is how the TBL framework shifts from mere compliance into active management of sustainability issues that are more prevalent in today's competitive and globalized environment (Yingfei et al., 2022). Considering these arguments, the proposition is as follows: *(H1) TBL positively affects SSCM*

TBL & SM

The TBL concept positively impacts sustainable marketing strategies because it involves environmental, social, and economic elements within the marketing domain. This powerful marketing strategy creates benefits to both the firm as well as the environment and society in a sustainable marketing management approach. The key markets for firms using TBL include eco-friendly products and services that provide social utility, mainly because the consumers are concerned with sustainability (Yang & Lin, 2020). Furthermore, in using TBL as the basis for marketing strategies, there is a heavy focus on product and service advertising being as clear and ethical as possible, making a massive difference in the level of brand reputation and customer trust. Thus, the TBL approach offers a solid framework for the creation of marketing strategies for businesses to consider, given that SM is today shaping up to be a competitive advantage, corresponding to the expectations of contemporary consumers and the goals of sustainable development (Yadav & Singh, 2020). In addition to the explicit monetary revenue, SOI also builds up the sustainable business development by integrating the company's operation into the global sustainable movement, thus preparing businesses well for the change of regulations and the shifting customer expectation. SOIs, which signify CSR, signify a good brand image and company reputation, other assets critical towards increasing the organization's economic profits (Wang et al., 2021). In this way, not only does SOI call for a sustainable future but a prosperous one with strong economic results Considering these arguments, the proposition is as follows: *(H2) TBL positively affects SM*

TBL & SOI

The application of the TBL drives SOI since it directs organizations to embrace sustainable development in the strategic aspects of organizational innovation. It encourages an equal consideration of environmental, social and economic equity and leads to innovations that at the same time solves problems affecting the globe with relation to business success (Wang etal., 2020). Some positive characteristics of businesses implementing TBL include: the companies are likely to create new products, services, and processes which are endowed with sustainability advantages; the companies are likely to lessen on energy usage, waste production or improve the welfare of the community. Such innovations are sometimes developed with the help of customer-supplier and other associations which bring in a great deal of ideas and expertise to the specific innovation process (Wamba & Queiroz, 2020). Thus, it is possible to state that sustainability, being recognized as one of the key factors defining further innovations, may produce essential competitive advantages, making businesses from various industries practice sustainable business models, which are profitable and sustainable to the society (Vadakkepatt et al., 2020). Considering these arguments, the proposition is as follows: *(H3) TBL positively affects SOI*

SSCM & ECP

Sustainability is incorporated as part of the SSCM practices, one can benefit from cost savings through optimal supply of resources and minimizing supply of wastes. Such measures range from adopting fuel-efficient means of transport to the procurement of environmentally friendly raw materials, as well as proper management of wastes, among others, which are usually outcomes with huge cost saving potential (Tsalis et al., 2020). Furthermore, SSCM improves the image of the firm as consumers are willing to do business with firms that are environmentally and socially conscious. These satisfied customers create recurrent revenues for the organization. Similarly, SSCMs stand a better chance to be exposed to disruptions by changes in the

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environment or regulations to a small extent when compared to other supply chains; therefore, cutting on operational risks and costs (Tang et al., 2022). Thus, sustaining contact with the suppliers that meet sustainability criteria, companies are guaranteed a more dependable and ethical supply chain and, therefore, stabilizing the economic outcomes. In summary, the implementation of sustainability objectives within supply chains not only generates associate degrees environmental and social positive impact however conjointly a positive economic one each for corporations and shareholders (Sun et al., 2020). Considering these arguments, the proposition is as follows: *(H4) SSCM positively affects ECP & (H7) SSCM mediates the positive relation between TBL and ECP*

SM & ECP

SM is a compelling force of economic returns that enable better sales and brand recognition since the firm's environmental and social values correspond with the consumer's beliefs. SM is used by different firms that market their products and services based on their sustainability to the environment and the ethical importance of the products (Sudusinghe & Seuring, 2021). It can help a firm stand out from the competition, especially in businesses that are filled with similar products, allowing for the charging of higher prices for products with environmentally friendly characteristics. Also, SM affects operations through changing various organizational processes, including packages and materials that reduce cost and increase profitability (Soni et al., 2022). They also reduce risks of penalties from the authorities or backlash from the customers by considering environmental issues beforehand. Moreover, SM enhances the long term marketing relationships between the customer and the organization by improving the level of trust between the two which results in repeated marketing business transactions. Subsequently, SM is not only saving the environment but also making a powerful impact on firms' performance due to the creation of customer value (Shibin et al., 2017). Considering these arguments, the proposition is as follows: *(H5) SM positively affects ECP & (H8) SM mediates the positive relation between TBL and ECP*

SOI & ECP

SOI contributes to the improvement of the economic performance as it creates new value by offering new products and processes that decrease the pressure on the environment and consume less resources and energy although it is more efficient and cheaper. Management of SOI often goes to companies that are first in experimenting with new methods of using resources, for instance, energy using or conservation devices, and methods of minimizing resource use in production, etc (Shashi et al., 2019). They not only result in the immediate saving of resource costs such as energy and materials which gets its share of investment and cooperation thus bringing down the cost of innovation. Furthermore, SOIs open new opportunities for the creation of revenue streams that were inaccessible earlier (Shahzad et al., 2021). Eco-friendly products meet the current trend of consumers' growing desire to pay for environmentally friendly products while giving companies an opportunity to enter specialty markets, thereby demanding higher prices. Considering these arguments, the proposition is as follows: *(H6) SOI positively affects ECP & (H9) SOI mediates the positive relation between TBL and ECP.*

Justification for variable choice

Previously He et al. (2023) chose to study the externalities on green strategies in marketing and manufacturing. It ended up gathering the two variables together. Moreover, Josh & Sharma (2022) managed to hypothesize the sustainable performance of digital supply chain and the extensity of contribution from digital marketing. Although the variables were digitally focused, we can assume that expanding the knowledge can be done through studying the variables in a sustainability context. Rodrigues et al. (2023) also hypothesized that marketing strategies can influence the sustainability of the supply chain. However, in this study we will adapt SCCM & SM to be independent variables which shuffles the roles from previous research. Furthermore, Zhang

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& Chen (2022) studied SOI as a dependent variable which can be altered and reshuffled to fit in this research's purpose and moderate the relationship between sustainable practices and ECP. However, Liu et al. (2022) investigated and studied green process innovation, green innovation strategy and green action performance with sustainable performance. The SOI was taken into further detail which will not be used in this paper. Lately, both Leonidou et al. (2011) who focused on the importance of the green marketing integration in SM; Pulido & Ramon-Jeronimo (2023) also highlighted the intersectionality of sustainable and green marketing in prior academic research Moreover, green marling seems to have a vital role in the development of sustainable products and creating consumer awareness (Kiyak & Grigoliene, 2023). In summary the justifications covered are:

(J1) Studying SSCM & SM

(J2) Studying TBL in an new context

(J3) SOI as a moderator

(J4) measuring SM using Green Marketing

Conceptual Diagram

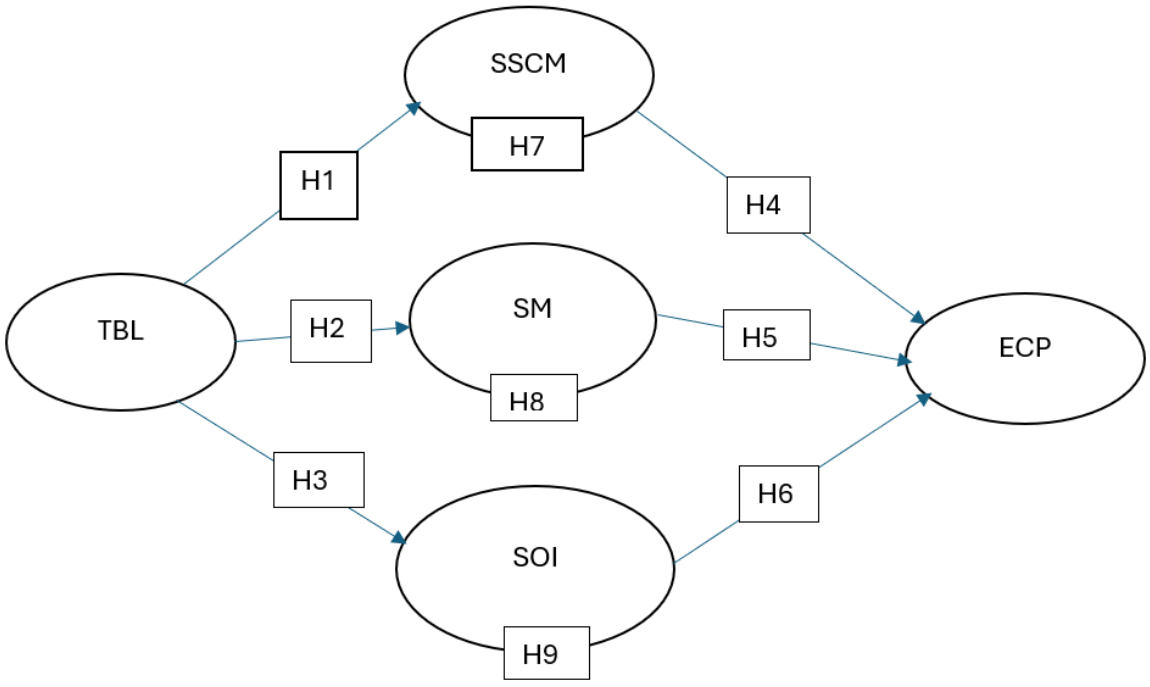

Figure (1) showing TBL as an independent variable and the three sustainable practices (SSCM,SM & SOI) as mediating variables and ECP as a dependent variable.

Methodology

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 4430 – 4469
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.6334

Sample Size

As reported in 2024, the UAE registered around 600,000 SMEs and economically they contribute 60% of the nation's GDP (Finance Story, 2024; UAE Ministry of Economy, 2024). Utilizing two months' time for data collection by adopting sending emails to bulk recipients, using call center services and field work in remote areas to capture SMEs; the researches reached 1216 responses which is justifiable as Krejcie & Morgan (1970) recommend as a sample size of 384 minimum for a population that exceeds 50,000 potential participants to achieve a 95% confidence and a 5% margin of error. Moreover, Israel (1992) also suggests that a larger sample size assists the researchers in receiving more accurate results. Lastly, the paper aims to achieve a sample size that is greater than 384 as the researcher believes that it is achievable and to follow the large sample size recommendation for higher confidence levels (Barlett et al., 2001).

Research Philosophy

The researchers adopted the quantitative research approach which follows the positivism philosophy of research. Positivism relies heavily on empirical evidence (Bryman, 2016; Saunders et al., 2019; Creswell, 2014) which suits the narration of this paper. This paper will gather data for the primary reason to test the hypothesis as developed from previous literature. Moreover, quantitative research focuses on objectivity to ensure that subjective interpretations and personal biases are omitted (Johnson & Clark, 2006). To serve the context and the research purpose of the paper, patterns must be identified including the relationships to generalize the results which seem to fit the description of the philosophy as described by (Easterby-Smith et al., 2015). It is also recommended to use structured questionnaires in a larger sample to ensure reliability and validity (Hair et al., 2016) which is the approach used to fit the purpose of the research. It is also important to note that the quantitative approach was previously used as a methodology in papers including both sustainability and performance (Sarkis et al., 2010). Literature supports and justifies the adoption of the positivism philosophy in the sustainability discipline. Although it is fair to say that the research might have also adopted a pragmatism approach as both a theoretical framework and empirical evidence were used to convey the results to the reader and it fits the description used by (Creswell & Plano Clark, 2017). The researchers want to clarify that it is not the philosophy adopted but the readers can interpret this section in any way it fits their beliefs and research philosophies.

Data collection Methods

To ensure a comprehensive data collection method Dillman et al. (2014) recommended the use of multiple methods of data collection ranging from phone calls to field work. The fear anticipated from observing the sample is that either there will be a low response, or the quality of the data is not the highest as the small businesses perform basic functions and might not be aware of the variables studied in the paper. However, Groves & Couper (1998) pointed out the fears of the authors as the non-responsiveness of the participants might require multiple data collection methods to ensure responses in an ethical manner. Moreover, Bryman & Bell (2015) ensured that the previous data collections methods were previously adapted in business research thus justifiable approaches.

Data Analysis Methods

Google forms is a tool that is capable of reaching a broad audience (Wright, 2005; Evans & Mathur, 2005). The researchers backed the use of Google form by also mentioning that it is a free tool offered by the university to conduct data collection. As per data analysis the authors agreed to use two statistical software's to ensure the robustness of the data analysis. Firstly, Jamovi is a user friendly free academic software (The jamovi project, 2021) and it is similar to JASP; in both computation and prior statistical programming which is also user friendly (Love et al., 2019). Moreover, for the path coefficients we can rely on the infamous WARP_PLS version 8.0 which uses a Structural Equation Model (SEM) used for studies with numerous moderating connections (Kock,

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2025
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DOI: https://doi.org/10.62754/joe.v4i1.6334

2011; Kock, 2015). It is not compulsory to use two software packages but the authors agreed to do so to ensure robustness of analysis.

Measurement Table

Table (1) shows the variables studied with the suitable measurement scale that are cited from previous studies and matches the construct mentioned in the literature review and theoretical framework

Variable	Items	Reference	Appendix
Independent Variables			
TBL Approach	11	(Westin et al., 2022)	Appendix 1
Mediating Variables			
SSCM	12	(Kot, 2018)	Appendix 2
SM	8	(Bruno et al., 2023)	Appendix 3
SOI	10	(Afeltra et al., 2022)	Appendix 4
Dependent Variables			
ECP	5	(Zhu et al., 2008)	Appendix 5

Survey Closed ended Questions

Table (2) shows the rephrased questions as adapted for the SME participants

Variable	Questions In Appendix x
Independent Variables	
TBL Approach	Appendix 6
Mediating Variables	
SSCM	Appendix 7
SM	Appendix 8
SOI	Appendix 9
Dependent Variables	
ECP	Appendix 10

The authors copied the measured scales with correct citations from their original papers without adapting the language and grammar of the items as using established scales are fundamental practices in business and

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marketing research (Churchill, 1979). Moreover, using validated scales are important to maintain the psychometric properties of the measures. Although for technical reasons, the exact measures were adapted to avoid issues with reliability and validity of the scales (DeVellis, 2016) as it is perceived that new scales might not pass the reliability and validity tests due to lack of trial and error phases. Previously (Hinkin, 1995) provided a comprehensive view of scale development practices and concluded that it is preferable to use previously established measures. Finally, Podsakoff et al. (2003) urges to use previously tested measures to mitigate biases. However, mitigating biases doesn't seem to be related to previous or new measurement and it depends where the items define the construct that the author drew in the theoretical framework. Although all the papers cited in this section are old, they are fundamental papers used in backing and justifying the use of established measures. However, if the scales are not suitable for this context and show a low internal consistency, the authors will remove the problematic items and propose a refined list of items to measure each variable.

Data Analysis using Jamovi Version 2.5

Combined Frequency tables

Table (3) Frequency tables for all the demographic section

Category	Value	Counts	% of Total	Cumulative %
Role	Employee	408	33.7%	33.7%
	Manager	576	47.6%	81.3%
	Owners	227	18.7%	100.0%
Gender	Male	822	67.8%	67.8%
	Female	391	32.2%	100.0%
Age	≤ 30 years	167	13.8%	13.8%
	31-60 years	914	75.3%	89.0%
	> 60 years	133	11.0%	100.0%
Education	High School and A Levels	51	4.2%	4.2%
	Bachelors	245	20.2%	24.4%
	Masters	622	51.2%	75.6%
	PhD	238	19.6%	95.1%
	Others and Vocational	59	4.9%	100.0%
Operation	2-10 years	363	30.0%	30.0%
	11-20 years	706	58.3%	88.2%
	> 20 years	143	11.8%	100.0%
Employees	< 50 employees	141	11.6%	11.6%
	50-200 employees	811	66.8%	78.4%
	> 200 employees	262	21.6%	100.0%
Income	< 1 million	179	14.8%	14.8%
	1-5 million	823	67.9%	82.7%
	> 5 million	210	17.3%	100.0%

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Starting with the roles of the participants, it is evident that the majority are managers (47.6%) followed by employees regardless of the level (33.7%) and finally the owners are capped at (18.7%). Moreover, the participants are dominated by a male majority of (67.8%) and a minority of females at (23.2%). The majority of the respondents are middle aged (75.3%) are aged 31-60 years old and (13.8%) are 30 and younger and finally (11%) are older than 60 years of age. The high level of education suggests that the survey targets a well-educated demographic as (51.2%) hold a masters degree. (20.2%) have an undergraduate degree and an astonishing (19.6%) hold a PhD degree which is an area that needs to be studied further. Moreover, the highschool and A-Level holders are at (4.2%) and the vocational education at (4.9%). In terms of years of operation, it is noticeable that (58.3%) of companies are operational from 11-20 years and (30%) are operating for 2-10 years. Finally, (11.8%) are operational for more than 20 years which indicates that the majority of companies are well-established, likely influencing their stability and growth potential. As per the number of employees the sample seems to target the medium sized enterprises as (66.8%) of companies employ 50-200 employees and (21.6%) employ more than 200 employees and only (11.6%) employ less than 50 employees indicating the small enterprises. The income frequency indicates a strong representation of SMEs with substantial annual revenue, highlighting their economic impact as (67.9%) report annual turnover of 1-5 million AED, and more than 5 million AED capped at (17.3%) and less than 1 million AED at (14.8%). Overall, the data suggests that the survey reached a knowledgeable and experienced audience from stable and well-established SMEs.

Scale Reliability Test

Table (4) Results for the Cronbach's α & McDonald's ω

Scale	Cronbach's α	McDonald's ω
TBL	**0.972**	**0.973**
SSCM	**0.974**	**0.974**
SM	**0.951**	**0.952**
SOI	**0.974**	**0.974**
ECP	**0.945**	**0.945**

The scales were also very reliable as the values exceeded the threshold of 0.7 in measuring the internal consistency of the variables. It is evident that all the variables range from 0.9 and above in both tests thus no items will be removed from the measurement scale and the authors will proceed to the next step without changes to the model. The empirical results of the items within each scale consistently measure their respective constructs. The values are enough justification.

Hypothesis Testing and Normality Tests

Table (5) showing the hypothesis to be tested and if the relationship is direct or mediated

Hypothesis	Direct or with Mediator
(H1) TBL positively affects SSCM	Direct
(H2) TBL positively affects SM	Direct
(H3) TBL positively affects SOI	Direct
(H4) SSCM positively affects ECP	Direct
(H5) SM positively affects ECP	Direct

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(H6) SOI positively affects ECP	Direct
(H7) SSCM mediates the positive relation between TBL and ECP	Mediator
(H8) SM mediates the positive relation between TBL and ECP	Mediator
(H9) SOI mediates the positive relation between TBL and ECP	Mediator

(H1) TBL positively affects SSCM

In the model fit measures: It is evident that the correlation Coefficient R=0.924 and R^2 = 0.853 which indicates a very strong positive correlation and explains (85.3) % of the variance. In the model coefficients it is observed that the predictor estimate for TBL is 0.919 and a low low p-value (< 0.001) indicates high significance. We accept the hypothesis. With **S**hapiro-Wilk Statistic is 0.825 thus the claim that the data follows a normal distribution is rejected. Therefore, the data for this hypothesis does not follow a normal distribution.

(H2) TBL positively affects SM

In the model fit measures: The correlation coefficient R=0.902 R^2 = 0.813 and it indicates that the strong positive correlation between TBL and SM explains 81.3% of the variance. In the model coefficients the predictor estimate for TBL is 0.855 with very low p-value (< 0.001) indicating high significance. We accept the hypothesis. With Shapiro-Wilk Statistic is 0.863 thus the claim that the data follows a normal distribution is rejected. Therefore, the data for this hypothesis does not follow a normal distribution.

(H3) TBL positively affects SOI

In the model fit measures: The correlation coefficient R=0.914 R^2 = 0.835 which indicates a very strong positive relation explaining 83.5% of the variance in SOI, In the model coefficients the predictor estimate of TBL is 0.926 and a low p-value (< 0.001) which indicates high significance. We accept the hypothesis. With **S**hapiro-Wilk Statistic is 0.851 thus the claim that the data follows a normal distribution is rejected.

(H4) SSCM positively affects ECP

In the model fit measures, it is evident that the coefficient R=0.881R = 0.881 R^2 = 0.777 which indicates a very strong positive correlation explaining 77.7% of the variance in ECP. In the model coefficients the predictor estimates of SSCM is 0.889 with a very low p-value (< 0.001) indicating a high significance. We accept the hypothesis. With Shapiro-Wilk Statistic is 0.940 thus the claim that the data follows a normal distribution is rejected.

(H5) SM positively affects ECP

In the model fit measures, the correlation coefficient R=0.893 R^2 = 0.797 which indicates a very strong positive relationship explaining 79.7% of the variance in ECP. In the model coefficients we can observe that the predictor estimate of SM is 0.944 very low p-value (< 0.001) which indicates high significance. We accept the hypothesis. The Shapiro-Wilk Statisti**c** is 0.951 thus the claim that the data follows a normal distribution is rejected.

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DOI: https://doi.org/10.62754/joe.v4i1.6334

(H6) SOI positively affects ECP

In the model fit The correlation coefficient R=0.904 R^2 = 0.817 indicates a very strong positive correlation explaining 81.7% of the variance in ECP. The model coefficient shows the predictor estimate for SOI is 0.895 with a very low p-value (< 0.001) indicating a high significance. We accept the hypothesis. With the Shapiro-Wilk Statistic is 0.952 thus the claim that the data follows a normal distribution is rejected.

(H7) SSCM mediates the positive relation between TBL and ECP

Table (6) showing the mediating effects of TBL, SSCM & ECP

Type	Effect	Estimate	SE	Lower	Upper	β	z	p
Indirect	TBL_mean ⇒ SSCM_mean ⇒ ECP_mean	0.503	0.0319	0.441	0.566	0.502	15.8	< .001
Component	TBL_mean ⇒ SSCM_mean	0.919	0.0109	0.897	0.94	0.924	83.9	< .001
	SSCM_mean ⇒ ECO_mean	0.548	0.034	0.481	0.614	0.543	16.1	< .001
Direct	TBL_mean ⇒ ECP_mean	0.367	0.0339	0.301	0.434	0.366	10.8	< .001
Total	TBL_mean ⇒ ECP_mean	0.871	0.0143	0.842	0.899	0.868	60.8	< .001

The indirect effect of TBL on ECP through SSCM is 0.503, with a standard error of 0.0319. The 95% confidence interval (0.441 to 0.566) does not include zero, indicating a significant mediation effect. The standardized effect size (β) is 0.502, with a z-value of 15.8 and a p-value of < 0.001, which confirms the significance of the mediation.

Component 1 Effect: TBL_mean ⇒ SSCM_mean: The direct effect of TBL on SSCM is 0.919 with a very low p-value (< 0.001), indicating a strong positive relationship.

Component 2 Effect: SSCM_mean ⇒ ECP_mean: The effect of SSCM on EPC is 0.548, with a standard error of 0.0340 and a p-value of < 0.001, indicating a significant positive relationship.

The direct effect of TBL on ECP is 0.367, with a standard error of 0.0339. The 95% confidence interval (0.301 to 0.434) indicates a significant direct effect, with a standardized effect size (β) of 0.366, a z-value of 10.8, and a p-value of < 0.001.

The total effect of TBL on ECP is 0.871, with a standard error of 0.0143. The 95% confidence interval (0.842 to 0.899) indicates a significant total effect, with a standardized effect size (β) of 0.868, a z-value of 60.8, and a p-value of < 0.001. The significant indirect effect (0.503) with a p-value < 0.001, along with the significant direct and total effects, indicates that SSCM mediates the positive relationship between TBL and ECP. Therefore, we accept the hypothesis. This means that TBL influences ECP both directly and indirectly through its impact on SSCM.

(H8) SM mediates the positive relation between TBL and EPC

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Volume: 4, No: 1, pp. 4430 – 4469
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
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Table (7) shows the mediating effects of TBL, SM & ECP

Type	Effect	Estimate	SE	Lower	Upper	β	z	p
Indirect	TBL_mean ⇒ SM_mean ⇒ ECP_mean	0.533	0.0267	0.481	0.586	0.532	20.0	< .001
Component	TBL_mean ⇒ SM_mean	0.855	0.0118	0.832	0.878	0.902	72.8	< .001
	SM_mean ⇒ ECP_mean	0.624	0.03	0.565	0.682	0.59	20.8	< .001
Direct	TBL_mean ⇒ ECP_mean	0.337	0.0284	0.281	0.393	0.336	11.9	< .001
Total	TBL_mean ⇒ ECP_mean	0.871	0.0143	0.842	0.899	0.868	60.8	< .001

The indirect effect of TBL on ECP through SM is 0.533, with a standard error of 0.0267. The 95% confidence interval (0.481 to 0.586) does not include zero, indicating a significant mediation effect. The standardized effect size (β) is 0.532, with a z-value of 20.0 and a p-value of < 0.001, which confirms the significance of the mediation.

Component 1 Effect: TBL_mean ⇒ SM_mean: The direct effect of TBL on SM is 0.855 with a very low p-value (< 0.001), indicating a strong positive relationship.

Component 2 Effect: SM_mean ⇒ ECP_mean: The effect of SM on EPC is 0.624, with a standard error of 0.0300 and a p-value of < 0.001, indicating a significant positive relationship.

The direct effect of TBL on ECP is 0.337, with a standard error of 0.0284. The 95% confidence interval (0.281 to 0.393) indicates a significant direct effect, with a standardized effect size (β) of 0.336, a z-value of 11.9, and a p-value of < 0.001.

The total effect of TBL on ECP is 0.871, with a standard error of 0.0143. The 95% confidence interval (0.842 to 0.899) indicates a significant total effect, with a standardized effect size (β) of 0.868, a z-value of 60.8, and a p-value of < 0.001.The significant indirect effect (0.533) with a p-value < 0.001, along with the significant direct and total effects.Therefore, we accept the hypothesis. This means that TBL influences ECP both directly and indirectly through its impact on SM.

(H9) SOI mediates the positive relation between TBL and ECP

Table (8) showing the mediating effects of TBL, SOI & ECP

Type	Effect	Estimate	SE	Lower	Upper	β	z	p

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Indirect	TBL_mean ⇒ SOI_mean ⇒ ECP_mean	0.615	0.028	0.561	0.67	0.613	21.97	< .001
Component	TBL_mean ⇒ SOI_mean	0.926	0.0118	0.903	0.949	0.914	78.38	< .001
	SOI_mean ⇒ ECP_mean	0.665	0.029	0.608	0.721	0.671	22.88	< .001
Direct	TBL_mean ⇒ ECP_mean	0.255	0.0294	0.197	0.313	0.254	8.66	< .001
Total	TBL_mean ⇒ ECP_mean	0.871	0.0143	0.842	0.899	0.868	60.82	< .001

The indirect effect of TBL on ECP through SOI is 0.615, with a standard error of 0.0280. The 95% confidence interval (0.561 to 0.670) does not include zero, indicating a significant mediation effect. The standardized effect size (β) is 0.613, with a z-value of 21.97 and a p-value of < 0.001, which confirms the significance of the mediation.

Component 1 Effect: TBL_mean ⇒ SOI_mean: The direct effect of TBL on SOI is 0.926 with a very low p-value (< 0.001), indicating a strong positive relationship.

Component 2 Effect: SOI_mean ⇒ ECP_mean: The effect of SOI on EPC is 0.665, with a standard error of 0.0290 and a p-value of < 0.001, indicating a significant positive relationship.

The direct effect of TBL on ECP is 0.255, with a standard error of 0.0294. The 95% confidence interval (0.197 to 0.313) indicates a significant direct effect, with a standardized effect size (β) of 0.254, a z-value of 8.66, and a p-value of < 0.001.

The total effect of TBL on ECP is 0.871, with a standard error of 0.0143. The 95% confidence interval (0.842 to 0.899) indicates a significant total effect, with a standardized effect size (β) of 0.868, a z-value of 60.82, and a p-value of < 0.001. The significant indirect effect (0.615) with a p-value < 0.001, along with the significant direct and total effects, indicates that SOI mediates the positive relationship between TBL and ECP. Therefore, we accept the hypothesis which indicates that TBL influences ECP both directly and indirectly through its impact on SOI.

Data Analysis using WARPL_PLS Version 8.0

The first round of VIFs were extremely high above 11 which is due to high correlation between the components. Thus, the items which are problematic and predict the high amount will be removed to maintain

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a low VIF value. Maintaining a low VIF value can improve the model precision, enhance interpretability and Ensure stability (Kutner et al, 2005). Thus our justification to remove the items and re-run the analysis is justified as it aligns with best practices in statistical analysis and supports the decision to remove certain items to maintain a low VIF and ensure the robustness of the regression model.

Table (9) shows the items removed to maintain a low VIF value

Variable	Items removed	Number of items removed
TBL	(1);(2)	2
SSCM	(5);(7);(9);(12)	4
SM	(1);(4);(8)	3
SOI	(3);(4);(8)	3

Latent Variables view

Table (10) shows the latent variable view

	TBL	**SSCM**	**SM**	**SOI**	**ECP**
R-Squared		**0.841**	**0.765**	**0.814**	**0.833**
Adj. R-squared		**0.841**	**0.765**	**0.814**	**0.832**
Composite Reliability	**0.972**	**0.968**	**0.942**	**0.971**	**0.958**
Cronbach's alpha	**0.967**	**0.962**	**0.923**	**0.965**	**0.945**
Avg. Var. Extrac.	**0.792**	**0.789**	**0.765**	**0.825**	**0.819**
Full collin. VIF	**0.788**	**8.957**	**6.480**	**9.385**	**6.098**
Q-Squared		**0.839**	**0.762**	**0.811**	**0.830**

R-squared and Adjusted R-squared

The R-squared values for SSCM (0.841), SM (0.765), SOI (0.814) and finally ECP (0.833). It is observed to indicate that a significant proportion of the variance in these constructs can be explained by the model. Moreover, empirically The adjusted R-squared values are very close to the R-squared values, suggesting the models have a good fit.

Composite reliability and Cronbach's Alpha

The Composite reliability of TBL (0.972), SSCM (0.968), SM (0.942), SOI (0.971) & ECP (0.958). It is observed that the values for all constructs (ranging from 0.942 to 0.972) are well above the acceptable threshold of 0.70. It indicates that the internal consistency and reliability is very high. Moreover, in Cronbach's alpha TBL (0.967),

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SSCM (0.962), SM (0.923), SOI (0.965) & ECP (0.945). Furthermore, the values for all constructs (ranging from 0.923 to 0.967) further confirm the high reliability and internal consistency of the scales.

Average Variance Extracted (AVE)

TBL (0.792), SSCM (0.789), SM (0.765), SOI (0.825) & ECP (0.819). It is observed that AVE values (ranging from 0.765 to 0.825) exceed the recommended threshold of 0.50, indicating good convergent validity for the constructs

Full Collinearity VIF

TBL (7.788), SSCM (8.957), SM (6.480), SOI (9.385) & ECP (6.098). It is observed that The VIF values for all constructs are below 10 (with a range from 6.098 to 9.385), suggesting that multicollinearity is not a significant issue in the models. Although as stated above, few items were removed to ensure the low VIF values.

Q-squared

SSCM (0.839), SM (0.762), SOI (0.811) & ECP (0.830). It is observed that values (ranging from 0.762 to 0.839) indicate good predictive relevance of the models.

Interpretation of Discriminant Validity using Fornell-Larcker Criterion

Table (11) shows the Discriminant Validity using Fornell-Larcker Criterion

	TBL	SSCM	SM	SOI	ECP
TBL	(0.890)	0.917	0.874	0.901	0.863
SSCM	0.917	(0.889)	0.885	0.913	0.871
SM	0.874	0.885	(0.875)	0.896	0.872
SOI	0.901	0.913	0.896	(0.909)	0.897
ECP	0.863	0.871	0.872	0.897	(0.905)

In TBL Square root of is (0.890) and the highest correlation with another construct SSCM is (0.917). Since 0.890 < 0.917, discriminant validity is not established for TBL. In SSCM the soiree root of AVE is (0.889) with the highest correlation with another construct TBL is (0.917). Since 0.889 < 0.917, discriminant validity is not established for SSCM. In SM, the square root of AVE is (0.875) and the highest correlation with another construct SOI is (0.896). Since 0.875 < 0.896, discriminant validity is not established for SM. In SOI the square root of (0.909) and the highest correlation with another construct SSCM is (0.913). Since 0.909 < 0.913, discriminant validity is not established for SOI. In EPC the square root of AVE is (0.905) with its highest correlation with another construct SOI is (0.897). Since 0.905 > 0.897, discriminant validity is established for ECP.

In Conclusion, The discriminant validity is not established for TBL, SSCM, SM, and SOI as their square roots of AVEs are not greater than their highest correlations with other constructs. However, discriminant validity is established for ECP since the square root of its AVE is greater than its highest correlation with another construct.

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Volume: 4, No: 1, pp. 4430 – 4469
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.6334

PLS diagram and path coefficients

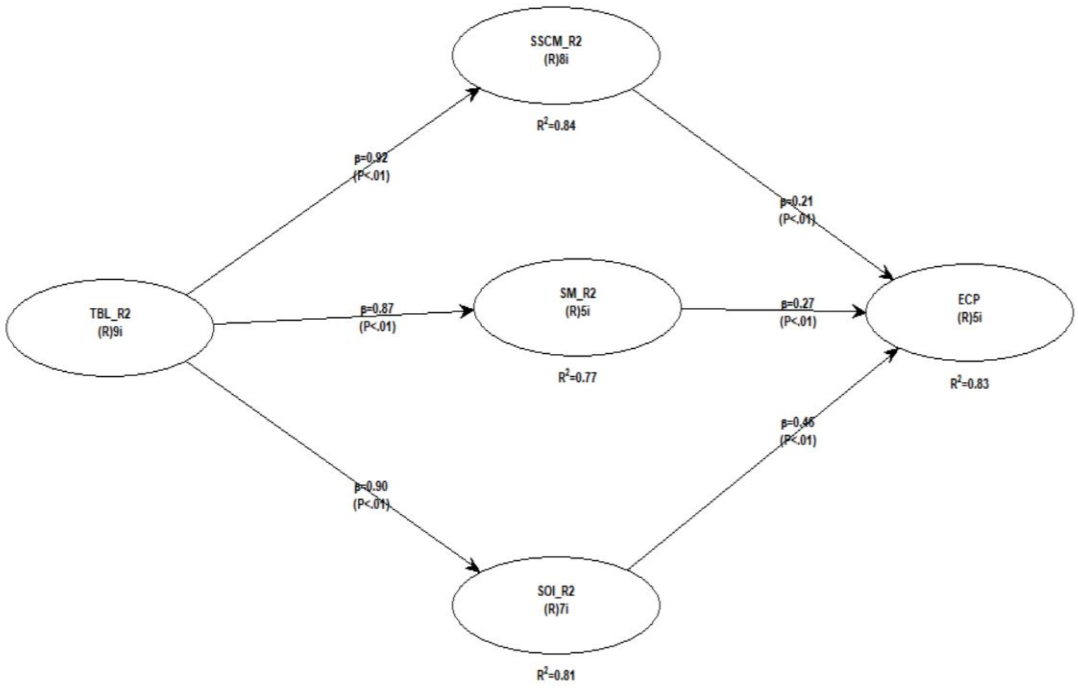

Figure (2) shows TBL as an independent variable and the three sustainable practices (SSCM, SM & SOI) as mediating variables and ECP as a dependent variable with the correlation and significance values to assist in hypothesis acceptance or rejection.

Hypothesis Testing Table

Table (12) interprets the second figure in a table view format with the hypothesis acceptance or rejection

Hypothesis	Beta Coefficient	Significance	Hypothesis Acceptance
(H1) TBL positively affects SSCM	0.92	$p < .01$	Accepted
(H2) TBL positively affects SM	0.87	$p < .01$	Accepted
(H3) TBL positively affects SOI	0.90	$p < .01$	Accepted
(H4) SSCM positively affects EPC	0.21	$p < .01$	Accepted
(H5) SM positively affects EPC	0.27	$p < .01$	Accepted

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(H6) SOI positively affects EPC	0.46	$p < .01$	Accepted
(H7) SSCM mediates the positive relation between TBL and EPC	0.92×0.21=0.1932	Assumed $p < .01$ based on path a and path b	Accepted
(H8) SM mediates the positive relation between TBL and EPC	0.87×0.27=0.2349	Assumed $p < .01$ based on path a and path b	Accepted
(H9) SOI mediates the positive relation between TBL and EPC	0.90×0.46=0.414	Assumed $p < .01$ based on path a and path b	Accepted

(H1) TBL positively affects SSCM

With a Beta Coefficient of (0.92) and a Significance of ($p < .01$). The hypothesis that Triple Bottom Line (TBL) positively affects Sustainable Supply Chain Management (SSCM) is supported. The high beta coefficient (0.92) indicates a strong positive relationship between TBL and SSCM.

(H2) TBL positively affects SM

With a Beta Coefficient of (0.87) and a Significance of ($p < .01$). The hypothesis that TBL positively affects Social Media (SM) is supported. The beta coefficient (0.87) suggests a strong positive impact of TBL on SM.

(H3) TBL positively affects SOI

With a Beta Coefficient of (0.90) and a Significance of ($p < .01$). The hypothesis that TBL positively affects Sustainability-Oriented Innovation (SOI) is supported. The beta coefficient (0.90) indicates a strong positive relationship between TBL and SOI.

(H4) SSCM positively affects ECP

With a Beta Coefficient of (0.21) and a Significance of ($p < .01$). The hypothesis that SSCM positively affects Economic Performance Criteria (EPC) is supported. The beta coefficient (0.21) shows a moderate positive relationship between SSCM and EPC.

(H5) SM positively affects ECP

With a Beta Coefficient (0.27) and a Significance ($p < .01$). The hypothesis that SM positively affects EPC is supported. The beta coefficient (0.27) suggests a moderate positive impact of SM on EPC.

(H6) SOI positively affects ECP

With a Beta Coefficient of (0.46) and a Significance ($p < .01$). The hypothesis that SOI positively affects EPC is supported. The beta coefficient (0.46) indicates a substantial positive relationship between SOI and EPC.

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DOI: https://doi.org/10.62754/joe.v4i1.6334

(H7) SSCM mediates the positive relation between TBL and ECP

By using an Indirect Effect we can compute the following manually 0.92 (TBL → SSCM) * 0.21 (SSCM → ECP) = 0.1932 and Since both paths are significant ($p < .01$) we can safely accept the hypothesis and SSCM partially mediates the relationship between TBL and ECP.

(H8) SM mediates the positive relation between TBL and ECP

By using an Indirect Effect, we can compute the following manually 0.87 (TBL → SM) * 0.27 (SM → ECP) = 0.2349. Since both paths are significant ($p < .01$) we can accept the hypothesis that SM mediates between TBL and ECP.

(H9) SOI mediates the positive relation between TBL and ECP

By using an Indirect Effect, we can compute the following manually 0.90 (TBL → SOI) * 0.46 (SOI → ECP) = 0.414. Since both paths are significant ($p < .01$). We can accept the hypothesis that SOI mediates between TBL and ECP

Indirect effect calculation

Due to the specific functions of PLS and its difference from Jamovi. The indirect effect formula can be utilized to ding the mediating effect. Thus, the authors computed Indirect Effect=(a×b) where a is the path between the independent variable and the mediator and b is the path between the mediator and the dependent variable. Baron and Kenny (1986) introduced the indirect effect in mediation analysis to find the indirect effect of the independent variable on the dependent variable through the mediator. Hence, this method provided similar results to jamovi and the hypothesis is also accepted, using the indirect effect manual computation is justifiable and to ensure the results provided by jamovi is on the same standard.

Findings

Table (13) shows the hypothesis acceptance or rejection based on two software calculations

Hypothesis	Jamovi v_2.5	Warp_PLS v_8.0
(H1) TBL positively affects SSCM	Accepted	Accepted
(H2) TBL positively affects SM	Accepted	Accepted
(H3) TBL positively affects SOI	Accepted	Accepted
(H4) SSCM positively affects ECP	Accepted	Accepted
(H5) SM positively affects ECP	Accepted	Accepted
(H6) SOI positvely affects ECP	Accepted	Accepted
(H7) SSCM mediates the positive relation between TBL and ECP	Accepted	Accepted

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DOI: https://doi.org/10.62754/joe.v4i1.6334

(H8) SM mediates the positive relation between TBL and ECP	Accepted	Accepted
(H9) SOI mediates the positive relation between TBL and ECP	Accepted	Accepted

Discussions

(H1) TBL positively affects SSCM

TBL has been identified to play a great role in supporting improving the SSCM practices as shown from empirical research. Research shows that organizations that use TBL frameworks always incorporate environmental, social, and economic aspects into supply chain management with more efficiency (Saut Maruli Tua Pandiangan et al., 2022). For example, a survey of manufacturing industries showed that the management of organizations implementing TBL aspects significantly influenced sustainable procurement and logistics practices with the least environmental effects and socially desirable health impacts (Sartal et al., 2020). A further quantitative study indicated that there is a consistent relationship between TBL adoption and enhancement of the supply chain transparency and sustainability reporting as a way of enhancing the corporation's responsibility. Subsequent studies revolving around case studies have also shown how TBL-oriented business can maintain competitive edge by using supply chain strategy to align with sustainability objectives of the firm, hence benefiting from social and environmental conscious consumers and suppliers (Sarkar et al., 2021). Such companies show improved environmental and social results, along with higher financial revenues because of efficiency and a better brand image. Further, the quantitative studies undertaken in the current research have shown how TBL supports SSCM whereby companies have integrated sustainable innovations within their systems by finding cheaper ways of conducting their business (Rehman Khan et al., 2020). This alignment with prior research reinforces the robustness of our conclusions and suggests that our findings are reliable

(H2) TBL positively affects SM

Empirical findings have presented a clear insight into some well-researched areas in SM and show TBL has affected it in a tremendous way. A common study that involved the use of cross-sectional data collected from several industries indicated that the implementation of TBL principles improved customer loyalty and the firm's brand image due to the adoption of SM strategies (Raut et al., 2021). Moreover, a longitudinal research design found that the SM increased customers' base and also yielded a higher growth path for the gear market share for SM initiatives (Rashidi et al., 2020). Furthermore, emphasizing the consumer goods sector to assess the levels of effectiveness when concepts of environmental and social aim were incorporated to marketing tactics; the findings showed that an enhanced satisfaction of the consumer and enhanced sales (Ranjbari et al., 2021). Furthermore, marketing appeals that are focused on the application of TBL had a profound impact on customers' buying behavior of the environmentally sensitive consumers. Lastly, a meta-analysis summarized these findings Again, TBL principles provide imperative for the companies in the preservation of long-term success and sustainable markets by bringing values of companies into congruence with consumers' expectations thereby boosting total corporate performance (Rai, Rai and Singh, 2021). The consistency observed between our results and those of previous studies underscores the validity of our model.

(H3) TBL positively affects SOI

TBL is indeed effective in the creation of SOI. Quantitative research among technology firms revealed that TBL had a positive influence on increased research & development for sustainable products, which resulted in new sustainable solutions that decreased the negative effect on the environment (Parmentola et al., 2021). One industry case examined the data regarding TBL in the automotive industry which revealed the effective usage

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DOI: https://doi.org/10.62754/joe.v4i1.6334

of TBL that set out the environmentally friendly innovations such as electrical vehicles and sustainable fuels that meet the requirements but also have competitive benefits (Park & Li, 2021). Moreover, a survey that was carried out in the consumer electronics sector showed that firms that complied with TBL were likely to adopt CE strategies including recycling and remanufacturing, which is part and parcel of SOI. Haven observed from case studies in the renewable energy sector, the various firms that have applied TBL as a business model were able to overcome market and regulatory risks through solar and wind technological advancement hence improving both sustainability and firm's economic performance (Paliwal et al., 2020). Finally, a systematic literature review of TBL empirical literature substantiated the idea that TBL principles are paramount to cultivating a culture of innovation that is sustainability-oriented, thus stressing the significance of TBL in directing firms towards further sustainable operative and strategic innovations (Palacios-Mateo, et al., 2021). The parallels drawn with earlier research provide a strong foundation for the applicability of our results across different contexts.

(H4) SSCM positively affects ECP & (H7) SSCM mediates the positive relation between TBL and ECP

Muthu et al (2012); Shaharudin et al (2011); and You et al (2011) are among the authors who pointed out that there is a relationship between SSCM practices and economic performance of a firm. A detailed study in the manufacturing industry showed that organizations that adopt SSC practices tend to have better return on cost of waste management and energy consumption (Paciarotti & Torregiani, 2020). Moreover, using regression analysis, it was discovered that SSCM practices had significant positive association with ROI and profit margin in organizations, especially where they are fully embedded with the firm's strategic business processes (Ozdemir et al., 2022). Furthermore, based on the automobile industry, it is indicated that achieving sustainable sourcing and logistics integration outcomes not only decreased practical costs but also ensured that disruption adverse effects are minimized on firms' financial performance. Moreover, through a multiple case study with a focus on the retail sector, such investments in SSCM helped enhance the present and future customer satisfaction and loyalty, thus boosting the company's sales and profitability (Nilsson & Göransson, 2021). Finally, adopting an empirical meta-analysis to prove that improved ECP is evident throughout the numerous industries that adopt SSCM, which ensures a strong reason for driving firms to practice SSCM (Negri et al., 2021). Given the corroboration with existing literature, we are optimistic that these findings can be broadly applied to similar settings and populations.

(H5) SM positively affects ECP & (H8) SM mediates the positive relation between TBL and ECP

The urgency for socially responsible marketing has brought about SM namely due to empirical findings depicting the impacts toward ECP. Previous literature decoded a positive impact of SM strategies on the company's image and brand equity with the resultant effect on market share and sales revenues (Nara et al., 2021). Similarly, data from service industries revealed that SM was highly correlated with customer retention rate and profitability because the latter played a key role in the decision-making process of the consumers (Moshood et al., 2022). Moreover, the impact of corporate marketing strategy congruence with environmental and social objectives conducted with structural equation modeling revealed that firms that develop congruent marketing strategies with the environmental and social objectives had better financial returns caused by the enhanced consumers' trust and loyalty (Moosavi, Fard and Dulebenets, 2022). Moreover, the case studies in this industry showed that SM communication and marketing initiatives such as appealing for the purchase of environmental products had a positive impact in attracting the premium pricing and market segmentation which improved the entire economic benefit. Finally, a cross-study analysis depicted that besides increased short-term revenues, SM helps obtain extensible competitive benefits by synchronizing business actions with shifting customer needs and expectations, as well as changing legal frameworks (Micheli et al., 2020). The agreement with previous studies enhances the credibility of our research and supports the generalizability of the outcomes.

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(H6) SOI positively affects ECP & (H9) SOI mediates the positive relation between TBL and ECP

SOI is crucial for enhancing the economic performance of technology organizations, thus organizations that adopted SOI had better operating effectiveness within their companies, thus a consequent reduction in cost and enhancement of their profit margin (Miceli et al., 2021).Moreover, firms that embraced SOI in response to consumer demand included matters to do with biodegradable materials and energy-efficient methods of manufacturing, firms were able to charge premium prices, thus boost the revenue (Martínez-Falcó et al., 2023). Moreover, a cross-sectional survey conducted in a British automotive firm provided longitudinal data which established that SOI particularly in the development of electric cars and environmentally friendly manufacturing processes increased market competitiveness and investors' attraction (Mani et al., 2020). This was further supported by investigation of a case study in the renewable energy industry in which firms that initially developed such innovations as solar as well as wind energy technologies saw their growth rate and market share increase due to high customer as well as regulatory demand for clean technologies (Malik et al., 2020). Finally, a meta-analysis of various industrial disguising supported the economic benefits of SOI and further explained that such innovations ensure market viability and economic standing in terms of a long-term financial plan by predicting and adapting to customers' demands and responding to future laws and requirements (Luthra et al., 2019). This body of empirical evidence underpins each of the quantifiable economic advantages that sustainable innovations can offer buttressing their raft of possible roles in augmenting as well as the environment and people's wellbeing but also the broad prosperity (Lu et al., 2020). The convergence of our results with established studies further affirms the relevance and applicability of our findings within the field.

Conclusions and recommendations

Based on the hypotheses concerning the relationship of TBL & ECP via SSCP, SMC, and SOI, the theoretical framework provides a holistic view of the positive dynamics between sustainable initiatives and business outcomes (Lopez-Cabrales and Valle-Cabrera, 2020). The literature supports these relationships; however, running a critical analysis of most of these relationships, there are factors that may mediate or moderate these effects, thereby, making the impact enormous yet conditional (Li et al., 2020). H1, H2, and H3 stipulate that TBL has positive impacts on SSCM, SM, and SOI respectively. These relationships are usually supported by empirical research asserting that companies' deep engagement with TBL principles may lead to significant enhancements of sustainability activities in various areas of business operations (Lee et al., 2022). Moreover, the impact of TBL initiatives tends to be sensitive to industry type, size of the organization, and regional market context (Kouhizadeh et al., 2021). For instance, manufacturing industries may find it easier to really maintain the TBL principles because the environmental cost of their activities is usually high and therefore, addressing the principles requires a lot of change in the long supply chain (Khanra et al., 2021).

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In addition, it is critical to note that corporate culture significantly influences the outcomes of TBL, as well as the compatibility of sustainable objectives with primary corporate strategies (Khan et al., 2021b). The companies who adopt the TBL approach get a superficial change to the practices which would not positively impact the sustainability practices or the economic performance of the business (Khan et al., 2021c). Hence, as the TBL approach has good theoretical backgrounds, its effectiveness is, nevertheless, linked to its profound, embedded integration in business practices (Khan et al., 2021a). Thus, the hypotheses of this study are: The significant relationships between SSCM, SM & SOI with ECP are positive and direct, as indicated in the propositions of H4, H5 & H6 (Khan & Ahmad, 2021) including the mediated effects of H7.H8 & H9. The results provided as evidence for these hypotheses, that are summarized in the following section, suggest that sustainability prescriptions tend to improve profits, market standings, and business functions. However, the given relationship is not linear and it does not follow the simplistic increasing change pattern. Thus, while some firms declare impressive economic returns on their sustainability efforts, others observe more costs than returns on sustainability initiatives (Khalili Nasr et al., 2021).

The economic benefits, for instance, energy efficiency that reduces costs or consumers' loyalty as a result of SM, stand more to gain in the long run than the short-term financial gains (Kappo-Abidemi & Kanayo, 2020). This relatively long period of time from when an initiative is undertaken and returns obtained can be problematic for a business, especially the SMEs that may not have deep pockets of cash to dip into (Jouzdani & Govindan, 2020). While elaborating the global implications within the context of TBL, it is imperative to understand that such things as regulations, consumers' awareness, and technology have important roles to play (Javaid et al., 2022). In some cases, the regulatory environments may force organizations to embrace sustainable changes; in the process providing artificial social pressure to the sustainability work that TBL is assumed to catalyze (Jan et al., 2021). Conversely, markets in which consumers are sensitive to sustainably produced products, organizations may reap greater advances from the SM & SOI (Ilyas et al., 2020b). Furthermore, economic benefits and profitability is also greatly dependent on the company's ability to innovate within the parameters of sustainability strategies (Hysa et al., 2020). The sources show that business pioneers who operate technology and knowledge in sectors that are relevant to sustainability are the most strategic to transition SOI into being purely economic goods and services (Hussain and Malik, 2020).

The main findings of this paper is focused on the significance of the TBL theory in influencing traditional management functions to develop sustainable practices. The sustainable practices empirically mediated the TBL approach which shows the high significance and relevance of the theory in driving sustainable practices to ECP. Although sustainability might be perceived as a cost center. However, in the UAE SME context we can see that sustainable practices leads to a reduction of costs and fines of material purchased and costs of waste disposal which are costs that SMEs must deal with. In the era of the UN SGDs sustainable practices and alignment with fundamental theories seems to carry importance as the UN SGDs follow a one-size fits all metrics to measure each goal (AlOwais, 2024). Keeping sustainable practices in consideration while focusing on ECP can be achieved as perceived from the study. The SMEs will not have to choose between sustainability and ECP. The theoretical implication of this study is to align more closely with the TBL approach as the empirical results show a strong connection of TBL and three more modern sustainable practices. Knowing that in theory TBL can also influence several more practices which have to be studied in an empirical context to gain conclusive results. Whereas in a more practical setting we can see a beacon of hope as sustainability also can achieve ECP without the economic tradeoffs or opportunity costs which can relieve and encourage SMEs to adopt sustainable practices. The paper urges the academic community to study adopting sustainable practices and comparing it with the economic performances with operational and environmental performances as the results are derived from an Emirati SME context and the empirical results could differ; having similar results from different regions can assist the academic community to establish conclusive findings that can be generalized. In practice the authors urge the practitioners to adopt proper and accurate accounting systems and be more transparent of sustainable practices used to help measure the impacts in financial terms. Overall, the sustainable practices seem to boost the economic performance of SMEs.

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2025
Volume: 4, No: 1, pp. 4430 – 4469
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Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 4430 – 4469
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.6334

Appendix

Appendix 1- TBL Items

1. Pursues long term success/activity.
2. Tries to offer services that are compatible with the environment.
3. Does everything possible to eliminate or reduce the negative effects on the environment.
4. Reduces its consumption of natural resources.
5. Strives to minimize the consumption of resources that affect the natural environment (negative).
6. Working to prevent child labour and unfair working conditions.
7. Social Improving the general well-being of society.
8. Social Treat their employees without prejudice with regard to their gender, ethnicity, and religion.
9. Actively work to improve the equality within the organization.
10. Economic/Social Creates and sustains jobs in the region.
11. Economic/Social Contributes to limiting poverty.

(Westin et al., 2022)

Appendix 2- SSCM Items

1. Cooperation in inventory and logistics management
2. Use of information technologies to increase the efficiency of communication
3. Building long-term relationships based on established guidelines
4. Common clear vision of supply chain management
5. Use of "Just in Time" concept/as a tool for enhancing competitiveness
6. Exchange of production information on a regular basis, e.g., through sales and operations planning meetings
7. Common introduction of benchmarking and performance metrics
8. Standardization of quality policy for both products and processes with established guidelines
9. Aligned product strategies, supply, and distribution with a supply chain strategy
10. Information-sharing about customer requirements and design plans

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DOI: https://doi.org/10.62754/joe.v4i1.6334

11. Usage of the supply chain concept in the design of products, processes, and packaging
12. Common procedures for obtaining feedback from the customers, who are involved in product development

(Kot, 2018)

Appendix 3- SM Items

1. Encourage consumers to embrace a green lifestyle through using social media advertising.
2. Advertising to increase awareness and attraction in the marketplace .
3. Different programs and discounts to encourage people to buy green products.
4. Green marketing messages combine verbal and visual affirmations than only using verbal affirmations
5. Conveys messages that comprise ecological, sustainability, or eco-friendly.
6. Advertising that focuses on how products or services are related to the natural environment support
7. 7. Advertising image-based emotional appeal focuses on transferring the environmental, and emotional positioning.
8. Advertising which inspires consumers to purchase activities towards products that ensure no or less harm

(Bruno et al., 2023)

Appendix 4- Sustainability Oriented Innovation Items

1. Expenditure of process innovation
2. New product development and commercialization
3. Manufacturing process improvements
4. Reduction of energy usage
5. Reduction of emission of hazardous substances or waste
6. Improvement of manufacturing process capability and reuse of components
7. Improvement and redesign of products to meet environmental criteria or directives
8. Improvement and redesign of the production process to reduce rates of injury, occupational diseases and work-related fatalities
9. Reduction of return and recall rate of products
10. More ergonomic product perception

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 4430 – 4469
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.6334

(Afeltra et al., 2022)

Appendix 5- Economic Performance Items

1. decrease of cost for materials purchasing
2. decrease of cost for energy consumption
3. decrease of fee for waste treatment
4. decrease of fee for waste discharge
5. decrease of fine for environmental accidents

(Zhu et al., 2008)

Appendix 6 - TBL Questions

1. Does your SME pursue long-term sustainable activities?
2. Does your SME offer services compatible with environmental sustainability?
3. Does your SME make efforts to eliminate or reduce negative environmental impacts?
4. Does your SME actively work to reduce natural resource consumption?
5. Does your SME strive to minimize the use of resources that negatively affect the environment?
6. Does your SME work to prevent child labor and ensure fair working conditions?
7. Does your SME aim to improve the general well-being of society?
8. Does your SME treat employees without prejudice regarding gender, ethnicity, and religion?
9. Does your SME actively promote equality within the organization?
10. Does your SME create and sustain jobs in the region?
11. Does your SME contribute to reducing poverty?

Appendix 7 - SSCM Questions

1. Does your SME cooperate in inventory and logistics management?
2. Does your SME use information technologies to enhance communication efficiency?
3. Does your SME build long-term relationships based on established guidelines?
4. Does your SME have a common vision for supply chain management?
5. Does your SME utilize the "Just in Time" concept to enhance competitiveness?

Journal of Ecohumanism
2025
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ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.6334

6. Does your SME regularly exchange production information through planning meetings?
7. Does your SME introduce benchmarking and performance metrics collaboratively?
8. Does your SME standardize quality policies for products and processes?
9. Does your SME align product strategies, supply, and distribution with the supply chain strategy?
10. Does your SME share customer requirements and design plans across the supply chain?
11. Does your SME use the supply chain concept in the design of products, processes, and packaging?
12. Does your SME establish common procedures for obtaining customer feedback, involving them in product development?

Appendix 8- SM Questions

1. Does your SME encourage consumers to adopt a green lifestyle through social media advertising?
2. Does your SME advertising aim to increase market awareness and attraction?
3. Does your SME offer programs and discounts to encourage the purchase of green products?
4. Does your SME green marketing combine verbal and visual affirmations?
5. Does your SME advertising convey messages about ecological, sustainable, or eco-friendly practices?
6. Does your SME advertising focus on the environmental benefits of products or services?
7. Does your SME use image-based emotional appeals to convey environmental and emotional positioning?
8. Does your SME advertising inspire consumers to purchase products that ensure minimal environmental harm?

Appendix 9 - SOI Questions

1. Does your SME invest in process innovation to enhance sustainability?
2. Does your SME's new product development and commercialization aim towards environmental goals?
3. Does your SME improve manufacturing processes to reduce energy usage?
4. Does your SME make efforts to reduce emissions of hazardous substances or waste?
5. Does your SME redesign manufacturing processes to improve capability and reuse components?
6. Does your SME improve and redesign products to meet environmental criteria or directives?
7. Does your SME improve production processes to reduce injury, occupational diseases, and work-related fatalities?

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DOI: https://doi.org/10.62754/joe.v4i1.6334

8. Does your SME aim to reduce the return and recall rate of products?
9. Does your SME design products for better ergonomic perception?

Appendix 10- ECP Questions

1. Does your SME manage to decrease the cost of purchasing materials?
2. Does your SME work on reducing the cost of energy consumption?
3. Does your SME aim to decrease the fee for waste treatment?
4. Does your SME strive to reduce the fee for waste discharge?
5. Does your SME take measures to decrease fines for environmental accidents?