

## Uncertain Supply Chain Management

homepage: [www.GrowingScience.com/uscm](http://www.GrowingScience.com/uscm)**Taxation and customs strategies in Jordanian supply chain management: Shaping sustainable design and driving environmental responsibility****Mo'taz Kamel Al Zobi<sup>a</sup>, Murad Ali Ahmad Al-Zaqeba<sup>b\*</sup> and Baker Akram Falah Jarah<sup>c</sup>**<sup>a</sup>Faculty of Business, Amman Arab University, Jordan<sup>b</sup>Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Nilai, Negeri Sembilan, Malaysia<sup>c</sup>Faculty of Business, Amman Arab University, Jordan**ABSTRACT***Article history:*

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This study explores the role of taxation and customs strategies in promoting sustainable design and environmental responsibility in supply chain management. The research examines their direct effects on sustainable and environmental responsibility in Jordan, as well as the moderating influence of socioeconomic factors. It also investigates the mediating effect of sustainable practices adoption. Quantitative analysis using Smart PLS4 software was conducted. The results highlight the positive influence of taxation strategies on sustainable and environmental responsibility. Effective taxation strategies contribute to a stronger commitment to sustainable practices and environmental concerns within supply chains. Similarly, customs strategies positively influence sustainable and environmental responsibility, demonstrating that efficient customs management aligns with sustainable practices. In addition, socioeconomic factors were identified as significant moderators. The relationship between taxation strategies and sustainable responsibility, as well as environmental responsibility, varied based on the socioeconomic context. This suggests that the effectiveness of these strategies depends on the specific circumstances in which organizations operate. Furthermore, sustainable practices adoption was found to moderate the relationship between taxation and environmental strategies, and sustainable responsibility. This indicates that the successful implementation of sustainable practices enhances the impact of taxation and environmental strategies in promoting sustainability within the supply chain. This paper emphasizes the importance of developing and implementing effective taxation and customs policies that align with sustainable practices. Organizations should consider the influence of socioeconomic factors and prioritize the sustainable practices adoption to maximize the impact of these strategies. The findings provide valuable insights for strategic decision-making and encourage businesses to integrate sustainability into their supply chain management, contributing to environmental conservation and long-term success.

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**1. Introduction**

Supply chain management (SCM) plays a critical role in the success and competitiveness of businesses in today's globalized economy (Riquelme-Medina et al., 2022; Hamour et al., 2023). As the importance of sustainability and environmental responsibility continues to rise, companies are increasingly looking for ways to integrate these principles into their supply chain operations (Javaid et al., 2022). One area that holds significant potential for promoting sustainable design and driving environmental responsibility within supply chains is taxation and customs strategies. Globally, the integration of sustainability principles into supply chain operations has become a key priority for businesses across various industries (Mc Loughlin et al.,

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2023). The recognition of climate change, resource scarcity, and social responsibility has prompted companies to adopt environmentally responsible practices (Sadeghi et al., 2023). Taxation and customs strategies play a pivotal role in this process by providing financial incentives or penalties that influence businesses' behaviors and encourage sustainable practices (Chen and Liang, 2023). As mentioned by Harichandan et al. (2023) aligning taxation policies and customs procedures with sustainability objectives, governments and regulatory bodies can effectively drive positive environmental change in supply chains worldwide. However, the implementation of taxation and customs strategies contributes to the achievement of international sustainability goals, such as the United Nations' Sustainable Development Goals (SDGs, 2022). SDG 12, for instance, focuses on responsible consumption and production, emphasizing the need for sustainable practices throughout supply chains. Taxation strategies can incentivize companies to reduce waste, minimize carbon emissions, and adopt sustainable sourcing practices, aligning with SDG 12 targets. Customs procedures, when designed to enforce environmental standards, ensure that imported and exported goods meet sustainability criteria, contributing to global efforts in promoting responsible trade (De Weerd et al., 2020).

In the context of Jordanian supply chain management, understanding the impact of taxation and customs strategies on sustainable design and environmental responsibility is of particular interest. Jordan, as a developing country, faces unique challenges and opportunities in aligning its supply chains with sustainable practices (Al-Zaqeba & Al-Rashdan, 2020a; Cubo et al., 2023). Examining how taxation and customs strategies can contribute to sustainability efforts in the Jordanian context can provide valuable insights for businesses and policymakers in the region (Ruggiero et al., 2021). However, the importance of taxation and customs strategies in Jordanian supply chain management is equally significant. As a developing country, Jordan faces unique challenges and opportunities in its pursuit of sustainable development. By leveraging taxation and customs strategies, Jordan can proactively address environmental issues within its supply chains while promoting economic growth.

Taxation strategies can be tailored to incentivize Jordanian businesses to adopt sustainable practices, taking into account the country's specific environmental concerns and resource limitations (Domenech & Bahn-Walkowiak, 2019; Chehimi et al., 2019; Grubb et al., 2022). Customs procedures, on the other hand, play a crucial role in ensuring that imported commodities adhere to environmental norms and contribute to overall sustainable development goals (Tijan et al., 2019; Rukanova et al., 2023). Collaboration among the government, regulatory bodies, and supply chain stakeholders are vital for the effective implementation, monitoring, and enforcement of taxation and customs strategies (Al-Zaqeba & Al-Rashdan, 2020b; Saragih et al., 2022; Gatignon and Capron, 2023). The study by Eiadat and Fernández-Castro (2022) sheds light on the role of taxation and customs strategies in shaping sustainable design and driving environmental responsibility within Jordanian supply chains. The study examines the effectiveness of taxation and customs strategies in promoting sustainable design and driving environmental responsibility within Jordanian supply chain management. It emphasizes the importance of collaboration, clear guidelines, and communication between stakeholders to integrate sustainability principles into supply chain operations. By leveraging taxation incentives and customs regulations, Jordan can create an enabling environment for businesses to adopt environmentally responsible practices and contribute to long-term sustainable development. This research builds upon previous studies (Eiadat & Fernández-Castro, 2022; Almatarneh et al., 2022) to provide actionable insights and recommendations for businesses and policymakers in Jordan to enhance sustainability within their supply chains. Nevertheless, an understanding of the role of taxation and customs strategies in shaping sustainable supply chain design and driving environmental responsibility is crucial in Jordanian supply chain management. This paper aims to contribute to the development of effective strategies that promote sustainable practices and environmental stewardship in Jordan's supply chains. The paper follows a structured framework, including sections such as introduction, previous studies, research gap, hypothesis development, methodology, results, discussion, and conclusion, to provide a comprehensive analysis of the topic and its implications for businesses and policymakers.

## 2. Literature Review

The effective management of supply chains is crucial for businesses operating in today's globalized and competitive marketplace. The complexity of supply chain networks necessitates the implementation of various strategies to ensure smooth operations, cost-efficiency, and compliance with legal and environmental requirements. Among these strategies, taxation and customs play a significant role in shaping the overall framework of supply chain management. Furthermore, in the context of Jordanian supply chains, the integration of sustainable design and environmental responsibility has become increasingly important for both businesses and the society at large (Hamour et al., 2023). However, this literature review focuses on the interplay between taxation and customs strategies, sustainable design, and environmental responsibility in the context of Jordanian supply chain management. The aim is to explore how these factors influence the overall efficiency and sustainability of supply chains in Jordan. Additionally, this review will examine the potential moderating effect of socioeconomic factors and the mediating effect of sustainable practices adoption on the relationship between taxation and customs strategies and sustainable design. The first section of the review (2.1) delves into the intricate relationship between taxation and customs strategies and their impact on supply chain management. Taxation policies and customs regulations have a direct influence on the cost structure, profitability, and overall competitiveness of businesses. Effective tax planning and customs compliance are essential for optimizing supply chain operations and ensuring legal compliance (Jarah et al., 2022). Therefore, understanding the implications of taxation and customs strategies is crucial for designing efficient supply chains in Jordan.

The second section (2.2) highlights the growing importance of sustainable design and environmental responsibility in the realm of supply chain management. With the increasing global concern for environmental sustainability, businesses are under pressure to reduce their ecological footprint and adopt sustainable practices. Incorporating sustainable design principles in supply chain management not only helps mitigate environmental risks but also enhances brand reputation and competitiveness. This section explores the integration of sustainability into supply chain design and the role it plays in driving environmental responsibility in Jordanian supply chains.

The third section (2.3) focuses on the potential moderating effect of socioeconomic factors on the relationship between taxation and customs strategies and supply chain sustainability. Socioeconomic factors, such as economic development level, government policies, and social norms, can significantly influence the effectiveness of taxation and customs strategies in achieving sustainable supply chain outcomes. Understanding these moderating factors is essential for tailoring taxation and customs approaches that align with the specific socioeconomic context of Jordan. Lastly, the fourth section (2.4) examines the mediating effect of sustainable practices adoption on the relationship between taxation and customs strategies and sustainable design. Sustainable practices adoption acts as a mechanism through which taxation and customs strategies impact the overall sustainability performance of supply chains. Investigating the mediating effect helps uncover the underlying processes and mechanisms through which taxation and customs strategies influence sustainable supply chain design in Jordan. Nevertheless, by exploring the complex interplay between taxation and customs strategies, sustainable design, socioeconomic factors, and sustainable practices adoption, this literature review aims to provide a comprehensive understanding of the dynamics involved in shaping sustainable supply chain management in Jordan. This knowledge will not only contribute to the theoretical understanding of supply chain management but also provide practical insights for businesses and policymakers in Jordan seeking to optimize their supply chain operations while addressing environmental concerns.

### *2.1 Taxation and Customs Strategies*

Taxation and customs strategies play a crucial role in shaping the landscape of international trade and business operations. As global markets continue to expand and become increasingly interconnected, businesses must navigate complex tax systems and customs regulations to ensure compliance and maintain a competitive edge. Effective tax planning and customs management can significantly impact a company's profitability, supply chain efficiency, and overall business strategy (Klassen and Vereecke, 2021). Moreover, taxation strategies encompass a range of practices aimed at minimizing tax liabilities while adhering to legal requirements. These strategies involve various aspects, such as understanding tax laws and regulations, utilizing tax incentives and exemptions, optimizing transfer pricing arrangements, and managing international tax structures. By strategically managing their tax obligations, businesses can reduce costs, enhance cash flow, and improve their financial performance (Gao & Zhu, 2020). In addition, customs strategies focus on ensuring smooth and efficient movement of goods across borders. Customs regulations and procedures, including import duties, tariffs, and documentation requirements, have a direct impact on the flow of goods in international trade. Effective customs strategies involve understanding and complying with customs laws, leveraging trade agreements and preferences, managing customs valuation, and implementing efficient supply chain processes to streamline customs clearance. Well-executed customs strategies can contribute to shorter lead times, reduced costs, and improved customer satisfaction (Rushton et al., 2020).

The importance of taxation and customs strategies extends beyond their impact on individual businesses (Porter, 1980; Rahman et al., 2020). These strategies also shape the overall economic landscape, influence investment decisions, and impact government revenue. Governments often use taxation policies and customs regulations to promote economic development, protect domestic industries, and regulate cross-border trade. Understanding the implications of these strategies is essential not only for businesses but also for policymakers, tax authorities, and industry stakeholders. Nevertheless, Setyowati et al. (2023) examine the strategic considerations for integrating blockchain technology Value-Added Tax (VAT) system, each participant that is a part of the chain knows the information or data in the blockchain network since blockchain technology is transparent. They discovered that the organizational, environmental, and technological factors all need to be taken into account when implementing the blockchain VAT system. The organizational variables include methods for internal regulation, support from those in positions of responsibility, technical preparedness, innovation, and governance. help from partners and help from external governments are environmental variables. Additionally, Kohlhasse and Wielhouwer (2023) looked at how a multinational corporation's head office and business units may cut down on tariff payments and income tax, which found that despite the fact that there are no stated incentives to do so in the pay plans, the business units make a larger contribution to tax planning than the head office. The rivalry on the product market, the possibility of disputes with customs and tax authorities, and internal agency issues inside the company all affect how the head office and business division's function. Owusu et al. (2023) show that key determinants of tax compliance intention include attitude, subjective norms, moral duty, perceived tax complexity, faith in the tax system, and antecedent-based intervention tactics. In addition, the implications of corporate governance systems, such as board characteristics and auditor features, on tax aggressiveness are discussed by Iazzi et al. (2023). The analysis shows that variables like board size, gender diversity, dual CEOs, and auditor quality have a big impact on how tax aggressively these corporations behave. The study also discovered that the characteristics of auditors had an impact on company tax aggression. More specifically, more aggressive tax behaviour was linked to greater external audit quality. This suggests that businesses may be more likely to engage in aggressive tax preparation strategies when they employ auditors with greater competence and independence.

The globalization of the economy is struggling in 2019, as seen by a decline in international trade flows, which is made worse by the responses that firms have developed to the health concerns. International commerce, investment, and financial flows are significantly impacted by the coronavirus pandemic outbreak and are experiencing immediate negative effects. Worldwide, the coronavirus is changing how businesses operate, for better or ill. The worldwide value, manufacturing, and logistics chains of business firms and companies must be rethought in order to maximize productivity and profitability. In the global economy, adaptability, recovery, and resilience are becoming increasingly important (Javorcik, 2020). However, people must be informed of the new technology's existence, react to it, and decide whether or not to embrace it in order to put it into practice (Hayes et al., 2022). A system's adoption of new technology involves a number of steps, starting with learning about the technology and ending with its actual use (Radianti et al., 2020). At level of the organizational the adoption of new technology depends on the goals, difficulties, or surroundings. Before selecting whether to use new technology or not, an organization must first gather as much information and expertise as feasible (Wang et al., 2018). Because many technology adoption efforts are ineffective or even unsuccessful, tax authorities in a nation must first investigate the strategic reasons for deploying blockchain before they can do so successfully in their VAT system (Setyowati et al., 2023).

The importance of taxation and customs strategies extends beyond their impact on individual businesses. These strategies also shape the overall economic landscape, influence investment decisions, and impact government revenue. Governments often use taxation policies and customs regulations to promote economic development, protect domestic industries, and regulate cross-border trade. Understanding the implications of these strategies is essential not only for businesses but also for policymakers, tax authorities, and industry stakeholders (Ji et al., 2019). Thus, the effective management of taxation and customs strategies is essential for businesses operating in today's global marketplace. By employing tax planning techniques and efficient customs management, businesses can optimize their supply chain operations, reduce costs, and maintain a competitive advantage. Additionally, policymakers can design and implement taxation and customs policies that promote economic growth, facilitate trade, and foster a conducive business environment. A comprehensive understanding of taxation and customs strategies contributes to the theoretical understanding of SCM and provides practical insights for businesses and policymakers (Bastani et al., 2019).

## *2.2 Shaping Sustainable Design and Driving Environmental Responsibility*

The incorporation of sustainable design concepts and the promotion of environmental responsibility have become essential for businesses across numerous industries in today's globalized and environmentally sensitive society (Laszlo and Zhexembayeva, 2017). Sustainable design entails taking into account economic, social, and environmental issues at every stage of the product life cycle, from idea creation through end-of-life disposal (Mestre and Cooper, 2017; Jarah et al., 2022). However, this literature study seeks to illuminate both the theoretical and practical sides of these crucial problems by exploring the idea of influencing environmentally responsible design. The term "sustainable design" refers to a variety of methods and tactics that place equal emphasis on social and environmental sustainability (Dion and Evans, 2023). Environmentally friendly materials, energy-saving technology, waste-reduction strategies, and considerations for social equality and user health must all be incorporated (Huynh et al., 2023). On the other side, environmental responsibility places emphasis on the moral and responsible actions that businesses take with regard to the environment (Liu et al., 2023). It entails minimizing negative effects, adhering to environmental laws, and proactively looking for ways to decrease resource usage and waste output. Furthermore, large volumes of information can be processed and sent thanks to digital technology, which lowers the likelihood of mistakes (Al-Zaqeba and Al-Rashdan, 2020 ; Salim et al., 2022).

Based on diverse data and prior research, a number of industrial 4.0 technologies have started to be deployed in developing nations, even though they are still in their infancy and their use is less sophisticated than in developed countries. The government, business community, and tax authorities are currently benefiting greatly from the development of information technology, including business process automation, Internet of Things (IoTs), cloud computing artificial intelligence, blockchain, and big data analytics (Koroma et al., 2022; Chang et al., 2022). Future tax research will be impacted by the development of information technology, including the emergence of artificial intelligence, the IoTs, cloud computing, and blockchain (Albayati et al., 2020). However, according to Cheng et al. (2023), a careful analysis of the Declarations reveals specific degrees and types of Chinese involvement in Africa's complex political and economic environment as well as an evolving reorientation of development cooperation policy practices influenced by growing worries about local governance issues and African economic policy. Vargas-Hernández (2023) also stated that although being economically effective, national protectionist measures have made global supply, manufacturing, and value networks less secure. As a result, the benefits of relocation are diminished because the growth in salaries and income in the target developing nations is what drives the transfer of production processes. The Directorate General of Taxes (DGT) must match a substantial quantity of data and information on transactions in e-Invoices, which makes the validation and verification procedure rather difficult.

Sustainable design plays a crucial role in promoting environmental stewardship by ensuring goods and processes are produced with minimal adverse environmental consequences (Hinton, 2020). Studies have shown that adopting sustainable design principles can lead to lower energy use, reduced greenhouse gas emissions, and decreased waste production, while also meeting customer demands for environmentally friendly products (Tukker et al., 2020; Dangelico and Pujari, 2010). However, organizations face challenges in implementing sustainable design practices, including a lack of knowledge, budget constraints,

limited availability of sustainable materials, and the need for supply chain coordination (Charter et al., 2020). Overcoming these obstacles requires organizational commitment, stakeholder involvement, and investment in research and development. By integrating sustainable design principles and promoting environmental responsibility, businesses can reduce their environmental impact, enhance their brand reputation, and contribute to a more sustainable future. Collaboration among companies, decision-makers, and consumers is crucial for addressing these challenges and achieving sustainable design goals.

### *2.3 Moderator Effect of Socioeconomic Factors*

Since relocation processes are no longer viable in the current environment of health instability, social, economic, political, and multinational corporations' subsidiaries that are present in other international host territories have started repression or de-globalization processes in an effort to bring their production back to their home nations. To extend the processes of corporate globalization, this position has meant standstill and, in some circumstances, a reversal in company strategy (Meyer and Peng, 2016; Al-Zaqeba et al., 2022). It has been shown that when production in some Chinese provinces is paralyzed, the supply of inputs to other enterprises from other countries is also disrupted, which is proof of the high level of economic interconnectedness in globalization processes. Deglobalization, a solution to this susceptibility, makes relocation more profitable with the repatriation of manufacturing (Zhu et al., 2020; Al-Zaqeba et al., 2022). Likewise, the mediator impact of adopting sustainable practices refers to the method through which the relationship between organizational factors and sustainability outcomes is altered (Roscoe et al., 2019). Sustainable practices, which operate as an intermediary variable, link the organizational context with sustainability performance. By implementing sustainable practices, organizations may enhance their social and environmental performance, which will ultimately lead to improved sustainability results (Rehman et al., 2022). In addition, socioeconomic factors, such as income level, education, and occupation, can influence the adoption of sustainable practices within organizations and society at large (McDonald and Hite, 2018). These factors can shape individuals' attitudes, perceptions, and willingness to adopt sustainable practices. For example, higher income levels and educational attainment are often associated with greater sustainability awareness and understanding issues, leading to increased motivation and adoption of sustainable practices. Conversely, lower socioeconomic status may pose barriers to adoption due to limited resources and access to information (Vieira et al., 2022).

Socioeconomic factors can moderate the relationship between sustainable practices adoption and its outcomes. The impact of sustainable practices on organizational performance, environmental outcomes, and social impact can vary depending on the socioeconomic characteristics of individuals or communities (Papademetriou et al., 2023). For instance, studies such as D'Angelo et al. (2022); Al-Zaqeba et al. (2022); Yang and Wang (2023); Razzaq et al. (2023); Kholiaif et al. (2023); Hao et al. (2023); Wei et al. (2023); Khan et al. (2023); Sadiq et al. (2023) have found that the positive effects of sustainable practices on economic performance may be more pronounced in higher-income communities, where there is greater capacity to invest in green technologies and practices. Similarly, the environmental benefits of sustainable practices may be more significant in communities with lower socioeconomic status, as they may experience disproportionate exposure to environmental risks.

Socioeconomic factors also play a role in stakeholder engagement and support for sustainable practices adoption (Wang et al., 2014; Fiore et al., 2020; Martini et al., 2020; Galati and Adamashvili, 2023). Different socioeconomic groups may have varying levels of awareness, concern, and interest in sustainability issues. Understanding the dynamics of stakeholder engagement across socioeconomic strata is crucial for effectively communicating the benefits of sustainable practices and garnering support. Organizations need to consider the unique needs and perspectives of diverse stakeholder groups and tailor their sustainability initiatives accordingly to foster inclusive engagement (Aleixo et al. 2018; Bellucci et al., 2019; Holst 2023; Shahzamal and Elgammal, 2023). Nevertheless, socioeconomic factors act as moderators in the relationship between sustainable practices adoption and its outcomes. Understanding how these factors influence the adoption, effectiveness, and stakeholder engagement in sustainable practices is essential for designing effective strategies and policies. Socioeconomic characteristics such as income, education, and occupation shape individuals' attitudes and resources, influencing their ability and willingness to adopt sustainable practices. By considering the moderator effect of socioeconomic factors, organizations and policymakers can promote more inclusive and effective sustainable practices adoption, leading to positive environmental, economic, and social outcomes.

### *2.4 Mediator Effect of Sustainable Practices Adoption*

Organizations are adopting and implementing sustainable practices across their operations in an effort to be more sustainable. These practices cover a wide variety of activities, including responsible supply chain management, waste reduction, resource efficiency, and waste reduction. With an emphasis on the role that these practices play in mediating the link between organizational determinants and sustainability outcomes, this literature review intends to examine the idea of the mediator impact of sustainable practice adoption. Adoption of sustainable practices refers to the incorporation and application of ethical business practices inside a company. It entails the methodical application of sustainability concepts across a range of operational areas, including as product design, manufacturing processes, waste management, and stakeholder involvement. Adopting sustainable practices goes beyond only obeying the law and aims to have a beneficial influence on both the environment and society (Ajmal et al., 2018, Al-Zaqeba et al., 2023). Moreover, sustainable practices adoption is a vital

strategy for organizations seeking to embrace environmental responsibility and achieve long-term sustainability (Smith et al., 2022). Motivations for adoption stem from both internal and external factors, while barriers pose challenges that must be addressed proactively. By adopting sustainable practices, organizations can realize a range of positive outcomes, including environmental conservation, economic benefits, and social impact. However, the successful adoption of sustainable practices requires a supportive organizational culture, leadership commitment, stakeholder engagement, and access to necessary resources and expertise.

The process through which the adoption of sustainable practices changes the link between organizational variables and sustainability outcomes is referred to as the mediator effect of sustainable practice adoption (Aboramadan & Karatepe, 2021). The organizational context and sustainability performance are connected through sustainable practices, which serve as an intermediary variable. Organizations may improve their environmental and social performance, which will ultimately result in better sustainability outcomes, by using sustainable practices. In addition, Organizational factors play a crucial role in influencing the adoption of sustainable practices. These factors can include organizational culture, leadership commitment, employee engagement, and the availability of resources and support systems. Research has shown that organizations with a strong sustainability culture, supportive leadership, and engaged employees are more likely to adopt and implement sustainable practices (Delmas & Pekovic, 2013). These factors create an enabling environment that fosters the integration of sustainability into organizational practices.

The adoption of sustainable practices has been linked to a range of positive sustainability outcomes (Shen et al., 2018; Todaro et al., 2023). These outcomes can include reductions in resource consumption, greenhouse gas emissions, and waste generation, as well as improvements in energy efficiency, environmental performance, and social impacts (Ciliberti et al., 2015). Sustainable practices adoption can also lead to improved stakeholder relationships, increased innovation, enhanced reputation, and long-term business resilience (Avery and Bergsteiner, 2011; Memili et al., 2018; Karman and Savanevičienė, 2023). In addition, an understanding of the mediator effect of sustainable practices adoption is crucial for organizations aiming to achieve sustainable outcomes. By recognizing the role of sustainable practices as mediators, organizations can strategically align their efforts and resources towards adopting and implementing these practices. This understanding enables organizations to identify the specific sustainable practices that are most effective in mediating the relationship between organizational factors and sustainability outcomes, allowing for targeted interventions and improvements (Zhu et al., 2012; Kavurma et al., 2023). However, the mediator effect of sustainable practices adoption highlights the crucial role these practices play in shaping sustainability outcomes. Organizations that prioritize and invest in sustainable practices adoption are likely to experience positive environmental, social, and economic impacts. By considering the organizational factors that influence the adoption of sustainable practices, businesses can create an enabling environment that fosters sustainability and promotes long-term success.

### 3. Research Gap

After reviewing the literature above, Scopus Databases was reviewed to define the research gap more accurately, as well as to identify the position of the current study among the previous literature (Mrayyen et al., 2018; Birkle et al., 2019; Mohammad et al., 2020; Abuhamdah et al., 2021). In addition, VOSviewer can be used to get network visualization to the Scopus article and show the gap (Ahmed et al., 2023; Alzaqebah et al., 2023; Alrefai et al., 2023). Nevertheless, by reviewing the Scopus article that related to “Supply Chain Management” 76,345 documents were found, the last five years were determined from 2018-2024 with documents type Article and Conference Paper only with subject area Business, Management and Accounting also with Economics, and Finance which is in English language. As a result of the search, 9,702 documents were obtained. Then, the researcher exported a comma separated file, (.csv e.g. Excel); which include 9,702 articles were recorded as a result of the search. However, VOSviewer (version 1.6.18) was used to get network visualization for Co-occurrence; which shows the literature gap with “Supply Chain Management” as shown in Fig. 1.

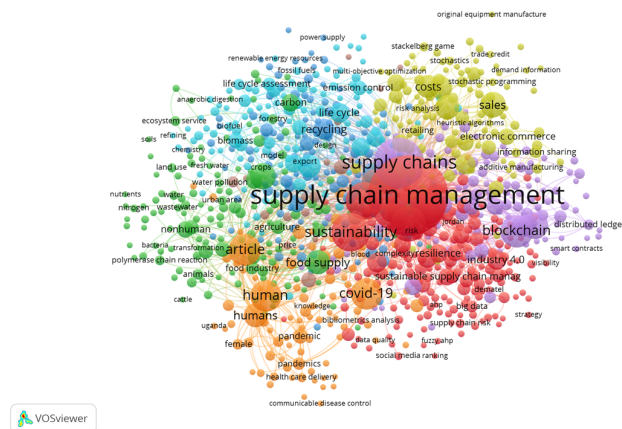


Fig. 1. Network visualization (Co-occurrence - index keywords)

As shown in Fig. 1 network visualization supply chain management was examined with other variables around the world. In order to verify more about studies that focused on variables with both direct and indirect relationships between variables, as described above, no studies have examined taxation and customs strategies in supply chain management in addition to shaping sustainable design and driving environmental responsibility. This indicate that the variables examined focus on the course of the supply chain process, and in the field of this study, only previous studies focused on the total cost and profits from each supply process; While taxes and customs constitute costs that cannot be accurately determined in Jordan, therefore, tax and customs strategies must be examined in the context of supply chain management in addition to the formation of sustainable design and leadership of environmental responsibility, especially in Jordan, as most countries have clear and accurate strategies for each shipment issued or Incoming to the state, and due to the different strategies in developing countries, especially in Jordan, and there were no recent studies that looked at tax and customs strategies in managing the supply chain in addition to forming sustainable design and leading environmental responsibility; This study focuses on the research gap elicited in this section. Due to the lack of relevant studies, the important variables were investigated in this study, namely taxation and customs strategies. However, only 21 documents were found that related to “taxation and customs strategies”. The literature gap with “taxation strategies and customs strategies” as shown in Fig. 2. However, Fig. 3 shows the Co-authorship based on the countries. while most studies were conducted in the United State followed by Australia, United Kingdom, Ireland, and Netherlands respectively as shown in Fig. 3.

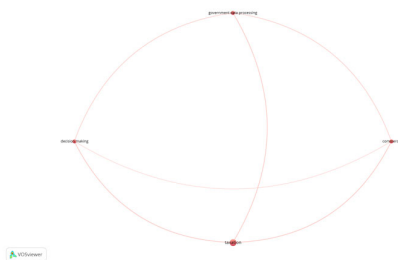


Fig. 2. (Co-occurrence - index keywords)



Fig. 3. (Bibliographic coupling – Countries)

The most recent previous studies were located in United State followed by Australia, United Kingdom, Ireland, Netherlands, and the last is Indonesia; which means that only Indonesia as new country is currently interested in tax and customs strategies in supply chain management. Nevertheless, there is a significant gap in research concerning supply chain management in developing countries, particularly in the Middle East region. Further studies are needed to explore the challenges and opportunities specific to these countries especially in Jordan. However, studies refer to countries that received citations are referred to in Fig. 4 below.



Fig. 4. Co- citations based on the countries

Fig. 4 above indicates that there is a gap in the studies regarding developing countries, especially the countries of the Middle East. Therefore, there is a need for more studies about taxation strategies and customs strategies on supply chain management especially in Jordan. However, the analysis of co-citations based on countries reveals a lack of references to research conducted in Middle Eastern countries. This indicates a research gap in terms of the involvement of Middle Eastern countries. It is essential to explore the specific challenges and opportunities in these countries to enhance and shape sustainable design and drive environmental responsibility especially in Jordan.

#### 4. Hypothesis Development

The previous sections of this literature review have shed light on the interplay between taxation and customs strategies, sustainable design, and environmental responsibility in the context of Jordanian supply chain management. Drawing upon the

insights gained from the literature review, this section aims to develop hypotheses that can guide empirical research and deepen our understanding of the relationships between taxation and customs strategies, sustainable design, and environmental responsibility.

#### 4.1 Direct Effect

Based on the literature review, the direct effect hypotheses propose that effective taxation strategies, such as tax incentives for sustainable practices and waste reduction, will positively influence the adoption of sustainable responsibility within Jordanian supply chains. Similarly, well-designed customs strategies, which enforce environmental standards and promote compliance with sustainability regulations, will also positively impact the adoption of sustainable responsibility. Moreover, taxation strategies that incentivize environmentally responsible practices and customs strategies that regulate the environmental impact of imported goods are expected to positively influence environmental responsibility within Jordanian supply chains. For instance, Klassen and Vereecke (2021) emphasize the impact of effective tax planning on financial performance and overall business strategy, highlighting the potential positive effect on sustainable responsibility. Rushton et al. (2020) discuss the importance of efficient customs strategies in reducing costs and improving customer satisfaction, which can contribute to sustainable responsibility. Additionally, Setyowati et al. (2023) investigate the integration of blockchain technology in taxation systems, considering organizational, environmental, and technological factors, which are essential for sustainable responsibility. Owusu et al. (2023) examine key determinants of tax compliance intention, providing insights into the relationship between taxation strategies and sustainable responsibility.

By implementing tax incentives for sustainable practices and waste reduction, businesses can be motivated to adopt more environmentally friendly practices, leading to improved sustainable responsibility within the supply chain. Similarly, through enforcing environmental standards and regulations at the customs level, businesses are encouraged to comply with sustainability requirements, resulting in enhanced sustainable responsibility within Jordanian supply chains. Additionally, the hypotheses (H3 and H4) propose that taxation and customs strategies also have a direct effect on environmental responsibility. In addition, taxation strategies that incentivize environmentally responsible practices and customs strategies that regulate the environmental impact of imported goods can contribute to the adoption of more environmentally friendly practices, thereby promoting environmental responsibility within Jordanian supply chains. However, this paper assumes the following hypotheses:

- H1:** *Taxation strategies have a positive effect on sustainable responsibility in Jordanian supply chains* (Klassen & Vereecke, 2021; Setyowati et al., 2023; Owusu et al., 2023).
- H2:** *Customs strategies have a positive effect on sustainable responsibility in Jordanian supply chains* (Rushton et al., 2020; Setyowati et al., 2023; Owusu et al., 2023).
- H3:** *Taxation strategies have a positive effect on environmental responsibility in Jordanian supply chains* (Klassen & Vereecke, 2021; Setyowati et al., 2023; Iazzi et al., 2023).
- H4:** *Customs strategies have a positive effect on environmental responsibility in Jordanian supply chains* (Rushton et al., 2020; Setyowati et al., 2023; Iazzi et al., 2023).

#### 4.2 Moderator effect

Socioeconomic factors such as income, education, and occupation influence the relationship between sustainable practices adoption and its outcomes. The hypotheses suggest that the effects of sustainable practices may be stronger or weaker depending on the socioeconomic characteristics of individuals or communities, impacting economic performance, environmental outcomes, stakeholder engagement, and the overall effectiveness of sustainable practices. Furthermore, socioeconomic factors moderate the relationship between taxation strategies and sustainable responsibility, such that the effectiveness and impact of taxation strategies on promoting sustainable responsibility vary depending on the socioeconomic characteristics of individuals or communities. Specifically, higher-income communities may have a greater capacity and resources to adopt and implement sustainable practices in response to taxation strategies, leading to a stronger association between taxation and sustainable responsibility. Conversely, lower-income communities may face barriers in adopting sustainable practices due to limited resources and access to information, resulting in a weaker association between taxation and sustainable responsibility. In addition, socioeconomic factors moderate the relationship between environmental strategies and sustainable responsibility, such that the effectiveness and impact of environmental strategies on promoting sustainable responsibility vary depending on the socioeconomic characteristics of individuals or communities. Higher-income communities, with greater awareness and resources, may be more receptive and responsive to environmental strategies, leading to a stronger association between environmental strategies and sustainable responsibility. In contrast, lower-income communities may face challenges in adopting and implementing sustainable practices related to environmental strategies due to limited resources and access, resulting in a weaker association between environmental strategies and sustainable responsibility. Nevertheless, Dangelico and Pujari (2010); and McDonald and Hite (2018) indicate that socioeconomic factors, such as income level and resources, can influence individuals' ability and willingness to adopt sustainable practices. Higher-income communities are more likely to have the capacity to invest in sustainable technologies and practices, resulting in a stronger association between taxation strategies and sustainable responsibility.



Aleixo et al. (2018); Shahzalal and Elgammal (2023) highlight the influence of socioeconomic factors on the adoption and implementation of sustainable practices. Higher-income communities are more likely to have greater awareness and resources to support environmental strategies, leading to a stronger association between environmental strategies and sustainable responsibility. On the other hand, lower-income communities may face barriers that hinder the adoption of sustainable practices, resulting in a weaker association between environmental strategies and sustainable responsibility. Thus, the hypotheses of this paper assume as the following:

**H5:** *Socioeconomic Factors have Moderator Effect between Taxation Strategies and Sustainable Responsibility.* (Dangelico and Pujari, 2010; McDonald and Hite, 2018).

**H6:** *Socioeconomic Factors have Moderator Effect between Environmental Strategies and Sustainable Responsibility.* (Aleixo et al., 2018; Shahzalal and Elgammal, 2023).

#### 4.3 Mediator Effect

Sustainable practices adoption mediates the relationship between organizational factors and sustainability outcomes, such that the adoption of sustainable practices positively influences sustainability outcomes in organizations. Specifically, organizations with a strong sustainability culture, supportive leadership, employee engagement, and access to necessary resources and support systems are more likely to adopt and implement sustainable practices, which in turn leads to improved environmental performance, social impact, and economic benefits (Obeidat et al., 2020). In addition, Delmas and Pekovic (2013); Amores et al. (2021); Duque-Grisales et al. (2020); and Todaro et al. (2023) emphasized the importance of organizational factors, such as sustainability culture, leadership commitment, and employee engagement, in influencing the adoption and implementation of sustainable practices. They indicate that organizations with supportive environments are more likely to prioritize sustainability and invest in sustainable practices, leading to positive sustainability outcomes. Moreover, the mediator effect of sustainable practices adoption highlights the role of these practices in shaping sustainability outcomes. By strategically aligning efforts and resources towards adopting and implementing sustainable practices, organizations can effectively mediate the relationship between organizational factors and sustainability outcomes. This understanding allows for targeted interventions and improvements in sustainability performance. Thus, there are no studies that confirmed the mediating effect. Therefore, this study in the context of Jordan assumes the following hypotheses:

**H7:** *The relationship of Taxation Strategies and Sustainable Responsibility is Moderated by Sustainable Practices Adoption.* (Delmas and Pekovic, 2013; Todaro et al., 2023).

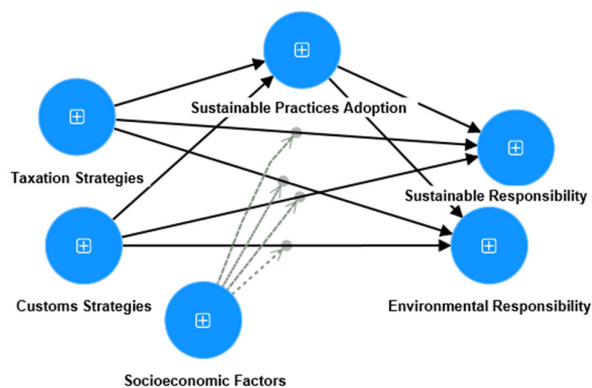
**H8:** *The relationship of Customs Strategies and Sustainable Responsibility is Moderated by Sustainable Practices Adoption.* (Duque-Grisales et al., 2020; Amores et al., 2021).

**H9:** *The relationship of Taxation Strategies and Environmental Responsibility is Moderated by Sustainable Practices Adoption.*

**H10:** *The relationship of Customs Strategies and Environmental Responsibility is Moderated by Sustainable Practices Adoption.*

## 5. Research Model

Based on previous studies, there is a growing recognition of the importance of sustainable practices adoption in organizations and its role in mediating the relationship between organizational factors and sustainability outcomes. Researchers have highlighted the significance of organizational culture, leadership commitment, employee engagement, and access to resources in influencing the sustainable practices adoption. Studies have shown that organizations with a strong sustainability culture and supportive leadership are more likely to prioritize sustainability and invest in sustainable practices. These practices, in turn, have been associated with positive sustainability outcomes, including environmental performance, social impact, and economic benefits. However, the study's model, represented in Fig. 5 below.



**Fig. 5.** Research Model

## 6. Research Method

This research technique is a quantitative survey, and Smart PLS4.0 software and structural equation modelling partial least squares (SEM-PLS) are used for the analysis of study data. By distributing questionnaires using a 228-point Likert scale, the study data was collected. 228 experts from Jordan's tax and customs departments participated in the survey as responders. Validity tests, reliability tests, and significance tests, or hypothesis tests, are the phases of data analysis.

## 7. Results

### 7.1 Path Coefficients

To show the extent of the independent variable's influence on the dependent variable, the path coefficient is assessed. The determination coefficient (R-Square) quantifies how much an exogenous variable will influence an endogenous variable. The R<sup>2</sup> value for endogenous latent variables in the structural model is 0.67 and higher, indicating a positive link between exogenous and endogenous variables. Fig. 6 provides a description of the path coefficients on the achievement motivation research framework as follows.

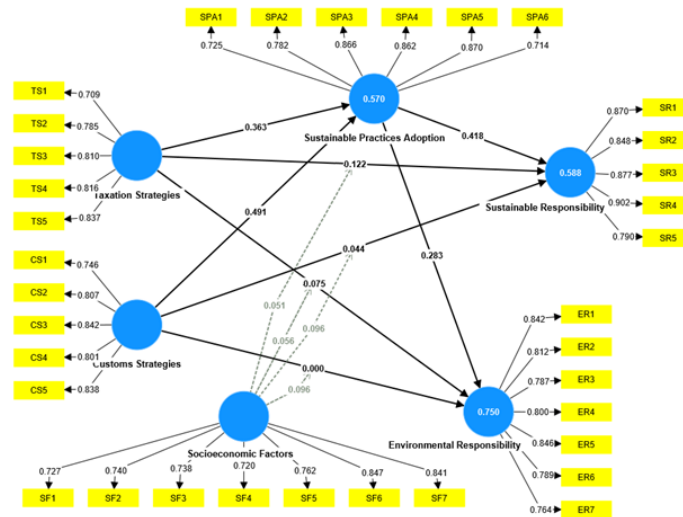


Fig. 6. Finalized Measurement Model (Validity Testing)

The outer loading values of every indication of several study variables are more than 0.7. It appears that certain indicators still have an outside loading value of less than 0.7, though. According to Mulyono et al. (2020) the outer loading value between 0.5 and 0.6 is deemed enough to satisfy the conditions of convergent validity. The information above demonstrates that none of the variable indicators have outer loading values below 0.5, making all of them suitable for use in research and applicable for further investigation.

### 7.2 AVE and Reliability

Table 1 provides an assessment of variable reliability using three commonly used measures: Cronbach's Alpha, composite reliability, and AVE. These measures evaluate the internal consistency, overall reliability, and convergent validity of constructs in SEM-PLS analysis. High coefficients of Cronbach's Alpha, composite reliability (more than 0.70), and average variance extracted indicate that all constructs in Table 1 are reliable and trustworthy for the SEM-PLS analysis. These measures ensure the reliability, internal consistency, and accurate measurement of the intended concepts.

Table 1  
Reliability and Testing of AVE

	Cronbach's alpha	Composite reliability (rho_a)	(AVE)
Customs Strategies	0.867	0.877	0.652
Environmental Responsibility	0.910	0.913	0.650
Socioeconomic Factors	0.885	0.895	0.592
Sustainable Practices Adoption	0.890	0.896	0.650
Sustainable Responsibility	0.910	0.911	0.737
Taxation Strategies	0.852	0.864	0.628

R<sup>2</sup> values range from 0 to 1, with 0 indicating that the independent variables have no explanatory power, and 1 indicating that they completely explain the variance in the dependent variable. Therefore, higher R<sup>2</sup> values indicate a stronger relationship between the independent and dependent variables. However, R<sup>2</sup> values are used to assess the explanatory power of the independent variables in a regression model. Higher R<sup>2</sup> values indicate a stronger relationship and a more substantial effect, while lower R<sup>2</sup> values indicate weaker relationships and smaller effects. The classification of “weak”, “moderate”, and “good” provides a qualitative assessment of the model fit based on the R<sup>2</sup> values at 0.19, 0.33, and 0.67 respectively.

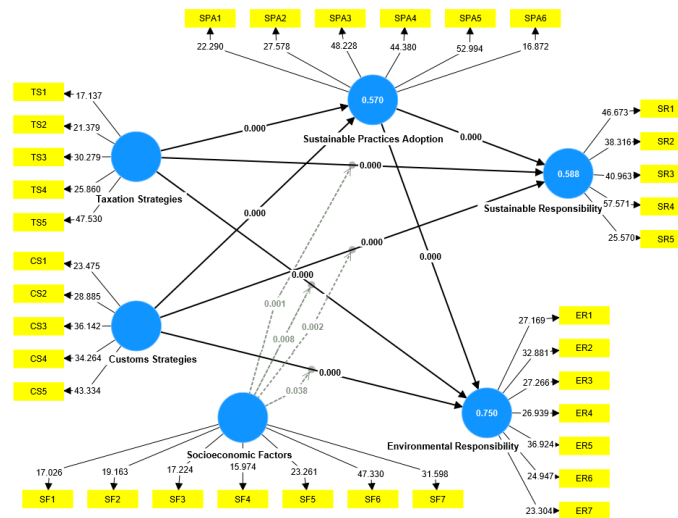
**Table 2**  
R<sup>2</sup> and adjusted R<sup>2</sup> values results

	R-square	R-square adjusted
Environmental Responsibility	0.750	0.744
Sustainable Practices Adoption	0.570	0.566
Sustainable Responsibility	0.588	0.576

Based on Table 2 above, the value of R<sup>2</sup> is 0.750, 0.570, and 0.588; which means that 75.0%, 57.0%, and 58.8% of the change or variation in environmental responsibility, sustainable practices adoption, and sustainable responsibility are influenced by sustainable practices adoption, taxation strategies and customs strategies, while the remaining 25.0%, 43.0%, and 41.2% are explained by other causes. In addition, it can be said that the R<sup>2</sup> on the variable of environmental responsibility and sustainable responsibility is moderate.

7.3 Hypotheses Testing

To test hypotheses in statistical analysis, various indicators are examined. These indicators include the original value sample estimates (O), t-statistics (T), and p-values (P). They provide insights into the direction and significance of the relationship between variables. The original value sample estimate (O) reveals the numerical estimate obtained from the sample data. A value close to +1 suggests a positive relationship between the variables, while a value close to -1 indicates a negative relationship. In addition, T-statistics (T) is used to assess the significance of the relationship. A t-statistics value greater than 1.96 (assuming a confidence level of 95%) indicates a significant relationship between the variables. Also, P-values (P) are another important measure for evaluating significance. A p-value smaller than the chosen significance level (usually <0.05) suggests that the relationship between variables is statistically significant. Nevertheless, by considering these indicators, researchers can determine the direction of the relationship (positive or negative) based on the original value sample estimates (O) and ascertain the level of significance using t-statistics (T) and p-values (P). However, the results of hypothesis testing can be observed in Fig. 7 and Table 3 below, where the obtained values for the indicators mentioned above are presented. These results provide valuable insights into the relationships between variables and help researchers draw conclusions based on statistical evidence.



**Fig. 6.** Hypothesis Testing Results

Fig. 3 presents the process of hypothesis testing, which involves assessing the research hypotheses. The path coefficients mentioned earlier provide crucial information for this testing. Table 3, shown below, contains the results of the hypothesis testing for direct effects. This table provides a comprehensive overview of the relationships between variables and allows for the evaluation of the hypotheses. By examining the values in Table 3, researchers can determine whether the research hypotheses have been supported or rejected based on the direct effects observed between variables. The table serves as a valuable reference for understanding the outcomes of the hypothesis testing process.

**Table 3**  
Results of Hypothesis Testing

Path	$\beta$	STDEV	T-values	P-Values
<b>Direct Effect</b>				
Customs Strategies → Environmental Responsibility	0.110	0.040	2.620	0.000
Customs Strategies → Sustainable Practices Adoption	0.491	0.491	0.051	0.000
Customs Strategies → Sustainable Responsibility	0.280	0.040	7.690	0.000
Socioeconomic Factors → Environmental Responsibility	0.680	0.687	0.058	0.000
Socioeconomic Factors → Sustainable Responsibility	0.446	0.452	0.078	0.000
Sustainable Practices Adoption → Environmental Responsibility	0.283	0.274	0.067	0.000
Sustainable Practices Adoption → Sustainable Responsibility	0.418	0.410	0.089	0.000
Taxation Strategies → Environmental Responsibility	0.230	0.040	5.660	0.000
Taxation Strategies → Sustainable Practices Adoption	0.363	0.365	0.061	0.000
Taxation Strategies → Sustainable Responsibility	0.530	0.050	11.500	0.000
<b>Moderator Effect</b>				
Socioeconomic Factors × Taxation Strategies → Environmental Responsibility	0.142	0.139	0.053	0.008
Socioeconomic Factors × Taxation Strategies → Sustainable Responsibility	0.182	0.181	0.056	0.001
Socioeconomic Factors × Customs Strategies → Environmental Responsibility	0.096	0.110	0.046	0.038
Socioeconomic Factors × Customs Strategies → Sustainable Responsibility	0.165	0.158	0.053	0.002

In the direct effects section, the relationships between the independent variables (e.g., Customs Strategies, Socioeconomic Factors, Sustainable Practices Adoption, Taxation Strategies) and the dependent variables (e.g., Environmental Responsibility, Sustainable Responsibility) are examined. The beta coefficients, t-values, and p values provide information about the significance and direction of these relationships. For example, a positive beta coefficient with a low p value indicates a significant positive relationship between the variables. In the moderator effects section, the interactions between two independent variables are analyzed. The interaction terms involve the multiplication of the two variables (e.g., Socioeconomic Factors x Taxation Strategies). The beta coefficients, t-values, and p values in this section provide insights into how these interactions influence the dependent variables. However, the result of mediation testing is shown in Table 4.

**Table 4**  
Result of Mediation Testing

Path	$\beta$	STDEV	T-values	P Values
Customs Strategies → Sustainable Practices Adoption → Sustainable Responsibility	0.139	0.035	3.917	0.000
Customs Strategies → Sustainable Practices Adoption → Environmental Responsibility	0.205	0.049	4.184	0.000
Taxation Strategies → Sustainable Practices Adoption → Environmental Responsibility	0.103	0.030	3.386	0.001
Taxation Strategies → Sustainable Practices Adoption → Sustainable Responsibility	0.152	0.041	3.701	0.000

Sustainable Practices Adoption mediated the effect of Taxation Strategies on Sustainable Responsibility. This is because the indirect effect as shown in Table 4 above (Taxation Strategies → Sustainable Practices Adoption → Sustainable Responsibility) is significant ( $B=0.152$ ,  $T>1.96$ ,  $P<0.05$ ). Thus, H7 is supported. For H8, H9, and H10 also are significant ( $B=0.139$ ,  $0.103$ , and  $0.205$   $T>1.96$ ,  $P<0.05$ ). Thus, all the hypotheses are supported.

The results of the study provide valuable insights into the relationship between taxation and customs strategies and their impact on sustainable responsibility and environmental responsibility within Jordanian supply chains. The direct effect hypotheses (H1-H4) suggest that effective taxation and customs strategies positively influence the adoption of sustainable responsibility and environmental responsibility. This is consistent with previous research that highlights the role of tax incentives, environmental standards enforcement, and compliance with sustainability regulations in promoting sustainable practices and environmental responsibility (Klassen & Vereecke, 2021; Rushton et al., 2020; Setyowati et al., 2023; Iazzi et al., 2023). The findings support the notion that implementing tax incentives for sustainable practices and waste reduction can motivate businesses to adopt more environmentally friendly practices, leading to improved sustainable responsibility within the supply chain. Similarly, well-designed customs strategies that enforce environmental standards and promote compliance with sustainability regulations encourage businesses to comply with sustainability requirements, resulting in enhanced sustainable responsibility within Jordanian supply chains. These findings align with the research of Klassen and Vereecke (2021) and Rushton et al. (2020), who emphasize the positive impact of effective tax planning and efficient customs strategies on sustainable responsibility. Moreover, the study identifies socioeconomic factors as moderators that influence the relationship between taxation and customs strategies and sustainable responsibility. The moderating effect hypotheses (H5 and H6) suggest that the effectiveness and impact of taxation and environmental strategies on promoting sustainable responsibility vary depending on the socioeconomic characteristics of individuals or communities. This is consistent with previous studies that highlight the influence of socioeconomic factors, such as income level, education, and resources, on individuals' ability and willingness to adopt sustainable practices (Dangelico & Pujari, 2010; McDonald & Hite, 2018; Aleixo

et al., 2018; Shahzalal & Elgammal, 2023). In addition, the mediator effect of sustainable practices adoption on sustainability outcomes provides valuable insights into the role of organizational factors and the importance of integrating sustainable practices within Jordanian supply chains. These findings are consistent with previous research that highlights the significance of organizational culture, leadership commitment, and employee engagement in driving sustainability initiatives (Delmas & Pekovic, 2013; Amores et al., 2021; Duque-Grisales et al., 2020; Todaro et al., 2023). By emphasizing the mediating role of sustainable practices adoption, this paper contributes and adds to the body of knowledge by understanding of how organizations can effectively translate organizational factors into positive sustainability outcomes.

## 8. Discussion

The findings support the role of taxation and customs strategies in shaping sustainable design and driving environmental responsibility within Jordanian supply chains. The positive influence of effective taxation and customs strategies on the adoption of sustainable responsibility and environmental responsibility is consistent with previous research (Klassen & Vereecke, 2021; Rushton et al., 2020; Setyowati et al., 2023; Iazzi et al., 2023). The research highlights the moderating effect of socioeconomic factors, emphasizing the influence of income, education, and resources on this relationship (Dangelico & Pujari, 2010; McDonald & Hite, 2018; Aleixo et al., 2018; Shahzalal & Elgammal, 2023). Moreover, the study underscores the mediator effect of sustainable practices adoption, emphasizing the significance of organizational culture, leadership commitment, and employee engagement in driving sustainability outcomes (Delmas & Pekovic, 2013; Amores et al., 2021; Duque-Grisales et al., 2020; Todaro et al., 2023). The results highlight the need for tailored approaches and support mechanisms to promote equitable adoption of sustainable practices, particularly in lower-income communities. By incorporating tax incentives and enforcing environmental regulations, organizations can motivate the adoption of environmentally friendly practices and improve sustainability outcomes (Dangelico & Pujari, 2010; McDonald & Hite, 2018). These findings contribute to the understanding of how taxation and customs strategies can promote sustainable responsibility and offer practical implications for policymakers and businesses in managing supply chains in Jordan.

## 9. Conclusion

The findings of this study contribute to understanding the impact of taxation and customs strategies on sustainable responsibility and environmental responsibility in Jordanian supply chains. Effective strategies in taxation and customs are crucial for incentivizing sustainable practices and promoting responsible behaviour. Socioeconomic factors should be considered as moderators in developing targeted interventions to enhance sustainable responsibility. Practical implications include fostering a sustainability culture, adopting sustainable practices, promoting collaboration, and implementing supportive policies. Future research should explore various aspects such as long-term impact, sector-specific analysis, stakeholder perspectives, technology and innovation, socioeconomic factors, cross-cultural perspectives, performance measurement and reporting, and circular economy approaches to advance the implementation of sustainable responsibility in Jordanian supply chains. Organizations can prioritize the adoption of sustainable practices, recognizing their mediator effect, to achieve positive environmental, social, and economic impacts and contribute to a more sustainable future.

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