



Impact of corporate motives for sustainable sourcing: key moderating role of regulatory pressure

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Abstract

Organizational decisions and their motivations are crucial for successfully implementing sustainable sourcing practices (SSP). Still, there is scant research on how SSPs are impacted by corporate motives (CM). To fill this research gap, we formed a three-tiered stakeholder theory (ST) based paradigm that accounts for the moderating impact of regulatory pressure (RP) while examining the relationship between different types of corporate motives (instrumental, relational, and moral) and SSP. Partial least squares structural equation modeling (PLS-SEM) was used to examine data collected from 248 respondents in the Pakistani manufacturing industry. The outputs of SEM disclosed that all CMs affect SSP. RP also confoundedly moderated these targeted relationships. Importance performance map analysis (IPMA) showed that regulatory pressure (0.319) and relational motives (67.38) are more important and perform better than all other exogenous variables. This study sheds light on corporate strategies and decision-making in multi ways. All dimensions of CM greatly enhance SSP directly and through RP, as RP firmly moderates these associations, indicating the relevance of ST. Finally, this empirical investigation ends with a framework of testable assertions and many future research endeavors on environmental sustainability.

Keywords Stakeholder theory · Corporate motives · Regulatory pressure · Sustainable sourcing

Introduction

In developing nations, where many in-demand goods are now manufactured, globalization of supply chains and pressure to lower manufacturing costs have harmed the environment (Liu et al. 2021; Qin et al. 2021). The significance of this issue has grown recently. Increased understanding of these adverse effects has prompted stakeholders to push businesses

to take accountability measures and implement a “Go-green” strategy to address environmental sustainability challenges (Genovese et al. 2017). Sustainable sourcing practices (SSP) are a good starting point for manufacturing companies that transform raw materials into finished goods on the path to sustainability. SSP is the combination of many processes that convert inputs into outputs (Bui et al. 2021; Shahzad et al. 2022).

Rapid development in recent years has posed severe threats to environmental sustainability (Fornasiero et al. 2016). Also, the move of low-end output to developing countries with weaker ecological rules and less control hurts environmental sustainability (Shahzad et al. 2020a). The proliferation of immoral, fraudulent, and environmentally harmful practices in raw materials procurement also leads negatively to environmental sustainability (Qin et al. 2021; Ye et al. 2022). With corporate motives (CM) driven by financial gains rather than environmental concern (Paulraj et al. 2017; Shahzad et al. 2022), an ever-increasing shareholder role in strategic decision-making (Goodman et al. 2017; Shahzad et al. 2020b), a lack of foresight, and economic pressure, many stakeholders’ voices have been muffled (Wijethilake and Lama 2019; Mirzaei et al. 2021). To achieve

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sustainable development (SD) in Europe and throughout the world, major purchasers of finished goods from developing nations like the European Union (EU) are outlining a strategic approach. Global trade regulation regimes have begun adopting drastic measures to preserve upstream and downstream supply chains to accomplish the sustainable development goals (SDGs) and execute the UN 2030 agenda for SD (Awan et al. 2017; Baah et al. 2020; Wang et al. 2021). Due to the increased scrutiny and stringent standards, many multinational corporations have adopted eco-friendly practices throughout their supply chains. More and more businesses are trying to comply with SSP to reduce their negative social, environmental, and economic consequences due to incorporating ESG criteria into the sourcing process (Kneipp et al. 2019; Chatterjee and Chaudhuri 2021). Businesses operating in developing nations may suffer from the adverse effects of regulatory pressure (RP) and public pressure if they fail to comply with sustainable procurement (Zhu et al. 2007; Helmig et al. 2016).

Eco-sustainability (e.g., reclamation and recycling) is promoted by environmentally responsible sourcing techniques such as the focus on renewable energy, product creation, and supplier relationship management, which in turn helps obtain societal and economic advantages (Baah et al. 2021; Shahzad et al. 2022). Long-term relationships between the buyer and supplier increase the intensity of buyer–supplier synchronization, and SSP includes supplier vetting and certification based on environmental laws to improve product quality (Schulze et al. 2022). Green purchasing with a greater emphasis on the use of renewable energy also helps in the development of green products. SSP can bring many advantages, including lower waste disposal costs and a competitive edge, protection from fines for environmental infractions, and safety from health and environmental liabilities while improving the brand image (Ding et al. 2019; Bueno-Garcia et al. 2021; Jadoon et al. 2021; Mirzaei et al. 2021). In addition, there has been a surge in the environmental consciousness of consumers, which means that environmentally friendly goods made of materials sourced from environmentally friendly suppliers have the potential to be distinctive selling points, hence boosting sustainable organizational competitiveness.

Despite the benefits already indicated, there are still significant obstacles to overcome when adopting the SSP; as mentioned earlier, prioritizing sustainable sourcing may reduce the pool of acceptable suppliers due to high environmental quality criteria (Bueno-Garcia et al. 2021). It increases the already stringent certification and other qualifying requirements for suppliers (Mancini et al. 2020). Another obstacle may be the resistance of internal workers to recently implemented sourcing techniques, which have resulted in modifications to the employees' previous sourcing routines and traditional business procedures (Jaramillo

et al. 2019; Schulze et al. 2022; Ye et al. 2022). Another task, and maybe the biggest, will be convincing shareholders to let some of the current money go in exchange for long-term gains (Bueno-Garcia et al. 2021; Shahzad et al. 2022). In this situation, the main goal of this study is to find out how different CM affects the SSP when various parties put pressure on it. This investigation was motivated by the issues mentioned above and the paucity of knowledge regarding the interactions between these factors in the available literature. So, the purpose of this study is to answer the following questions: (1) what is the impact of the various motives on SSP? (2) does RP moderate the relationship between each motive and SSP?

There are several ways in which the current study contributes to the prevailing body of literature. To begin, this study addresses a knowledge gap by using novel structural equation modeling (SEM) to investigate the association of CM in the adoption of SSP in the face of moderated regulatory pressure (RP). This study affords empirical support for the importance of several CM, including instrumental, relational, and moral motivations. The results of this study will add to the mounting body of empirical research on SSP adoption in manufacturing and provide an opportunity to investigate the part played by regulatory stakeholders' pressure. Policymakers and environmental authorities would benefit significantly from the insights provided by this study, as it will shed light on a hitherto uncharted sector by revealing the motivations that drive businesses to embrace sustainable practices. This article begins with a theoretical foundation and hypothesis development, then moves on to the methodology, findings, discussion, implications, and finally, the conclusion.

Literature review

Theoretical background and research model

Stakeholders theory (ST) proposes that the influence of various stakeholders encourages organizations to adopt specific ecological practices to improve SD (Darnall et al. 2010; Sarkis et al. 2011). Freeman (1984) stated that stakeholders is “a group or an individual that can affect or is affected by the achievement of an organization's purpose.” Primarily, there are two types of stakeholders: primary and secondary, including (employees, customers, shareholders, regulatory/government) and (media and various NGOs) respectively (Helmig et al. 2016). According to social comparison theory, organizations constantly compare their ideas, conduct, and belongings with others and seek better off than their competitors. Furthermore, according to self-presentation theory, organizations attempt to present themselves coherently with their self-image, indicating that they may gain a sense of

their identity by adopting sustainable sourcing. Finally, scholars have argued that behavior may be affect-driven, demonstrating that organizations may anticipate the emotions produced by being sustainable and concerned about the environment (Kiriakidis 2017). Stakeholders' perspectives on environmental concerns have recently broadened substantially. RP significantly influences CM and decisions, especially when such stakeholder groups can potentially impact the firm's survival (Baah et al. 2021). Many stakeholders are increasing pressure on organizations to develop strategies, procedures, and policies consistent with the organizational ecological areas (Shahzad et al. 2020b). In this regard, internal and external stakeholder groups force industries to evade adverse consequences while exploiting advantageous ones (Sarkis et al. 2011). This idea is seen as a descriptive concept connected with precedents for implementing specific ecological policies (Sarkis et al. 2011).

Prior studies have acknowledged a positive and significant correlation between an organization's RP and environmental management (Darnall et al. 2010; Shahzad et al. 2020b). Besides, a study of UK-based manufacturing organizations shows that RP for ecological concerns significantly impacts environmental performance (Ramanathan et al. 2014). As stakeholders' awareness and knowledge of sustainable production grew, businesses were pushed to reinvent the complete life cycle, including manufacturing, disposal, and sourcing (Jaafar et al. 2018). Different stakeholders have varying strategic impacts on organizations, which is difficult to quantify (Shahzad et al. 2020b). The degree of stakeholders' pressure may be identified primarily by three characteristics: power, legitimacy, and urgency. "Power – the stakeholder's power to influence the firm; Legitimacy – the stakeholder's relationship with the firm; and Urgency – the stakeholder's claim on the firm" (Shahzad et al. 2020b; Yu and Choi 2016).

The manufacturing industry has a detrimental impact on operational and environmental externalities (Shahzad et al. 2020c). The notion of sustainable sourcing in the supply chain has become one of the reasons why companies reduce costs and gain competitive advantage by increasing efficiency and efficiency while improving economic performance in competitive markets in developing countries (Bueno-Garcia et al. 2021). With the rising demand for sustainable procurement due to its economic, social, and environmental consequences, more and more organizations see the advantages of having a sustainable supply chain (Álvarez Jaramillo et al. 2019; Qin et al. 2021). SSP incorporates environmental, social, and economic elements into the organization that handles procurement processes and procedures and the usual pricing, delivery, and quality considerations (Dai et al. 2021). To make the whole sourcing process sustainable, firms must prioritize environmentally friendly items while adhering to the legal and futuristic

approach of green management rather than relying just on economic performance. Illustrious organizations have already started practicing sustainable and green sourcing as part of their sustainable supply chain to get long-term gains from SD (Shin et al. 2000; Schulze et al. 2022). As previous SD and business ethics studies have concluded, CM engages corporations in sustainable and green sourcing practices (Paulraj et al. 2017). With the rising demand for sustainable procurement due to its economic, social, and environmental consequences, more and more organizations see the advantages of having a sustainable supply chain (Álvarez Jaramillo et al. 2019; Qin et al. 2021). SSP incorporates environmental, social, and economic elements into the organization that handles procurement processes and procedures and the usual pricing, delivery, and quality considerations (Dai et al. 2021). Furthermore, for a detailed literature review, Table 1 is provided for more understanding of these targeted constructs with the relation of previous studies. In the current study, the primary emphasis is on various CM and their effect on SSP in the presence of RP (regulatory). These pressures exercise a substantial influence on the adoption of SSP. The research model in Fig. 1 represents the associations among CM (instrumental, relational, and moral motives) and SSP under the light of the ST to investigate the moderation of RP.

Hypotheses development

Instrumental motive (IM)

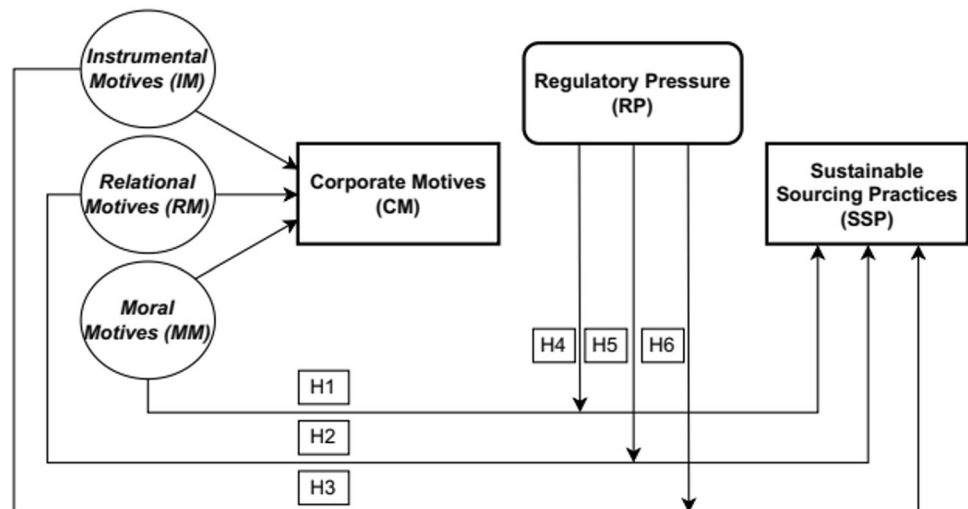
The existence and control of IM are undeniable on SSP. The motives administrated by the self-interests are considered IM (Qin et al. 2018). In the context of SSP, IM is described as the convenience or inconvenience reached with sustainable sourcing, which is related to, among other things, reduced environmental impact, brand reputation, increased revenue, better partnerships with stakeholders, and improved risk management (Bansal and Clelland 2004). Managers should raise compensation packages by blocking a lousy reputé and enhancing a firm's competitiveness (Gao and Bansal 2013) and lucrativeness (Paulraj et al. 2017).

The prior researcher identified that positive SSP results encourage top management decision-makers to adopt and follow such sustainable practices (Chatterjee and Chaudhuri 2021; Qin et al. 2021). Cost is reduced by eliminating waste of resources when firms design and manufacture products and processes according to environmental standards. SSP increases shareholder investment, staff morale, reputation, and harmony (Rogetzer et al. 2018). Keeping in mind the tough competition in the world where organizations are trying their best to achieve a sustainable competitive advantage, every firm must work with suppliers and consumers to achieve instrumental targets. Proper external collaboration

Table 1 Literature review

Authors	Methods/theory	Integrated constructs/measures	Finding
Zhou et al. (2023)	211 Survey Resource dependence theory, natural resource-based view: Structural equation modeling	Circular economy practices, green logistics management, supply chain traceability, and sustainability performances	Green logistics management impacts organizational circular economy practices and sustainable performance. Circular economy practice mediates, and supply chain traceability moderates the targeted relationship
Shahzad et al. (2022)	308 Survey Stakeholder theory: structural equation modeling	Stakeholder pressure (primary and secondary), green management practices, corporate motives (instrumental, relational, and moral)	Primary and secondary stakeholder pressure directly and through corporate motives significantly affects green management practices
Hassan and Jaaron (2021)	250 Survey Stakeholder theory: Structural equation modeling	Total quality management practices, organizational performance (operational, financial, and employee), and green management practices	Total quality management practices support green management practices and organizational performance; green management practices also significantly mediate these relationships
Baah et al. (2021)	210 Survey Stakeholder theory, natural resource-based view, institutional theory: Structural equation modeling	Stakeholder pressure (regulatory and organizational), firm reputation, environmental, and financial performance, and green production practices	Stakeholder pressure (regulatory and organizational) influences green production practices, enhancing the firm's reputation and improving environmental and financial performance
Kitsis and Chen (2021)	206 Survey Stakeholder theory: Structural equation modeling	Stakeholder pressure, green operations (product and process), top management commitment, environmental, and economic performance	Stakeholder pressures substantially affect green operations by identifying the key mediating channel of top management commitment
Rui and Lu (2020)	278 Survey Institutional theory: Structural equation modeling	Stakeholder pressure (regulatory, normative, and imitative pressure), corporate ethics, responsible leadership, environmental awareness, and green innovation	Stakeholder pressures significantly affect corporate ethics by identifying the critical mediating channel of corporate ethics between pressure and green innovation. Furthermore, responsible leadership moderates targeted relationships
Shahzad et al. (2020b)	318 Survey Stakeholder theory: Structural equation modeling	Primary stakeholders (customers, employees, and government), secondary stakeholders (media and NGOs) pressure. CSR and green innovation	Stakeholders' pressure (primary and secondary) directly and indirectly enhance environmental practices such as CSR and green innovation through knowledge management
Baah et al. (2020)	132 Survey Stakeholder theory: Structural equation modeling	Stakeholder pressure (regulatory and organizational), green logistics practices, social reputation, environmental reputation, and financial performance	Stakeholder pressure (regulatory and organizational) influences green logistics practices, improving environmental reputation and financial performance
(Zhang and Zhu 2019)	259 Survey Stakeholder theory, organizational learning theory: Structural equation modeling	Stakeholder pressure (regulatory and consumer), organizational learning (exploitation and exploration), and green innovation (process and product)	Consumer pressure influences green product innovation, and regulatory pressure influences green process innovation more positively. Further, organizational learning mediated these relationships positively
Foo et al. (2018)	178 Survey Resource-based view: Structural equation modeling	Green supply chain management and sustainable organizational performance	All green supply chain management practices expressively impact sustainable organizational performance (social, economic, and environmental) except supplier selection and evaluation
Paulraj et al. (2017)	259 Survey Stakeholder theory: Structural equation modeling	Organizational motives (instrumental, relational, and moral), sustainable process and product design, environmental performance, and financial performance	Organizational motives (instrumental, relational, and moral) are the key drivers for enhancing supply chain management practices and financial and environmental performance

Fig. 1 Conceptual model



must integrate sustainability in industrial operations to generate economic benefits (Bansal and Clelland 2004).

Different urgings on IM permit us to accomplish that it has a casual and instantaneous association with SSP and is among the pillars of SD. An IM is essential to reap the benefits of sustainable organizational growth (Gao and Bansal 2013). Because social and ecological concerns are not integrated into organizational operations, the instrumental approach focuses on just a subset of the sustainability paradigm. In summary, ethical egoism theory deliberates IM essential for an organizational SSP. Thus, this idea is offered.

H1: Instrumental motive (IM) positively impacts sustainable sourcing practice (SSP).

Relational motive (RM)

The relational motivation reflects business values and ideals that are in conflict with instrumental incentives and observe utilitarianism theory rather than ethical egoism (Paulraj et al. 2017). Sustainable practices are often used to boost profits and brand image. Social legitimacy is the reason for RM (Rousseau and Tijoriwala 1999). RM denotes that organizations can be explicit about themselves and their social/competitive position by employing sustainable sourcing; they could compare their sustainable sourcing with others and social norms. Prouteau and Wolff (2008) suggested that RM improve networking through practicing CSR activities in the local community. It is enthralling to learn “why prominent businesses have embraced SSP,” and RM is one critical aspect that should be examined behind this shift (Prouteau and Wolff 2008). RM considers the highest benefits of all the bodies elaborated in any business activity towards promoting competitive advantage and sustainability (Paulraj et al. 2017).

ST reflects diversity by converging on shareholders’ interests and assessing the well-being of all stakeholders

associated with the organization (Aguilera et al. 2007; Prouteau and Wolff 2008). Therefore, it is recommended that firms should prioritize the interests of multiple stakeholders, e.g., by providing environmentally friendly products to customers, suppliers eliminating toxic materials in their operations, and employees focusing on environmental training and awareness campaigns, instead of considering shareholder returns that are not for long-term (Aguilera et al. 2007).

For the survival of businesses, prior studies identified that it is necessary to mimic the existing actions of their competitors’ successful initiatives to outperform the competitor (Hofer et al. 2012). Furthermore, the CSR activities of organizations are the main reason behind developing an environmental strategy for a competitive environment (Shahzad et al. 2019; Ahmad et al. 2021). According to the customer’s requirements and feedback, the strategy variations can also lead to sustainable competitive advantages. Diverse scholars have extolled customers’ concern for sustainability. Collaboration with stakeholders to offer strategic value to all stakeholders, including consumers, has become a cornerstone for advancing and cultivating an organizational relational abilities (Aguilera et al. 2007). Considering the interdependencies between natural, social, and economic systems and the relationships between manufacturers, suppliers, customers, government, and in the interests of all stakeholders, business operations are characterized as relational (Touboulic and Walker 2016). Therefore, we proposed the following hypothesis by considering the effects of competition and, most crucially, the needs of stakeholders:

H2: Relational motive (RM) positively impacts sustainable sourcing practice (SSP).

Moral motives (MM)

MM encourages an organization without internal or external pressure to espouse sustainable practices beyond

environmental law (Chang 2019). These are also referred to as emotions evoked by being sustainable, i.e., being competitive may affect an organization's pride, and they may antedate these feelings when making production choices. Corporations with moral motivation have an organizational ethical duty to create a positive economic, social, and environmental effect and illuminate the future (Amjad et al. 2017). Organizations with MM are more likely to chase sustainable practices for a competitive edge (Chang 2019).

More sustainable and green behaviors are infused into business plans when managers initiate actions motivated by MM for the environment (Cantor et al. 2014). Organizations integrate CSR initiatives into their strategy to bring about societal change according to stewardship interests by concentrating on social and moral acts for a healthy society (Prouteau and Wolff 2008). Prior research has highlighted MM as a component beyond laws and regulations that should be considered for a better future (Chang 2019). Furthermore, according to some empirical studies, MM plays a leading part in sustainable practices (Paulraj et al. 2017). MM helps to increase top management commitments, strengthening relationship capacities with channel stakeholders (Chen and Kitsis 2017). Companies with a solid reputation are encouraged by virtuousness experts to participate in SSP since doing so is seen as the moral thing to do (Chen and Kitsis 2017). Because ancient or classical personal values affect the environment and display direct concern for all nonhuman species to preserve variety, they potentially solve environmental problems (Amjad et al. 2017). Preceding studies have shown that a company with MM has an ethical obligation to improve the world in which it operates by using ecologically and socially responsible business methods (Morais and Silvestre 2018). In addition, managers are prompted to consider factors other than monetary gain by their moral ideals. Managers immunize their business practices with the SSP when they demonstrate stewardship by caring about environmental challenges and acting accordingly by starting the acts of MM for a better society (Cantor et al. 2014). Based on the aforementioned research and findings, we hypothesize that MM and SSP are correlated positively. These factors force the company to seriously consider environmental concerns and adhere strictly to the philosophy of "doing the right thing." The following hypothesis can be put up as a result:

H3: Moral motive (MM) has a significant positive impact on sustainable sourcing practice (SSP).

Regulatory pressure and corporate motives

CMs are crucial components that qualify a business to respond to stakeholder demand to participate in sustainable protection (Cantor et al. 2014). According to ST, diverse

RP might increase CM to examine anti-environmental issues and encourage them to adopt eco-friendly methods to achieve sustainable growth (Chen 2008; Graham 2017). The RP is "the ability and capacity of stakeholders to affect an organization by influencing its organizational decisions" (Helmig et al. 2016). Humanity has been under increasing stress due to environmental and societal problems and the rapid depletion of natural resources. Meanwhile, growing public awareness and business incentives have made sustainable and environmentally friendly practices new areas of focus (Lee et al. 2018).

Previous studies identified the drivers of CM: leadership and their strategies, corporate structure, corporate employees, external customers, and competitors (Shahzad et al. 2020b). RP and top management commitment are among the foremost factors motivating businesses to implement ecological conservation policies as fundamental green practices (Awan et al. 2017). According to Helmig et al. (2016), stakeholders substantially affect the environment with social responsibility. Likewise, Shahzad et al. (2020b) underlined that RP considerably impacts CSR implementation and green innovation. These organizational practices are a foundation of competitive advantage, pressing the environment and attaining SD outcomes.

Prior research also discovered that competitive pressure, organizational support, internal and external RP, and institutional pressure were critical variables in attaining SSP (Sarkis et al. 2011; Graham 2017; Lee et al. 2018). In addition, prior studies have accredited the importance of NGOs/activists and communities on various business issues, including green practices (Ayuso et al. 2011). These constitute the most influential factor in corporate environmental strategies (Lee et al. 2018).

If stakeholders do not pressure businesses, they avoid implementing green practices, resulting in inferior environmental and financial performance (Zhu et al. 2007). Lin and Ho (2011) discovered that regulatory stakeholders favorably influenced SSP realization in Chinese businesses. These forces have been identified as an indispensable driving element for the increased use of SSP. As a result of media and non-governmental organization pressure, various businesses share information about their production processes to certify accountability and gain customer trust (Lucas 2010). In response to RP, dynamic businesses use environmentally friendly practices and incorporate existing and newly obtained information in R&D to develop innovative processes and sophisticated technologies to limit ecological damage (Albort-Morant et al. 2018). Furthermore, sustainability may be used to accomplish sustainable business goals such as environmental, social, and economic sustainability (Shahzad et al. 2019). In light of the above discussion, the following hypotheses were proposed:

Regulatory pressure (RP) moderates the relation between corporate motives (instrumental motives-H4, relational motives-H5, moral motives-H6), and sustainable sourcing practices (SSP).

Research methods

Sample and procedure

Manufacturing industries with ISO certifications such as 9001 and 14,001, including textile, pharmaceutical, wood and furniture, food and beverages, sports goods, fertilizer, surgical instruments, and tobacco, among others that are listed on the “Pakistan Stock Exchange (PSX)” and registered with the “Securities and Exchange Commission of Pakistan (SECP)” are the target population for the current study. During the period of July 2022 to September 2022, this research used a sample method known as convenience sampling to collect data through electronic communication and personal visits. Because of the outbreak, it was simple for us to get in touch with members of the higher, medium, and front-level employees to get further replies. They have access to detailed information on the procedures and guidelines of the organization, and they requested that its members participate in a survey concerning CM and its influence on the company’s capacity to source sustainably; the replies were recorded using a 7-point Likert scale. The total number of survey questionnaires we sent out was 575, and we received 248 usable responses, which gives us a response ratio of 43%. The vast majority of respondents, or 43%, held supervisory responsibilities while they were responsible for implementing organizational policy. Table 2 shows the complete demographic outcomes. The 10X rule was utilized for sample size: “10 times the largest number of structural paths directed at a particular latent construct in a structural model,” as directed by Hair et al. (2017). Furthermore, this study established sample sufficiency by doing a sequence of power assessments through G*Power, as Prajapati et al. (2010) described.

Measures and validation

The researcher who conducted this investigation divided the questionnaire into three distinct components. The first section selected nine items for use with the various CM. For example, three items were used to the measurement of IM according to Bansal and Clelland (2004) and Paulraj et al. (2017), three items were employed to measure RM by Buisse and Verbeke (2003) and Paulraj et al. (2017), and three items used to measure MM were by Paulraj et al. (2017). Shin et al. (2000) study’s four

Table 2 Demographic details

Respondent information		(n = 248)	
Attributes	Spreading	Frequency	(%)
Gender	Male	133	53.629
	Female	84	33.871
	Prefer not to disclose	31	12.500
Age	21 to 28 years	84	33.871
	29 to 36 years	101	40.726
	37 to 44 years	42	16.935
	More than 45 years	21	8.468
Education	Bachelor degree	72	29.032
	Master degree	91	36.694
	Technical degree	65	26.210
	Others	20	8.065
Job title	Officer	77	31.048
	Supervisor	109	43.952
	Senior manager	41	16.532
	Director/CEO	21	8.468
Job experience	0 to 8 years	81	32.661
	8 to 16 years	128	51.613
	More than 15 years	39	15.726

elements linked to distinct aspects of SSP were employed in the second section: supplier involvement in product development, long-term supplier–buyer relationships, quality emphasis in choosing suppliers, and decreased supplier base. In the last part, the RP was measured with three items taken from the study of Helmig et al. (2016). All items were estimated using a 7-point Likert scale: 7 means “strongly agree” and 1 means “strongly disagree.” Following Hinkin (1998) approval, we did a pilot study to make sure that the accepted construct was valid and reliable for the study.

Data analysis and results

In order to investigate the interrelationships among CM, SSP, and RP, we made use of the PLS-SEM. This is due to the fact that this methodology is perfect for exploratory research (Hair et al. 2017). The PLS-SEM method also allows for simultaneously processing measurement and structural models. More precise calculations can also handle tiny sample sizes (Hair et al. 2017). Therefore, to conduct this research, the scholars utilized SmartPLS software version 3.3.9. Before going for empirical analysis, estimating common method bias (CMB) is fundamental (Podsakoff et al. 2012). Harman’s one-factor test was utilized to examine the CMB (Harman 1976). The results designated that no single factor accounted for

more than 31.20% of the variance; therefore, this research article does not have a significant CMB issue (Harman 1976). Furthermore, the effective method provided by Kock was also applied in this examination (Kock 2015). The variance inflation rate was determined through a full-collinearity investigation. Because no VIF value was more than 3.3, we can rule out CMB as a confounding issue in this research.

Analysis of the measurement model

The measurement model was evaluated by construct reliability (“Cronbach’s alpha, rho_A, composite reliability”) and validity (“convergence and discriminant validity”) as suggested by Hair et al. (2017). Reliability was evaluated by Cronbach’s alpha and composite reliability values. Findings confirmed that both of these Cronbach’s alpha and composite reliability values were higher than the minimum threshold value (Cohen 1988; Hair et al. 2017). Furthermore, all loading of factors and AVE values were well above 0.50, as Hair et al. (2017) advised. The complete results are offered in Table 3. Furthermore, the classical approach is not enough to judge the validity of CM since CM is a second-order formative construct. Table 3 also disclosed VIF values with outer weights of first-order constructs, providing evidence of construct validity following Petter et al. (2007).

Furthermore, to measure the discriminant validity of measurement models involved in this study, we utilized the Fornell–Larcker approach (Fornell and Larcker 1981) and heterotrait–monotrait (HTMT) (Henseler et al. 2015).

Table 4 Discriminant validity (Fornell–Larcker)

	IM	MM	RM	RP	SSP
IM	0.825				
MM	0.721	0.820			
RM	0.671	0.715	0.831		
RP	0.518	0.521	0.526	0.719	
SSP	0.381	0.335	0.415	0.543	0.821

Bold and italic values are the under root of related AVE

The Fornell–Larcker states that every root of the AVE must be larger than the correlation among the target variables. Sarstedt et al. (2017) suggested 0.85 values for discriminant validity. The outcomes in Tables 4 and 5 support both criteria. In summary, it indicates that measurement models are robust and valid to assess the proposed structural model.

Analysis of the structural model

After corroborating the measurement model, it was assumed that the structural model would test the rationality of the hypothesis. It was tested with the bootstrap method (5000 resamples). The outcomes of the model were released as significant and positive influence of IM on SSP (H1: $\beta=0.292$), RM (H2: $\beta=0.259$), and MM (H3: $\beta=0.265$), which confirms support for hypotheses H1 to H3. All control variables were non-significant. The complete hypothesis outcomes are presented in Table 6.

Table 3 Reliability and validity

Variables	Factor loadings	CA	CR	AVE	
IM <i>weights=0.321; t-value=31.29; VIF=1.98</i>	IM1	0.826	0.821	0.873	0.714
	IM2	0.851			
	IM3	0.846			
RM <i>weights=0.398; t-value=32.24; VIF=1.76</i>	RM1	0.822	0.812	0.833	0.756
	RM2	0.796			
	RM3	0.829			
MM <i>weights=0.345; t-value=30.31; VIF=1.92</i>	MM1	0.881	0.822	0.871	0.721
	MM2	0.841			
	MM3	0.876			
RP	RP1	0.852	0.875	0.869	0.711
	RP1	0.828			
	RP1	0.901			
SSP	SSP1	0.866	0.810	0.857	0.645
	SSP2	0.820			
	SSP3	0.874			
	SSP4	0.827			

Weights with VIF were provided for first-order constructs

Table 5 Discriminant validity (HTMT)

	IM	MM	RM	RP	SSP
IM					
MM	0.720				
RM	0.711	0.741			
RP	0.541	0.694	0.541		
SSP	0.396	0.472	0.391	0.494	

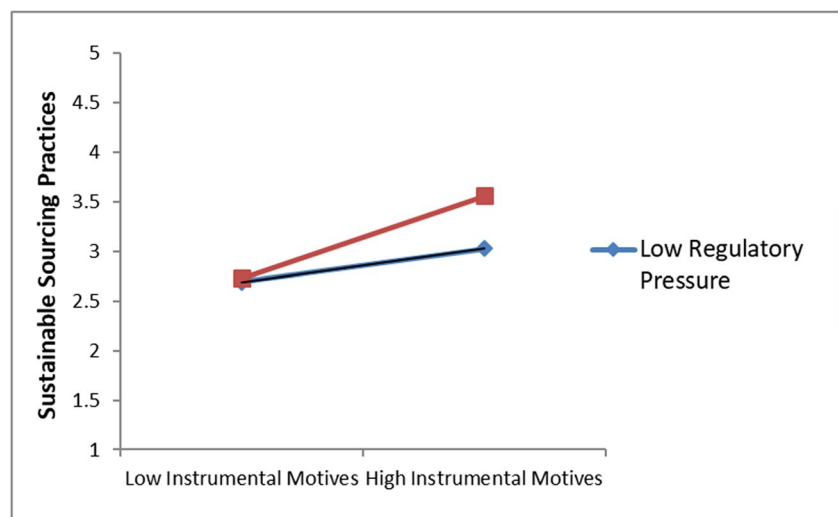
Table 6 Hypotheses results

Hypotheses	Variables	Model 1		Model 2	
		beta values	T stat	beta values	T stat
<i>Main effects</i>					
H1	IM	0.291***	3.759		
H2	RM	0.259***	2.917		
H3	MM	0.265***	2.501		
<i>Interaction effects</i>					
H4	IM*RP			0.142**	2.101
H5	RM*RP			0.131**	1.972
H6	MM*RP			0.101**	2.033
R^2		0.392		0.421	
Q^2		0.217		0.222	

** $p < 0.05$, *** $p < 0.01$

Moderation analysis

The recent study also observes the moderating effect of RP among different CM (IM, RM, MM) to SSP. As shown in Table 6, RP moderates the association among IM, RM, and MM to SSP at p -value 0.05, ($\beta = 0.142$), ($\beta = 0.131$), and ($\beta = 0.101$), accepting hypotheses H4, H5, and H6. A graphical illustration of these significant effects is shown in Figs. 2, 3, and 4.

Fig. 2 Interaction slope (IM*RP)

Goodness of fit (GOF) indexes

The widely accepted approach established model fit, “standardized root means square residuals” (SRMR), which suggests the value of SRMR should be < 0.08 (Hair et al. 2017). Our outcomes show that the SRMR value is 0.065, which means our model is comparatively good. Next, we evaluated the model fit by using the formula ($GOF = \sqrt{AVE \times R^2}$): indicating small $GOF = 0.1$, medium $GOF = 0.25$, and large $GOF = 0.36$ (Wetzels et al. 2009). In our model, the GOF is 0.48, representing that the model meets the larger criterion.

Importance performance map analysis (IPMA)

IPMA is a well-regarded tool for the graphic exhibition of path coefficients. IPMA illustrates all independent variables’ significance and performance when predicting dependent variables (Hair et al. 2017). The findings are shown in Fig. 5 below, which shows the comparative importance and performance values of IM (0.151, 50.15), RM (0.182, 67.38), MM (0.215, 63.64), and RP (0.319, 61.52), respectively, in SSP predictions. The graphical representation showed a relatively higher RP importance value (0.319) and a relatively higher RM performance value (67.38) than all exogenous constructs.

Discussion and research implications

Discussion on key findings

This study includes ST to advance a conceptual framework investigating the hitherto unknown connection between CM, SSP, and RP. For this study, we obtained data from the Pakistani manufacturing sector to test the hypotheses. The empirical

Fig. 3 Interaction slope (RM*RP)

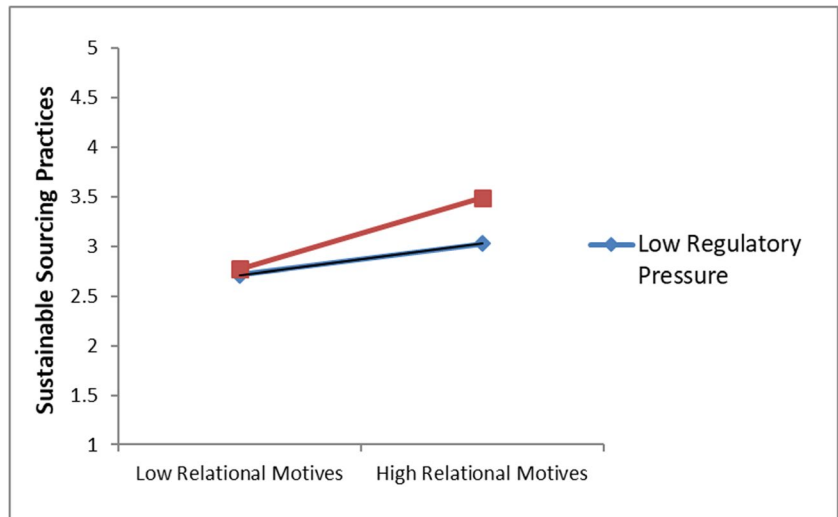


Fig. 4 Interaction slope (MM*RP)

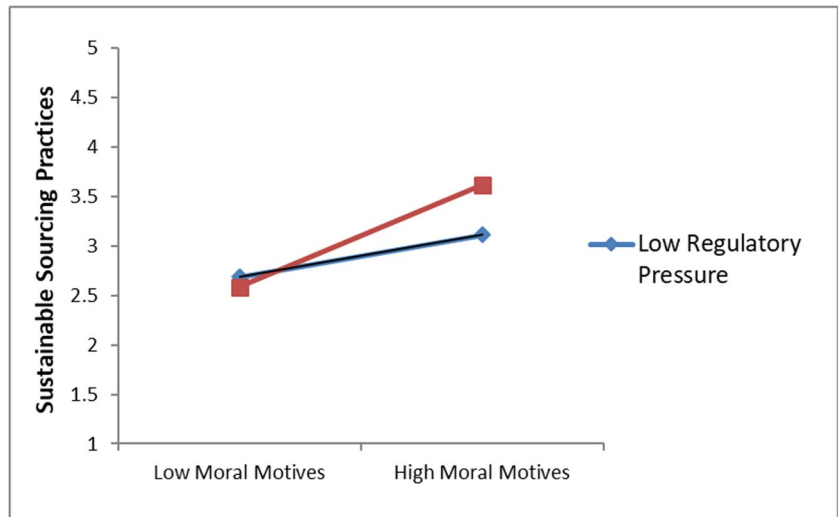
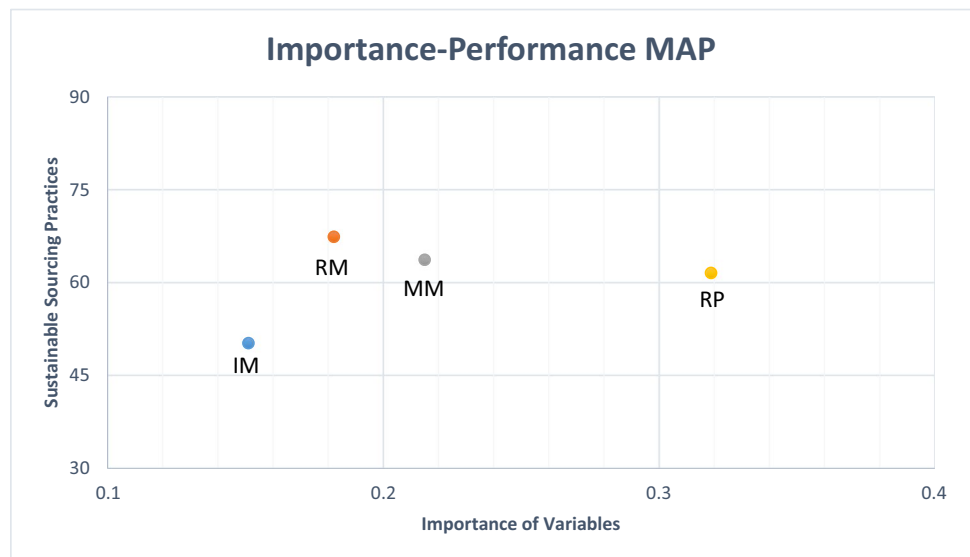


Fig. 5 Importance performance map



results established that IM, RM, and MM induced sustainable and green sourcing and drove organizations to implement SSP under pressure from various stakeholders. Six main hypotheses were proposed to cater to the research aim. Previously, the likelihood of sustainable and environmentally friendly practices may have been a novel concept in some businesses, and the efficiency of this motivation may have been unknown.

Findings divulged that IM certainly led to SSP ($\beta = 0.291$), supporting H1. RM also positively affect SSP ($\beta = 0.259$), supporting H2. Furthermore, MM also positively affects SSP ($\beta = 0.265$), supporting H3. Broadly, these outcomes are per Amjad et al. (2017), Chang (2019), Paulraj et al. (2017), Rogetzer et al. (2018), and Touboulic and Walker (2016), who identified comparable results in this context. Gao and Bansal (2013) acknowledged as IM is essential to reap the benefits of sustainable organizational growth. RM is considered social legitimacy. The RM was considered imperative for relation-building among all stakeholders in a more comprehensive manner to conserve natural, social, and economic systems (Touboulic and Walker 2016). An organization serves SSP if it indeed uses best practices to produce eco-friendly products without conceding the interests of its suppliers. These results also supported prior research by Chen and Kitsis (2017), who acknowledged the positive relationship between MM and top management commitments with SSP. The change in organizational strategies based on CM and customers' requirements can significantly advance SSP adoption among organizations, leading to competitive advantages. Organizations are inclined towards ethical duties because of MM as they consider it their moral obligation and responsibility, which positively influence the environment and society as a whole. Organizational ethical and socially responsible activities are the main cause behind developing an environmental strategy for a competitive environment (Gao and Bansal 2013). These MM-supported competitive environment strategies can reduce ecological problems and provide higher gratification and positive feedback from various stakeholders (Chang 2019).

Furthermore, the moderating role of RP was significantly supporting H4, H5, and H6 with β values = 0.142, 0.131, and 0.101, respectively. Graphical representations of moderating effect are shown in Figs. 2, 3, and 4. These significant results align with prior scholarly studies Albort-Morant et al. (2018), Ayuso et al. (2011), and Shahzad et al. (2020a). These researchers identified the direct effect, though our studies highlighted and contributed to the prevailing literature by identifying the moderating influence of RP between each motive (IM, RM, and MM) and SSP. Our findings mostly exposed the substantial role of regulatory pressure in achieving SD objectives by signifying SSP. Concludingly, the comprehensive results of this study significantly intensify

the literature and propose novel facts about SSP, as it is dependent on the relationship among suppliers, manufacturers, consumers, distributors, government, and the interest of all the stakeholders.

Theoretical implications

Theoretically, the current study heightens the current CM, RP, and SSP literature in many ways. First, this study classifies the model based on ST to enrich the literature in the manufacturing organizations in Pakistan. Second, this study revealed the multifaceted relations between each factor of this research study. The moderation model articulates that the association between each CM: IM, RM, MM, and SSP is significantly moderated by RP, which is a new marvel and has formerly not been valued. This study enriches the literature by signifying that these three CMs are the essential elements in embryonic actions for SSP.

Third, IPMA also accentuated the importance and performance of each motive. This research specified that each motive plays a distinct and significant role in implementing SSP. CM is a vital driving force to adopt SSP in manufacturing associated with the United Nations' sustainable goals. Paulraj et al. (2017) stated that CM develops over time; the more an organization's motivation, the more effective it may be in implementing sustainability and environmental stability. The results obtained above also enlighten the implications of the green approach. Awan et al. (2017) stated that integrating SSP and environmental considerations into manufacturing sourcing operations can achieve more sustainable goals, increase market value, conserve energy, and diminish pollutant emissions. Industries with strong aspirations for incentives can also use it to improve the effectiveness of SSP by increasing adoption across all operations.

Practical implications

This study has practical insinuations for executives, regulators, policymakers, and governmental/non-governmental organizations. First, this study recommends that organizations align various motives with on-ground practices according to verified SSP to increase the competitiveness of their operations. SSP will benefit from the corporate core motive to implement sustainability throughout the organization. Hereafter, stakeholders are encouraged to consider CM when developing policies or action plans for sustainability and following up on outcomes achieved through the consistency of their SSP. Second, to achieve sustainability at the organizational level, this research provides essential insight by analyzing how these three motives drive SSP. Our IPMA results also showed the comparative importance of RP and each motive concerning SSP. Organizations can more easily manage the

outcomes of initiatives and future intrusions on sustainable operations. Such motivation cannot fully represent SD without the strategic link between SSP and CM. Therefore, as Wijethilake and Lama (2019) emphasized, senior management and policymakers must prudently design and implement sustainability initiatives critical to organizational excellence and competitiveness.

The rise in social media awareness regarding the ecological and environmental concerns among various stakeholders, especially customers, has been visible in the Asian region; however, organizations here lack the initiatives to attain social capital and trust. Top management should take corrective measures to align CM with regulatory bodies to advance a shared vision for a green future. From the results of moderation analysis, it is manifested that regulatory pressure can positively impact an organization to adopt SSP under the impact of CM.

Conventional manufacturing and supplies, less innovation, and harmful environmental influences are the probable causes of failing manufacturing industries worldwide. This will force regulators to avoid perimeter approaches implementing stricter corrective actions and vigilance strategies across the board. This study will also play a dominant role in transforming the manufacturing sector of underdeveloped countries and significantly contribute to national economic growth. Finally, the discoveries of this study are significant as they deliver a better thoughtful of the essential implementation of sustainable innovation processes that reap all the benefits of SD.

Conclusion

This research has produced innumerable results that could be considered novel proposals in the preceding literature. This study is designed to observe the effect of diverse CM on SSP under RP following ST in the Pakistani manufacturing sector. We proposed this framework and tested the hypothesis using SEM based on the preceding literature. The examination reveals that each corporate motive (instrumental, relational, and moral) directly influences SSP. Furthermore, RP significantly moderates the effect of each motive on SSP. IPMA also highlighted the importance of all variables. SSP adoption involves connecting corporate vision to CM under RP. Because RM performance is higher than other constructs in IPMA, the current study makes a strong case for adopting rationality-based SSP. It also supports the argument that moral and social responsibility are absolute for green, sustainable, and environmentally sound management. The outcomes of this study can also serve as a baseline for SSP going forward.

It is equally important to recognize the limits of this study, despite the substantial effect described above, because the constraints may influence future research. Only the

manufacturing sector in Pakistan was sampled for this study. More comprehensive results from various industries and geographical areas might help researchers in the future make this model more applicable. Environment, ethics, culture, and society may all affect how something turns out. Due to time restrictions, this study is based on a cross-sectional analysis. Longitudinal studies may be conducted in the near future to acquire more precise and comprehensive results.

Author contribution Sair Ur Rehman: conceptualization and methodology. Mohsin Shahzad: writing—original draft, software, and formal analysis. Xiangan Ding: investigation. Asif Razzaq: supervision and writing—reviewing and editing.

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Declarations

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