# 031._Boosting_sustainability_performance.pdf

*by* Ismi Rajiani

**Submission date:** 24-May-2023 09:08AM (UTC-0400)
**Submission ID:** 2100822966
**File name:** 031._Boosting_sustainability_performance.pdf (378.16K)
**Word count:** 6107
**Character count:** 35417

# BOOSTING SUSTAINABILITY PERFORMANCE THROUGH SUPPLY CHAIN QUALITY MANAGEMENT IN THE MINING INDUSTRY

**Basuki, Rajiani I., Widyanti R.***

**Abstract:** Though much consideration has been dedicated to Supply Chain Management (SCM) conceptions recently, its connection with the quality management philosophy is rare and loose, mainly in developing countries operating under Extractive Industries Transparency Initiative (EITI). While the significance of quality management is globally acknowledged, academia needs a more comprehensive approach in assessing quality management perspectives in internal and external supply chain contexts. Consequently, the effect of Supply Chain Quality Management (SCQM) practice on the sustainability performance of Indonesian mining industries after joining the EITI was examined. For this purpose, the data was collected from the employees of mining companies working in Indonesia, and the Structural Equation Modelling was employed to examine the relationship among constructs. A positive and significant relationship between internal quality management and sustainability performance was found. In addition, upstream quality management and downstream quality management are positively and significantly associated with sustainability performance. Thus, these findings indicate that Indonesia's mining companies have started applying SCQM to achieve their economic, environmental and social achievement. Practitioners can utilise the proposed model grounded on the relationships between supply chain management practices and the three sustainable development arenas to underline SCQM best practices positively affecting sustainable performance.

**Key words:** distribution centre, enterprise, SME.

DOI: 10.17512/pjms.2021.24.2.03

*Article history:*
*Received* August 16 2021; *Revised* September 29, 2021*; Accepted* October 11, 2021

## Introduction

Quality is a sine qua non for organisations to survive in the competitive market (Strakova et al., 2020). However, companies have realised the urgency for continuous quality improvement and fulfilling the customers' expectations and the need to compete quickly and efficiently in global markets. Consequently, Supply Chain Management (SCM) has become a mantra by which firms operate inter organizationally and combine both strategic initiatives and upstream and downstream processes to reach business excellence (Sahoo, 2019; Muhamed et al., 2020; Gupta, 2021). These trends imply that quality programs focusing on classical

* **Basuki** M.Si Dr., **Rahmi Widyanti** M.Si, Dr. Faculty of Economics and Business, Universitas Islam Kalimantan MAB, Banjarmasin, Indonesia. **Ismi Rajiani** Dr., Faculty of Business, Law and Social Science , Universitas Muhammadiyah Sidoarjo, Indonesia.
✉corresponding author: basuki@uniska-bjm.ac.id
✉drismi1966@gmail.com, Rahmi_widyanti@uniska-bjm.ac.id

approaches, such as TQM and ISO 9001, must shift to a supply chain viewpoint by concurrently applying supply chain partner relationships and quality improvement initiatives to market needs (Madhani, 2020; Peng et al.,2020). SCM philosophies and technologies are commonly utilised in the global competition to achieve competitive advantage (Wawak et al., 2020) as manufacturing firms purchase raw materials, parts, fuels, and other mechanisms from various suppliers worldwide (Harland, 2021). This SCM practice holds quality management initiatives supporting the belief that product quality is only one factor of quality-oriented effort to competitive standpoints (Phung et al., 2021 ). Prominent corporations, such as Samsung, UK Airbus and Tesco, owe their success to exploiting particular opportunities wherever they are located globally by integrating supply chain while coordinating all chain activities (Pham et al., 2020). However, sustaining immediate customers are only feasible if the entire chain obliges to chase coherent and innovative activities (Haiyun et al., 2021).

Indonesia is abundant in oil, gas and coal, and minerals such as gold, lead, tin and silver, yet the mining industries have caused many adverse social and environmental impacts (Gellert, 2019; Grabara et al., 2020). Although Indonesia has become a democracy, the governance of mining industries still undergoes many challenges (Widyanti et al., 2021). However, the Indonesian government, and the coal players in Indonesia, recognise the challenges associated with the sustainability issues as a result of the dynamics and uncertainties (Kurniawan et al., 2020; Baskoro et al.,2021) proved with the acceptance of Indonesia to Extractive Industries Transparency Initiative (EITI) after a long debate and rejection (Yanuardi et al., 2021). EITI is a world organisation addressing the resource curse by improving governance quality through open and accountable management of oil, gas and mineral resources in resource-rich countries. For that reason, coal mining supply chain management gives considerable attention to the issues of operations effectiveness (Aguirre-Villegas & Benson, 2017; Shaharudin et al., 2019; Reyseliani & Purwanto; 2021).

Although Supply Chain Management (SCM) and Quality Management (QM) are two study fields attracting numerous scholars (Phan et al.,2019; Chau et al.,2021), the concept of Supply Chain Quality Management (SCQM) and its impact on sustainability performance has not been thoroughly examined, particularly in the context of a developing country. This study tests an analytical framework that defines SCQM into three elements: internal quality management, upstream quality management and downstream quality management. Further, their impacts on the three bottom lines of economic prosperity, environmental quality and social justice are highlighted to better comprehend SCQM in the Indonesian setting.

## Literature Review

Various studies have highlighted some features of the quality management perspective within a supply chain context (Pettit et al., 2019). Though quality management and SCM viewpoints have been rigorously analysed, few studies

examine these schemas simultaneously. This phenomenon shows that quality management in the supply chain setting is generally disjointed and detached across other studies, such as supplier-buyer relationship (Lin et al.,2021; Szentesi et al., 2021), strategic management (Sadeghi Moghadam, 2021), manufacturing practices (Xu et al.,2020) and process integration (Peng et al.,2020). Therefore, Supply Chain Quality Management (SCQM) is a relatively new evolving research niche (Bastas,& Liyanage, 2018) integrating SCM and QM practices to reach a high degree of customer satisfaction by enhancing cooperation within the network of firms and high performing processes upstream and downstream to organisations to produce excellent products and services. Chau et al. (2021) further affirm that SCQM is an enlargement of SCM, adding Quality Management (supplier support, customer focus and orientation, strategic planning and leadership, continuous improvement and learning, empowerment and teamwork, human resource focus, management structure, and quality tools) and Supply Chain Management (transportation and logistics, marketing, continuous improvement and learning organisational behaviour, best practices, supply base integration, relationships and partnerships, and strategic management). As a critical extension of quality management initiatives, SCQM practices include traditional internal techniques within an organisation and the external practices across organisational boundaries integrating a firm with its suppliers and customers (Hong et al., 2019). Therefore, Phan et al. (2019) suggest in the context of developing countries, SCQM should be highlighted in three areas: upstream, downstream and internal QM.

The objective of QM is to mould coherence elements in and outside organisations (Alsawafi et al.,2021). Previous researches have largely agreed on the significance of Quality Management (QM) in triggering the firms' performance (Salimian et al., 2021). However, even companies with excellent QM systems cannot guarantee their business positions (Gutierrez-Gutierrez et al., 2018), for one of the contemporary business competitiveness is achieving better sustainability performance. This performance refers to the combination of the company's economic, social and environmental performance. Therefore, it is crucial to examine how internal QM implementation is positively related to sustainability performance, for this will permit companies to invest more in specific quality initiatives related to people and management.

As different companies with different positions are included in a supply chain, two models, upstream and downstream supply chains, have been defined. Corporations dealing primarily with suppliers on their buy-side are considered upstream supply chains. At the same time, those specialising in customers and providing services from the sell-side perspective are categorised as downstream supply chains (Shkoukani et al., 2013). With the rise of the internet and e-business, the supply chain activities have been performed with other perspectives as involving technology have eliminated many non-useful and expensive activities, and only activities with value-added have been maintained (Phung et al., 2021).

When integrated with SCQM, the Upstream Quality Management (UQM) is defined as a set of communication undertakings, information sharing, synchronisation with vendors to determine quality aspects ranging from technology connecting platform to quality assurance from the supplier (Phan et al., 2019). Upstream supply is forecast-driven, and downstream supply chain is customer order-driven (Bastas & Liyanage, 2018). Hence, the mining companies must have solid UQM (supply side) as well as Downstream Quality Management (demand side) to respond quickly to changes in real-time (Pham et al., 2020).

Since corporations shift toward environmental sustainability, management should expand attempts to develop ecological practices across the supply chain (Alsawafi et al., 2021). These practices can be focussed either upstream toward suppliers or downstream toward customers. Usually, the advantages of sustainability practices with suppliers are more beneficial, contrary to collaboration with customers yielding mixed outcomes. Broadly, empirical shreds of evidence show that upstream practices are more closely linked to process-based performance, while the downstream partnership is related to product-based performance (Haiyun et al., 2021).

The Extractive Industries Transparency Initiative (EITI) proposed by UK Prime Minister Tony Blair is a multi-stakeholder initiative of assisting developing countries in fighting against the resource curse by extending consideration of how incomes generated from oil and gas and mining exploration are disbursed and where they go to. However, after enactment, the sights on the interference are varied (Vidge et al., 2019). In one sight, the proponents retain that, by emphasising recording and tracing expenditures, communities will be well-situated to grasp governments accountable and guarantee that incomes are expended cautiously. On the other hand, the opponents argue that the EITI has been only focused on transparency but not on accountability due to its restricted concentration on searching voluntary information, along with the proof of corporation expenses and government incomes (Oppong & Andrews, 2020). Indonesia's government was originally not passionate to participate in the EITI (Rosser and Kartika, 2020). However, the World Bank adopts and implements the EITI as a precondition for approving a new loan, which has accelerated Indonesia's enactment of the EITI (Yanuardi et al., 2021).

Thus, the authors have formulated the following hypotheses:

H1: Operating under Extractive Industries Transparency Initiative principles, internal quality management is positively related to the sustainability performance of Indonesian mining industries.

H2: Operating under Extractive Industries Transparency Initiative principles, upstream quality management is positively related to the sustainability performance of Indonesian mining industries.

H3: Operating under Extractive Industries Transparency Initiative principles, downstream quality management is positively related to the sustainability performance of Indonesian mining industries.

**Research Methodology**

The data were collected from 250 employees of the two biggest coal operators: Adaro Energy Ltd. and Bukit Asam Prima Ltd. The companies have opted to maintain stable operations in the regions. Despite their substantial economic contributions to the regional growth, the companies have a poor public image because they are considered as the main environmental polluters. To improve the social image and to comply with government regulations since Indonesia have joined Extractive Industries Transparency Initiative, the mining industries are increasingly implementing environmental management systems by adopting environmentally friendly supply chain management focused on a reduction of the negative impacts of supply chain activities and minimisation of energy as well as material usage.

Since the area is peatland (Arisanty et al., 2020), coal extracted from deposits is usually inappropriate for direct use. The companies must apply the proper technique to acquire the customers' suitable quality that involves internal, upstream and downstream quality management while simultaneously paying attention to sustainability issues. Purposive sampling is employed as it is the most common method applied while examining specific characteristics of respondents (Campbell et al., 2020). A total of 500 questionnaires were administered with 50% returns, of which 250 were useable, giving a response rate of 50 %.

Structural Equation Modelling (SEM) was employed to test the relationship among observed variables. Hair et al. (2020) confirm that, in SEM, the sample size should be greater than 100 to generate adequate statistical control. Thus, the sample size of 250 was adequate for the current study. Factor loadings and Average Variance Extracted (AVE) are evaluated to determine discriminant validity where only items with factors loading and AVE surpass 0.50 will stay in the model (Hair et al., 2020; Dash & Paul, 2021). The data collection was conducted from June to December 2020.

The questionnaires adopted from the previous research was used to collect data. Internal Quality Management (X1), Upstream Quality Management (X2) and Downstream Quality Management (X3) adopt questionnaires from a previous study conducted by Phan et al. (2019). Internal Quality Management (X1) was analysed with ten items: top management support, quality strategy planning, process management, data and quality report, feedback, quality design, problem-solving, continuous improvement, quality training, and rewards. Upstream Quality Management (X2) was measured with six items: supplier quality management, suppliers' technology link, suppliers' information sharing, suppliers' participation in product design, suppliers' involvement in quality improvement, and strategic partnership with suppliers. Downstream Quality Management (X3) was quantified with five items: customer relationship management, customers' technology link, customers' sharing information, customers' engagement in product design, and customers' engagement in quality improvement. Sustainability Performance was measured with six items adapted from Kahkonen et al. (2018). The items were efforts to create environmentalism, efforts to develop socially responsible behaviour,

environmental supply chain monitoring, social supply chain management systems, environmental new product and process development, and social supply chain strategy redefinition.

All the above scales utilised a 1–5 (from strongly disagree to agree strongly) response set. Individual scores were calculated by computing scale averages for each dimension.

Respondent' demographic profiles were related to gender, ages, education and tenure. 181 respondents were male (72.5%), whereas 130 (52.1%) respondents were under 30 years old. Further, most of the respondents had undergone higher education, with the majority at the college level as of 214 (85.6%), followed by 32 of some college (12.8%), and even 4 respondents (1.6%) have a graduate degree. Most of the respondents were relatively senior employees, as 180 respondents (71.4%) had worked in the company for more than 5 years, followed by 58 people who joined the business for 2-4 years (23.2 %). Only 12 respondents (4.8%) had been with the company for less than 2 years.

## Results and Discussions

Since the effect of SCQM on Sustainability Performance is not much conceptualized yet, PLS-SEM is an appropriate method to estimate these complex cause-effect relationships. The process comprises two phases; generating a measurement model to assess the convergent validity of the constructs, followed by structuring a structural model to examine and evaluate the magnitude effects. The estimation models validity is performed by observing the factor loading and calculating Average Variance Extracted (AVE) instead of the traditional "Cronbach's Alpha". The estimation model in Table 1 shows that the loading factors and Average Variance Extracted (AVE) are all above 0.50, meaning that the instrument had satisfactory convergent validity (Hair et al., 2020).

**Table 1. Measurement model**

| Construct & AVE | Items | Loading Factors |
|---|---|---|
| Internal Quality Management (AVE = 0.850) | 1. Top management support | 0.734 |
| | 2. Quality strategy planning | 0.911 |
| | 3. Process management | 0.884 |
| | 4. Data and quality report | 0.882 |
| | 5. Feedback | 0.814 |
| | 6. Quality design | 0.888 |
| | 7. Problem solving | 0.853 |
| | 8. Continuous improvement | 0.895 |
| | 9. Quality training | 0.816 |
| | 10. Rewards | 0.826 |

| | | |
|---|---|---|
| Upstream Quality Management (AVE = 0.910) | 1. Supplier quality management<br>2. Suppliers' technology link<br>3. Suppliers' information sharing<br>4. Suppliers' participation in product design<br>5. Suppliers' involvement in quality improvement<br>6. Strategic partnership with suppliers. | 0.862<br>0.875<br>0.945<br>0.921<br>0.950<br>0.910 |
| Downstream Quality Management (AVE=0.892) | 1. Customer relationship management<br>2. Customers' technology link<br>3. Customers' information sharing<br>4. Customers' engagement in product design<br>5. Customers' engagement in quality improvement. | 0.958<br>0.962<br>0.823<br>0.849<br>0.872 |
| Sustainability Performance (AVE=0.656) | 1. Efforts to create environmentalism<br>2. Efforts to create socially responsible behaviour<br>3. Environmental supply chain monitoring<br>4. Social supply chain management systems<br>5. Environmental new product and process development<br>6. Social supply chain strategy redefinition. | 0.561<br>0.562<br>0.568<br>0.789<br>0.671<br>0.789 |

The results of structural equation modelling are displayed in Table 2, showing the whole paths are significant.

**Table 2. The Structural Equation Modeling results**

| Path | Path Coefficient | $R^2$ | P-Value | Conclusion |
|---|---|---|---|---|
| Internal Quality Management → Sustainability Performance | 3.518 | 0.43 | 0.00 | Significant |
| Upstream Quality Management → Sustainability Performance | 2.835 | 0.32 | 0.00 | Significant |
| Downstream Quality Management→ Sustainability Performance | 2.698 | 0.10 | 0.03 | Significant |

The positive path coefficient value of internal quality management → sustainability performance = 3.518, and p-value = 0.000 confirms the first hypothesis that due to operating under Extractive Industries Transparency Initiative principles, internal quality management is positively related to the sustainability performance of Indonesian mining industries. Similarly, the positive path coefficient value of upstream quality management → sustainability performance = 2.835, and p-value = 0.000 confirms the second hypothesis that due to operating under Extractive Industries Transparency Initiative principles, upstream quality management is positively related to the sustainability performance of Indonesian mining industries. Finally, the positive path coefficient value of downstream quality management →

sustainability performance = 2.698, and p-value = 0.03 confirms the third hypothesis that downstream quality management is positively related to the sustainability performance due to operating under Extractive Industries Transparency Initiative principles of Indonesian mining industries.

The model goodness of fit is calculated with the Stone–Geisser Q-square test for predictive relevance (Chin, 2010) with the formula:

$Q2 = 1 – (1 – R_1^2) (1 – R_2^2), ... (1– R_p^2)$

Thus, $Q\ 2 = 1 – (1 –0.43) (1–0.32) (1–0.10)$

$= 1 – (0.57) (0.68) (0.90)$

$= 1 – 0.348 = 0.652$ (65.2%).

Since Q-squares surpass 0.5, the predictive relevance prerequisite is fulfilled, indicating the robustness of the model.

The findings affirm the proposed hypotheses and disclose statistically significant results for the overall performance of SCQM practices on sustainability at an aggregate level, supporting the previous research (Pham et al., 2020; Phan et al., 2019). This proves that SCQM initiatives, such as top management support, quality strategy planning, process management, data and quality report, feedback, quality design, problem-solving, continuous improvement, quality training, rewards, supplier quality management, suppliers' technology link, suppliers' information sharing, suppliers' participation in product design, suppliers' involvement in quality improvement, strategic partnership with suppliers, customer relationship management, customers' technology link, customers' sharing information, customers' engagement in product design, and customers' engagement in quality improvement, go to achievement of sustainability performance. Entire efforts to mitigate environmental and socio-economic footprints have unquestionably generated positive outcomes verified by the statistical denoting positive and significant relationship between these SCQM practices and sustainability performance.

However, the consequences of the individual level breakdown of SCQM practices appear to range from activity to activity. From SCQM practices, internal quality management with the highest t-value (t-value = 3.518; p=0.000) has the most significant impact on sustainability performance, while downstream quality management is customer order-driven (Bastas & Liyanage, 2018) and has the lowest impact. This may be because companies are still in the early stage of collaborating with customers in relationship management, technology links, sharing information, product design, and quality improvement. At this stage, the company is still developing a reactive set of environmental management. Corporations at this level are apprehensive about the cost of failure to comply with environmental legislation, so the focus is on the end of the process, for example, the usage of strainers in chimneys and the appropriate waste disposal (Jabbour et al., 2020l Rada et a., 2017; Rada et al., 2018). Therefore, environmental management rarely happens within the production process.

Further, external influences and pressures of a corporation while aligning SCM with sustainability issues appear in different forms: coercive to mimetic to normative (Mena & Schoenherr, 2020). Coercive force is associated with the country intervention and extra reliance on external resources. Mimetic strain relates to duplicating different profitable organisations. However, normative pressures are greater elusive as they provoke from the occupation and scholars. The dissemination of environmentally friendly SCM in growing international locations is commonly associated with coercive strain. One of the guarantees imposed at the 2009 G20 summit through the Indonesian president was once a voluntary goal of a 26% limit in greenhouse gasoline (GHG) emissions, under the business-as-usual degree through 2020, and in addition discount of up to 41% beneath business-as-usual (Usop & Rajiani, 2021). Thus, in the case of Indonesia, the adoption of GSCM to sustainability overall performance is due to coercive strain, whilst the implementation is reckoned to be supreme to guard sound governance, accountability and sustainable monetary improvement (Kurniawan et al., 2020; Baskoro et al., 2021). However, the dialogue of environmental performance cannot be restrained to the organisation, as the whole business enterprise affects and is influenced by the supply chain. Thus, companies have interdependencies because they interact in material and information flows, from the dealer of raw materials to the last purchaser (Chau et al., 2021), adding value to the product at each tier in the supply chain (Harland, 2021). This broader supply chain perspective is applicable for the transition toward sustainability within the Indonesian setting by integrating internal quality management with upstream and downstream quality management to anticipate future trends.

**Managerial Implication**

The propositions and the consequences of the research grant managers tips about effective management of upstream, midstream and downstream supply chain networks and cognisance of the achievable synergies bobbing up from the blended outcomes of SCQM practices that should deliver preferred first-rate overall performance effects throughout the supply chain network. The findings motivate managers to prioritise excessive precedence on each inter-firm and intra-firm relationship as conditions for reaching superior first-rate performance. To increase organisational surroundings conducive to producing an eminence product for the end customer and meet the necessities of world market opposition in the long run, managers must no longer be counted entirely on developing internal quality integration capabilities. Instead, they ought to undertake a supply chain viewpoint to managing quality in an experience that they should expand the notion of a customer to comprise both stakeholders within the organisation and suppliers and other associates who are reliant on anyone else within or between the organisations.

## Conclusion

The existing studies highlight the noteworthy lack of a consensus amongst operations and supply chain management researchers and practitioners concerning the theoretical foundations and related empirical proof for the performance impact of supply chain quality management (SCQM) practices on three bottom lines of sustainability issues. This study aims to equalise this disparity in the literature through empirical examination of the relationship between SCQM practices and sustainability performance in Indonesia. The result denotes that the country, to some extent, has applied the credos of the Extractive Industries Transparency Initiative. Thus, to boost sustainable performance, effective quality management across the whole e-supply chain is encouraged if a firm intends to deliver superb products and services to customers efficiently.

Despite the contributions of the present study to each of the principles and exercises of SCQM, it has various boundaries setting up possibilities for future research. The focal point in the present study was on the Indonesian-based coal mining sector and involved processing one product. Given the differences in the mining environment of firms and today's mining industry's reliance on supply base and the resulting implications for product quality outcomes, future research could explore the performance impact of SCQM practices on quality in various mining industries. In addition to imparting depth to the study, focusing on many mining industries not only controls for quality performance variance due to industry-specific stipulations and characteristics but also enhances the generalizability of the findings.

## References

Aguirre-Villegas, H. A., Benson, C. H., (2017). Case history of environmental impacts of an Indonesian coal supply chain. *Journal of Cleaner Production*, *157*, 47-56.

Alsawafi, A., Lemke, F. and Yang, Y., (2021). The impacts of internal quality management relations on the triple bottom line: A dynamic capability perspective. *International Journal of Production Economics*, *232*, 107927.

Arisanty, D., Jędrasiak, K., Rajiani, I. and Grabara, J., (2020). The Destructive Impact of Burned Peatl&s to Physical & Chemical Properties of Soil. *Acta Montanistica Slovaca*, *25*(2) 213-223.

Baskoro, F. R., Takahashi, K., Morikawa, K. and Nagasawa, K., (2021). System dynamics approach in determining coal utilisation scenario in Indonesia. *Resources Policy*, *73*, 102209.

Bastas, A., Liyanage, K., (2018). Sustainable supply chain quality management: A systematic review. *Journal of Cleaner Production*, *181*, 726-744.

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S. and Walker, K., (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing*, *25*(8), 652-661.

Chau, K. Y., Tang, Y. M., Liu, X., Ip, Y. K. and Tao, Y., (2021). Investigation of critical success factors for improving supply chain quality management in manufacturing. *Enterprise Information Systems*, 1-20.

Chin, W. W., (2010). Bootstrap cross-validation indices for PLS path model assessment. In *Handbook of Partial Least Squares* (pp. 83-97). Springer, Berlin, Heidelberg.

Dash, G., Paul, J., (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, *173*, 121092.

Grabara, J., Dabylova, M. and Alibekova, G., (2020). Impact of legal standards on logistics management in the context of sustainable development. *Acta Logistica*, 7(1), 31-37.

Gutierrez-Gutierrez, L. J., Barrales-Molina, V. and Kaynak, H., (2018). The Role of Human Resource-Related Quality Management Practices in New Product Development: A Dynamic Capability Perspective. *International Journal of Operations & Production Management*, *38*(1), 43.

Gupta, A. K., (2021). Innovation dimensions and firm performance synergy in the emerging market: A perspective from Dynamic Capability Theory & Signaling Theory. *Technology in Society*, *64*, 101512.

Hair Jr, J. F., Howard, M. C. and Nitzl, C., (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, *109*, 101-110.

Haiyun, C., Zhixiong, H., Yüksel, S. and Dinçer, H., (2021). Analysis of the innovation strategies for green supply chain management in the energy industry using the QFD-based hybrid interval-valued intuitionistic fuzzy decision approach. *Renewable and Sustainable Energy Reviews*, *143*, 110844.

Harland, C., (2021). Discontinuous wefts: Weaving a more interconnected supply chain management tapestry. *Journal of Supply Chain Management*, *57*(1), 27-40.

Hong, J., Liao, Y., Zhang, Y. and Yu, Z., (2019). The effect of supply chain quality management practices and capabilities on operational and innovation performance: Evidence from Chinese manufacturers. *International Journal of Production Economics*, *212*, 227-235.

Jabbour, C. J. C., Seuring, S., de Sousa Jabbour, A. B. L., Jugend, D., Fiorini, P. D. C., Latan, H. and Izeppi, W. C., (2020). Stakeholders, innovative business models for the circular economy and sustainable performance of firms in an emerging economy facing institutional voids. *Journal of Environmental Management*, *264*, 110416

Kähkönen, A. K., Lintukangas, K. and Hallikas, J., (2018). Sustainable supply management practices: making a difference in a firm's sustainability performance. *Supply Chain Management: An International Journal*, *23*(6), 518-530.

Kurniawan, R., Trencher, G. P., Edianto, A. S., Setiawan, I. E. and Matsubae, K., (2020). Understanding the multi-faceted drivers of increasing coal consumption in Indonesia. *Energies*, *13*(14), 3660.

Lin, X., Zhou, Y. W. and Hou, R., (2021). Impact of a "buy-online-and-pickup-in-store" channel on price and quality decisions in a supply chain. *European Journal of Operational Research*, *294*(3), 922-935.

Madhani, P. M., (2020). Enhancing Supply Chain Efficiency and Effectiveness With Lean Six Sigma Approach. *International Journal of Project Management and Productivity Assessment 8*(1), 40-65.

Mena, C., Schoenherr, T., (2020). The green contagion effect: an investigation into the propagation of environmental practices across multiple supply chains tiers. *International Journal of Production Research*, 1-18.

Muhamed, A. A., Salim, N., Ab Rahman, M. N., Hamzah, F. M. and Ali, M. H., (2020). Effects of supply chain orientation on firm performance: insights from a Malaysian case study of halal-certified small and medium-sized enterprises. *Journal of Small Business & Entrepreneurship*, 1-17.

Oppong, N., Andrews, N., (2020). Extractive industries transparency initiative and the politics of institutional innovation in Ghana's oil industry. *The Extractive Industries and Society*, *7*(4), 1238-1245.

Peng, X., Prybutok, V. and Xie, H., (2020). Integration of supply chain management and quality management within a quality focused organisational framework. *International Journal of Production Research*, *58*(2), 448-466.

Pettit, T. J., Croxton, K. L. and Fiksel, J., (2019). The evolution of resilience in supply chain management: a retrospective on ensuring supply chain resilience. *Journal of Business Logistics*, *40*(1), 56-65.

Pham, T. S. H., Darabi, F. and Wilmot, N. V., (2020). International supply chain case study. In *Supply Chain and Logistics Management: Concepts, Methodologies, Tools, and Applications* (pp. 1183-1204). IGI Global.

Phan, A. C., Nguyen, H. A., Trieu, P. D., Nguyen, H. T. and Matsui, Y., (2019). Impact of supply chain quality management practices on operational performance: empirical evidence from manufacturing companies in Vietnam. *Supply Chain Management: An International Journal*, *24*(6), 855-871.

Phung, H. T. X., Phan, A. C., Nguyen, H. T. and Matsui, Y., (2021). Mediation effects of information technology links with suppliers and information sharing with suppliers in the relationship of supply chain process integration and supply chain performance. *International Journal of Productivity and Quality Management*, *33*(4), 542-567.

Rada E. C., Cioca L. I. and Ionescu, G., (2017). Energy recovery from Municipal Solid Waste in EU: Proposals to assess the management performance under a circular economy perspective. *MATEC Web of Conferences*, *121*. Sibiu.

Rada E. C., Ragazzi M., Torretta V., Castagna G., Adami, L. and Cioca L. I., (2018). Circular Economy and Waste to Energy. *Technologies and materials for renewable energy, environment and sustainability*. *1968*. AIP Conference Proceedings.

Reyseliani, N., Purwanto, W. W., (2021). Pathway towards 100% renewable energy in Indonesia power system by 2050. *Renewable Energy*, *176*(C), 305-321.

Rosser, A., Kartika, W., (2020). Conflict, contestation, and corruption reform: the political dynamics of the EITI in Indonesia. *Contemporary Politics*, *26*(2), 147-164.

Sadeghi Moghadam, M. R., Safari, H. and Yousefi, N., (2021). Clustering quality management models and methods: systematic literature review and text-mining analysis approach. *Total Quality Management & Business Excellence*, *32*(3-4), 241-264.

Sahoo, S., (2019). Quality management, innovation capability and firm performance: Empirical insights from Indian manufacturing SMEs. *The TQM Journal*, *31*(6), 1003-1027.

Salimian, H., Rashidirad, M. and Soltani, E., (2021). Supplier quality management and performance: the effect of supply chain oriented culture. *Production Planning & Control*, *32*(11), 942-958.

Samad, S., Nilashi, M., Almulihi, A., Alrizq, M., Alghamdi, A., Mohd, S. and Azhar, S. N. F. S., (2021). Green Supply Chain Management practices and impact on firm performance: The moderating effect of collaborative capability. *Technology in Society*, *67*, 101766.

Shaharudin, M. S., Fernando, Y., Jabbour, C. J. C., Sroufe, R. and Jasmi, M. F. A., (2019). Past, present, and future low carbon supply chain management: A content review using social network analysis. *Journal of Cleaner Production*, *218*, 629-643.

Shkoukani, M., Alnagi, E. and Abulail, R., (2013). Comparison between Upstream and Downstream Supply Chain Management and How they are affected by E-business. *Oriental Journal of Computer Science and Technology*, *6*(2), 1-8.

Straková, J., Rajiani, I., Pártlová, P., Váchal, J. and Dobrovič, J., (2020). Use of the Value Chain in the Process of Generating a Sustainable Business Strategy on the Example of Manufacturing and Industrial Enterprises in the Czech Republic. *Sustainability*, *12*(4), 1-15.

Szentesi, S., Illés, B., Cservenák, Á., Skapinyecz, R. and Tamás, P., (2021). Description of a novel supplier selection method for companies manufacturing food supplements. *Acta Logistica*, 8(3), 297-308

Usop, S. R., Rajiani, I., (2021). Indigenous Indonesian Dayak Traditional Wisdom in Reducing Deforestation. *Indonesian Journal of Geography*, 53 (3).

Vijge, M. J., Metcalfe, R., Wallbott, L. and Oberlack, C., (2019). Transforming institutional quality in resource curse contexts: The Extractive Industries Transparency Initiative in Myanmar. *Resources Policy, 61,* 200-209.

Wawak, S., Rogala, P. and Dahlgaard-Park, S. M., (2020). Research trends in quality management in years 2000-2019. *International Journal of Quality and Service Sciences*, *12*(4), 417-433.

Widyanti, R., Rajiani, I. and Basuki, (2021). Managing during crisis: Do workplace spirituality and spiritual leadership matter? *Polish Journal of Management Studies*, *23* (1), 453- 469.

Xu, L., Peng, X., Pavur, R. and Prybutok, V., (2020). Quality management theory development via meta-analysis. *International Journal of Production Economics*, *229*, 107759.

Yanuardi, Y., Vijge, M. J. and Biermann, F., (2021). Improving governance quality through global standard setting? Experiences from the Extractive Industries Transparency Initiative in Indonesia. *The Extractive Industries and Society*, *8* (3), 100905.

## ZWIĘKSZANIE WYDAJNOŚCI ZRÓWNOWAŻONEGO ROZWOJU POPRZEZ ZARZĄDZANIE JAKOŚCIĄ ŁAŃCUCHA DOSTAW W GÓRNICTWIE

**Streszczenie:** Chociaż ostatnio wiele uwagi poświęcono koncepcjom zarządzania łańcuchem dostaw (SCM), jego związek z filozofią zarządzania jakością jest rzadki i luźny, głównie w krajach rozwijających się, działających w ramach Inicjatywy Przejrzystości Przemysłu Wydobywczego (EITI). Chociaż znaczenie zarządzania jakością jest doceniane na całym świecie, środowisko akademickie potrzebuje bardziej kompleksowego podejścia do oceny perspektyw zarządzania jakością w kontekście wewnętrznego i zewnętrznego łańcucha dostaw. W konsekwencji zbadano wpływ praktyki zarządzania jakością łańcucha dostaw (SCQM) na wyniki w zakresie zrównoważonego rozwoju indonezyjskiego przemysłu

wydobywczego po wstąpieniu do EITI. W tym celu zebrano dane od pracowników firm wydobywczych pracujących w Indonezji, a do zbadania relacji między konstruktami wykorzystano modelowanie równań strukturalnych. Stwierdzono pozytywny i znaczący związek między wewnętrznym zarządzaniem jakością a wynikami zrównoważonego rozwoju. Ponadto zarządzanie jakością na początku i na końcu są pozytywnie i znacząco powiązane z wynikami zrównoważonego rozwoju. Zatem odkrycia te wskazują, że indonezyjskie przedsiębiorstwa wydobywcze zaczęły stosować SCQM, aby osiągnąć swoje osiągnięcia gospodarcze, środowiskowe i społeczne. Praktycy mogą wykorzystać proponowany model oparty na związkach między praktykami zarządzania łańcuchem dostaw a trzema obszarami zrównoważonego rozwoju, aby podkreślić najlepsze praktyki SCQM pozytywnie wpływające na zrównoważoną wydajność.

**Słowa kluczowe**: centrum dystrybucji, przedsiębiorstwo, MŚP.

## 通过采矿业的供应链质量管理提高可持续性绩效

**抽象的:**尽管最近对供应链管理 (SCM) 概念进行了大量考虑，但它与质量管理理念的联系很少且松散，主要是在采掘业透明度倡议 (EITI) 下运作的发展中国家。虽然质量管理的重要性已得到全球认可，但学术界需要更全面的方法来评估内部和外部供应链环境中的质量管理观点。因此，在加入 EITI 后，供应链质量管理 (SCQM) 实践对印度尼西亚采矿业可持续发展绩效的影响进行了检查。为此，从在印度尼西亚工作的矿业公司的员工收集数据，并采用结构方程模型来检查构造之间的关系。发现内部质量管理和可持续发展绩效之间存在积极而重要的关系。此外，上游质量管理和下游质量管理与可持续性绩效呈显着正相关。因此，这些发现表明印度尼西亚的矿业公司已开始应用 SCQM 来实现其经济、环境和社会成就。从业者可以利用基于供应链管理实践与三个可持续发展领域之间关系的拟议模型来强调 SCQM 最佳实践对可持续绩效产生积极影响

**关键词**：配送中心，企业，中小企业

# 031._Boosting_sustainability_performance.pdf

ORIGINALITY REPORT

| 19% | 10% | 11% | 6% |
|---|---|---|---|
| SIMILARITY INDEX | INTERNET SOURCES | PUBLICATIONS | STUDENT PAPERS |

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

1%

★ Submitted to DeVry, Inc.

Student Paper

| | | | |
|---|---|---|---|
| Exclude quotes | On | Exclude matches | Off |
| Exclude bibliography | On | | |

# 031._Boosting_sustainability_performance.pdf

GRADEMARK REPORT

FINAL GRADE

/0

GENERAL COMMENTS

**Instructor**

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14