

The relationship between corporate social responsibility accounting and supply chain management**Zeyad Almatarneh^a, Nehad Ibrahim Ineizeh^a, Baker Akram Falah Jarah^{a*} and Murad Ali Ahmad Al-Zaqeba^a**^a*Faculty of Business, Amman Arab University, Amman Jordan***ABSTRACT***Article history:*

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This study aimed to examine the relationship between corporate social responsibility accounting (CSRA) and supply chain management (SCM). A survey of 375 employees from Jordanian businesses was used to gather primary data. For the data collection method, a questionnaire was used. SPSS version 25 was used to conduct descriptive statistical analysis. The results indicate that there is a statistically significant relationship at a significant level ($\alpha \leq 0.05$) between the domains of corporate social responsibility accounting (CSRA) including human resource development HRD, Natural resources development NRD, improve quality product IQP, improve quality service IQS and supply chain management (SCM).

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1. Introduction

In industrialized economies, corporate social responsibility accounting (CSRA) is becoming increasingly common. CSRA often sits uneasily, as corporations are frequently challenged by the worldwide reach of their supply networks, as well as the potential for irresponsible practices along these lines. The threat of irresponsible behavior puts pressure on multinational companies to defend their brands, even if it means taking responsibility for their suppliers' actions. Pressure groups are aware of the stress placed on businesses and are attempting to take advantage of the situation (Amaeshi et al., 2008). Moreover, over the last decade, corporations and scholars have become increasingly concerned about corporate responsibility in general and sustainable SCM in particular. Sustainability, on the other hand, has frequently been addressed in scientific work in a generic or anecdotal manner (Carbone et al., 2012). Socially responsible SCM is heavily influenced by business strategies. In the supply chain, low-cost producers generally ignore their social duties. Firms pursuing differentiation strategies, on the other hand, are much more concerned about these difficulties, partially due to superior supply chain operations (Hoejmose et al., 2013). Stakeholders are increasing pressure on firms to include the triple-bottom-line of social, environmental, and economic responsibility in their operations and SCM strategies (Tate et al., 2010). Global supply chain decision-makers must decide on the level of investment in CSR activities and the trade partners (manufacturer or retailer) based on their CSR consciousness and perceived riskiness in order to maximize profit and minimize total risk (Cruz, 2013). According to Damert et al., (2020), the effectiveness of stakeholder pressures in facilitating the adoption of socially responsible practices varies significantly depending on the strategic aspect of SR-SCM and the type of stakeholders assessed. Companies with a higher level of internationalization use a greater number of SR-SCM practices, but home country stakeholders become less important as a company becomes more internationalized. Furthermore, in the face of severe social and environmental difficulties that

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accompany decades of fast economic development, some firms move beyond their core business functions to address social and environmental concerns through CSR and sustainable supply chain development (Zhou et al., 2012).

2. Literature review

2.1 Corporate Social Responsibility Accounting (CSRA)

To describe buying managers' involvement in socially responsible actions, use the term purchasing social responsibility. One of the most essential components in increasing customer happiness is corporate social responsibility accounting (CSRA). It is a part of a business element's economic, legal, and moral activities aimed at increasing business and society goals. Companies, on the other hand, face a variety of challenges when it comes to implementing CSR policies. Customer satisfaction is negatively impacted by challenges in CSRA procedures (Jermsittiparsert & colleagues, 2019). Corporate social and environmental responsibility refers to a company's efforts to uphold the cultural and ethical norms of the society in which it operates. Economic and environmental obligations are either opposing or mutually exclusive forces. They defined CSRA as the convergence of economic, legal, ethical, and discretionary corporate success factors (Tate et al., 2010). Therefore, entrepreneurs who take responsibility for their communities, both domestically and internationally, are an important part of the socioeconomic setting and business diplomacy strategy. People place a high value on social characteristics. There is a high level of societal awareness and scrutiny of business operations in general. As a result, corporate governance and CSR are key subjects for businesses. As a result, businesses prefer to fill voids caused by a country's institutional environment, but the other way around, if formal institutions successfully operate within one domain, corporate action is unlikely (Amaeshi et al., 2008).

2.2 Human Resource Development (HRD)

HR is typically thought of as a department that processes people in the same manner that accounting handles money in most businesses. Salary structures, benefits packages, career trajectories, retirement programs, and health insurance are all tracked by massive computer systems and enormous procedural manuals containing reams of data (Liker & Hoseus, 2010). The strategic business-partnering role of HRD in organizations has been thoroughly discussed by numerous theories and scholars. As a result, HRD resilience might be considered as a new success factor that, when combined with the efforts of other contributors, can improve organizational resilience individually or collectively. HRD should lead organizational change and, through its policies and initiatives, contribute to organizational resilience (Mitsakis, 2020). Persons and teams of individuals are trained with technical skills and knowledge for their development as well as the development of the company, and human resource competency refers to the extraordinary skills and abilities of individuals as well as teams of individuals. These outstanding characteristics and abilities could be technical or managerial in nature. The project team's competence is mostly determined by the project manager's and project team manager's abilities (Saengchai et al., 2020).

2.3 Natural Resources Development (NRD)

In many resource-rich countries, effective use and management of natural resources are vital to ensuring a long-term future. It is also generally recognized that globalization raises knowledge of sustainable resource extraction and facilitates the transfer of cleaner industrial technologies to developing countries, allowing them to form a sustainable development pattern. However, research on the influence of globalization in mitigating natural resource environmental consequences in resource-based economies is limited (Erdoan et al., 2021). Despite the fact that the role of financial development, natural resources, and ecological efficiency has generated many appealing avenues for scholarly research, only a few studies have evaluated the degree of coupling coordination of natural resources, financial development, and ecological efficiency from a regional perspective (Zameer et al., 2020). Furthermore, developing economies have struggled to improve their economic performance through the use of natural resource wealth. Exploiting natural resource endowments is a multi-stage economic and political problem that requires private investment to locate and extract the resource, fiscal regimes to capture revenue, prudent spending and investment decisions, and policies to manage volatility and mitigate negative effects on the rest of the economy (Venables, 2016).

2.4 Improve Quality Product (IQP)

Competition is an ongoing concern for industrial businesses. Furthermore, incorporating proactive ergonomics, such as physical and organizational ergonomics, as well as psychological components, into a company's structure is seen as a support for productivity and quality (Zare et al., 2016). Also, in several industries, companies are attempting to improve product quality, reduce costs, and reduce the time from concept to market. With the advancement of SCM techniques, organizations must make the most of external resources and engage with their supply chain partners in order to improve end-product quality. Because design quality is a primary indicator of ultimate product quality, the design phase is critical for product quality enhancement (Zhu et al., 2009). Moreover, high-quality measurement is required in research and sophisticated production. This necessitates the disclosure of measurement uncertainty as well as the availability to traceable calibrated instruments that can be traced back to an international standard. However, for all types of industry measures, traceability is not clear. Certain sectors manufacture goods whose quality assurance is based on the measurement of ambiguous, complex criteria (Wirandi & Lauber, 2006).

2.5 Improve Quality Service (IQS)

Service quality is one of the topics that numerous businesses are emphasizing at the moment, and it is a critical component in determining whether or not an industry is sustainable. That service quality is the difference between consumers' real satisfaction and their expectations after accepting services. Service quality is defined as the difference between "expectation" before clients accept service and "perception" after they accept service; in other words, service quality equals expected service minus perceived service (Huang et al., 2014). Furthermore, the companies place a premium on the quality of services they deliver to their clients, as these play an important part in gaining a competitive advantage and retaining existing customers (Latif et al., 2021), Where it measures service quality in five dimensions: tangibles (updated and visually appealing physical facilities, up to date equipment, and well-dressed personnel); reliability (on-time, dependable, and accurate service); responsiveness (promptness); assurance (knowledge, courtesy, and trustworthiness); and empathy (individualized attention and caring attitude). The discrepancy between anticipation and perception was used to determine quality (Reich et al., 2010).

2.6 Supply Chain Management (SCM)

SCM is a method of controlling the movement of goods, services, and related data from point of origin to point of consumption. Purchasing, production, inventory management, logistics, and transportation are all part of the SCM process. Due to the numerous suppliers, consumers, and logistics service providers located in various geographical regions, globalization has increased this complexity. Simulation software may be used to handle this complexity since it mimics real-life conditions and can assist managers in making better decisions in areas such as facility placement, transportation, and inventory model selection (Maina & Mwangangi, 2020). Moreover, the SCM is a significant management tool in corporations, but it appears to be more often employed in small and medium businesses. SCM determinants, factors, impediments, practices, functioning, environmental, and social sustainability statistically differ significantly between opposing economies, although only SCM determinants are not significantly different for entity size (Kot et al., 2020). Furthermore, the SCM symbolizes the most advanced state in the advancement of purchasing, procurement, and other supply chain activities. SCM is a relatively young and quickly increasing field that is redefining how manufacturing and non-manufacturing companies satisfy their consumers' needs (Almatarneh et al., 2022). As a result, supply chains are often run with little regard for the larger context in which they operate. This perspective ignores the fact that supply networks have grown into systems that are both vulnerable and harmful. The reality that supply chain architecture and processes are fluid and linked with political-economic issues has been underscored by recent and ongoing crises (Wieland, 2021).

2.7 Hypothesis Development

According to the study New (2015), the unique characteristics of contemporary slavery may render traditional supply chain CSRA efforts useless. In Faisal (2010), not all supply chain hurdles to CSR require the same level of attention. Barriers with strong driving power and low dependency, which require maximum attention and are strategic in nature, and those with great dependence but low driving power, are the two categories. Jermstittiparsert et al., (2019) According to the study's findings, logistics firms should concentrate on two CSRA practices: environmental contribution and human resources. Contributions to the environment and human resources foster community development, which leads to increased customer satisfaction. According to Carter and Jennings (2002), purchasing social responsibility has a direct and indirect positive impact on supplier performance, as well as a mediated effect through improved trust and cooperation. Purchasing managers, as well as customer service, distribution, and business-to-business marketing logistics managers, will be affected by these findings. Furthermore, companies prioritize different aspects of social, environmental, and economic responsibility upstream and downstream in supply chains depending on the industry, size, and geographic location, according to Tate et al., (2010) findings. The investigation yielded unique insights into company communications that would not have been discovered using other methods. Our findings from exploratory research further indicate the impact of country of origin and industry in affecting CR behavior, highlighting both isomorphic and polymorphic tendencies for CR through time (Carbone et al., 2012). According to the findings of Al-Omouh et al (2022), intellectual capital has a considerable influence on supply chain agility, collaborative knowledge development, and company sustainability. Cruz's (2013) findings suggest that CSR initiatives could be leveraged to reduce global supply chain risk. Jarah et al., (2022) discovered a statistically significant link between internal audit and supply chain management in shipping organizations. The findings of Al-Zaqeba et al., (2022) demonstrate a statistically significant association between management accounting and supply chain performance in logistics manufacturing firms at the significance level (0.05). Blasi et al., (2018) discovered several common tendencies as well as sectoral differences: CSR participation increases overall stock returns and lowers financial risks, albeit this is contingent on the type of CSR in which the companies participate. The results of an accounting-figure analysis are less clear, displaying trends that are depending on both the specific region of CSR and the sectoral activities carried out. Jarah & Almatarneh (2021), the results revealed that a proper understanding of the organization leads to the improvement of work quality. The following hypotheses are provided in light of the preceding discussion:

H₁: *There is a significant and positive relationship between HRD and CSM.*

H₂: *There is a significant and positive relationship between NRD and CSM.*

H₃: *There is a significant and positive relationship between IQP and CSM.*

H4: *There is a significant and positive relationship between IQS and CSM.*

3. Methodology

Data were gathered using a method survey through which the questionnaire was used to suit the nature of the current study. According to Zikmund (2010) who stated that every survey questionnaire must be well structured and tested again before actual usage. In addition, pretesting of a research survey questionnaire as a way to reduce bias and uncertainty, as well as maintain a high standard of quality and validity of the questionnaire. The instrument validity refers to the adequacy and appropriateness of a research instrument. Also, consistent with Bourque and Fielder (2003), the present study attempts to describe, explain and explore the phenomenon under scrutiny using the survey method is deemed appropriate. A self-administered questionnaire was the chosen instrument of the survey, as a commonly used technique for data collection in the survey study. The respondent was the employees in the Jordanian companies. The administered questionnaire is divided into two parts, the first of which includes domains such as human resource development HRD, natural resource development NRD, improve quality product IQP, and improve quality service in the corporate social responsibility accounting CSRA. The second portion of the IQS includes items related to supply chain management (SCM) as the dependent variable. Statistical tests, such as SPSS, were used to examine the data. The unit of analysis is also viewed as the major empirical object, individual, or group that a researcher is interested in studying to evaluate the unit of measure and analysis. According to Huck & Bounds (1974), the unit of analysis must be precisely defined in order to evaluate the constructs' conceptual and operational meanings in the study model. Furthermore, an incorrect unit of analysis may lead the researcher to select incorrect instruments, distorting the results and contradicting the research conclusions. To determine an appropriate unit of analysis, Benbasat (1987) proposed that the problem statement should be accurately identified and the research objectives that are expected to be pursued must be achievable.

3.1 Data Description

The information presented here summarizes the outcomes of a study aimed at determining the relationship between CSRA and SCM. The descriptive data and Cronbach's alpha value are shown in Table 1. Where the highest means achieved for the HRD by high agreement degree is (3.78), yet the lowest means achieved for the IQP by medium agreement degree is (3.65). Cronbach Alpha was also applied to the study sample to ensure the instrument's reliability. The CSRA had a Cronbach's alpha of (0.953), whereas the SCM had a Cronbach's alpha of (0.902). The HRD had the greatest DNR value (0.874), while the alpha value was (0.866) for HRD, (0.855) for IQS, and (0.805) for IQP, suggesting reliability acceptance. Table 2 also displays the Pearson correlation between variables, with the Pearson's correlation indicating that: there is a significant positive link between HRD and SCM at the significance level (0.05), with Pearson Correlation reaching (0.817), by statistically significant (0.000). There is a statistically significant positive link between NRD and SCM at the significance level (0.05), with Pearson Correlation reaching (0.928). (0.000). There is a statistically significant positive link between IQP and SCM at the significance level (0.05), with Pearson Correlation reaching (0.844). (0.000). There is a substantial positive link between IQS and SCM at the significance level (0.05), with Pearson Correlation reaching (0.819), which is statistically significant (0.000), as shown in Table 2.

Table 1

Means, standard deviation and Cronbach's alpha for all domain and total means of them (N=375)

No	Variables	Mean	Standard. Deviation	Rank	Agreement Degree	Alpha
1	Human Resource Development (HRD)	3.78	0.67	1	high	0.866
2	Natural Resources Development (NRD)	3.73	0.74	2	high	0.874
3	Improve Quality Product (IQP)	3.65	0.7	5	Medium	0.805
4	Improve Quality Service (IQS)	3.73	0.72	2	high	0.855
5	Supply Chain Management (SCM)	3.72	0.69	4	high	0.902
	Total Means	3.72	0.65	-	high	0.953

***Pearson Correlation between variables

Table 2

Pearson Correlation between Variables (N=375)

Variables	HRD	NRD	IQP	IQS	SCM
Human Resource Development (HRD)	-	0.786**	0.745**	0.948**	0.817**
Natural Resources Development (NRD)		-	0.739**	0.769**	0.928**
Improve Quality Product (IQP)			-	0.750**	0.844**
Improve Quality Service (IQS)				-	0.819**
Supply Chain Management (SCM)					-

* ($\alpha \leq 0.05$) ** ($\alpha \leq 0.01$)

The Normal Distribution: The (Kolmogorov–Smirnov Z) test was used to reveal normality and curve normality in dependent and independent variables. (Z) Each variable's value is less than the criteria value (1.96), indicating that the data is distributed normally, as shown in Table 3. The regression analysis test was also used to determine the CSRA-SCM relationship. Also, Table 4 show that there are a statistically a significant role at significant level ($\alpha \leq 0.05$) to the Relationship between CSRA

and SCM, where HRD variable is most effective, "t" value reached (48.028) by statistically significant ($p = 0.000$), (R) value reached (0.817), (R2) value reached (0.668), then NRD ($t = 30.420$ $p = 0.000$), (R) value reached (0.844), (R2) value reached (0.713), then IQP ($t = 27.617$ $p = 0.000$), (R) value reached (0.819), (R2) value reached (0.672), finally IQS ($t = 27.414$ $p = 0.000$), (R) value reached (0.817), (R2) value reached (0.668). Therefore, the main hypothesis and sup hypotheses are acceptance.

Table 3

The Normal Distribution of the Variables of the study

Variables	Positive trend	Negative trend	Kolmogorov-Smirnov Z	Sig.
HRD	0.148	0.135-	1.870	0.07
NRD	0.165	0.171-	1.315	0.12
IQP	0.134	0.127-	1.594	0.09
IQS	0.173	0.160-	1.355	0.11
SCM	0.150	0.149-	1.905	0.06

Table 4

Result of the (Regressions) analysis to the relationship between corporate social responsibility accounting (CSRA) and supply chain management (SCM) items (N= 375)

Independent Variables	Supply Chain Management (SCM)				
	β	R	R2	"t" value	Sig.
HRD	0.843	0.817	0.668	27.414	0
NRD	0.861	0.928	0.861	48.028	0
IQP	0.826	0.844	0.713	30.42	0
IQS	0.873	0.819	0.672	27.617	0

* Dependent Variable: Supply Chain Management (SCM)

4. Conclusions

CSRA entails a company's increased awareness of its impact on society and the environment. To maintain long-term viability, the goal is to offer favorable results for all stakeholders in the firm, not only a positive return for its stockholders. The activities made should go beyond the firm's narrow interests and go beyond the law's basic requirements. Moreover, this study aimed to examine The Relationship between Corporate Social Responsibility Accounting (CSRA) including human resource development HRD, Natural resources development NRD, improve quality product IQP, improve quality service IQS and supply chain management (SCM). Where these results are in agreement with the results of both (Jernsittiparsert et al., (2019), Carter & Jennings (2002), Tate et al., (2010), Carbone et al., (2012), Cruz (2013), Blasi et al., (2018).

References

- Almatarneh, Z., Jarah, B., & Jarrah, M. (2022). The role of management accounting in the development of supply chain performance in logistics manufacturing companies. *Uncertain Supply Chain Management*, 10(1), 13-18.
- Al-Omouh, K. S., Palacios-Marqués, D., & Ulrich, K. (2022). The impact of intellectual capital on supply chain agility and collaborative knowledge creation in responding to unprecedented pandemic crises. *Technological Forecasting and Social Change*, 178, 121603.
- Al-Zaqeba, M., Jarah, B., Inezeh, N., Almatarneh, Z., & Jarrah, M. (2022). The effect of management accounting and blockchain technology characteristics on supply chains efficiency. *Uncertain Supply Chain Management*, 10(3), 973-982.
- Amaeshi, K. M., Osuji, O. K., & Nnodim, P. (2008). Corporate social responsibility in supply chains of global brands: A boundaryless responsibility? Clarifications, exceptions and implications. *Journal of Business ethics*, 81(1), 223-234.
- Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The case research strategy in studies of information systems. *MIS quarterly*, 11(3), 369-386.
- Blasi, S., Caporin, M., & Fontini, F. (2018). A multidimensional analysis of the relationship between corporate social responsibility and firms' economic performance. *Ecological Economics*, 147, 218-229.
- Bourque, L., & Fielder, E. P. (2003). How to conduct self-administered and mail surveys (Vol. 3). Sage.
- Carbone, V., Moatti, V., & Vinzi, V. E. (2012). Mapping corporate responsibility and sustainable supply chains: an exploratory perspective. *Business Strategy and the Environment*, 21(7), 475-494.
- Carter, C. R., & Jennings, M. M. (2002). Social responsibility and supply chain relationships. *Transportation Research Part E: Logistics and Transportation Review*, 38(1), 37-52.
- Cruz, J. M. (2013). Mitigating global supply chain risks through corporate social responsibility. *International Journal of Production Research*, 51(13), 3995-4010.
- Damert, M., Koep, L., Guenther, E., & Morris, J. (2020). Stakeholders and socially responsible supply chain management: the moderating role of internationalization. *Sustainability Accounting, Management and Policy Journal*, 12(4), 667-694.
- Erdoğan, S., Çakar, N. D., Ulucak, R., & Kassouri, Y. (2021). The role of natural resources abundance and dependence in achieving environmental sustainability: Evidence from resource-based economies. *Sustainable Development*,

- 29(1), 143-154.
- Faisal, M. N. (2010). Analysing the barriers to corporate social responsibility in supply chains: an interpretive structural modelling approach. *International Journal of Logistics: Research and Applications*, 13(3), 179-195.
- Hoejmose, S., Brammer, S., & Millington, A. (2013). An empirical examination of the relationship between business strategy and socially responsible supply chain management. *International Journal of Operations & Production Management*, 33(5), 589-621.
- Huang, C. C., Yen, S. W., Liu, C. Y., & Huang, P. C. (2014). The relationship among corporate social responsibility, service quality, corporate image and purchase intention. *International Journal of Organizational Innovation*, 6(3).
- Huck, S. W., Cormier, W. H., & Bounds, W. G. (1974). *Reading statistics and research* (pp. 74-102). New York: Harper & Row.
- Jarah, B. A. F., & Almatameh, Z. (2021). The effect of the elements of accounting information system (AIS) on organizational culture (OC)-A field study. *Academy of Strategic Management Journal*, 20, 1-10.
- Jarah, B., Jarrah, M., & Al-Zaqeba, M. (2022). The role of internal audit in improving supply chain management in shipping companies. *Uncertain Supply Chain Management*, 10(3), 1023-1028.
- Jermisittiparsert, K., Siam, M., Issa, M., Ahmed, U., & Pahi, M. (2019). Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behavior. *Uncertain Supply Chain Management*, 7(4), 741-752.
- Kot, S., Haque, A. U., & Baloch, A. (2020). Supply chain management in SMEs: Global perspective. *Montenegrin Journal of Economics*, 16(1), 87-104.
- Latif, K. F., Bunce, L., & Ahmad, M. S. (2021). How can universities improve student loyalty? The roles of university social responsibility, service quality, and “customer” satisfaction and trust. *International Journal of Educational Management*, 35(4), 815-829.
- Liker, J. K., & Hoseus, M. (2010). Human resource development in Toyota culture. *International Journal of Human Resources Development and Management*, 10(1), 34-50.
- Maina, J., & Mwangangi, P. (2020). A critical review of simulation applications in supply chain management. *Journal of Logistics Management*, 9(1), 1-6.
- Mitsakis, F. V. (2020). Human resource development (HRD) resilience: a new ‘success element’ of organizational resilience?. *Human Resource Development International*, 23(3), 321-328.
- New, S. J. (2015). Modern slavery and the supply chain: the limits of corporate social responsibility?. *Supply Chain Management: An International Journal*, 20(6), 697-707.
- Reich, A. Z., Xu, Y. H., & McCleary, K. W. (2010). The influence of social responsibility image relative to product and service quality on brand loyalty: An exploratory study of quick-service restaurants. *Hospitality Review*, 28(1), 2.
- Saengchai, S., Joemsittiprasert, W., & Jermisittiparsert, K. (2020). Human resource development and success of engineering procurement construction project: What role engineering education and human resource competency can play. *Test Engineering and Management*, 82, 3476-3487.
- Tate, W. L., Ellram, L. M., & Kirchoff, J. F. (2010). Corporate social responsibility reports: a thematic analysis related to supply chain management. *Journal of supply chain management*, 46(1), 19-44.
- Venables, A. J. (2016). Using natural resources for development: why has it proven so difficult?. *Journal of Economic Perspectives*, 30(1), 161-84.
- Wieland, A. (2021). Dancing the supply chain: Toward transformative supply chain management. *Journal of Supply Chain Management*, 57(1), 58-73.
- Wirandi, J., & Lauber, A. (2006). Uncertainty and traceable calibration—how modern measurement concepts improve product quality in process industry. *Measurement*, 39(7), 612-620.
- Zameer, H., Yasmeen, H., Wang, R., Tao, J., & Malik, M. N. (2020). An empirical investigation of the coordinated development of natural resources, financial development and ecological efficiency in China. *Resources Policy*, 65, 101580.
- Zare, M., Croq, M., Hossein-Arabi, F., Brunet, R., & Roquelaure, Y. (2016). Does ergonomics improve product quality and reduce costs? A review article. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 26(2), 205-223.quality.
- Zhou, S., Quan, X., & Jiang, W. (2012). Corporate social responsibility and sustainable development in China: literature review and case analysis. *Journal of Supply Chain and Operations Management*, 10(1), 54-65.
- Zhu, Y., You, J., Alard, R., & Schönsleben, P. (2009). Design quality: a key to improve product quality in international production network. *Production Planning and Control*, 20(2), 168-177.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods: Sampling design and sampling procedures*. Mason, OH: Library of Congress.

