

EVIDENCE-BASED ROLE OF SUPPLIERS IN SUPPLY CHAIN SUSTAINABILITY

Phuc Nguyen¹, Quynh Nguyen², and Ha Nguyen³

¹*La Trobe University, Australia*

²*Academy of Finance, Vietnam*

³*Foreign Trade University, Vietnam*

Introduction

Sustainable development is defined as 'development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs' (WCED, 1987). Integrated into corporate operations, under the banner of Corporate Social Responsibility (CSR) – 'the responsibility of enterprises for their impacts on society' (European Commission, 2012), sustainability is considered from multiple aspects, for instance, social and environmental responsibility (Dahlsrud, 2006), environment, health and safety, labour rights, human rights and corruption (Ayuso et al., 2013, Jorgensen and Knudsen, 2006), or the natural environment, society, and economic performance philanthropy (Carter and Rogers, 2008).

The widely accepted concept of CSR includes three dimensions: environmental, social and economic (Wilhelm et al., 2016, Wu and Pagell, 2011). CSR involves integrating environmental issues (e.g. waste, pollution, emissions, energy consumption, recycled material, eco-labelling, design for assembly, and clean technologies); and social issues like working conditions and employee's health and safety into the value chain. It also includes efforts to ensure financial health to meet the requirements of investors/shareholders. Of note is existence of synergies and trade-offs between the three sustainability pillars (Morioka and Carvalho, 2016, Gualandris and Kalchschmidt, 2016), that managers are confronted with (Azapagic, 2003). As argued by Savitz and Weber (2007), in some cases, 'sweet spots' could be obtained when a win-win relationship between sustainability pillars materialises. Evidence of such positive outcomes has been found in studies by Golici and Smith (2013), Das et al. (2008), Pagell et al. (2013) and Wang and Sarkis (2013). Yet, when this is not the case, organisations have to deal with tradeoffs, given limited resources and defined priorities (Morioka and Carvalho, 2016).

There exist different perspectives regarding the extent to which corporations are held responsible for CSR. Those ascribing to shareholder perspective argue that 'the only social responsibility that businesses have is to maximise profits, which in turn maximises shareholder wealth and satisfaction' (McWilliams and Williams, 2014: 65), i.e. economic sustainability. Those holding a stakeholder perspective on the other hand believe that in addition to shareholders, companies have to respond to requirements of those with legitimate interest in a company (Donaldson and Preston, 1995), including employees, customers, governments, local communities, media, trade unions and special interest groups (McWilliams and Williams, 2014). In other words, organisations should be responsible for all three bottom lines. The recent emergence of outsourcing practice has also raised a question if companies should be held responsible for outsourced activities that they do not perform themselves.

The current climate has seen the stakeholders' model seemingly taking over the shareholder's view in sustainability. Increasingly, managers believe that it is unethical to focus on just shareholders (McWilliams and Williams, 2014). Recent developments have also seen increasingly stringent regulations on environmental and social sustainability at different levels: supernational (e.g. EU), national and industrial. Sustainability is therefore no longer just a matter of choice, or as put by Epstein and Roy (2001: 586), 'it's not the question whether to implement CSR, but how'.

Also, outsourced activities are increasingly considered as an integrated part of the focal company (Jorgensen and Knudsen, 2006) - a firm that generally owns a brand, is involved in the designing of products and services, and rules the supply chain (Seuring and Muller, 2008). Recent examples of damages that focal firms suffer, both legally and materially (e.g. Mattel case in 2007 (Hora et al., 2016) and Zara case in 2011 (Burgin and Phillips, 2011)), uphold the expectations for focal firms to take

ultimate responsibility for their supply chain's offerings. The emergence of such a notion of 'chain liability' (Hartmann and Moeller, 2014: 281) has been recognised by various scholars, including Handfield et al. (1997), Ayuso et al. (2013), Jorgensen and Knudsen (2006) and Grimm et al. (2014).

Various empirical studies have been conducted to explore different avenues to sustainability, especially in the context of supply chain (see for instance, Lee and Wu (2014), Gualandris and Kalchschmidt (2016), Green et al. (2012), Vachon and Klassen (2008), etc.). However gaps remain. In line with findings by Ayuso et al. (2013), Lee (2016) and Miemczyk and Johnsen (2012), our literature review identified a bias towards studies from customers' perspective, mostly large-sized and international buying firms (Lee, 2016). 'The standpoint of suppliers and how they deal with the increasing environmental and social requests has been explored to a much lesser degree' (Ayuso et al., 2013: 498). The bias is worse for second- and third-tier suppliers (Miemczyk and Johnsen, 2012).

This is an unfortunate shortcoming, as suppliers are arguably critical to successful implementation of sustainability requirements in a supply chain context. In a supply chain with only one tier of suppliers, a focal firm's sustainability effort is expectedly to be limited to successfully getting its immediate suppliers to implement its sustainability requirements. The relationship between the focal firm and its immediate suppliers is direct and contractually binding, or in other words, the focal firm could exert some extent of influence on its suppliers in pursuit of its sustainability endeavor. However, in a multi-tier supply chain, the task would be much more complex. In addition to securing its immediate suppliers' (i.e. 1st tier suppliers) engagement, the focal firm needs such requirements to be as well passed down to and implemented by suppliers' suppliers (i.e. 2nd tier suppliers), suppliers' suppliers' suppliers (i.e. 3rd tier of suppliers) and so on.

Without a direct contractual relationship between the focal firm and tiers of suppliers beyond the 1st, successful implementation of the supply chain sustainability requirements would greatly depend on the 1st tier suppliers' willingness to disseminate and monitor the implementation of such requirements by the 2nd tier suppliers; the 2nd tier suppliers' willingness to convey and monitor the implementation of the 3rd tier suppliers, and so on. Put differently, suppliers need to be activated in two ways: (1) by incorporating the requirements of sustainability into their own operations (known as primary agency role), and (2) by disseminating and monitoring the implementation of such requirements by their suppliers (so-called secondary agency role) for supply chain sustainability to be achieved. These two roles combined are known as double agency roles (Wilhelm et al., 2016).

Among few studies that look at the problem from suppliers' perspective, e.g. Zhu and Sarkis (2004), Lee (2016), Lee and Klassen (2008), those that duly investigate the roles of suppliers in the upstream movement of focal firm's sustainability along the supply chain (e.g. Wilhelm et al. (2016), Bhakoo and Choi (2013)) have been rare. Drawing on the model developed by Wilhelm et al. (2016), we aim to fill this gap by empirically investigating factors that potentially impact suppliers' propensity to be engaged in the double agency roles, from principal-agency and institutional theories. Unlike Wilhelm et al.'s (2016) research which mainly focused on 1st suppliers and case-based, we extended to include various tiers of suppliers along the supply chain via surveys.

This study adopted a quantitative approach using survey in the context of manufacturing companies in Vietnam – a developing country where many sub-suppliers operate (Wilhelm et al., 2016, Jorgensen and Knudsen, 2006) for the purpose of addressing two additional gaps identified in the extant literature: biases towards (1) a qualitative approach (Tachizawa and Wong, 2014) with great reliance on case studies or case examples (Ayuso et al., 2013); and (2) developed countries as study contexts (Lee, 2016). Also, Vietnam - as a country that many big companies are outsourcing to, including Nike, Adidas, Zara, Intel, Samsung, Nokia, Canon, Fujitsu, Foxcom, Microsoft, Panasonic, and IKEA (TMA Solutions, 2015) expectedly provides a rich study context for this research. Manufacturing industry was chosen due to its perceived stronger social and environmental impacts (Gualandris and Kalchschmidt, 2016).

The article is structured as follows. Section 2 discussion theoretical background and development of research hypotheses. Methodology of the study is explained in Section 3. The results are outlined in Section 4, then comes Discussion and Managerial Implications in Section 5. Section 6 continues with

some concluding remarks, with a brief discussion on limitations of the research and directions for future research.

Theoretical background and development of hypotheses:

Principal-agency theory

Modern economies have seen the popularity of situations where a person or group of persons (also called agents) is asked to perform a task on behalf of others (also called owners/principals) (Besley and Ghatak, 2014). 'Delegating tasks to those with appropriate expertise is essential to unlocking the gains from the division of labour' (Besley and Ghatak, 2014: 2, Wallis and Douglass, 1986), e.g. improved productivity, which in turn generates better economic performance (Eigen-Zucchi, 2001). Such a practice, however, as stipulated in the principal-agency theory, creates a situation where ownership is separated from control, which gives rise to principal-agent problems. More specifically, principals' welfare is at risk when agents engage in opportunistic behaviours which maximize their own personal interests and expend insufficient effort towards achieving agreed-upon objectives (Jensen and Meckling, 1976).

The problem that this theory aims to address - the agency dilemma, is fuelled by a set of information deficits that arise in any complex set of organisational transactions. Principal-agent theories specifically identify information asymmetry between parties to all transactions. Information asymmetry, refers to a situation in which one party in a transaction has greater or superior information compared to another, for instance, the seller knows more than the buyer and vice versa. This situation may lead to such harmful outcomes such as adverse selection (i.e. misrepresentation of the ability of the agent) and moral hazard (i.e. lack of the agent's effort to fulfil the principals' order) when one party can take advantage of the other party's lack of knowledge (Williamson, 1985). In a principal-agent relationship, the agent who is directly involved in the control of the operations of organisations/activities is thought to have superior knowledge and information, and consequently can act opportunistically (e.g. multiple forms of system gaming, including lying, cheating, stealing, and other short term strategies) if they decide to do so.

Various mechanisms that have been in use to incentivize agents to act in the principals' best interest, including a contract design that aligns the incentives of each party in a more efficient manner, use of various monitoring practices (e.g. performance monitoring via board of directors, stockholders or outside auditors), a set of reward mechanisms (e.g. compensation, bonus, threat of firing, threat of takeover); and multiple information sharing mechanisms to have information distributive inefficiency corrected (Eisenhardt, 1989). Implementation of all these measures, however, is costly, and gives rise to so-called agency costs.

The relationship between a focal firm and its immediate suppliers in a supply chain context, is essentially one of agency type, wherein the focal firm, as a principal, hires the supplier(s) – as agent(s), to conduct certain activities that are essential to the production of its offerings. The focal firm is held responsible for problems, both technical and sustainable, associated with their sales, while partial or whole production lies in the hands of the suppliers. The same holds true for the relationships between the 1st and 2nd tier suppliers, and so on. As previously discussed, the achievement of sustainability depends on the focal firm's sustainability requirements being effectively implemented by tiers of suppliers. It however, in line with the principal-agency theory, is arguably disturbed by information asymmetry between involved parties in each agency relationship, e.g. focal firm – 1st tier suppliers; 1st-2nd tier suppliers and so on. This calls for different sets of incentives and information sharing mechanisms to get suppliers at different tiers along the supply chain activated.

It could therefore be argued that the availability of incentives motivates suppliers' engagement in their customers' sustainability endeavour by implementing two agency roles: primary and secondary. For the purpose of this study, we chose to focus on one specific set of incentives - benefits/penalties to be expected from conforming to customers' requirements. Specifically, it is hypothesized that:

H1a: The greater the incentives for primary agency role (PI), the more engaged the suppliers are in such role implementation (PR)

H1b: The greater the incentives for secondary agency role (SI), the more engaged the suppliers are in such role implementation (SR)

Also according to the principal-agency theory, the use of information sharing mechanisms is expected to reduce information asymmetry and improve information transparency - the degree to which one has sufficient insight into its partners' operations and behaviours (Wilhelm et al., 2016). Again, we argue that:

H2a: The higher degree of information transparency between customers and suppliers (PT), the more engaged the suppliers are in primary agency role implementation (PR)

It is true that buyers have less information about their suppliers' suppliers (Choi and Hong, 2002). In response, many firms, via their suppliers, have tried to improve interactions with their suppliers' suppliers in their sustainability endeavour, for instance, site visits or providing support for suppliers. Such interactions, while not necessarily contractually binding, arguably have effect to reduce information asymmetry between the customers and suppliers' suppliers. They also clearly create a triad relationship: customers – suppliers – suppliers' suppliers (Tachizawa and Wong, 2014), which in turn arguably influences the propensity of suppliers to better cooperate with their suppliers. It is therefore hypothesized that:

H2b: The higher degree of information transparency between customers and their suppliers' suppliers (ST), the more engaged the suppliers are in secondary agency role implementation (SR)

Institutional theory

As previously mentioned, more and more firms adopt CSR by incorporating sustainability requirements into their operations or management of their supply chain, due to increasing pressures from various stakeholders, including government regulators, customers, activists organisations etc. (Handfield et al., 1997, Ayuso et al., 2013, Jorgensen and Knudsen, 2006, Grimm et al., 2014). This is happening despite widely recognised tradeoffs among three pillars of CSR (Morioka and Carvalho, 2016, Gualandris and Kalchschmidt, 2016), i.e. sustainability requirements met at the expense of economic rewards.

Such a phenomenon, generally described as organisations adopting certain 'practices as a product of social rather than economic pressures' (Suddaby, 2013: 379) has long been of interest of scholars subscribing to institutional theory. From institutional theory perspective, organisations adopt and keep many organizational practices for the purpose of conformity and legitimacy, instead of economic performance (Suddaby, 2013). In Zoogah (2014: 114)'s words, 'organisations elaborate rules and requirements to which individual organizations must conform in order to receive legitimacy and support'.

Sources of social pressures on organisations to conform could be grouped into coercive, normative and mimetic isomorphism (DiMaggio and Powell, 1983). The first group - *coercive isomorphism* is 'largely political in nature and arises from organizations' need to appear legitimate to other, more powerful actors, such as the state' (Suddaby, 2013: 381). Put differently, they are pressures exerted on organizations by powerful constituents usually in the interest of driving compliance with prevailing norms, rules and beliefs, 'often, but not necessarily, explicitly articulated in the form of rules or laws' (Suddaby, 2013: 381). *Normative isomorphism* is defined as the 'need to adopt practices assumed to be right or proper by morally significant actors, such as the professions (Suddaby, 2013:381). *Mimetic isomorphism* on the other hand refers to 'the tendency of some organizations to copy other organizations that are perceived to be successful or legitimate under conditions of ambiguity—that is, when the criteria for or path to success is not apparent' (Suddaby, 2013: 381).

In DiMaggio and Powell's (1983) perspective, the most significant sources of social pressures to conform arise from the professions and the state, that is, coercive and normative isomorphism. We therefore mainly focus on these two sources of institutional factors in this study in a slightly different structure. Specifically, social pressures in supply sustainability are grouped into (1) regulatory pressures (RG) - ones that stem government, consumers, and other stakeholders within the direct institutional environment for a company; and (2) customers' pressures - ones that stem from suppliers' direct customers (Wilhelm

et al., 2016). The latter is further divided into (1) those focusing on primary role (PCP), and (2) those targeting secondary role (SCP). We argue that while regulatory pressures place direct impact on suppliers' sustainability implementation, i.e. primary agency role, while those from customers tend to impact both, thus:

H3a: The greater the regulatory pressures (RG) are, the more likely suppliers are to implement their primary agency role (PR)

H3b: The greater the customer pressures on primary agency role are (PCP), the more likely suppliers are to implement their primary agency role (PR)

H3c: The greater the customer pressures on secondary agency role are (SCP), the more likely suppliers are to implement their secondary agency role (SR)

Connecting primary and secondary agency roles

Some interactions between the two agency roles could be contemplated. The primary one, i.e. suppliers' implementation of customers' sustainability requirements in its own operations, is potentially a priority to the secondary one (i.e. suppliers' dissemination of sustainability standards to their suppliers' operations). Logically, limited available resources for sustainability are to be expended on firms' own operations, or put differently, used for their own benefits, before being extended to others. Also, it could be argued that successes on both fronts would positively and mutually influence one another. Experience in one role would help facilitate the implementation of the other and vice versa. However, there remains scant theoretical support for a clear direction of that relationship, we therefore attempt to explore that relationship by hypothesizing that:

H4: The implementation of primary agency role (PR) and the implementation of secondary agency role (SR) happen and/or change together.

The conceptual model comprising of three submodels is illustrated in Figure 1 below:

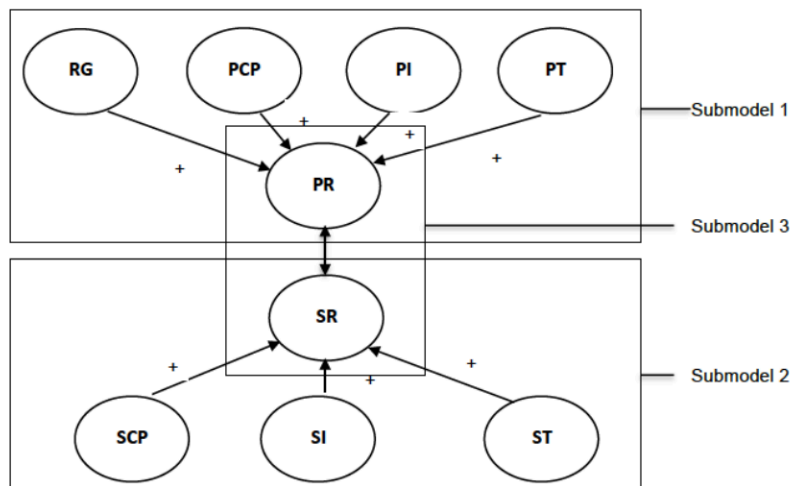


Figure 1: Conceptual model

Methodology

Survey development

Initial indicators of constructs were developed from the following sources: (1) Indicators from previous related studies; and (2) newly developed items based on theoretical definitions. For the purpose of measuring the constructs, a minimum five-point Likert scale (i.e. 1 = Strongly disagree; 2 = Somewhat

disagree; 3 = Neither disagree nor agree; 4 = Somewhat agree and 5 = Strongly agree) was used. The survey was tested for content validity by asking opinions from senior researchers in the field. On the basis of the replies received, the variables were then modified. As the conceptual model involves multiple causal relationships among latent constructs, SEM is a relevant technique to be employed (Hair et al., 2009). Statistical significance was tested at the 0.05 level.

Data collection:

Manufacturing enterprises in various provinces of Vietnam, including Hai Duong, Hanoi, Thai Nguyen, Ninh Binh, Thanh Hoa, Ho Chi Minh city, Dong Nai, were identified via multiple sources, including: (1) Vietnam Young Entrepreneurs Association; (2) General Department of Taxation; (3) Vietnam Association of Accountants and Auditors (VAA); (4) Yellow Book; and (5) researchers' personal contacts with enterprises. Companies were contacted by phone/email in the first instance. Respondents were senior people in the company, who were expectedly to know about the company operations at both strategic and operational level (e.g. sustainability, procurement, sales, general managers, accounting and finance). Only companies that identified themselves as suppliers of a supply chain with at least 3 tiers were included. Recognising that one company could belong to more than one supply chain, we also asked the respondents to identify one, and relate to it while answering survey questions. In addition, an online survey was created. Invitations to participate were sent to Yellow book manufacturing enterprises. In total, 197 responses were received.

Due to certain regional associations' (e.g. Department of Taxation) administrative policy, surveys were circulated to members by the associations themselves, and the exact number of invitations was not known to researchers. A response rate was unfortunately not reached with some certainty, thus not reported accordingly.

Findings

All constructs showed high level of internal reliability, with Cronbach's alphas ranging from 0.74 to 0.95, well beyond the recommended cutoff of 0.7. Three SEM analyses were conducted to test the causality relationships between PR and SR with their relevant independent constructs, i.e. Submodel 1 and Submodel 2; and the correlation between PR and SR (Submodel 3). The Goodness-of-fit test of Submodel 2 indicates a strong model fit, with RMSEA, CFI and TLI of 0.06, 0.934 and 0.925; all satisfactorily meet the recommended cutoffs (<0.07, >0.9 and >0.9 respectively). The statistics of RMSEA, CFI and TLI for Submodel 1 are 0.07, 0.870 and 0.859; and for Submodel 3 being 0.08, 0.928 and 0.915 respectively. While the goodness-of-fit statistics for these two models are not optimal, they are just marginally shy of the recommended cutoffs; the models' fit is argued to be acceptable.

The SEM tests confirm four positive relationships: RG-PR and PI-PR in Submodel 1, and SI-SR and ST-SR in Submodel 2; while the other three hypothesized relationships were found statistically insignificant with p-values higher than 0.05 (i.e. PCP-PR, PT-PR and SCP-SR) (see Table 1 below). Specifically, regulatory pressures and economic incentives were found to exert positive impact on suppliers' incorporation of sustainability requirements into their own operations. Suppliers' willingness to engage their suppliers in their sustainability endeavour was also positively influenced by potential benefits they could derive from doing so, and the extent of information transparency between their immediate customers and their suppliers. Pressures from customers (i.e. PCP and SCP) on the other hand proved not to affect the implementation of both agency roles by the suppliers. Insignificant effect of information transparency on the primary role was also revealed. Also as shown in Table 1, PR was also found to move in the same direction with SR as expected, at the p-value smaller than 0.0001. Put differently, suppliers tend to assume both roles in tandem.

	Coefficients	P value
RG → PR	0.453	0.0000
PI → PR	0.484	0.002
PCP → PR	-0.105	0.504
PT → PR	0.111	0.546
SCP → SR	0.081	0.439
SI → SR	0.392	0.024
ST → SR	0.228	0.001
PR ↔ SR	0.88	0.0000

Table 1: Regression weights

Discussion and Managerial implications

Findings of the study provided evidence-based understanding of the interactions between suppliers' propensity to implement their double agency roles, and agency and institutional factors. They expectedly act as guidelines for not only focal firms, but also suppliers on how to invest their resources in order to ensure sustainability along the supply chain. Specifically, according to our findings, suppliers are motivated to engage in their primary agency role in sustainability by a strong regulatory system, involving multiple stakeholders, including international and national governments, industrial associations as well as ultimate consumers who have a final say on the demand of a supply chain. Put differently, this finding justifies the need for a set of strong coercive and normative pressures to engage suppliers in this role. This is even more important for suppliers upstream a supply chain, as sub-suppliers are argued not to be subject to the same level of pressure as their customers are. Reasons include sub-suppliers tend not to be under as much pressure from the focal firms (Plambeck, 2012); they are usually located in countries where environmental and social regulations are less demanding (Esty and Winston, 2006); lower-tier suppliers tend to be less susceptible to environmental pressure from society, because they are often small and medium enterprises (SMEs), 'not well-known to the general public or 'are sheltered from the glare of the general public' (Lee et al. (2012) as cited in Tachizawa and Wong (2014: 643)). Not to mention, sub-suppliers are lower-tier suppliers who 'tend to have a more unstable relationship with the rest of the supply chain, because they can be changed easily' (Ponce and Prida (2004) as cited in Tachizawa and Wong (2014: 643)).

Our data analysis also supports the perspective that direct benefits that suppliers are also expected to receive from the performance of the double agency roles are to be made as explicit as possible for effective implementation of both agency role to materialise. Practically, one of the biggest challenges in supply chain management is to get supply chain members engaged via an effective risk and benefit sharing mechanism across the supply chain. Clearly, the further the suppliers are from the consumption point, the more difficult it is for the suppliers to understand the magnitude of their contribution to the competitive advantage of the supply chain as a whole, and to claim their share accordingly, which would in turn discourages their collaboration. Thus, we argue that this finding of our study confirms the key role of a fair and explicit benefit and risk sharing across the supply chain plays in activating suppliers in supply chain sustainability. It would not be an easy challenge to take on, but a potential area of focus if relevant improvements are to be achieved.

In our study, customers' role in motivating suppliers' implementation of both agency roles was reflected by four factors: customers' pressures (PCP and SCP) and information transparency at both levels (PT and ST). Nonetheless, the data showed no evidence of some effect of customers' pressures and information transparency at the primary level. While this is contrary to our initial expectations, this might be explained by the argument that coercive and normative isomorphism, i.e. social pressures from the professions and the state, are the most important ones (DiMaggio and Powell, 1983). Given limited resources, companies might be selective, or prioritize the source of pressure to respond to while implementation sustainability requirements.

As previously discussed, while there emerged some support for the companies to assume the responsibilities for outsourced activities (Jorgensen and Knudsen, 2006), most of the time, the actions on

the part of regulatory entities have mainly targeted big focal companies, with suppliers mainly being left out of the picture. Put differently, suppliers are not subject to high level of regulatory pressures, and thus, implementation of the secondary role should depend more on the other sources of pressures, i.e. those from customers, either direct or via strengthened collaboration between the customers and the suppliers' suppliers. Interestingly, we found that at this level, suppliers at different tiers of a supply chain appeared to effectively respond to information transparency, while direct pressures from customers seem to be of no avail. Puzzling as it is, a difference between two types of customers' impact at this level should however be differentiated: while the former implies one directional pressure from the customers, the latter is indicative of a more proactive and collaborative approach from the customers' part in sustainability issues. This might underlie suppliers' positive response to information transparency as a motivator at this level.

Finally, our data confirms that expectation that the implementation of both roles 'fluctuate' together. In other words, they were found to move together and in the same direction. While further research is required for a conclusion about the causality between the two to be reached, this finding indicates that suppliers benefit more by investing in sustainability on both fronts.

Conclusion, limitations and further study

Our study investigated the under-researched roles of suppliers in supply chain sustainability; they are primary agency role and secondary agency role. This is one of the first research that quantitatively operationalized agency and institutional factors in the context of supply chain sustainability. It also effectively contributed to the literature in the field by filling the gaps in terms of methodology and study context.

However, it is not exempt from limitations. First, one big question could be raised about the possibility of combining all three submodels into one integrated analysis. While this is impossible at this stage due to the sheer complexity of the model, not to mention a quite modest sample size, this would definitely be an interesting research gap that could be filled in the future.

Second, this study while considering key agency and institutional factors, did not incorporate additional contingency factors that could influence suppliers' engagement in the double agency roles, for instance, focal firm's focus on triple bottom line, functional alignment, use of power and suppliers' resource availability (Wilhelm et al., 2016). Also, our study mainly focused on the causal relationships between agency and institutional factors and suppliers' integration of customers' sustainability standards into their operations, and the passing of such requirements onto their own suppliers. Whether such efforts bear fruits, e.g. better sustainability performance, or if there's any connection between sustainability effort and involved parties' bottom lines is not addressed in this research. Furthermore, according to DiMaggio and Powell (1983), the rate of institutional isomorphism, i.e. adoption of organisational and management practices by firms, could be influenced by factors such as the extent to which organisations are dependent on institutional environment, existence of high uncertainty or ambiguous goals, or reliance on professionals. They were however not considered in this study. Further studies that address the identified shortcomings are therefore desirable.

Last but not least, while Vietnam clearly provided a rich context for untangling suppliers' role in the age of booming outsourcing practices, replication of this study in another context – e.g. a different industry in a different country that is also a major destination for outsourcing activities, would make an interesting triangulation of our research findings.

References

- AYUSO, S., ROCA, M. & COLOME, R. 2013. SMEs as "transmitters" of CSR requirements in the supply chain. *Supply Chain Management: An International Journal*, 18, 497-508.
- AZAPAGIC, A. 2003. Developing a Framework for Sustainable Development Indicators for the Mining and Minerals Industry. *Journal of Cleaner Production*, 12, 639-662.

- BESLEY, T. J. & GHATAK, M. 2014. Solving Agency Problems: Intrinsic Motivation, Incentives and Productivity - Background paper for the 2014 World Development Report. London: London School of Economics.
- BHAKOO, V. & CHOI, T. 2013. The Iron Case Exposed: Institutional Pressures and Heterogeneity across the Healthcare Supply Chain. *Journal of Operations Management*, 31, 432-449.
- BURGEN, S. & PHILLIPS, T. 2011. Zara accused in Brazil sweatshop inquiry. The Guardian.
- CARTER, C. R. & ROGERS, D. S. 2008. A framework of sustainable supply chain management: moving toward new theory. *International Journal of Physical Distribution & Logistics Management*, 360.
- CHOI, T. Y. & HONG, Y. 2002. Unveiling the structure of supply networks: case studies in Honda, Acura, and DaimlerChrysler. *Journal of Operations Management*, 20, 469-493.
- DAHLSTRUD, A. 2006. "How Corporate Social Responsibility is Defined: An Analysis of 37 Definitions. *Corporate Social Responsibility and Environmental Management*, 15, 91-119.
- DAS, A. M., PAGELL, M., BEHM, M. & VELTRI, A. 2008. Toward a Theory of the Linkages between Safety and Quality. *Journal of Operations Management*, 26, 521-535.
- DIMAGGIO, P. J. & POWELL, W. W. 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, 48, 147-160.
- DONALDSON, T. & PRESTON, L. E. 1995. The Stakeholder Theory of the Corporation: Concepts, Evidence and Implications. *Academy of Management Review*, 20, 65-91.
- EIGEN-ZUCCHI, C. 2001. *The Measurement of Transactions Costs*. Ph.D., George Mason University.
- EISENHARDT, K. M. 1989. Agency Theory: An Assessment and Review. *Academy of Management*.
- EPSTEIN, M. J. & ROY, M.-J. 2001. Sustainability in Action: Identifying and Measuring the Key Performance Drivers. *Long Range Planning*, 34, 585-604.
- ESTY, D. C. & WINSTON, A. S. 2006. *Green to Gold: How Smart Companies use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage*, New Haven, Yale University Press.
- EUROPEAN COMMISSION 2012. Corporate Social Responsibility: A New Definition, a New Agenda for Action. Brussels.
- GOLICI, S. L. & SMITH, C. D. 2013. A Meta-analysis of Environmentally Sustainable Supply Chain Management Practices and Firm Performance. *Journal of Supply Chain Management*, 49, 78-95.
- GREEN, K. W., ZELBST, P. J., MEACHAM, J. & BHADAURIA, V. S. 2012. Green supply chain management practices : impact on performance. *Supply chain management : an international journal*, 17, 290-305.
- GRIMM, J. H., HOFSTETTER, J. S. & SARKIS, J. 2014. Critical factors for sub-supplier management: A sustainable food supply chains perspective. *International Journal of Production Economics*, 152, 159-173.
- GUALANDRIS, J. & KALCHSCHMIDT, M. 2016. Developing environmental and social performance: the role of suppliers' sustainability and buyer-supplier trust. *International Journal of Production Research*, 54, 2470-2486.
- HAIR, J. F., JR, BLACK, W. C., BABIN, B. J. & ANDERSON, R. E. 2009. *Multivariate Data Analysis*, Upper Saddle River, N.J., Pearson Prentice Hall.
- HANDFIELD, R. B., WALTON, S. V., SEEGER, L. K. & MELNYK, S. A. 1997. 'Green' value chain practices in the furniture industry. *Journal of Operations Management*, 15, 293-315.
- HARTMANN, J. & MOELLER, S. 2014. Chain liability in multitier supply chains? Responsibility attributions for unsustainable supplier behavior. *Journal of Operations Management*, 32, 281-294.
- HORA, M., BAPUJI, H. & ROTH, A. V. 2016. Safety Hazard and Time to Recall: The Role of Recall Strategy, Product Defect Type, and Supply Chain Player in the U.S. Toy Industry. *Journal of Operations Management*, 29, 766-777.
- JENSEN, M. C. & MECKLING, W. H. 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3, 305-360.

- JORGENSEN, A. L. & KNUDSEN, J. S. 2006. Sustainable Competitiveness in Global Value Chains: How do Small Danish Firms Behave? *Corporate Governance*, 6, 449.
- LEE, H., LAMBECK, E. & YATSKO, P. 2012. Embracing Green in China [. . .] with an NGO Nudge. *Supply Chain Management Review*, 16, 38-45.
- LEE, K.-H. & WU, Y. 2014. Integrating sustainability performance measurement into logistics and supply networks: A multi-methodological approach. *The British Accounting Review*, 46, 361-378.
- LEE, S.-Y. 2016. Responsible Supply Chain Management in the Asian Context: The Effects on Relationship Commitment and Supplier Performance. *Asia Pacific Business Review*, 22, 325-342.
- LEE, S.-Y. & KLASSEN, R. D. 2008. Drivers and enablers that foster environmental management capabilities in small-and medium-sized suppliers in supply chains. Production and Management Operations Society.
- MCWILLIAMS, A. & WILLIAMS, C. 2014. *MBMT2*, South Melbourne, Cengage Learning Australia.
- MIEMCZYK, J. & JOHNSEN, T. E. 2012. Sustainable Purchasing and Supply Management: A Structured Literature Review of Definitions and Measures at the Dyad, Chain and Network Levels. *Supply Chain Management: An International Journal*, 17, 478-496.
- MORIOKA, S. N. & CARVALHO, M. M. 2016. Measuring sustainability in practice: exploring the inclusion of sustainability into corporate performance systems in Brazilian case studies. *Journal of Cleaner Production*, 123.
- PAGELL, M., JOHNSTON, A., VELTRI, A., KLASSEN, R. & BIEHL, M. 2013. Is Safe Production an Oxymoron? *Production and Operations Management*, 23, 1161-1175.
- PLAMBECK, E. L. 2012. Reducing Greenhouse Gas Emissions through Operations and Supply Chain Management. *Energy Economics*, 34, S64-S74.
- PONCE, E. & PRIDA, B. 2004. *La logística de aprovisionamientos para la integración de la cadena de suministros*, Madrid, Pearson Educación.
- SAVITZ, A. W. & WEBER, K. 2007. The Sustainability Sweet Spot. *Environmental Quality Management*, 17, 17-28.
- SEURING, S. & MULLER, M. 2008. From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, 16, 1699-1710.
- SUDDABY, R. 2013. Institutional Theory. In: KESSLER, E. H. (ed.) *Encyclopedia of Management Theory*. London: Sage Publications.
- TACHIZAWA, E. M. & WONG, C. Y. 2014. Towards a theory of multi-tier sustainable supply chains: A systematic literature review. *Supply Chain Management*, 19, 643-663.
- TMA SOLUTIONS 2015. The Tech Giants Have Moved to Vietnam. *Vietnam - an Emerging Destination for IT Outsourcing*. Ho Chi Minh City, Vietnam: VNIT Alliance.
- VACHON, S. & KLASSEN, R. D. 2008. Environmental management and manufacturing performance: The role of collaboration in the supply chain. *International Journal of Production Economics*, 111, 299-315.
- WALLIS, J. J. & DOUGLASS, C. N. 1986. Measuring the Transaction Sector in the American Economy, 1870-1970. In: ENGERMAN, S. L. & GALLMAN, R. E. (eds.) *Long-Term Factors in American Economic Growth*. Chicago: The University of Chicago Press.
- WANG, Z. & SARKIS, J. 2013. Investigating the Relationship of Sustainable Supply Chain Management with Corporate Financial Performance. *International Journal of Productivity and Performance Management*, 62, 871-888.
- WCED 1987. *Our Common Future*, Oxford, Oxford University Press.
- WILHELM, M. M., BLOME, C., BHAKOO, V. & PAULRAJ, A. 2016. Sustainability in multi-tier supply chains: Understanding the double agency role of the first-tier supplier. *Journal of Operations Management*, 41, 42-60.
- WILLIAMSON, O. E. 1985. *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*, New York London, Free Press ; Collier Macmillan.
- WU, Z. & PAGELL, M. 2011. Balancing Priorities: Decision-making in Sustainable Supply Chain Management. *Journal of Operations Management*, 29, 577-590.

- ZHU, Q. & SARKIS, J. 2004. Relationships between operational practices and performance among early adopters of green supply chain management practices in Chinese manufacturing enterprises. *Journal of Operations Management*, 22, 265-289.
- ZOOGAH, D. 2014. *Strategic Followership: How Followers Impact Organizational Effectiveness*, New York, Palgrave Macmillan.