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Article

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OPERATIONS, INFORMATION & TECHNOLOGY | RESEARCH ARTICLE

Buyer-supplier relationship on social sustainability: Moderation analysis of cultural intelligence

Usama Awan^{1*}, Andrzej Kraslawski^{1,2} and Janne Huiskonen¹

Abstract: The aim of this study is to investigate moderating impact of cultural intelligence among relational governance and commitment to sustainability, consequently on the social sustainability performance. Relying on social exchange theory and dynamic capability view, we advance a more nuanced approach to examining how cultural intelligence interaction with relational governance enhances supplier's commitment to sustainability and hence allows suppliers firm to improve their social sustainability performance, based on data collected from 239 manufacturing firms located in Pakistan. Structural equation modelling and regression base moderation analysis supported the hypothesis. The results suggest that relational governance can act as centralised control for ensuring commitment to sustainability and social sustainability performance. Our results suggest that cultural intelligence moderates the relationship among relational governance and commitment to sustainability. Our study contributes to the debate about the relational governance in the achievement of commitment to sustainability that so far has never been investigated within manufacturing industry of Pakistan. The results of the research clearly show the positive impact of commitment on social sustainability performance. Theoretical contributions, managerial implications and future research direction also presented.

Subjects: Environment & Business; Business, Management and Accounting; Industry & Industrial Studies

Keywords: relational governance; cultural intelligence capability; social sustainability performance; buyer-supplier relationship; manufacturing firms

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PUBLIC INTEREST STATEMENT

This research study is useful for the policy-makers, manufacturing firms that want to enter the international markets; sustainability commitment issue will be a vital issue in future.

Export manufacturing firms should focus on implementing social sustainability practices before internationalisation operations. One of the main implications for the managers is that relational governance mechanism should consider in parallel when the objective is to improve social sustainability performance.

Our study suggests policy-makers that government institutions should develop legislation for export manufacturing firm for addressing social sustainability issues in conjunction with the international labour standards by considering country cultural.

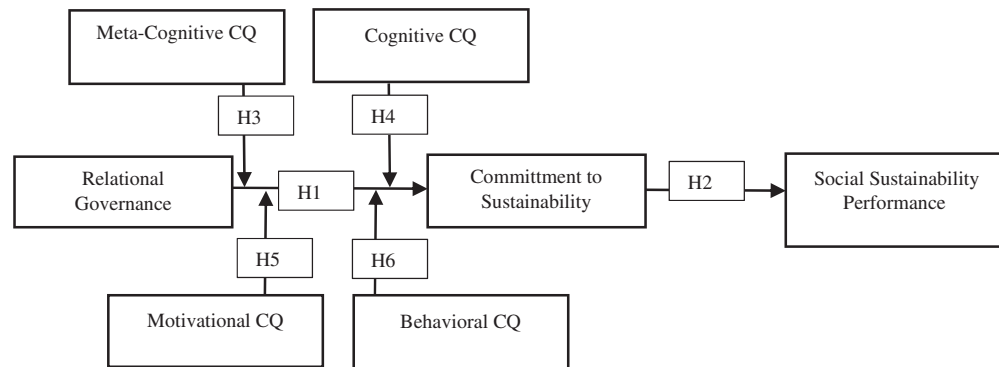
1. Introduction

One of the key challenges companies face concerning the social sustainability is its extension and integration to other supply chain stakeholders. Many of today's social sustainability issues of manufacturing firms are rooted in unsustainable patterns of environmental and social practices. There is growing interest of researchers to study how supplier development efforts lead to improving the social performance (Klassen & Vereecke, 2012). It is therefore important that firms properly govern their relationship with suppliers to foster their supplier's commitment to sustainability (Sancha, Wong, & Thomsen, 2016). For example, Awan and Kraslawski (2017) suggested that joint planning and problem-solving dimensions of relational governance may signal to recognise better hazards in exchange relationships requiring adaptability, flexibility and credibility. The adoption of governance mechanism significantly affects supplier performance, thus designing appropriate mechanism is critical for supplier management and sustainability initiatives (Xie, Liang, & Zhou, 2016). For example, Hennes & Mauritz AB's (H & M) active involvement in an environmental business relationship and signing their sustainability commitment is mandatory for all suppliers before entering a business relationship (H & M, 2016). This example suggests that use of governance mechanism can make the supply chain more sustainable and enhance social sustainability. Awan and Kraslawski (2017) suggest that jointly working with all stakeholder groups is particularly important to understand the social and environmental aspects of a manufacturing firm and is central to designing effective policies. As a result, it is essential for manufacturers to consider relational governance mechanism in mitigating conflict and deterring opportunism and enhancing performance (Liu, Luo, & Liu, 2009; Sancha et al., 2016). Relational governance is to govern transactions through relational norms in which both parties behave with the aim of achieving the joint objectives (Cao & Lumineau, 2015; Jap & Anderson, 2003). Given the limitation and advantage of relational governance, firms often employ them in their performance improvement. Meanwhile, supply chain commitment to sustainability is becoming increasingly complex, as global competition and cultural difference drive growing customer requirements. Hence, the literature provides little guidance for the supply chain managers who seek to make their commitment to sustainability more comprehensive and improve social performance.

Linking environmental and socially responsible practices in manufacturing firms to the human aspects has become even more important over the past few decades for sustainable performance and is one of the distinctive features of the field of supply chain management (Awan, Kraslawski, & Huiskonen, 2017). With growing concerns over the sustainability and ethicality of business practices, supply chain (SC) relationships have become even more critical. Companies face increasing pressure to account for the malpractices of their suppliers (Touboulic, Chicksand, & Walker, 2014). Of all the globalisation challenges, social sustainability is the most suitable example of a test case for triple bottom line performance. There is increased focus in academic research on broadening perspective on sustainability-related issues in the low-income countries (Govindan, Seuring, Zhu, & Azevedo, 2016). The result findings show successful integration of sustainability relying on process improvement with a focus on both environmental and social performance (Sroufe, 2017). Collaboration with the suppliers plays an essential role in developing a better understanding and improving the social and environmental aspects of the supply chain to implement social sustainability (Awan et al., 2017). Prior research has recognised the importance of helping suppliers and supporting them in implementing their sustainability improvement initiatives; this represents a significant agenda facing firms today (Ageron, Gunasekaran, & Spalanzani, 2012). A central challenge for buyer firms is how to govern the relationship with suppliers to foster supplier commitment to sustainability (Sancha et al., 2016). There is little research exploring how the firm is pursuing sustainability commitment and how this in turn influences performance (Schrettle, Hinz, Scherrer-Rathje, & Friedli, 2013).

Managing cultural differences across geographically dispersed locations is one of the central challenges for international firms (Caprar, Devinney, Kirkman, & Caligiuri, 2015). Relational governance on sustainability issues is essential; for example, in 2014, Adidas received a complaint from a factory

Figure 1. Conceptual framework.



worker in Pakistan, alleging physical harassment. Our team visited the supplier factory and found some sizeable gaps in understanding the requirements of our workplace standards. They launched a training programme jointly with their supplier to ensure workers were better placed to raise grievances when they occurred (Adidas, 2014). It shows that relational governance mechanism foster shared understanding and helps to resolve cultural difference problems smoothly and build more commitment to sustainability.

Culture might thus impede the generation of mutual understanding that is necessary for relationship-based management of inter-firm ties (Slater & Robson, 2012). Furthermore, prior empirical studies have examined the unique contribution of cultural intelligence in supply chain performance (Tuan, 2016). However, there are few studies that take culture as driving force for an inter-firm relationship (Handley & Angst, 2015). The reviewed literature suggests that there is need to integrate cultural aspects to the governance mechanism (Awan & Kraslawski, 2017; Handley & Angst, 2015). However, the literature has not provided a thorough understanding of how culture effects governance mechanism in cross-border supply chain relationships.

We aim to investigate how cultural intelligence shapes the relationship between relational governance and commitment to sustainability in cross-border interactions. We also investigate the effect of commitment to sustainability on the social sustainability performance of a firm. The present study strives to expand research by answering the research questions: (1) Does the relational governance enhance supplier sustainability commitment and how it affects firm social sustainability performance? (2) Does cultural intelligence moderate the relationship between relational governance and supplier sustainability commitment? Our conceptual framework (Figure 1) grounded on the social exchange theory (SET) is a theoretical lens for relational governance, and cultural intelligence grounded on dynamic capability. We draw our conceptual framework on some theories that have used in previous research studies in buyer-supplier relationships. A unique element of our model compared to previous research studies is the inclusion of cultural intelligence (CQ) as a moderator between the relational governance and sustainability commitment. Practically, findings of our study provide more guidelines that are explicit to academicians and practitioners on what managers can do and how to promote sustainability commitment and enhance firm social sustainability.

2. Literature review

2.1. Social sustainability

According to Sharma and Ruud (2003), social sustainability is an “ethical code of conduct for human survival and outgrowth that needs to accomplish in a mutually inclusive and prudent way”. In particular, the social sustainability performance defines as “the improvement in product and process aspects that determine human safety, welfare and wellness” (Wood, 1991). Social issues have

received little attention in academic literature in developing countries context (Seuring & Müller, 2008; Wilding, Wagner, Ashby, Leat, & Hudson-Smith, 2012). Social sustainability performance is described “as the product and process aspects that determine the wellness of human health and safety as engaged in proactive initiatives in the supply chain” (Husgafvel et al., 2015). The interrelationship among the environment, economic and social issues are integral to sustainability in both developing and industrialised country (Hutchins & Sutherland, 2008). Social issues in the supply chain such as health and safety, bonded child labour and worker job environment have an impact on firm social performance (Agrawal & Sharma, 2015). Thus, social performance aims to improve and balance health and safety, child labour and societal issues in which it survives and assures intergenerational equity. Furthermore, the number of research studies on social sustainability performance is limited especially from the supplier manufacturing perspective in Asia (Lee, 2016). There is growing trend towards developing a more sustainable way of managing social sustainability performance among the manufacturing firms (Husgafvel et al., 2015). To address social aspects, there is a need for formal procedures and availability of information to people in the new process and product initiatives (Sroufe, 2003).

In this study, we use the approach of Awaysheh and Klassen (2010) and Kleindorfer, Singhal, and Wassenhove (2005) and measure social performance considering items related to employee working condition, compliance with the human rights, develop health and safety measure and benefits related to the external community. We use (Carter & Rogers, 2008) definition of sustainable supply chain management as “The strategic, transparent integration and achievement of an organisation’s social, environmental, and economic goals in the systemic coordination of key inter-organisational business processes for improving the long-term economic”. Their definition builds upon the triple bottom line view of sustainability (Elkington, 1998). The definition of Carter and Rogers highlight the importance of achieving economic, environmental and social performance require to cooperate, collaborate and extend coordination in across the supply chain and inter-organisational business process. Social sustainability is a broad concept, and its assessment may influence by cultural preferences (Popovic & Kraslawski, 2015). However, Awan et al. (2017) highlights that sustainability performance of manufacturing firms is strengthened by better addressing stakeholders’ needs and developing firm capabilities. Our definition of social sustainability is a system of coordinated social interaction practices for the management of the social impact on people and society with the key internal and external stakeholders. This all happens for creating, developing and delivering a best social and ethical code of conduct. The aim is, to have value for the survival of current business system (customers, partners and society) and its growth for the future generation equitably and prudently.

2.2. Cultural intelligence

This study builds explicitly on the concept described by Pagell, Katz, and Sheu (2005), who initiated debate and emphasises that studies related to culture in operations management should focus on “how culture matters” rather than the question “whether culture matters” (Ribbink & Grimm, 2014). Organisational collaborative culture effects on the core competencies and are inevitable for the sustainable growth of the firm (Awan, Muneer, & Abbas, 2013). In this study, we focus on how cultural intelligence (CQ) capability matters to adopt a course of action that leads them to pursue sustainable commitment. Ang and Inkpen (2008) note that firms must create and sustain effective cultural intelligence capabilities in cross-culture interactions. Cultural intelligence consists of a set of four distinct elements namely metacognitive facet, cognitive facet, motivational facet and behavioural facet (Ang, Van Dyne, & Koh, 2006; Ng & Earley, 2006). Metacognitive CQ refers to “the mental processes that individuals use to acquire and understand cultural knowledge” and “relevant capabilities include planning, monitoring, and revising mental models of cultural norms for countries or groups of people”. Metacognitive and cognitive relates to how the individual makes sense of differences and similarities between cultures (Ang et al., 2007). Behavioural CQ refers to the individual capability to display adequate flexibility and adaptability through verbal and nonverbal actions in a cross-cultural context (Ang & Inkpen, 2008). Motivation CQ reflects individual confidence, which

helps facilitate coordination process in situations characterised by cultural differences (Ang & Inkpen, 2008). The present study addresses the research call of (Handley & Angst, 2015) and addresses the gaps that follow (Ang & Inkpen, 2008).

CQ provides behaviour flexibility, intrinsic interest and adaptability for acquiring new knowledge across cultural setting, representing an important external learning and knowledge acquisition capability (Awan et al., 2017). Cultural intelligence promotes active thinking about people and situations and unleashes critical thinking about habits and beliefs (Gonçalves et al., 2016). Cultural intelligence is a system for understanding and extending cooperative norms (joint planning and joint problem solving) in the cross-cultural interaction that allows management to function efficiently and take advantage (Awan et al., 2017). Cultural intelligence promotes a more effective conflict management style that could help in decision-making and negotiation and therefore contributes to organisational success (Gonçalves et al., 2016). This approach may lead to stimulating interest to adjust quickly to a new culture and develop informational resources to develop strategies, which help them to facilitate coordination process.

2.3. Hypothesis development

Relational Governance refers to the extent to which relationship between the parties is governed by shared norms and social mechanism (Bai & Sarkis, 2010; Poppo & Zhou, 2014). It enforces obligations, promises and expectations through social processes that promote relational norms and rely on mutual adjustment and joint action (Heide & John, 1992). We used SET to gain understanding of supplier expectation of a reward from their interactions with buyers and these relationships deriving primarily upon ties of mutual dependence relationship (Jayaraman, Narayanan, Luo, & Swaminathan, 2013). “For example”, in the context of the present study, a supplier firm makes relational governance with the buyer. Both collaborate frequently exchanges information’s shared knowledge and enhance coordination with the motivation to achieve rewards. Relational governance is a subjective construct that focusing on inter-firm information sharing, inter-firm power balance and inter-firm relations (Zhang, Cavusgil, & Roath, 2003). Furthermore, there is support in the literature that mutual trust and cooperation set the basis for a productive relationship (Dyer & Hatch, 2006). Thus, inter-firm relationship based on trust and cooperation is likely to share resources, decreases uncertainty and the desire to resolve disagreement thus may increase operational productivity and performance (Lee & Cavusgil, 2006). In practice, supply chains may need to find a balance between the supplier side and customer side if they are well integrated (Ding, Lu, & Fan, 2017).

Fair exchange of information and good faith between supply chain partners may develop more strong commitment and enable suppliers to focus on improving the social performance. With such initiatives supply chain partners can build competencies to focus on the increasing investment and exchange of resources (Madhok & Tallman, 1998). Thus socially created ongoing information exchange among the partners may offer long-term commitment (Dyer & Singh, 1998). Following Heide and John (1992), define information exchange is a behaviour expectation between the partners to provide and share the useful and fair information to each other. Additionally, social developed information exchange and solidarity through enables to develop and promote more cooperation for achieving mutual goals (Heide & John, 1992). As a result, relational governance mechanism tends to enhance more supplier commitment towards the sustainability issues with the exchange of information and working in the less constrained environment. Therefore, relational governance is essential that contributes to the enhancement of supplier sustainability commitment on social issues on supply chain relationships. Commitment to sustainability relates to firm’s engagement with social and environmental initiatives to diminish negative impact (Krause, Vachon, & Klassen, 2009).

According to Jansson, Nilsson, Modig, and Hed Vall (2017), commitment to sustainability is a management philosophy which includes strategic product decisions, competitiveness and strategic planning of the firm’s process and procedures. Here, applying SET, we argue that relational attitudes and behaviours stimulated via the perceived justice and reward demonstrated by the more influential

member of the exchange and that the enactment of such policies allows the member to retain and protect its power (Griffith, Harvey, & Lusch, 2006). Moreover, Agan, Acar, and Borodin (2013) showed that customer demand on sustainability initiatives has a significant impact on environmental management system adoption. Luzzini, Brandon-Jones, Brandon-Jones, and Spina (2015) argue that cooperative arrangements with an external partner are beneficial when focusing heavily on improving social sustainability initiatives. However, some argue that exchange of information and joint decision-making between partners are to generate knowledge resources and create supplier commitment to sustainability (Sancha et al., 2016). We argue that information and knowledge received by supplier firm from a buyer influence both their motivation and satisfaction with an attitudinal loyalty towards the compliance, which in turn influences the sustainability commitment. It is hypothesised:

Hypothesis 1: Relational governance have a positive impact on commitment to sustainability.

2.4. Sustainability commitment to social sustainability performance

According to the Krause, Handfield, and Tyler (2007), expectation of long-term relationship may contribute to the performance improvement and build capabilities. Previous research studies have investigated the relationship between commitment to sustainability and performance and have still reported mixed finding on performance (Schrettle et al., 2013). Thus, a relationship commitment on the part of the suppliers plays a strategic role and a base for the innovative solutions for the social challenge (Parmigiani & Rivera-Santos, 2011). However, the relationship between commitment to sustainability and performance is still under investigation (Schrettle et al., 2013). The supplier commitment towards sustainability initiatives brings improvement in the firm's social performance (Sancha et al., 2016). Social sustainability issues in the supply chain are fundamentally concerned with the future of employee health and safety, not an operational level or plant level but through the life cycle of the product. The concept of social sustainability emphasises on the equality and access to the equal rights to resources and opportunities (Bansal, 2003; Wagner & Krause, 2009). Social sustainability focuses on the ethical code of conduct for growth and human survival "that should be achieved in an inclusive, connected equitable and prudent manner" (Sharma & Ruud, 2003). Some research scholars refer and connect social sustainability with the sustainable management of social resources, such as people abilities, skill and social values (Sarkis, Zhu, & Lai, 2011).

Lee (2016) argues that commitment is positively associated with the environmental and social performance. Further, Kyazze, Nkote, and Wakaisuka-Isingoma (2017) suggest participation and decision-making promote social performance. Social sustainability performance is described "as the product and process aspects that determine the wellness of human health and safety as engaged in proactive initiatives in the supply chain" (Husgafvel et al., 2015). The interrelationship among the environment, economic and social issues are integral to sustainability in both developing and industrialised countries (Hutchins & Sutherland, 2008). Sustainability performance of manufacturing firms is strengthened by better addressing stakeholders' needs and developing firm capabilities for implementation of sustainable supply chain practices (Awan et al., 2017). Social issues in the supply chain, such as health and safety, bonded child labour and worker job environment, have an impact on firm social performance (Agrawal & Sharma, 2015). Thus, social sustainability aims to improve and balance health and safety, child labour and societal issues in which it survives and assures intergenerational equity. Sustainable supply chain practices also have a unique strategic advantage in improving the social and environmental performance (Awan et al., 2017).

From RBV, we suggest that commitment to sustainability may act as an antecedent to the social sustainability performance. However, commitment to sustainability allows the firm to put more focus on knowledge sharing practices, lead to improving social sustainability performance. We argue that firms can also improve social sustainability-related issues, in turn, the firm can lessen potential threats to sustainable development. Thus,

Hypothesis 2: Commitment to sustainability have a positive impact on firm social sustainability performance.

2.5. Moderation role of cultural intelligence

This study adopts the definition of CQ (Ang & Inkpen, 2008) defined as “the capability of an individual to function effectively in situations characterised by cultural diversity and also the capability to function effectively in interactions across culture groups”. *Cultural metacognition* refers to an individual’s level of conscious cultural awareness and executive processing during cross-cultural interactions (Ang & Inkpen, 2008). Cognitive CQ “reflects knowledge of the norms, practices, and conventions in different cultures acquired from education and personal experiences” (Ang & Inkpen, 2008). Especially the cultural intelligence dimensions of metacognitive, cognitive, motivational and behavioural influence the various dimensions, such as task performance, conflicts handling and adaptations (see, for example, Ang et al., 2007). Metacognitive CQ refers to the mental processes individuals use at acquiring, comprehending and calibrating cultural knowledge. Generate and comprehend cultural knowledge (Ang et al., 2006) and may stimulate reflection on knowledge (Thomas et al., 2008).

Metacognitive CQ emphasises on the importance of thinking consciously, and a manager can assess which aspects of culture are more relevant with a heightened sensitivity to the cultural context and problem which he faced with at that point (Van Dyne et al., 2012). Such challenges require organisations to assemble and develop resources and capabilities to resolve such problems (Husted & de Sousa-Filho, 2017). The literature points to the importance of installing cultural intelligence capability in the firm to facilitate effective relational governance practices. Chua, Morris, and Mor (2012) reported positive effects of metacognitive CQ on collaboration, while (Van Dyne, Ang, & Koh, 2008) found that metacognitive CQ is conducive to the adoption of cultural preferences and norm of different countries. Firms require culture metacognitive as the related to explain manager success in navigating cultural values and particularly essential to perform essential firms activities (Klafehn, Banerjee, & Chiu, 2008). Such cultural metacognitive may be especially essential to collaborate relationship individual from different cultures because of its ultimate effects on inter-culture trust (Mor, Morris, & Joh, 2013). People in different countries react to inputs differently, communicate differently and make decisions differently (Meyer, 2015). For example, there are areas of disagreement as well as agreement on how many women will be employed for a particular task to have gender equality. Differences may arise due to the local cultural practices and another partner’s culture-specific context. The supplier may consider these inappropriate according to his culture, leading to disagreement and conflict (Bai, Sheng, & Li, 2016) and eventually hurting cooperative and collaboration ties. When metacognitive CQ is high, managers focus on understanding other cultural knowledge, Chua et al. (2012) find a positive relationship between high metacognitive CQ and high collaboration across cultures more effectively. We have argued for a positive relationship between relational governance and sustainability commitment to social issues. Summarising our argument, we suggest that culture metacognitive is sensing CQ capability that involves exploring cultural knowledge opportunities, along with scanning their own culture. If firm’s metacognition CQ is low, contract governance will not be adequate to govern the relationship and achieving sustainability commitment. Based on this reasoning, therefore, we hypothesise that:

Hypothesis 3: The impact of relational governance on the commitment to sustainability is higher, when cognition cultural intelligence is high, as opposed to low cognition cultural intelligence.

Hypothesis 4: The impact of relational governance on the commitment to sustainability is higher, when metacognition cultural intelligence is high, as opposed to low metacognition cultural intelligence.

2.6. Behavioural and motivational CQ

Behavioural CQ refers to the ability and flexibility to exhibit situation-appropriate behaviours (Earley & Ang, 2003). Behavioural CQ is defined by (Ang et al., 2007) as a process where an individual exhibits appropriate enacted selected verbal and nonverbal behaviours by cognition and motivational when interacting with people from different cultural backgrounds. Individual with behavioural capability is not the pursuit of their success but also have the ability to dominate others by adapting with those who are emplacing acceptance and show concern for their welfare; their approach is universalism rather self-enhancement (Van Dyne et al., 2012). This supports the notion that culturally intelligent individuals are more flexible, adaptive and able to adjust to the different environment (Ang, Rockstuhl, & Tan, 2015). Flexibility and adaptability in communication strategies are important to fend off stakeholder concerns. The knowledge acquired by an individual is more likely to share and facilitate goal accomplishment. The literature points to the importance of installing behaviour CQ, Ang et al. (2007) reported positive effects of behaviour CQ on flexibility, while Charoensukmongkol (2016) positively related to the acquisition of knowledge in cross-culture interactions. As people with high behavioural CQ tend to be motivated to adapt their behaviours to produce a culturally appropriate response (Earley & Gardner, 2005). Behavioural CQ capability rooted in large part of individual behaviour to identify and address new cultural knowledge to respond to changing customer needs. This often continuously reshapes, configures and reconfigures those cultural to create a harmonious relationship (Awan et al., 2017).

We argue that Cultural intelligent teams can respond more effectively in uncertain conditions instead of relying on solely on adaptations to the procedures. In Asian culture, indirect communication is the norm, and Nordic culture tends to favour direct communications. Managers of manufacturing firms will not be able to effectively coordinate and address the specific requirements on social issues without understanding partner firm's communications style. The transforming or reconfiguring capability described as behavioural CQ is continuous adaptation capability (Earley & Ang, 2003). Meeting regularly, supplier firm can tackle their concerns and regularly update information on improvement in the working conditions, safety training, community development communication and some ethnicities are in the workforce can improve relationship from both sides. Thus, if CQ behaviours are not present in supplier firm, buyer perceives this as thinly veiled attempts to gain benefits and impress management. Therefore, we hypothesise:

Hypothesis 5: The impact of relational governance on the commitment to sustainability is higher, when behavioural cultural intelligence is high, as opposed to low metacognition cultural intelligence.

Motivation has focused on measuring the effort expended to achieve a task-relevant reward (McCarthy, Treadway, Bennett, & Blanchard, 2016). Motivational CQ "refers to the degree of interest and drives to adapt to new cultural surroundings functioning in situations characterised by cultural differences" (Earley & Ang, 2003). Moreover, Imai and Gelfand (2010) conclude that individual with high motivational CQ persists and invests effort into forming an accurate understanding of their culturally unfamiliar counterparts. In other words, have high adapting skills to situations in unfamiliar cultures. CQ dimension assists in identifying mutually beneficial agreements and a higher level of CQ had more of an impact on the extent to which partner engaged in action sequences. Motivational CQ reflects people's interest in and drive to adapt to new cultural environments (Templer, Tay, & Chandrasekar, 2006). Empirical research has primarily focused on compliance with the supplier, and growing evidence shows that higher level of motivational CQ contributes to more cooperative behaviour in intercultural negotiations (Imai & Gelfand, 2010). Chua et al. (2012) find a positive relationship between high motivation CQ and high collaboration across cultures. Thus, the motivation focused on the ability to gain cultural understanding and knowledge of different cultures, highly motivated people likely to have higher abilities (Magnusson, Westjohn, Semenov, Randrianasolo, & Zdravkovic, 2013). This aspect of CQ also reflects the skill or the ability to adapt to the traditions, customs and lifestyles of different countries (Ang et al., 2015). This implies that motivational CQ

individual direct energy to shape their knowledge by the partner cultural knowledge. A conceptual framework is shown in Figure 1. We propose:

Hypothesis 6: The impact of relational governance on the commitment to sustainability is higher, when motivational cultural intelligence is high, as opposed to low metacognition cultural intelligence.

3. Research methods

3.1. Measures and scales

The construct of CQ is consist of 20 items assesses each of the four subscales: cognitive, metacognitive. Motivational and behavioural (Ang et al., 2015). We measured CQ by 20 items capturing the degree to which managers could use and influence relationship related decision (Ang & Inkpen, 2008; Earley & Ang, 2003). All items and construct were adapted from previous studies and were measured by using a seven-point Likert scale. The social performance was measured using four items from Awaysheh and Klassen (2010) and Kleindorfer et al. (2005). We adapted existing measures from previous studies, relational governance (Lusch & Brown, 1996). Commitment to Sustainability was measured using four items from Aragón-Correa (1998). The four items of relational governance consist of supplier involved in the development of social initiatives, how to make a joint decision in the case of failure to the protection of social issues, how to jointly settle down the issue with customer and actions to be carried out when there are accidents at worker place. The items of sustainability commitment included: (1) clear expectations on customer social requirements, (2) to comply with our social practices and (3) clear standards on the improvement of product and process issues.

We also included a set of control variables such as the size of the firm and number of years of employee experiences. Prior research has shown that relationship length may affect governance mechanism (Liu et al., 2009; Shou, Zheng, & Zhu, 2016). Since our study focuses on the relational governance and social sustainability, this was measured through governance mechanism, and it is necessary to control firm age (number of employees, length of relationship, type of industry and number of years employees experience may affect the social performance and cultural intelligence. The firms with fewer employees tend to have more informal social interaction and are more active in establishing social ties. Experienced firms have had more opportunities to accumulate more knowledge and resources through both external and internal learning (Cao & Lumineau, 2015). We controlled variables such as the age of firm and size of the firm with the natural logarithm.

3.2. Sample and data collection

This study uses Pakistan manufacturer exporters as an empirical setting to test the hypothesis. Pakistan is a global production base of textile, sports goods and surgical instruments, exporting a wide variety of goods to Europe and Western countries. We test our hypothesis using data from 239 manufacturing firms in the four export manufacturing industries. These exporter manufacturer industries to some extent need to implement social practices to meet the buyer requirements. They, therefore, provide a fruitful context for studying how firms develop a relationship with their buyers and unfold its effects.

Survey data were collected on site from the manufacturing firms in Sialkot and Faisalabad in March to April 2017. The informants in this study were senior managers, who were deemed knowledgeable about the buyer-supplier relationship and were engaged in the implementation of the sustainability-related initiatives. We conducted two pretests to assess the quality of twenty items. In pretest one, a brief questionnaire containing the items was given in person to seven operations managers having extensive export experience and were involved in dealing with international customers across different countries for at least five years. In the second pretest, survey questionnaire was presented to the academic experts. The managers were asked to point out any items that were both ambiguous and not related to their practices. We randomly drew a sample of Pakistan

manufacturer exporters from the database of Federal Chamber of Commerce Industry. There were 1,152 firms from four industries. Data were collected in March to April 2017. From this sampling frame, we selected 650 matching the criteria that they had at least five years experience in dealing international customers. We identified 650 firms matching our sampling criteria. A sample of 650 manufacturing firms was selected randomly and contacted by telephone for their participation and request the designation of critical informants, 316 firms responded to participate in the survey. Out of 316 firms, 257 firms completed the questionnaire. Of 257, five responses were dropped due to missing values and lack of knowledge. We then followed by telephone calls and through sending them an email, and 71 responses were received after the three weeks. Because of this approach, 257 responses were received, of which 18 responses were unusable due to missing values, and firm respondents lacked knowledge, resulting in 239 useable responses.

We controlled the common method bias ex-ante by separating the respondents answering independent and dependent variable (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Common method variance is posing a severe threat to behavioural research, notably when data collected using single informants the interpretation of the data. Harmon's one-factor test (Podsakoff et al., 2003) was carried out using un-rotated factor analysis of all independent and dependent variables. The results revealed that first factor captured only 29.41% of the variance. This suggests that common method variance is not a significant problem in this study, although the sample size was enough to perform the structural equation modelling approach and the refined sample size was 239. The sample size was sufficient enough to perform the further analysis (Tabachnick & Fidell, 2007) and measure the sampling adequacy (Hair, Black, Babin, & Anderson, 2010).

To test the hypothesis, the data analyses were conducted by using statistical package for social sciences (SPSS) and analysis of a moment structures (AMOS 23) (Arbuckle, 2014). Factor analysis test was performed using maximum likelihood with varimax rotation, yield Kaiser-Meyer-Olkin (MSA) estimate for the data was 0.83, $p = 0.05$, results indicates that use of factor analysis is appropriate. In this study, we used different fit indices to check whether data fitted well to our hypothesised mode or not. Normed Chi-Square (χ^2/df) < 3, Comparative Fit Index (CFI) > 0.90, Goodness of Fit Index (GFI) 0.90 and Root Mean Square Error of Approximation (RMSEA) < 0.08 regarded as cut-off score for a reasonable model fit (Hu, Bentler, & Hoyle, 1995). The model fit statistics of measurement model were acceptable, the goodness-of-fit indices were as follows: $\chi^2/df = 345.67/196 = 1.76$; CFI = 0.94; GFI = 0.93; RMSEA = 0.05; SRMR = 0.06. We have used the goodness of fit indices criteria, which has been previously used in many research studies to test the measurement model. The goodness of fit statistics of confirmatory factor analysis met the requirement for measurement model fit.

3.3. Reliability and validity

The correlation matrix and descriptive statistics for the variable set are shown in Table 1. The final measurement items, including their completely standardised loadings, Cronbach's alpha (α), composite reliability (CR) and average variance extracted (AVE) presented in Table 2. Composite reliability coefficients for each construct exceeded the recommended 0.60 benchmarks (Bagozzi, Yi, & Phillips, 1991) and the average variance extracted (AVE) for all scales exceeded the recommended 0.70 thresholds. AVEs for all construct was higher than the 0.50 cut of value (Anderson & Gerbing, 1988). AVE is also referred to as "communality index" and is used to measure the quality of the measurement model for each construct. The variance extracted value is a measure of construct reliability; higher AVE values occur when indicators are truly representative of the latent construct and it measures the amount of variance for a specified indicator accounted for by the latent construct.

The results indicate AVE and Cronbach's alpha and composite reliability (CR) exceed the cutoff values of 0.70 (Fornell & Larcker, 1981). Unidimensionality and internal consistency of all items confirmed that all items loaded on their latent construct in exploratory factor analysis. In this study, the Cronbach alpha coefficient for Variable1 was 0.70 and for each item ranged from 0.72 to 0.92. The

Table 1. Mean, standard deviation, correlation and results of discriminant validity

	BCQ	COQ	MCQ	MEC	RG	SP	SC	WE	FS	FA
BCQ	0.759									
COQ	0.125*	0.81								
MCQ	0.188**	0.127*	0.776							
MEC	0.257**	0.205**	.0142*	0.793						
RG	0.221**	0.113	-0.09*	0.235**	0.805					
SP	0.276**	0.319**	0.137*	0.324**	0.285**	0.806				
SC	0.251**	0.09	0.115	0.374**	0.311**	0.35**	0.803			
WE	-0.049	0.09	0.018	-0.022	-0.068	0.056	-0.041	1		
FS	-0.008	0.03	0.084	0.022	-0.04	0.013	-0.07	0.119*	1	
FA	-0.073	0.067	-0.015	0.031	-0.004	0.015	-0.033	0.029	0.16*	1
M	5.809	6.114	5.997	5.921	6.211	6.082	6.11	0.37	0.82	0.81
SD	0.817	0.622	0.649	0.709	0.565	625	0.59	0.35	0.33	0.47

Notes: BCQ = Behavior Cognitive, COQ = Cognitive, MCQ = Motivational Cognitive, MEC = Metacognitive, RG = Relational governance, SP = Social performance, SC = Sustainability Commitment, WE = Work experience, FS = Firm size, FA = Firm age, M = mean and SD = Standard deviation.

*Correlation is significant at the $p < 0.01$ level.

**Correlation is significant at the $p < 0.05$ level.

discriminant validity of the measures was evaluated by comparing the AVE for each measure with the respective squared correlation between the two constructs (Fornell & Larcker, 1981). Every pair of constructs passed the test. Overall, the results showed acceptable reliability and validity.

3.4. Moderation analysis and model evaluation

The multicollinearity of variables was tested using recommended procedure (Hair et al., 2010). The variance inflation factor (VIF) value was < 2.37 , suggesting no significant multicollinearity issue. The independent variables were mean centred before the formation of interaction terms as suggested by Aiken, West, and Reno (1991). We used hierarchical moderated regression analyses to test the hypothesis. The relational governance is independent and cultural intelligence variable is likely endogenous because these variables implemented, least in part, to address the sustainability commitment making them endogenous determinants of our dependent variable. To address this endogeneity issue, we follow the guidance in literature and apply multi-stage least square regression approach (Handley & Angst, 2015; Poppo, Zhou, & Zenger, 2008).

First, we regressed relational governance (RG) on metacognition (MEQ), cognition (COQ), behaviour (BCQ) and motivational cognition (MCQ). This results showed that RG is positively related to metacognitive ($\beta = 0.1, p < 0.01$) but not to cognition. The RG related positively to behavioural CQ ($\beta = 0.21, p < 0.05$) and negatively to motivational cognitive CQ ($\beta = -0.06, p < 0.01$). The findings show that CQ has a negative impact on RG. This lends the support to use a two-stage regression model to address potential endogeneity among the predictors. The use of these residuals in the second stage of regression is to correct for endogeneity issue. We create interaction terms using these residuals as indicators (observed minus predicted value) rather than original values for creating interaction terms. In Table 3, we showed moderated regression analysis results using three models. In the first model, we enter the Control variables; in model 2, subsequently the variables representing the main effects; in model 3, we introduce the interaction terms.

As results are presented in Table 3, model 1, shows, the Control variable explained for only 33% of the variance in performance. The work experience has a significant effect ($\beta = 0.15, p < 0.05$) on performance. Also, firm age has a positive but not significant effect on the performance. In the second model, we entered independent and moderators variables increased the R^2 value by 0.11

Table 2. Validation of constructs survey items

Items	Factor loadings ^a	t-value	Error variance	Item R ²
Relational governance (RG)				
AVE: 0.64, CA: 0.82, CR: 0.88				
RG1	0.86	24.45	0.254	0.746
RG2	0.8	22.07	0.352	0.648
RG3	0.77	22.07	0.404	0.596
RG4	0.78	18.27	0.395	0.605
Social performance (SP)				
AVE: 0.64, CA: 0.81, CR: 0.88				
SP1	0.77	17.39	0.407	0.593
SP2	0.85	32.09	0.278	0.722
SP3	0.82	27.95	0.316	0.684
SP4	0.77	21.36	0.401	0.599
Commitment to sustainability				
AVE:0.69, CA:0.90, CR: 0.90				
SC1	0.87	23.65	0.243	0.757
SC2	0.83	14.04	0.311	0.689
SC3	0.77	15.66	0.407	0.593
SC4	0.86	23.05	0.26	0.74
Cultural intelligence (CQ)				
Metacognitive				
AVE: 0.63, CA: 0.72, CR: 0.83				
MEC1	0.81	10.46	0.333	0.667
MEC2	0.82	10.25	0.326	0.674
MEC3	0.74	7.48	0.439	0.561
Cognitive				
AVE: 0.65, CA: 0.74, CR: 0.85				
COQ1	0.73	7.14	0.467	0.533
COQ2	0.87	23.04	0.241	0.759
COQ3	0.82	16.05	0.323	0.677
Behavior cognitive				
AVE: 0.55, CA: 0.75, CR: 0.84				
BCQ1	0.76	15.53	0.409	0.591
BCQ2	0.73	12.48	0.458	0.542
BCQ3	0.77	19.06	0.398	0.602
BCQ4	0.75	1184	0.428	0.572
Motivational cognitive				
AVE: 0.60, CA: 0.78, CR: 0.85				
MCQ1	0.75	13.37	0.425	0.575
MCQ2	0.78	14.36	0.388	0.612
MCQ3	0.82	26.47	0.324	0.676
MCQ4	0.74	12.72	0.452	0.548

Notes: MCQ = Motivational culture intelligence, MEC = Meta cognitive intelligence, BCQ = Behavior cognitive, α = Cronbach's alpha.

^a $p < 0.05$.

Table 3. Standardised results of hierarchical regression

Control	Model 1	Model 2	Model 3
FS: Firm size	0.09	0.09	0.09
Firm age	0.04	0.06	0.07
Work experience	0.09	0.011	0.15*
Main Effects			
Relational governance (RG)	–	0.28**	0.28**
Sustainability commitment (SC)	–	0.32**	0.32**
Meta cognition (MEQ)	–	0.31**	0.31**
Cognition (COQ)	–	0.03	0.03
Behavioural (BCQ)	–	0.22**	0.22**
Motivational (MCQ)	–	0.04	0.04
Interaction effects			
MEQ x SC	–	0.26**	0.26**
COQ x SC	–	0.06	0.05
BCQ x SC	–	.14*	.14*
MCQ x SC	–	–0.18*	–0.18*
R ²	0.33	0.44	0.48
ΔR ²	–	0.11**	0.04**
F	5.83**	7.24**	7.01**

* $p = 0.05$.

** $p = 0.01$.

($p < 0.01$). The addition of interaction effect in model 3 also increased both explained variance in social performance, in support of the moderation effects of cultural intelligence factors. The result shows that relational governance significantly associated with sustainability commitment ($b = 0.33$, $p < 0.01$). Thus, H1 is accepted. The findings are consistent with the findings of past studies on buyer collaborative ties and commitment to sustainability (Sancha, Gimenez, & Sierra, 2016). The export-manufacturing firms in Pakistan require the compliance to these collaborative ties. This requirement compels the managers to engage themselves with external cooperative behaviours to buyers boost the firm capacity to comply with the requirements and improve internal environmental conditions.

Sustainability commitment (SC) has a significant positive effect on social performance ($\beta = 0.32$, $p < 0.01$), supporting hypothesis H2. The findings are consistent with the findings of past studies on a commitment to sustainability and sustainability performance (Luzzini et al., 2015). The increase in compliance tends to make the managers inclined towards the use of practices and knowledge to implement the practices. The cooperative norms and compliance increase knowledge result in increased productivity that ultimately improves the social sustainability performance. Consistent with the previous study, we suggest that environmental and socially sustainable practices together play an important role to better achieve sustainability performance in supply chain management (Awan et al., 2017). Inter-firm cooperation leads to creating sustainability commitment, which boots the social sustainability performance.

To better illustrate the moderation effect, the interaction was plotted one standard deviation above and below using (Cohen, Cohen, West, & Aiken, 2013) procedure. The results in model 3 of Table 3 show that the interaction between metacognition cultural intelligence (CQ) and relational governance (RG) indeed has a statistically significant, positive effect on sustainability commitment ($\beta = 0.26$, $p < 0.01$), supporting H3. In line with H3, Figure 2 shows that the positive effects of relational governance on a commitment to sustainability are enhanced at high levels of metacognition CQ. The results show slope is steep and positive for a higher level of metacognition but horizontal for

Figure 2. moderating effects of metacognition cultural intelligence on the relationship between relational governance and sustainability commitment.

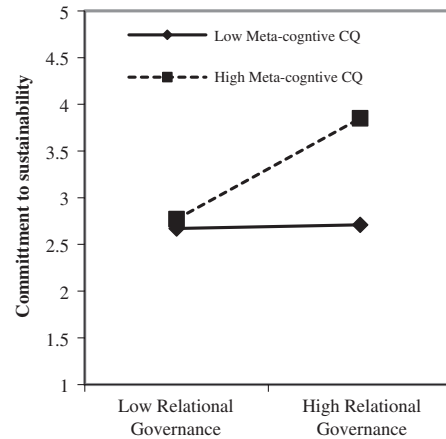
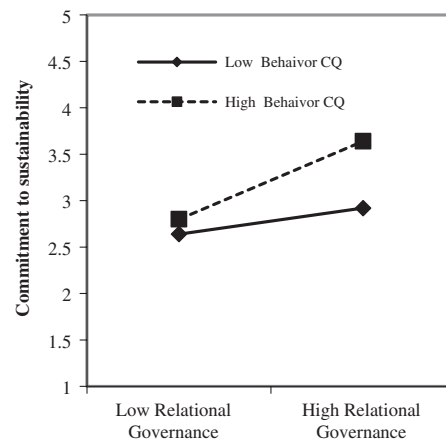


Figure 3. Moderating effects of behavior cultural intelligence on the relationship between relational governance and sustainability commitment.



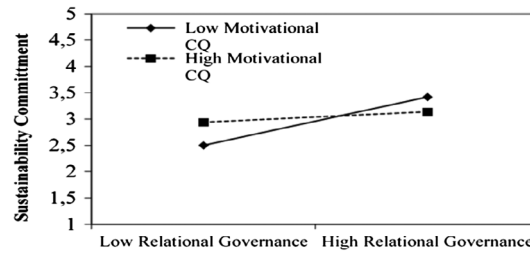
low metacognition, which implies that firm with higher metacognition CQ would strengthen the relational governance.

Next, H4 does not predict a significant effect of the interaction of cognitive CQ and SC. Thus, no moderation is concluded, and H4 received no support. The insignificance might be attributed to the cognition CQ to an individual cultural knowledge that ensures the provision of explicit documented knowledge through education and experience. Moreover, the reason is that less international experience and education of the managers might also be a reason for less cognitive CQ sharing during the interaction.

As shown in model 3 of Table 3, the interactive effect of RG and behavioural CQ on SC is positive and statistically significant ($\beta = 0.22, p < 0.01$), supporting H5. The findings are consistent with the findings of past studies on behaviour CQ significantly related to organisation commitment (Alipour, Feizi, & Azarvand, 2013). In Figure 3, shows relational governance has a substantial positive effect on the sustainability commitment at a high level of behaviour CQ (BCQ). The results imply that manager's non-verbal skills and flexibility help to make relational governance more effective. A firm with high behaviour CQ can gain some benefits needed for enhancement of sustainability commitment.

The results in model 3 of Table 3 shows that interaction between motivational CQ and RG is negative but significant ($\beta = -0.18, p < 0.05$). These findings indicate that motivational CQ negatively influences on relational governance and we, therefore, did not find support for hypothesis H6. These findings to some extent contrast with those of (Zhang, Henke, & Griffith, 2009), buyer cooperative norms becomes most effective at stimulating supplier willingness to invest in new resources.

Figure 4. Moderating effects of motivational cultural intelligence on the relationship between relational governance and sustainability commitment.



Motivational CQ is focused on gain understanding and knowledge of different cultures and does not capture a person's ability (Thomas, 2010). Our findings show that the level of motivational CQ increases the effect of relational governance on sustainability commitment decreases. With the increasing level of motivational CQ, relational governance is diminishing. The underlying reason for this may be under the high level of CQ; they may continue their cooperative norms, they are less committed to direct energy and attention to build stronger emotional bonds with their partners. Thus, sustainability commitment can be detrimental when internal motivation is low to acquire more knowledge. In Figure 4, indicates that motivational CQ (MCQ) negatively moderates the effect of relational governance on sustainability commitment. Our results suggest that under buyer high cooperative norms, supplier views it as relational stress to view as a formidable threat to continue to give more compliance with the buyer requirements.

4. Conclusions

This study provides valuable insights into how cultural intelligence forces shape relational governance and commitment to sustainability in buyer-supplier relationships. Prior research on international supply chain relationship has not theorised a key role of cultural intelligence in shaping relational governance and commitment to sustainability. Focusing on the buyer-supplier relationship in supply chain context, our analysis indicates that increased cultural intelligence leads to improving inter-firm commitment to sustainability, resulting in improving social sustainability performance. Metacognitive and motivational CQ moderating role is established, while high motivational CQ negatively influences commitment to sustainability under relational governance. This study reveals that the CQ can explain positive effects of relational governance on a commitment to sustainability. Evidence suggests that high metacognition CQ and behaviour CQ make more relational adjustments and exercise better decision-making on environmental and social issues. We find that relational governance is more effective at the high level of metacognitive CQ and behaviour CQ for achieving commitment to sustainability. Moreover, such commitment to sustainability is important for social sustainability performance in export manufacturing firms of South Asian economies. The result shows that any measure to improve the social sustainability of the export manufacturing firms should consider the commitment to sustainability. The results indicate that social sustainability may be explained to incorporate a stronger emphasis on commitment to sustainability to fulfil the socially sustainable performance outcomes. However, for social sustainability, not only relational governance mechanisms are crucial but also internal cultural intelligence capabilities positively contribute to sustainable strategic development.

Our findings contribute to the literature in some ways. First, this research contributes to the body of knowledge on the buyer-supplier relationship by demonstrating how different social exchange conduits contribute to improving the commitment to sustainability in the supply chain management. We suggest that social exchange can act as centralised control for ensuring commitment to sustainability and social sustainability performance. Second, our conceptualisation of the influence of cultural intelligence is also novel in that it connects relational governance with a commitment to sustainability. Our theoretical proposition advances the important idea that cultural intelligence may be important for the stability of buyer-supplier relationships. On the other hand, findings reinforce that commitment to sustainability are important for social sustainability performance. Thus, social sustainability aims to improve and balance health and safety, child labour and societal issues

in which it survives and assures intergenerational equity. We define social sustainability is a system of coordinated social interaction practices for the management of the social impact on people and society with the key internal and external stakeholders. This all happens for creating, developing and delivering the best social and ethical code of conduct. The aim is to have value for the survival of current business system (customers, partners and society) and its growth for the future generation in an equitable and prudent manner.

5. Managerial implications

The first relevant result of the study is that commitment to sustainability has a positive and significant impact on the improvement of social sustainability performance. Further, result highlights the important role of relational governance in the achievement of social sustainability goals in the export manufacturing industry. The development of social sustainability requires cooperation among suppliers and buyers. In this perspective, cooperation and cultural intelligence become a prerequisite to compete in the international market from a sustainability perspective. The supplier firm should involve buyers in sustainability collaboration with relational governance mechanism from the early phase of the process and product developments.

Our result findings provide some implications with suggestions for companies aiming to pursue a commitment to sustainability and social sustainability regarding how they can approach this objective in a manner that is consistent with local cultural competitive priorities. Social sustainability practices are becoming key priorities for companies from emerging economies, but the way in which they integrate into operations are very different from those in the developing countries which remains an open issue. The management of social sustainability issues is increasingly an essential ingredient of companies' operation strategy, given the recognised need to ensure the long-term quality of life both inside and outside firm operation.

This study offers two important implications to managers. First, our study suggests that accumulation of cultural intelligence can lead to increase joint decision-making and problem solving and promote sustainability commitment. When CQ is present, supplier firm effective cooperative ties is a key to avoid confusing on cooperation and satisfy buyer needs, promote commitment to sustainability. The present study advises managers that they may achieve supply chain relationship success through cultural intelligence. We suggest that managers cultural intelligence capability is a tool that enables individual effectively interact with and learn from their buyers can overcome dualities of decision-making and help to foster sustainability commitment. Second, we suggest that with the dynamic capability, management of the supplier firm can first spot the cultural differences, make the necessary decisions to execute on those cultural differences, as they stay active and continuously update the partner cultural knowledge. Subsequently, the presence of cultural intelligence further assembles a more complex configuration of knowledge resources to resolve sustainability issues impact positively on the commitment to sustainability and improve social sustainability performance. We suggest that, owing to the different social and cultural environment between the buyer and suppliers, cultural intelligence can ensure the relationship between supply chain partners in South Asia. Meanwhile, it acts as centralised control for ensuring commitment to sustainability impacts positively on social sustainability performance.

Our study findings, however, caution that foreign firms must be aware of the cultural knowledge of the partner and points to the fact that relational governance with the key supplier is important for the success of commitment to sustainability. At the same time, our findings suggest that manufacturing firms need to develop sensing capabilities to overcome the cultural differences that may foster the development of joint initiatives and lead to improve commitment to sustainability. These capabilities enable firms to continue search, scan and make sense of cultural knowledge and interpret the vast array of cultural differences and threats towards their effectiveness of relational governance.

5.1. Limitations and future directions

Our study provides some valuable insights for supply chain management and operations management. We have collected data only from supplier firms. Social sustainability helps to ensure that needs of employees and society are met without jeopardising the ability of future generation to meet their needs if manufacturer committed towards sustainability. When we look at firm supply chain operations, we see that it has a somewhat remarkable ability rejuvenate itself and sustain suitable conditions so future generations can grow. For example, when employees are injured, it affects firm operations, adding unavailability of the trained employee, absenteeism and lost day. This can take the form of developing a commitment to sustainability and companies have a role to play in ensuring that there is no forced child labour, improving living conditions, staff promoted and trained that they have decent conditions of work. Dyadic data from both buyer and suppliers are vital to examine the possible mutual influence of cultural intelligence capabilities. Given the context-specific nature of industries and type of the relationship, the moderation effects found in this study may be different in another industrial sector. One limitation of the study is that data were collected from single informants; common method bias may be an issue, future research could seek to enhance reliability and validity of the data through triangulations, statistical and procedural remedies. Future studies should examine the effectiveness of relational governance under moderation effect of relational risk and unethical behaviour. This may be a worthwhile effort for research related to developing a measure of relational patience and stress of sustainability commitment to investigate with institutional theory, may help guide the managers. Relational patience capability (reliability of individual, truth worthiness empathy and agreeableness) is described here as manager work skill because managers have to deal with different foreign customers with whom calm and rational approach is necessary. This relational patience capability would help to smooth out conflicts differences and mediating or moderating differences. Finally, future research might examine whether the findings of the study hold with a more extensive set of data collection across multiple industries.

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