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Predicting the success of the supply chain dyadic relationship: A qualitative study of dyads

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Abstract The existing supply chain dyadic relationship (SCDR) measurement tools mainly focus on a narrow group of elements in a fully developed business-to-business dyadic relationship. Predicting the success of a dyadic relationship during the very early stage of a relationship is quite critical since the existing SCDR elements have limited capabilities. Drawing on transaction cost economics and social exchange theory (SET), this study aims to explore and enhance the SCDR measurement tools that can likely predict putative relationship success. Using mixed methods in a longitudinal study, the research used qualitative interviews with an expert panel of supply chain practitioners and then surveys of selected dyads. Results show that culture matching is perceived to be a key element of the revised SCDR tool, one that will likely predict relationship success. The enhanced tool helps managers to comprehend the importance of organisational culture and its critical role in predicting the dyadic relationship success.

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Introduction

Supply chain relationships in a complex network continue to be a challenge for all firms regardless of products and services they supply or buy. In a typical buyer-supplier dyadic relationship, partners with distinct organisational cultures share information, routines, planning and costs to accommodate each other's requirements (Nyaga, Lynch, Marshall & Ambrose, 2013). A supply chain dyadic relationship (SCDR) needs a much closer and long-term collaborative relationship if it is to be defined as successful. Many SCDRs also recognise the importance of measuring their relationships to ensure ongoing success. Measurement tools have been

devised by earlier researchers to measure the state of an SCDR. These existing models, for example, tended to focus on a limited number of elements such as trust (Dowell, Morrison & Heffernan, 2015; Laeequddin, Sahay, Sahay & Waheed, 2010); collaboration (Ashnai, Henneberg, Naudé & Francescucci, 2016; Banchuen, Sadler & Shee, 2017; Panahifar et al., 2018); and a more comprehensive list of elements such as communication, reliability or value generation (Chicksand & Rehme, 2018; Thakkar, Kanda & Deshmukh, 2008; Wilding & Humphries, 2006). Jia and Lamming (2013) focused on cultural adaptation for a mutual benefit (relationship rents) termed 'guanxi quality' in a Chinese context. Models that provide an overview of an industry's relationships (Boniface, 2012) or focus on only one side of the relationship (Meena & Sarmah, 2012) do not provide the best feedback and guidance to the individual SCDR.

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Formal validation of these elements is also missing in earlier studies. Validation is seen as critical when, for example, revisiting the relationship after a period of time and assessing the success or failure of the relationship versus the results of the SCDR measurement tool over time. This validation functions confirm the appropriateness of the relationship elements in the measurement tool. The set of established SCDR elements already being used therefore deserve further investigation and validation to improve our understanding of relationship elements. Additionally, we believe that such an investigation may offer a set of additional elements that deserve to be incorporated. This will likely remove the limitations of the existing assessment tools that do not predict the relationship success/failure and may not include all necessary elements, which is critical for performance management (Amsteus, 2011; Jia & Lamming, 2013).

For this study, SCDR success is defined as a continuing series of transactions or continuation of the business relationship (Holmlund & Törnroos, 1997). This implies satisfaction with the relationship which is important for ongoing business activity and hence their success (Large, Kramer & Hartmann, 2011). Relationships develop through the accumulated experiences between organisations, and they may move either in a positive or negative way over time (Hawkins, Wittmann & Beyerlein, 2008). This can also be seen as the relationship moving from a more relational (i.e., SET) to a transactional (i.e., transactional cost economics (TCE)) one or vice versa. From the SET perspective, if participants are receiving economic and social rewards, the relationship will continue to be a success (Hawkins et al., 2008; Nyaga et al., 2013). Alternatively, the participants may become more self-interested due partly to any change in their experiences that push them to a tighter transactional focus on individual business benefits. This is known as opportunism in TCE (Hawkins et al., 2008).

In selecting the dyadic level for analysis and measurement, this research takes guidance from Knoppen and Christiaanse (2007), who point out that it is at the dyadic level that transactions are carried out. The efficiency of the firm is driven in the short term by the value created by these transactions. In discussing networks, a number of sources include in their deliberations the contention that a network is made up of a number of paired organisations (i.e., dyad) that are part of a wider system (Gibbs & Humphries, 2009). Anderson, Håkansson and Johanson (1994) posit that relationships are always within the dyads, but these dyads are component parts of networks that are also useful in positioning relationships.

While the focus is on relationship success from the pre-contract to somewhere later along the timeline, the existing models for assessing dyadic relationships do not include all criteria in a holistic sense. For example, the cultural match between two organisations may play a critical role in the success of the relationship (Baz, Jebli, Cherrafi, Akenroye & Iddik, 2022; Cadden et al., 2021; Jia & Lamming, 2013). Literature has identified the importance of culture to supply chain success (Baz et al., 2022; Beugelsdijk, Koen & Noorderhaven, 2009; Cadden, Humphreys & McHugh, 2010, 2013). For example, Beugelsdijk et al. (2009) identify culture as the missing link in understanding supply chain dyadic performance. Cadden et al. (2013) focus on linking supply

chain performance to the cultural similarities between organisations. This research also takes its lead from van den Berg and Wilderom (2004), who stress the importance of internal (culture) practices within each organisation. However, the culture element is currently missing in the SCDR measurement tool. Since it is not a straight-forward process, this study has undertaken a practitioners' approach while validating its inclusion.

So, it appears that the existing SCDR measurement system does not include all the elements that make up a putative SCDR. All are historically focused rather than being explicitly predictive into the future. The putative list of SCDR elements has yet to be validated along a timeline to confirm the success, or otherwise, of the measurement tools' predictive ability. None of the existing models studied the inclusion of the culture matching element that plays a critical role in relationships (Baz et al., 2022). Earlier research has not explicitly followed up to assess SCDRs longitudinally to see if the predicted state of the relationship transpires over time. Moreover, all SCDR measurements have been based on a cross-sectional survey (Mir, Blessley, Zacharia & Aloysius, 2021), rather than the longitudinal study that has been adopted in this research.

This research, therefore, aims to explore the existing SCDR tools and investigate how organisational culture plays a key role in enhancing the SCDR success, which can be predicted at an early stage of the contractual relationship. The following research questions are developed to guide the objective:

- Q1: Will the existing SCDR assessment tools be improved with input from practitioners in the SCDR field?
- Q2: Can the improved list of elements predict future SCDR success?

The rest of the paper is structured as follows. The first section provides a literature review that discusses TCE, and SET as a lens underpinning the research, followed by the second section which develops a conceptual framework and propositions. Sections three, four and five elaborate on methodology, findings with implications and conclusions drawn with limitations, respectively.

Literature review

TCE and SET

TCE (Hawkins et al., 2008; Williamson, 1987) and SET (Homans, 1974; Nyaga et al., 2013) underpin this study on dyadic relationships. The economic theory of business relationships that can help explain interactions within SCDRs is TCE (Williamson, 2008), which suggests that parties will seek the lowest overall transaction costs. This is achieved by good relationships that help in reducing buffers, friction and speeding up interactions. Consequently, TCE is a good model for understanding supply chain relationship success (Ambrose, Marshall & Lynch, 2010).

The SET (Homans, 1974) theory takes a different view of the B2B exchange process to TCE, but they are argued to be complementary (Ambrose et al., 2010; Sparrowe & Mayer, 2013). While TCE focuses on the benefits that accrue to the

parties through minimum transaction cost, SET includes the benefits of interpersonal relationships and the concept of partner attractiveness (Aminoff & Tanskanen, 2013). The ability to extend the benefits of TCE by providing social controls and facilitating exchange is seen as linking TCE and SET in a supportive way (Hsin-Mei, 2006). At its core, SET suggests that the continuance of a B2B relationship is determined by the net rewards that each party gains from the transactions. An ongoing series of rewards will lead to continuing the relationship (Griffith, Harvey & Lusch, 2006). Rewards include social as well as economic ones (Hawkins et al., 2008). The link between SET, positive supply chain relationships and performance has been explored by Wu, Chuang and Hsu (2014), who break down aspects of social exchange into trust, commitment, reciprocity and power. These parameters lead to information sharing and collaboration, resulting in improved firm performance.

Further, the importance of relationships in business success has been raised by researchers in the field of business and supply chain management. Dyer and Singh (1998) devised Relational View Theory (RVT), which essentially states that 'firms create value in alliances when they identify partners with complementary resources, when they build high level of informal trust and they share knowledge and make investments that are customised to the partner' (Dyer, Singh & Hesterly, 2018, p. 3140). However, the exchange of resources and development of relationships considered by RVT occur after the development of the SCDR, not at its earliest stages which is the focus of this study. For this reason, RVT theory would not be considered further due to its overlap with the chosen TCE and SET theories.

Supply chain relationship and organisational culture

What is meant by 'relationship' from a supply chain perspective? Terms such as 'partnerships', 'alliances', 'consortia' and 'networks' are deployed when describing these relationships (Koleva, Thrane & Mouritsen, 2002; Ojansivu, Hermes & Laari-Salmela, 2020). The term 'relationship' refers to an ongoing pattern of interactions and exchanges between parties involving economic and social elements (Ojansivu et al., 2020). Holmlund and Törnroos (1997) define a relationship as 'an interdependent process of continuous interaction and exchange between at least two actors in a business network'. These authors define B2B relationships as characterised by a number of attributes such as mutuality, long-term processes and context potential.

The B2B relationships also operate across multiple dimensions, which include legal, personal and economic features (Holmlund & Törnroos, 1997; Ojansivu et al., 2020). These can be grouped under three elements: structural, economic and social dimensions. The latter covers elements such as trust, commitment, attraction and other social bonds. This area is often neglected when evaluating B2B relationship continuity. Therefore, relationship success can be defined as one that continues while each party is receiving enough benefits to be prepared to continue doing business with the other party. The concept of relationship continuance, because the parties want for relational reasons rather than dependence reasons, is also supported by SET (Chen, Su & Ro, 2016).

Organisational culture plays a key role in supply chain relationship success (Baz et al., 2022; Cadden et al., 2021). Literature appears to state that the cultural dimension is the key to supply chain management, but its role in the context of the SCDR relationship is very limited. For example, Cao, Huo, Li and Zhao (2015) and Porter (2019) argue that organisational culture exerts a positive influence on supply chain integration. Cadden et al. (2013) argue that a culture of trust and openness between partners yields better supply chain outcomes. Highlighting the importance of (national) culture, Gupta and Gupta (2019) suggest to undertake a study specifically with reference to buyer-supplier interaction (i.e., dyadic relationship).

Research into cultural differences and negotiation shows that differing cultures can negotiate successfully if there is an understanding of those differences (Aslani et al., 2016). A mismatch in culture between two organisations has been shown to cause failure in mergers and acquisitions (Gelfand, Gordon, Li, Choi & Prokopowicz, 2018). There is also a gap in understanding how relationships fail. Hollmann, Jarvis and Bitner (2015) provide a model where the buyer leaves the relationship and stops using a supplier. This occurs due to a build-up of defection energy within the buyer in the relationship until it triggers defection. The model, however, does not consider that a supplier can also accumulate defection energy and leave the buyer. This warrants an investigation into a dyadic perspective of loyalty that this study has considered.

A number of approaches have the stated aim of measuring the relationship rather than outcomes. It is paramount to see the relationship continues into the future. We believe that inclusion of the culture matching element in the SCDR will indicate early the success of the relationship. Most of the tools reviewed have a series of high-level relationship elements supported by sub-elements. Table 1 provides a comparison of high-level categories in each tool. Note that the list does not show any degree of similarity apart from the element 'communication.' Also note that the culture element is missing in the list and this study has taken steps to validate its inclusion.

Supply chain relationship failure

Why do relationships fail? They fail for a number of reasons, which range from no longer requiring goods/services to wider economic/market factors. Relationships can also appear to have ended while being put into temporary hibernation (Polonsky, Gupta, Beldona & Hyman, 2010). Of more interest is the failure attributed to the behaviour of one or both parties. The most damaging behaviour is a breach of trust (Panahifar, Byrne, Salam & Heavey, 2018). However, Mir et al. (2021) proposed the restoration of a failed relationship by using tactics such as acknowledgement, compensation and operational transparency by suppliers that influence the interactional, distributive and procedural fairness perception of buyers.

Two forms of inter-organisational trust have been identified. First is 'affective trust': the goodwill that is present between the individuals involved on both sides of the relationship. The second is 'trust in competency', which is the ability of the party to fulfil their role (Ha, Park & Cho, 2011).

Table 1 Comparison of relationship elements in current measurement systems.

| Source | ADS (UK Trade Association) | Humphries, Towriss and Wilding (2007) | Simatupang and Sridaran (2005) | Roberts, Varki and Brodie (2003) | Thakkar, Kanda and Deshmukh (2008) |
|------------------------------------|--|---|---|---|--|
| System Name | Relationship Management Matrix | Supply Chain Collaboration Index | Collaboration Index | Measuring Relationship Quality | Interpretive Structure Modelling |
| High Level Relationship Categories | 1. Communication 2. Capability Management 3. Continuous Improvement 4. Commercial 5. | 1. Creativity 2. Stability 3. Communication 4. Reliability 5. Value | 1. Information Sharing 2. Decision Synchronisation 3. Incentive Alignment | 1. Trust in Partners 2. Trust in Partners Benevolence 3. Affective Commitment 4. Satisfaction 5. Affective Conflict | 1. Business Growth - Long Term Perspective 2. Mutual Understanding and Closeness 3. Meeting Customer/Market Requirements 4. Role in Decision Making 5. Risk/Profit Sharing |

Trust has also been defined as existing along a continuum from high trust to zero trust (mistrust) (Schoorman, Mayer & Davis, 2007). Where one party breaches the trust of the other, it can be accidental, which can lead to a reduction in competency-based trust. Alternatively, a deliberate breach is called opportunism, defined as ‘self-interest seeking with guile’ (Hawkins et al., 2008; Williamson, 1996). Opportunistic behaviour by one party may degrade the affective trust of the other party. It is one of the leading causes of relationship dissolution (Gillespie & Dietz, 2009). Likewise, Schrank and Whitford (2011) point to incompetence and opportunism as being the primary causes of business network failures.

Active opportunism is usually employed by the more powerful party. For example, in monopsony or oligopsony market conditions, suppliers are exploited by powerful customers (Wyld, Pugh & Tyrrell, 2012). Alternatively, Pinnington and Scanlon (2009) report on buyers who highlight concern about supplier opportunism. Active opportunism involves activities ranging from pushing out payment terms to arbitrarily taking discounts. Passive opportunism is more subtle. It can include withholding innovation ideas from the other party or letting quality standards slide. Where there is active opportunism from one party, it is likely that there will be passive opportunism from the other (Kelly, Wagner & Ramsay, 2018).

The second reason for relationship failure is that it was the wrong relationship in the first place. Approximately 70% of respondents to a Deloitte survey, cited by Freytag, Clarke and Evald (2012), expressed dissatisfaction with outsourcing arrangements, and 25% moved to insourcing of activities because of this dissatisfaction. Freytag et al. (2012) identified seven core problems that caused these levels of dissatisfaction and thereby insourcing decisions: poor judgement of outsourcing; selecting the wrong supplier; service-level agreement problems; no discussion of personal matters; no control of the outsourcing process; overlooking hidden costs; and lack of exit strategy. At least four of them relate to the relationship between the parties rather than technical or execution issues. Partner selection is a difficult process, even when using objective criteria. Often the criteria conflict, for example, quality performance and cost (Nayak, Sinha & Guin, 2011). Failure to take into account the future needs of the business can also have a negative impact when tactical decisions are made rather than taking a strategic approach (Kaufmann, Carter & Buhrmann, 2012).

Importance of measurement and prediction

It has been recognised for some time that measurement is important. If something is to be managed, then it must be measured (Neely, Gregory & Platts, 2006). The performance measurement in supply chains adds to more open and transparent communication between parties (Gopal & Thakkar, 2012). The need to be able to forecast approximate future conditions has been recognised for some time. Amsteus (2011) points out that ‘if foresight is not the whole of management, at least it is an essential part of it’. Importantly, Amsteus (2011) showed that there was a statistically significant link between managerial foresight and firm performance.

The reason that this research focuses on predictive measurement is to try and close the gap identified by Chen, Levy, Martin and Shalev (2021). Successful supplier

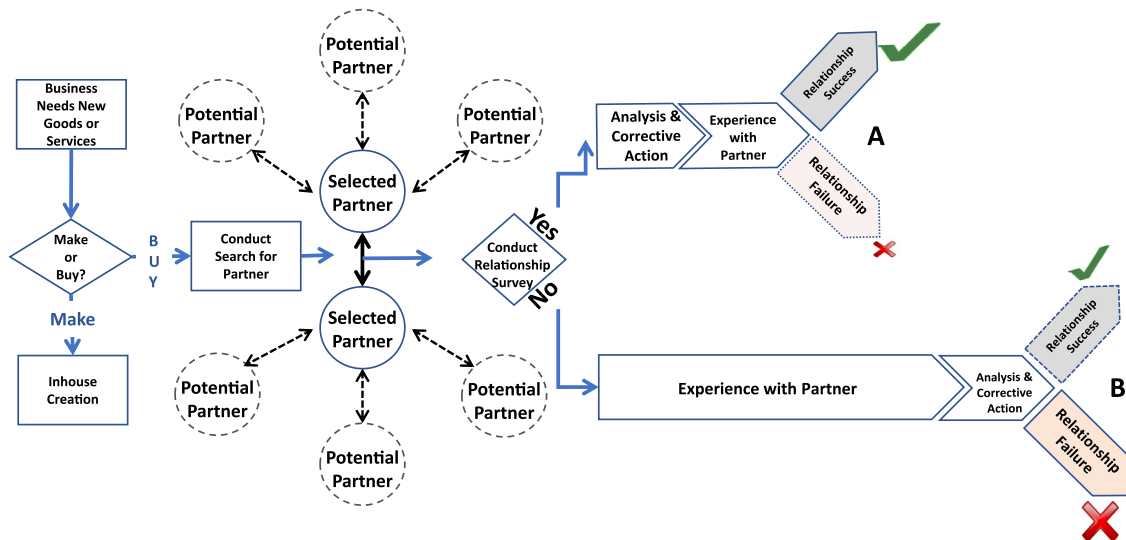


Fig. 1 Proposed conceptual framework - Benefits of relationship measurement.

relationships are more likely to be formed where there is a pre-existing personal relationship between key people in both parties to the SCDR (i.e., SET theory perspective). In the absence of a pre-existing relationship, then the parties must either take a risk or undertake the business relationship, allowing time to prove or disprove the correctness of the decision. Or, they might undertake a predictive measurement approach. A failure to successfully predict the outcome of a sourcing decision creates the risk of selecting the wrong partner, which is significantly costly (Oodot, 2010). Often buyers find that they experience unexpected results from their sourcing decisions. These are often driven by assumptions such as collaboration will lead to superior performance from the supplier. Paradoxically, this is often untrue (Kim & Choi, 2021).

Conceptual framework

A predictive measurement tool based on the relationship elements, firstly, would indicate whether the relationship is likely to be a success or a failure. In extreme cases, the parties could decide to terminate their prospective business relationship. Secondly, areas of weakness in the prospective relationship can be identified. If the problem is not beyond recovery, the parties can make changes to improve those elements and build a more successful relationship. Even in a relatively strong relationship, there will be opportunities for improvement. Dyads that work on the improvement of their relationship are likely to reach a stable state of success faster than those that do not and almost certainly faster than those that do not measure at all (Hollmann et al., 2015). The following conceptual framework (Fig. 1) illustrates the situation between a prospective dyad that does not measure and one that does:

The two paths described in Fig. 1 can be explained as follows:

- Path A: Organisation, in a buy-or-make trade-off, selects a partner from the field of choices after conducting a ‘predictive’ SCDR measurement process. There is a low rate of SCDR failure or dissatisfaction.

- Path B: The organisation selects a partner from the field of choices with little measurement and relies on experience to guide SCDR success. There is a high rate of SCDR failure or dissatisfaction.

While the first approach in Fig. 1 (A) appears to add a step to the selection and on-boarding of a new partner, it is likely to shorten the overall time to achieve relationship success. This process enables corrective action earlier and avoids costly corrections later. In particular, it prevents the selection of the wrong partner, a problem that is driven by selection bias and lack of good information (Kaufmann et al., 2012). The cost of undertaking a programme to find a new source of supply is usually very high (Kavanagh, 2016). The availability of predictive measurement means partners do not have to wait to tell if they are in a successful relationship, despite the ‘honeymoon’ effect (Johnston & Hausman, 2006) masking problems in the initial stages.

The mechanisms by which the relationship may fail are identified in a matrix (Fig. 2). Extending on the work of Hollmann et al. (2015), this study suggests that both buyer and supplier can defect from the relationship. Where both parties in the relationship are experiencing high satisfaction (i.e., SET

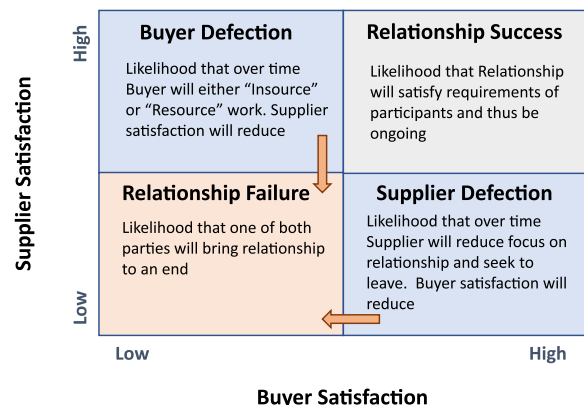


Fig. 2 Relationship success/failure model.

perspective), the relationship is successful with ongoing transactions (i.e., TCE perspective). Alternatively, if both parties are dissatisfied, then what [Hollmann et al. \(2015\)](#) call cumulative defection energy will increase, and parties will end the relationship. The quadrants where either the buyer or the seller is dissatisfied while the other party is satisfied are more complex. In these cases, the dissatisfied party is likely to be at risk of defection. This may trigger overt action to end the relationship or covert action to reduce their investment in the relationship. Over time the satisfied party will equalise their level of satisfaction with the dissatisfied party and join them in the 'relationship failure' quadrant. This assumes that no action is taken by either party to address the original sources of dissatisfaction.

In summary, the review of the existing SCDR measurement tools has highlighted that they do not include all necessary relationship elements. In particular, despite significant support from the literature, they do not include the important element of culture matching. Some of the models are only aimed at assessing one side of the relationship or are focused on providing a broad assessment of industry-wide relationships. Finally, they appear to have no predictive focus but instead are aimed at assessing existing mature relationships.

Methodology

Research design

This research used a mixed-methods approach, sequentially organised for a qualitative interview followed by a survey and a follow-up interview of the surveyed dyads. In this way, the findings from earlier activities feed the latter for triangulation purposes ([Tū, 2018](#); [Venkatesh, Brown & Bala, 2013](#)). Interview transcripts were analysed for themes to reveal the experiences of the expert panel on SCDR elements. There was an expectation that new element(s) would emerge from the thematic analysis. Then a survey was developed from the thematic analysis, and the responses were analysed for their average values for buyers and suppliers separately and plotted in a dyadic relationship quadrant. Details of stages 1 and 2 are explained below.

Stage 1: Qualitative interviews started with a review of the relationship dimensions identified in the literature and then creation of a putative list of the elements that made up an SCDR (Step 1). We believe that the existing list could be strengthened by an in-depth review with practitioners who are engaged in a buyer-supplier dyadic relationship (Step 2). This would result in a list having theoretical underpinnings from the literature and empirical support from practitioners in the field. It was therefore decided to consult an expert panel of supply chain and sales practitioners to gather their views via storytelling (Step 3). This approach is modelled on the 'Delphi' research method, which has proved to be useful in validating the lists and theoretical constructs, as well as confirming a common understanding of what they mean ([Okoli & Pawlowski, 2004](#)). Then the SCDR elements were modified with the inputs via storytelling (Step 4).

In Stage 2, a short survey using the validated list of SCDR elements was developed into a series of question

statements (Step 5). All of the question statements compiled have a foundation in the theoretical lenses of TCE and SET. The dyads were asked to respond to the statements as it related to their emerging SCDR. The survey participants were asked to respond using a five-point Likert scale ranging from 1 being 'strongly disagree' to 4 being 'strongly agree', and a fifth option being 'don't know' or 'insufficient information' which was given a score of '0'. This replaces the conventional way of using a mid-point in a five-point scale to address 'neutral response'. We have therefore placed this choice at the end of the scale. Thus, it removes a 'middle' choice from the set and aids respondents to think through their scoring. This is in line with the scale proposed by [Likert \(1932\)](#). [Lozano, García-Cueto and Muñiz \(2008\)](#) argue that significant improvement occurs up to 4 but from that point on the gains become 'scarce'. The next stage (Step 6) involved the distribution of a questionnaire to dyads to collect their responses online (Step 7). Subsequently, the results of the survey were presented to the participating organisations (Step 8), and comments and feedback were requested (Step 9). This was an opportunity for the organisations to understand the nature of their relationship, be it heading for success or failure. The final stage (Step 10) was to interview participants after 6 months to see whether the initial results (in Step 8) had been borne out by the experience. All steps are indicated in a flow diagram in [Fig. 3](#).

Population and sampling

The research used purposive sampling which was a deliberate selection of participants based on their eligibility ([Etikan, Musa & Alkassim, 2016](#)). For the panel interviews in stage 1, the population were supply chain practitioners from the buy and sell side of the relationship. The participants were identified from sources such as our own contacts, members of Strategic Industry Research Foundation (SIRF) (www.sirfrt.com.au) and the International Association of Commercial and Contract Management (IACCM) (www.iaccm.com). This resulted in a panel of 10 experts who represented both sides of the SCDR. They also represented various roles such as general manager, purchasing and supply chain manager from buyer and seller organisations with at least five years of experience at the respective level.

Panel members' ages ranged from approximately 35 to 55 years. All were tertiary qualified with three holding Masters' degree qualifications, worked in building products, petrochemical manufacturing and heavy vehicle equipment to automotive component production. All had a minimum of 10 years of involvement operating within SCDRs. A similar approach was taken to identify survey participants who were entering into a prospective dyadic relationship. The population comprised early-stage SCDRs who would be willing to engage in measurement of their putative relationship. While it was not that easy to identify, there were four dyads that finally agreed to participate in the survey: BrickCo and SuppliesCo; ChemCo and TransportCo (A); ChemCo and TransportCo (B); and GovDiv and SpecServiceCo. The same dyads also participated in interviews after 6 months. Details

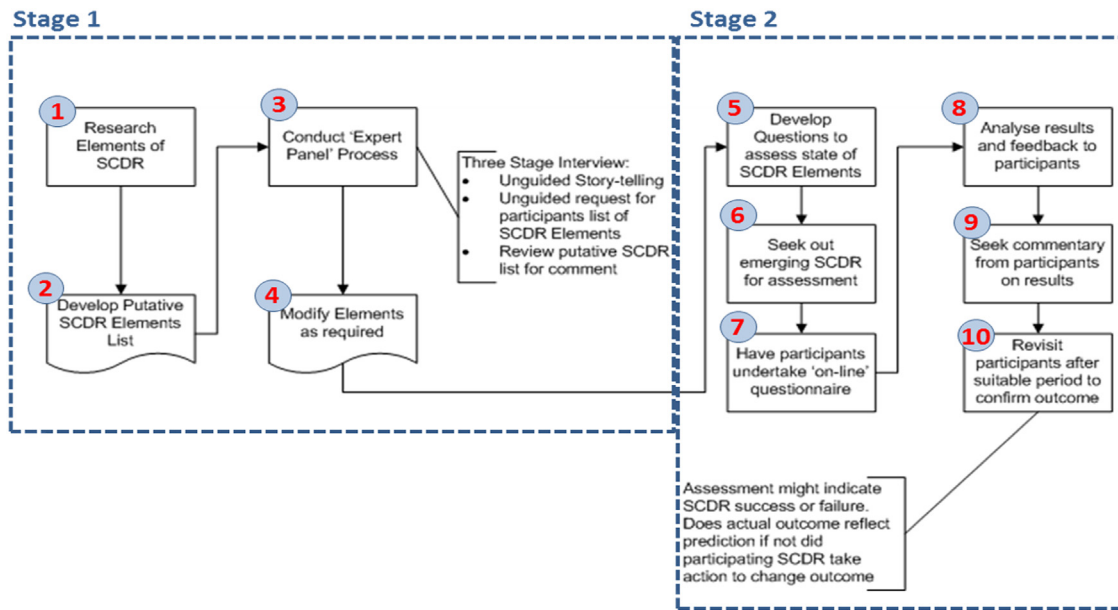


Fig. 3 Proposed two-stage research process.

of the organisations that made up the four dyads are included in the Appendix.

Identifying the elements of SCDR

The putative relationship elements of SCDRs were extracted from the work of many authors (Humphries, Towriss & Wilding, 2007; Mena, Humphries & Wilding, 2009; Thakkar et al., 2008). Some elements were present in all tools, but the Supply Chain Collaboration Index (SCCI) devised by Humphries et al. (2007) was found to be more comprehensive than others. This resulted in a list of SCDR elements: Creativity, Stability, Communication, Reliability, Value, Long-term Orientation, Interdependence, C3 Behaviour (cooperation, collaboration & coordination), Trust, Commitment, Adaption, and Personal Relationships (see Table 2).

Data collection

In stage 1 interviews, an expert panel, using unguided story-telling (Whyte & Classen, 2012; Wijetunge, 2012), was able to articulate stories that explored a range of different experiences regarding relationships with their supply chain partners. Participants were able to articulate the relationship elements that they felt made up an SCDR. Finally, the expert panel members were able to validate the list of SCDR elements from the literature and, importantly were able to add the important element of ‘culture matching’. Thus, the research was able to continue with a list of SCDR elements with support from the literature as well as the experts in the field. In stage 2, after incorporating the findings from stage 1, four dyads agreed to undertake the online survey with several members of each organisation. Following on from this, the stage 3 activity involved each of the dyads being

Table 2 Breakdown of participant storytelling input versus putative list (n = 10).

| SCDR Element | No of Participants Using Exact Term | No of Participants Using Overlapping Term | Total Count | % of Participants Raising Term |
|--|-------------------------------------|---|-------------|--------------------------------|
| Creativity | 2 | 1 | 3 | 30% |
| Stability | | 2 | 2 | 20% |
| Communication | 8 | 1 | 9 | 90% |
| Reliability | 1 | 4 | 5 | 50% |
| Value | 4 | 3 | 7 | 70% |
| Long Term Orientation | | 2 | 2 | 20% |
| Interdependence | | 1 | 1 | 10% |
| C3 Behaviour (cooperation, collaboration & coordination) | 3 | 4 | 7 | 70% |
| Trust | 10 | | 10 | 100% |
| Commitment | 4 | 3 | 7 | 70% |
| Adaption | | 1 | 1 | 10% |
| Personal Relationships | 3 | 6 | 9 | 90% |

Table 3 SCDR elements after expert panel input [an extension of (Mena, Humphries & Wilding 2009)].

| Dimension | Description |
|--|---|
| Creativity (Bounded Rationality) | Promoting quality, innovation, flexibility, opportunity seeking, problem solving, a long term approach and encouraging high performance. |
| Stability (Business Myopia) | Strategic understanding, synchronisation of objectives, investment in relationship, building assets e.g. people, infrastructure, IT, training. |
| Communication (Information Impactedness) | Promoting high quality, open, frequent, trustworthy information sharing. |
| Reliability (Opportunism) | Establishing and managing reliable, adaptable, continuously improving service and product delivery, lowering joint costs. |
| Value (Imprisonment) | Incentivising joint working and a win-win relationship, sharing benefits, commitment to investment and business development. |
| Culture Matching (Being added as a new dimension) | Organisation of work, decision-making style, comfortable with organisation culture, respectful of other's culture, meeting precision and flexibility. |

interviewed to ascertain whether the predicted state of their relationship was borne out by actual events.

Interviews and thematic analysis

The interviews in stage 1 were recorded by notes and voice. In analysing the interviews for thematic outputs, the keywords and concepts in the storytelling component of the interview were used. This portion of the interview analysis was complex because participants used various terms to describe the same concept where an exact term and similar/overlapping term was noted. For example, 'openness' or 'transparency' is an overlap with 'communication'. The results of the analysis of the storytelling in stage 1 are detailed in Table 2. The last column indicates their agreement with the list: trust (100%), personal relationship (90%), communication (90%), C3 behaviour (70%), value (70%) and so on.

Results

Stage 1 results

The initial thematic analysis from stage 1 confirms that the putative list of SCDR elements developed from the literature review has support from the expert panel. Not all items were given equal weight by the participants in the panel discussion, but sufficient mention of each of the elements was made to maintain their inclusion in stage 2 of this research. The expert panel added 'Culture Matching' as a new SCDR element. It includes the organisation of work, decision-making style, comfort with organisation culture, respect for other's culture, and meeting the parties' precision and flexibility requirements. Table 3 presents a summary of revised SCDR elements

Stage 2 results

The online survey responses were processed in Microsoft Excel to create graphs and comments. The output showed the buyer's perception of the seller and vice-versa. This was achieved by having the respondents provide their own responses and perception of the opposite partner's responses. Therefore, there are two scores from each

respondent, one for their own organisation and the other for their SCDR partner. By using this two-views approach, we were able to plot a position on the matrix discussed earlier in Fig. 2. Then the scores from the questionnaires were gathered and averaged for each side of the SCDR because some organisations had more than one respondent. For example, a respondent from the buyer organisation might answer a question as 'agree' (score 3) for his own organisation and 'strongly agree' (score 4) for the seller organisation. So, we can plot the responses on the results chart using the scores 3 and 4 within the matrix shown in Fig. 5 (presented towards the end).

Stage 3 results

The final stage consists of interviews of the four dyads after 6 months to see what changes might have occurred. We believe that 6 months are adequate to indicate relationship success/failure given the potential for multiple transaction cycles. The follow-up interview may result in the following five options:

1st Survey: 2nd Survey

1. Predicted Success = Actual Success
2. Predicted Failure = Actual Failure
3. Predicted Success = Actual Failure
4. Predicted Failure = Actual Success

With application of Countermeasures:

1. Predicted Failure = Actual Success

Options one and two would be considered supportive of the survey tool, while three and four would be deemed as not supportive. The fifth option occurs when the members of the SCDR on being made aware of the potential failure may take action to resolve the issues highlighted. While this research does not explicitly aim to mend the dyadic relationship (Mir et al., 2021), it does provide the information they need to make improvements over time. By confirming the results of the self-reported survey via a follow-up interview, we essentially triangulated the results (Venkatesh, Brown & Sullivan, 2016).

Overall Self-Assessment Result: All Four Relationships

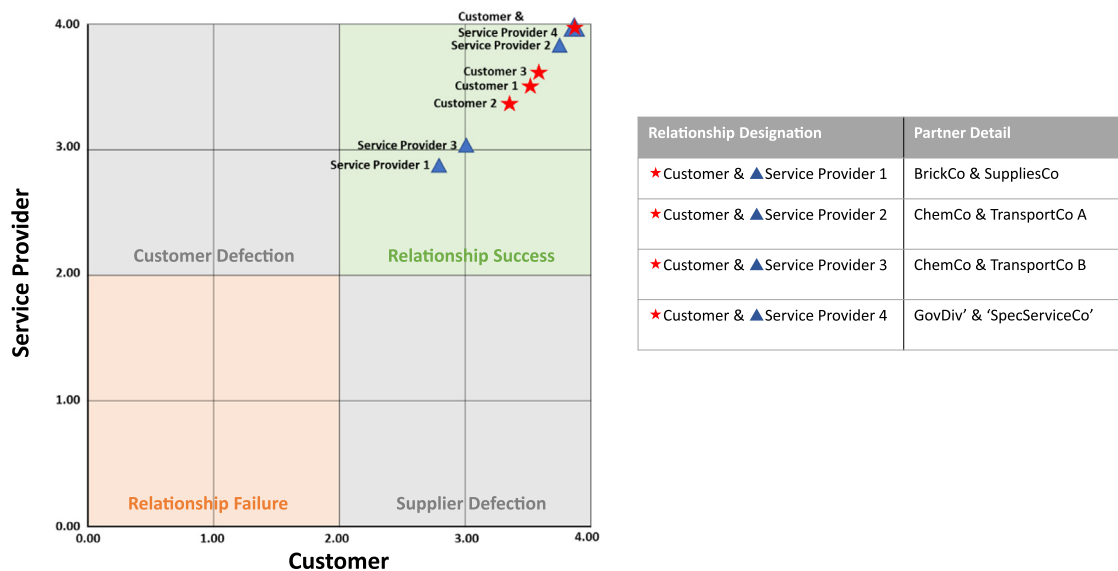


Fig. 4 Overall Self-Assessment Results of Four Dyadic Relationships.

Overall results

The overall results have been combined into a single matrix in the interest of minimising the number of charts. A brief explanation of each dyad's overall result is outlined in the following sections a to d. The actual feedback to the participants involved an overall plot of their relationship as well as specific plots of their position against each SCDR element along with explanatory comments (Fig. 4).

(a) BrickCo and SuppliesCo

The assessment indicates that the parties are well inside the 'Relationship Success' quadrant (Fig. 4). It appears that the customer/buyer is less satisfied with the current relationship than is the service provider/supplier. The culture matching and understanding results confirmed that the parties had some good opportunities for improvement. Some lack of understanding is apparent on both sides regarding the other party's structure and decision-making processes. This is likely to be addressed through communication which forms part of the TCE and SET relationship approaches. While the questions on comfort and respect for each other's culture were higher, the scores for how each is organised and decisions made were lower. This would be an issue if the parties had been doing business for several years. However, in this case, it would seem to be a simple opportunity for improvement. This is an area where both see a need for improvement by their partner.

(a) ChemCo and TransportCo (A)

Results show that the parties are well inside the 'Relationship Success' quadrant (Fig. 4). The customer appears to be rather less satisfied with the current relationship than the service provider. An ongoing focus on developing the relationship should ensure that the parties remain in the 'Success Quadrant'. The researchers' interactions with this

dyad, however, indicated a very tight relationship (i.e., both TCE and SET perspective). Both organisations are comfortable with the culture of the other party and the way that each interacts. There are no additional comments under this element. The only verbatim comment by ChemCo was: 'Still needs to fully understand our overall business, but they are getting there'. These scores point to a healthy culture matching and understanding situation.

(a) ChemCo and TransportCo (B)

Both parties to this arrangement are inside the success quadrant, with the customer being more satisfied with the relationship than the service provider (Fig. 4). There is also ample recognition within the customer that the relationship is in its early stages. However, any failure to improve in some operational areas may cause the ranking to fall over time. Both organisations have concerns in the area of reliability, mainly regarding how and where improvements will come from (i.e., TCE perspective). There are also some questions as to whether the customer would really 'put themselves out' for the service provider under an environment of changed circumstances. This final point is likely to be a cause of future concern if one of the parties does not feel they are getting a fair exchange for the value they provide (i.e., SET perspective).

(a) GovDiv and SpecServiceCo

The key points strongly suggest that the parties are well inside the 'Relationship Success' quadrant (Fig. 4). Within the results, there is very little difference in how the relationship is perceived. Apart from a minor comment around 'Value,' which is an element driven by the TCE view, there are no suggestions for improvement or change. These results highlight a good degree of alignment both vertically and horizontally, and the scores are the highest for the overall result of the four dyads assessed. During the results debriefing back

to the parties, they expressed satisfaction with how well they had matched each other's perceptions of the relationship (i.e., SET perspective).

Reliability and validity

The follow-up interview contributes to research outcomes, which is a way for assuring reliability and validity of findings in qualitative research (Sinkovics, Penz & Ghauri, 2008). Mixed methods research is suggested as a methodology that is superior to single approach method (Venkatesh et al., 2016). Others point out that regardless of support for mixed methods research, proponents of either quantitative or qualitative will continue to challenge the opposite approach (Choy, 2014).

Consistency in results indicates its reliability (Adams, Khan, Raeside & White, 2007; Venkatesh et al., 2013). This research applies two tests for reliability: Test-Retest and Equivalent Form (Adams et al., 2007). A test-retest approach involves administering the research instrument twice on the same subject and reporting the results. The equivalent form involves taking questions from a survey instrument that measures the same concept and comparing the results from the same respondent. This provided a measure of internal consistency within the research instrument.

Validity is the strength of the conclusions reached about the research questions: firstly, whether the measurements taken are actually related to the concepts being studied, and finally, whether the concept is measured accurately (Adams et al., 2007; Venkatesh et al., 2013). The internal validity is managed via the debriefing meeting when the results are presented to the participating members of the SCDR, as well as the follow-up interview 6 months later. A failure to properly describe the relationship in the feedback will trigger questions from those participants. External validity was judged via the comparison of results between the participating SCDRs as well as the results gained in later uses of the survey tool. The success was predicted, and on re-survey, the SCDR was reported to be successful. This indicated the external validity.

Sample size

While the sample size is small, it is not without support from the literature regarding its ability to provide valid and generalisable contributions to theory. In discussing phenomenology, Gentles, Charles, Ploeg and McKibbin (2015) reviewed the literature and provided a minimum number of interview participants, between 5 and 10, for intensive interaction. Given the questionnaire process, the debriefing and the final interview, the engagement with participants in this research can be described as intensive. The number of participants in the process is targeted to be at least 4 from each SCDR, giving some 16, which is above the cut-off as suggested.

Cross-case analysis

While all of the assessed dyads ended up in the success quadrant, they did not necessarily start out from the same position. In looking at the influences that guided their decision-making at the sourcing stage, the buyers indicated the

following points. The major sourcing consideration expressed by BrickCo was for a supplier that would firstly find innovative ways to support their business and secondly ensure that shortages of essential maintenance spares did not compromise their production schedule. SuppliesCo, in making its submission for the business, tailored its approach to meet the expressed requirements of BrickCo. The business relationship that BrickCo is seeking is very much driven by the SET view with a strong need for innovation.

ChemCo was looking for a reliable transport service provider who could keep it informed on the status of shipments and provide a very competitive price. Of particular importance was the adherence to dangerous goods transport regulations. In the case of ChemCo, the business relationship was driven by a focus on lower transaction costs, which is part of the TCE view of dyadic relationships.

The main consideration for GovDiv was that the supplier would reliably and consistently carry out duties in strict compliance with the scope of works that formed part of the tender. The nature of the services did not allow any scope for the supplier to vary the services without full agreement from the customer. Again GovDiv is taking a TCE view of its relationship, in that it is not seeking innovation or synergistic support from the service provider.

Discussion

This research set out with two key themes. First, better supply chain relationships lead to supply chain success (Holmlund & Törnroos, 1997; Wu et al., 2014). Second, because supply chain relationships are vital for long-term sustainability (Autry & Golicic, 2010; Sillanpää, Shahzad & Sillanpää, 2015), they should be measured and managed effectively (Neely et al., 2006). While several researchers had developed tools for measuring SCDR (Laequddin et al., 2010; Roberts, Varki & Brodie, 2003; Wilding & Humphries, 2006), the existing SCDR measurement approaches have concentrated more on past events between the dyads and offer relationship elements that cannot adequately capture all aspects of both partners' relationship experience. Finally, the existing approaches are not aimed at predicting in advance the likelihood of success of an emerging relationship. This research, therefore, aims to explore and develop key elements of a holistic SCDR and create a revised measurement tool that can predict a successful dyadic relationship.

We premise this study with the theoretical lenses of TCE and SET. While TCE ensures a firm's desire to minimise direct and opportunity cost of exchanges (i.e., transaction cost) in the buying-selling arrangement within a dyad, SET promotes inter-party relationship (i.e., trust, commitment, cooperation and satisfaction) for these transactions to occur in a cost-effective way (Lambe, Wittmann & Spekman, 2001). According to the SET perspective, the dyads will often prefer to rely on the relationship rather than strictly on a written contract (Hawkins et al., 2008). Based on the results of the study, and in particular the follow-up discussions, it is clear that the relationships are ongoing as signified by the continuing transactions, which means that TCE is a viable explanation of SCDR success. The parties would not continue if they were not happy with the acceptable cost of

transactions. Likewise, the commitment to the relationship (i.e., SET perspective) shown between the parties in the follow-up interviews highlights the non-transaction cost elements of the SCDR continuation.

The thematic analysis of interviews with the expert panel shows an element, culture matching, which is important for understanding the dyadic relationship and its likelihood of success. The inclusion of culture into the putative SCDR list of elements (i.e., creativity, stability, communication, reliability and value) is believed to be an important improvement in the understanding of dyadic relationships. This input to the SCDR elements was then used to develop an improved methodology based on prior research (Mena et al., 2009; Roberts et al., 2003; Simatupang & Sridharan, 2005; Thakkar et al., 2008; Wilding & Humphries, 2006) for assessing the likely state of a dyadic relationship into the future. From the SET perspective, the continued relationship is likely to be sustained if the transaction cost within the dyad is effective and acceptable.

The findings enjoy support from earlier research that has raised the importance of culture to success in supply chain management. Researchers such as Beugelsdijk et al. (2009) and Baz et al. (2022) have shown how culture influences performance. They stress that culture matching does not mean similarity. The connection between culture and supply chain performance has also been made by others (Cadden et al., 2021, 2010, 2013), who emphasise the importance of making an assessment of cultural fit early in the relationship. This research, therefore, combines culture with the SCDR assessment tool developed from prior research and tested with the dyads who agreed that it is a critical element in the relationship (i.e., SET perspective).

Defining what questions to ask to understand cultural compatibility in an SCDR required a review of the wider research into culture. Much of the support for the chosen questions came from the work by Hofstede, Hofstede and Minkov (2010), who identified the importance of understanding how the other party is organised and makes decisions. The next series of questions cover the need for the parties to be comfortable with each other's culture and respect any differences (Aslani et al., 2016; Taras, Steel & Kirkman, 2012). The final area of culture that generated questions is the need within each party for accuracy and precision. A mismatch here can lead to a failure to deliver the required level of service or support. For example, a buyer expects precision whereas the supplier is focused on agility and speed (or vice versa). This aspect of culture was drawn from Hofstede et al. (2010) and supported later by Gelfand et al. (2018). This is believed to be the first time these particular questions have been included in an SCDR assessment tool.

Underpinning the measurement and prediction of dyadic relationships are two theories: TCE and SET (Nyaga et al., 2013). From the TCE perspective, this research takes the focus of ensuring the cost of transactions should be kept as low as possible. TCE also provides the model for organisational failure, which was further developed by Wilding and Humphries (2006) into a series of SCDR elements that make up a successful relationship. SET, for its part, provides the basis for the interactions between the dyads that generate trust and value, for example, through the implementation of technical change and innovation (Mitrega, Forkmann, Zaefarian & Henneberg, 2017). The value creation and social interactions between

members of the dyad then serve as the driver for the parties to continue their relationship through trust, commitment and obligation leading to SCDR success (Holmlund & Törnroos, 1997). While TCE provides the structural elements that make up an SCDR, SET for its part, provides the questions to understand the state of the dyadic relationship. Together these theories support the basis of this research in a complementary way (Ambrose et al., 2010).

The result of the literature review, the input from the expert panel and the pilot application to four dyads resulted in a new SCDR measurement tool with a number of influences and enhancements. These are summarised in Fig. 5 below. Of particular importance was the inclusion of 'Culture Matching', which was identified by the expert panel, validated via the literature review and supported by the findings and feedback from the four dyads that undertook the pilot assessments using the new SCDR measurement tool.

Theoretical implications

The research contributes to the supply chain relationship literature in several ways. First, while a number of existing supply chain relationship measurement tools were identified in the literature (Roberts et al., 2003; Simatupang & Sridharan, 2005; Thakkar et al., 2008; Wilding & Humphries, 2006), some were found to be comprehensive, while others took a narrower view of what makes up an SCDR (Laequuddin et al., 2010). Fig. 5 illustrates various models influencing (e.g., major, moderate and minor) the development of the present assessment tool. Reviewing the existing SCDR assessment models to further develop a complete list of dyadic relationship elements is the first of its kind of study that explicitly aims to be predictive in nature. Second, adding the element of cultural dimension from the expert panel's ground level experience is new in strengthening the SCDR assessment tools. Third, exploring the state of the cultural match (van den Berg & Wilderom, 2004; Hofstede et al., 2010) and predicting the likely success of the dyadic relationship and identifying factors that could remedy problems using the enhanced model is a valuable contribution. Fourth, the synergy amongst the two theoretical lenses (Sparrowe & Mayer, 2013) strengthens the way the dyadic relationship continues over time. Extending TCE and SET as a lens to explain and measure SCDR success is a new contribution to SCDR literature. Fifth, while earlier studies have looked at the buyer-supplier relationship as unequal, for example, the buyer may overpower the supplier (Nyaga et al., 2013; Wyld et al., 2012), this study considers both parties to be mutually interdependent from the perspective of SET and aims for a win-win outcome in the relationship using the TCE perspective.

Implications for policy and practice

The research provides a number of benefits for practitioners in the supply chain and logistics field. First, a predictive SCDR assessment tool will give confidence to managers in planning the sourcing strategies which is either be successful or be terminated before sunk costs become too high. Second, the SCDR measurement tool will make contract management simpler by enhancing the probability of success

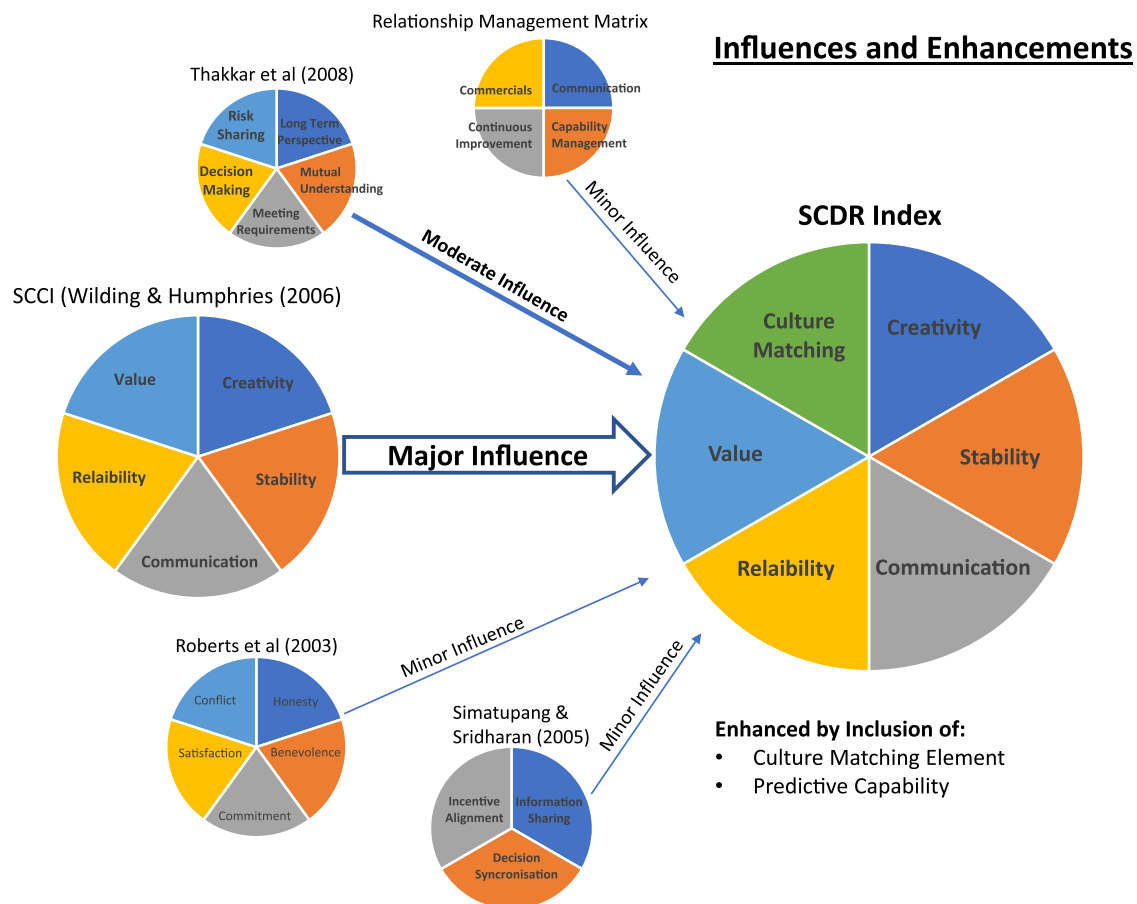


Fig. 5 Revised SCDR measurement model.

through the early identification of potential issues (Cadden et al., 2013). Third, the study offers managers a tool that adds culture matching to the list of SCDR elements, a notable exclusion in prior research. Managers are therefore provided with a more complete picture of their SCDRs and can take action to address any gaps due to cultural misfit or exit the arrangement if gap closure is not feasible.

Conclusions and limitations

This research improved the existing dyadic relationship measurement tools by the inclusion of the culture matching dimension and by providing a predictive capability. The model was then applied with early-stage SCDRs, and the results were confirmed later to demonstrate that its predictions were accurate. The field research was carried out in a two-stage operation. Firstly, an expert panel helped in validating the list of SCDR elements using a storytelling approach. Secondly, a forward-looking online questionnaire was developed that gathered participants' responses to predict the success or failure of their SCDR. This assessment tool was applied with four emerging SCDRs. Results were fed back to the participating SCDRs, and comments were gathered on the accuracy and usefulness of the process from participants. Finally, a follow-up interview was held after 6 months to confirm the predictions were accurate and the SCDRs were successful.

The study has some limitations. The research has a small sample size of dyads, partly by design, in that the involvement in multi-stage research was akin to a case study and partly due to the challenge of finding willing participants at the right point in their relationship. The number of respondents within the sample organisations was also small, which limits the ability for averaging to smooth out extreme views. The sample organisations did not represent all possible conditions of SCDR since only successful SCDRs were found. The dyads involved in the research were all Australian-based organisations. Future research can complete a further longitudinal study to see if the impact of the measurement process, which caused the parties to be biased in favour of their relationship, wanes over time but before the nominated term of the contract. Research is required into whether people involved in the initial measurement process acquire a higher commitment to the SCDR, compared to later stages. Finally, undertaking similar studies in future involving non-Australia SCDRs may reveal how the model works cross-culturally in different business environments. The study focused in identifying similar/equivalent element (s) for SCDR success with little attention paid to any external factors (e.g., COVID-19 pandemic and disruption of any kind) that might affect the success/failure. Future research can capture these elements in more detail.

Appendix

Details of participating SCDRs.

| Organisational alias | Role | Organisational overview |
|----------------------|----------|---|
| BrickCo | Buyer | In over 135 years of existence, BrickCo Australia has progressed from a small part-time business having one employee under a single proprietor, to a large clay brick manufacturer with a staff of 90, which produces and markets 50 million bricks per year using two gas-fired kilns. The business remains proudly privately owned by the BrickCo family and has built a reputation throughout the building and construction industry as a progressive, contemporary and trusted partner and supplier of high-quality products. From its inception, the BrickCo business has been committed to the principles of craftsmanship, service, quality and innovation with these principles still holding true today. This has helped it to forge a position in the very quality conscious markets for bricks in Asia including Japan. |
| SuppliesCo | Supplier | SuppliesCo is a leading supplier of tools, safety gear, work-wear and other industrial supplies to businesses of all sizes throughout Australia. SuppliesCo is the largest operating unit of the Industrial and Safety Group, a division of an Australian conglomerate which is an ASX listed company and one of the largest employers in Australia. As a full-service provider, SuppliesCo offers a wide range of product choices, supported by reliable advice and service, along with expert technical knowledge and solutions. SuppliesCo operates a hub and spoke distribution model with large warehouses in capital cities and many smaller regional warehouses spread across all states. It operates a print and online catalogue which is seen as the bible for identifying industrial supplies needs. For larger customers, it operates Vendor Managed Inventory systems including on-site vending machines where staff can access products 24/7 without a purchase order. These systems are automatically replenished from the nearest SuppliesCo warehouse. |
| ChemCo | Buyer | ChemCo has about 115,000 employees globally who contribute to the success of the company's customers in nearly all industrial sectors and almost every country in the world. ChemCo's broad portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. In 2017, ChemCo posted sales of €64.5 billion and income from operations before special items of approximately €8.3 billion. ChemCo balances economic success with environmental protection and social responsibility programmes. It believes that research and innovation will support customers in nearly every industry in meeting the current and future needs of society. The company has 493 employees and operates 13 production sites throughout the sub-region, manufacturing agricultural solutions, performance products and functional materials and solutions. ChemCo has been active in Australia for more than 90 years and for about 60 years in New Zealand. |
| TransportCo-A | Supplier | TransportCo-A specialises in transport of dangerous goods and management of hazardous substances which are heavily regulated in Australia through federal and state government requirements. TransportCo-A has the specialist knowledge, understanding and creates detailed and mandatory documentation. While many carriers are exiting the hazardous goods market, TransportCo-A is intensifying its commitment to serving this complex business segment. Over many years it has focused on research, investment, and developing the experience and processes to create a hazardous goods transport solution that proactively addresses changing compliance laws. TransportCo-A is a division of a multi-national third-party logistics business who provides TransportCo-A with an extensive network, resources and sophisticated technology. It supports global end-to-end supply chain services that cover international freight forwarding, customs brokerage, wharf cartage, nationwide transport and warehousing capabilities. |
| TransportCo-B | Supplier | The business was founded in 1990 and has a sole proprietor. TransportCo-B is seen as a trusted national, full service, transport and logistics partner. It focuses on courier services but offers a lot more than this. TransportCo-B specialises in transporting anything from an envelope, to 22 tonnes of steel in four hours or less within metropolitan cities. TransportCo-B's online tracking technology, iLogix, is industry-leading and unique. It allows clients to easily track and control deliveries online in real-time—from booking right up to delivery. The system provides more control and efficiency, minimising clients |

(continued)

(Continued)

| Organisational alias | Role | Organisational overview |
|----------------------|----------|--|
| | | transport expenditure. It enables clients to track a vehicle on a map in real time, reference historical events and deliver exceptional reporting. Since TransportCo-B was established in 1990, the business has continued to grow and expand successfully. It now has offices in Melbourne, Sydney, Brisbane, Perth and Adelaide, with over 1500 vehicles across Australia. |
| GovDiv | Buyer | As of 30 June 2017, GovDiv had over 23,000 staff across 332 locations in Victoria. It had a running cost of approximately A\$2.78bn per year. The net assets base as at 30 June 2017 was \$1432.79 million, comprising total assets of \$2135.74 million and total liabilities of \$702.95 million. Property, plant and equipment represent 74% (\$1573.63 million) of total assets. The organisation is structured with a Head Office and four Regions. |
| SpecServiceCo | Supplier | In Australia and New Zealand, SpecServiceCo specialises in delivery of Custodial Management Services for adult and youth justice, Police Support Services, Prisoner Transport, Court Management, Electronic Monitoring of offenders and Health Care Services, Security services and Electronic Security Systems. It employs more than 2000 people throughout Australia. Globally, SpecServiceCo is the leading integrated security company, specialising in the provision of security products, services and solutions. With approximately 620,000 employees in 120 countries, the organisation has been in existence for more than 100 years. |

References

- Adams, J., Khan, H.T.A., Raeside, R., & White, D. (2007). *Research methods for graduate business and social science students*. Sage, Los Angeles.
- Ambrose, E., Marshall, D., & Lynch, D. (2010). Buyer supplier perspectives on supply chain relationships. *International Journal of Operations & Production Management* 30 (12), 1269-1290.
- Aminoff, A., & Tanskanen, K. (2013). Exploration of congruence in perceptions of buyer-supplier attraction: A dyadic multiple case study. *Journal of Purchasing and Supply Management* 19 (3), 165-184.
- Amsteus, M. (2011). Managers' foresight matters. *Foresight* 13 (2), 64-78.
- Anderson, J., C., Håkansson, H., & Johanson, J (1994). Dyadic business relationships within a business network context. *The Journal of Marketing* 58 (4), 1-15.
- Ashnai, B., Henneberg, S.C., Naudé, P., & Francescucci, A. (2016). Inter-personal and inter-organizational trust in business relationships: An attitude-behavior-outcome model. *Industrial Marketing Management* 52, 128-139.
- Aslani, S., Ramirez-Marin, J., Brett, J., Yao, J., Semnani-Azad, Z., & Zhang, Z.-X. et al., (2016). Dignity, face, and honor cultures: A study of negotiation strategy and outcomes in three cultures. *Journal of Organizational Behavior* 37 (8), 1178-1201.
- Autry, C.W., & Golcic, S.L. (2010). Evaluating buyer-supplier relationship-performance spirals: A longitudinal study. *Journal of Operations Management* 28 (2), 87-100.
- Banchuen, P., Sadler, I., & Shee, H. (2017). Supply chain collaboration aligns order-winning strategy with business outcomes. *IIMB Management Review* 29 (2), 109-121.
- Baz, J.E., Jebli, F., Cherrafi, A., Akenroye, T., & Iddik, S. (2022). The cultural dimensions in supply chain management research: A state-of-the-art review and research agenda. *European Business Review* 34 (2), 171-190.
- van den Berg, P.T., & Wilderom, C.P.M. (2004). Defining, measuring, and comparing organisational cultures. *Applied Psychology* 53 (4), 570-582.
- Beugelsdijk, S., Koen, C., & Noorderhaven, N. (2009). A dyadic approach to the impact of differences in organizational culture on relationship performance. *Industrial Marketing Management* 38 (3), 312-323.
- Boniface, B. (2012). Producer relationships segmentation in Malaysia's milk supply chains. *British Food Journal* 114 (10), 1501-1516.
- Cadden, T., Cao, G., Yang, Y., McKittrick, A., Mclvor, R., & Onofrei, G. (2021). The effect of buyers' socialization efforts on the culture of their key strategic supplier and its impact on supplier operational performance. *Production Planning & Control* 32 (13), 1102-1118.
- Cadden, T., Humphreys, P., & McHugh, M. (2010). The influence of organisational culture on strategic supply chain relationship success. *Journal of General Management* 36 (2), 37-64.
- Cadden, T., Marshall, D., & Cao, G. (2013). Opposites attract: Organisational culture and supply chain performance. *Supply Chain Management* 18 (1), 86-103.
- Cao, Z., Huo, B., Li, Y., & Zhao, X. (2015). The impact of organizational culture on supply chain integration: A contingency and configuration approach. *Supply Chain Management* 20 (1), 24-41.
- Chen, T., Levy, H., Martin, X., & Shalev, R. (2021). Buying products from whom you know: Personal connections and information asymmetry in supply chain relationships. *Review of Accounting Studies* 26 (4), 1492-1531.
- Chen, Y., Su, H., & Ro, Y. (2016). Can I read your mind? Perception gaps in supply chain relationships. *Journal of Purchasing and Supply Management* 22 (4), 311-324.
- Chicksand, D., & Rehme, J. (2018). Total value in business relationships: Exploring the link between power and value appropriation. *Journal of Business & Industrial Marketing* 33 (2), 174-182.
- Choy, L.T. (2014). The strengths and weaknesses of research methodology: Comparison and complimentary between qualitative and quantitative approaches. *IOSR Journal of Humanities and Social Science* 19 (4), 99-104.
- Dowell, D., Morrison, M., & Heffernan, T. (2015). The changing importance of affective trust and cognitive trust across the relationship lifecycle: A study of business-to-business relationships. *Industrial Marketing Management* 44, 119-130.
- Dyer, J.H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, pp. 660-679.
- Dyer, J.H., Singh, H., & Hesterly, W.S. (2018). The relational view revisited: A dynamic perspective on value creation and value capture. *Strategic Management Journal* 39 (12), 3140-3162.

- Etikan, I., Musa, S.A., & Alkassim, R.S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics* 5 (1), 1-4.
- Freytag, P.V., Clarke, A.H., & Ewald, M.R. (2012). Reconsidering outsourcing solutions. *European Management Journal* 30 (2), 99-110.
- Gelfand, M., Gordon, S., Li, C., Choi, V., & Prokopowicz, P. (2018). One Reason Mergers Fail: The two cultures aren't compatible. *Harvard Business Review* 2, 30-35. <http://wallaby.vu.edu.au:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=132140991&site=eds-live>.
- Gentles, S.J., Charles, C., Ploeg, J., & McKibbin, K. (2015). Sampling in qualitative research: Insights from an overview of the methods literature. *The Qualitative Report* 20 (11), 1772-1789.
- Gibbs, R., & Humphries, A. (2009). Strategic alliances & marketing partnerships. Kogan Page Limited, London.
- Gillespie, N., & Dietz, G. (2009). Trust repair after an organization-level failure, 34. *Academy of Management Review*, pp. 127-145.
- Gopal, P.R., & Thakkar, J. (2012). A review on supply chain performance measures and metrics: 2000-2011. *International Journal of Productivity and Performance Management* 61 (5), 518-547.
- Griffith, D.A., Harvey, M.G., & Lusch, R.F. (2006). Social exchange in supply chain relationships: The resulting benefits of procedural and distributive justice. *Journal of Operations Management* 24 (2), 85-98.
- Gupta, M., & Gupta, S. (2019). Influence of national cultures on operations management and supply chain management practices—A research agenda, 28. *Production and Operations Management*, pp. 2681-2698.
- Ha, B.-C., Park, Y.-K., & Cho, S. (2011). Suppliers' affective trust and trust in competency in buyers: Its effect on collaboration and logistics efficiency. *International Journal of Operations & Production Management* 31 (1), 56-77.
- Hawkins, T.G., Wittmann, C.M., & Beyerlein, M.M. (2008). Antecedents and consequences of opportunism in buyer-supplier relations: Research synthesis and new frontiers. *Industrial Marketing Management* 37 (8), 895-909.
- Hofstede, G., Hofstede, G.J., & Minkov, M. (2010). *Cultures and organisations*. McGraw Hill, New York.
- Hollmann, T., Jarvis, C.B., & Bitner, M.J. (2015). Reaching the breaking point: A dynamic process theory of business-to-business customer defection. *Journal of the Academy of Marketing Science* 43 (2), 257-278.
- Holmlund, M., & Törnroos, J. (1997). What are relationships in business networks? *Management Decision* 35 (4), 304-309.
- Homans, G.C. (1974). *Social behavior: Its elementary forms* (Revised ed.). Harcourt Brace Jovanovich, Florida.
- Hsin-Mei, L. (2006). Interorganizational collaboration, social embeddedness, and value creation: A theoretical analysis. *International Journal of Management* 23 (3), 548.
- Humphries, A.S., Towriss, J., & Wilding, R. (2007). A taxonomy of highly interdependent, supply chain relationships. *The International Journal of Logistics Management* 18 (3), 385-401.
- Jia, F., & Lamming, R. (2013). Cultural adaptation in Chinese-Western supply chain partnerships: Dyadic learning in an international context. *International Journal of Operations & Production Management* 33 (5), 528-561.
- Johnston, W.J., & Hausman, A. (2006). Expanding the marriage metaphor in understanding long-term business relationships. *Journal of Business & Industrial Marketing* 21 (7), 446-452.
- Kaufmann, L., Carter, C.R., & Buhmann, C. (2012). The impact of individual debiasing efforts on financial decision effectiveness in the supplier selection process. *International Journal of Physical Distribution & Logistics Management* 42 (5), 411-433.
- Kavanagh, P. (2016). A case for negotiated performance-based contracting rather than competitive tendering in government public transport (bus) service procurement. *Research in Transportation Economics* 59, 313-322.
- Kelly, S., Wagner, B., & Ramsay, J. (2018). Opportunism in buyer-supplier exchange: A critical examination of the concept and its implications for theory and practice. *Production Planning & Control* 29 (12), 992-1009.
- Kim, Y., & Choi, T.Y. (2021). Supplier relationship strategies and outcome dualities: An empirical study of embeddedness perspective. *International Journal of Production Economics* 232, 1-19. <https://doi.org/10.1016/j.ijpe.2020.107930>.
- Knoppen, D., & Christiaanse, E. (2007). Interorganizational adaptation in supply chains: A behavioral perspective. *The International Journal of Logistics Management* 18 (2), 217-237.
- Koleva, G., Thrane, S., & Mouritsen, J. (2002). Alliances, joint ventures, networks: A comparison. *Frederiksberg: Copenhagen Business School. Acedido Janeiro* 1, 2012.
- Laeeguiddin, M., Sahay, B.S., Sahay, V., & Waheed, K.A. (2010). Measuring trust in supply chain partners' relationships. *Measuring Business Excellence* 14 (3), 53-69.
- Lambe, C.J., Wittmann, C.M., & Spekman, R.E. (2001). Social exchange theory and research on business-to-business relational exchange. *Journal of Business-to-Business Marketing* 8 (3), 1-36.
- Large, R.O., Kramer, N., & Hartmann, R.K. (2011). Customer-specific adaptation by providers and their perception of 3PL-relationship success. *International Journal of Physical Distribution & Logistics Management* 41 (9), 822-838.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology* 140, 1-55.
- Lozano, L.M., García-Cueto, E., & Muñiz, J. (2008). Effect of the number of response categories on the reliability and validity of rating scales. *Methodology* 4 (2), 73-79.
- Meena, P.L., & Sarmah, S.P. (2012). Development of a supplier satisfaction index model. *Industrial Management & Data Systems* 112 (8), 1236-1254.
- Mena, C., Humphries, A., & Wilding, R. (2009). A comparison of inter- and intra-organizational relationships: Two case studies from UK food and drink industry. *International Journal of Physical Distribution and Logistics Management* 39 (9), 762-784.
- Mir, S., Blessley, M., Zacharia, Z., & Aloysius, J. (2021). Mending fences in a buyer-supplier relationship: The role of justice in relationship restoration. *Journal of Supply Chain Management* 1-24. <https://doi.org/10.1111/jscm.12272>.
- Mitrega, M., Forkmann, S., Zaefarian, G., & Henneberg, S.C. (2017). Networking capability in supplier relationships and its impact on product innovation and firm performance. *International Journal of Operations & Production Management* 37 (5), 577-606.
- Nayak, J.K., Sinha, G., & Guin, K.K. (2011). Impact of supplier management on a firm's performance. *Decision* 38 (1), 77-90.
- Neely, A., Gregory, M., & Platts, K. (2006). Performance measurement system design. *International Journal of Operations & Production Management* 25 (12), 1228-1263.
- Nyaga, G.N., Lynch, D.F., Marshall, D., & Ambrose, E. (2013). Power asymmetry, adaptation and collaboration in dyadic relationships involving a powerful partner. *Journal of Supply Chain Management* 49 (3), 42-65.
- Ojansivu, I., Hermes, J., & Laari-Salmela, S. (2020). Business relationships in the industrial network literature: Three approaches and their underlying assumptions. *Industrial Marketing Management* 87, 181-195.
- Okoli, C., & Pawlowski, S.D. (2004). The delphi method as a research tool: An example, design considerations and applications. *Information & Management* 42 (1), 15-29.
- Oodot, J.-M. (2010). Performance and risks in the defense procurement sector. *Journal of Public Policy* 30 (2), 201-218.
- Panahifar, F., Byrne, P.J., Salam, M.A., & Heavey, C. (2018). Supply chain collaboration and firm's performance: The critical role of information sharing and trust. *Journal of Enterprise Information*

- Management* 31 (3), 358-379. <https://doi.org/10.1108/JEIM-08-2017-0114>.
- Pinnington, B.D., & Scanlon, T.J. (2009). Antecedents of collective-value within business-to-business relationships. *European Journal of Marketing* 43 (1), 31-45.
- Polonsky, M., Gupta, S., Beldona, S., & Hyman, M.R. (2010). Inactivity and the dynamics of relationship development: A proposed model. *Journal of Strategic Marketing* 18 (3), 257-273.
- Porter, M. (2019). Supply chain integration: Does organizational culture matter? *Operations and Supply Chain Management An International Journal* 12 (1), 49-59.
- Roberts, K., Varki, S., & Brodie, R. (2003). Measuring the quality of relationships in consumer services, an empirical study. *European Journal of Marketing* 37 (1/2), 169-196.
- Schoorman, F.D., Mayer, R.C., & Davis, J.H. (2007). An integrative model of organizational trust: Past, present, and future. *Academy of Management Review* 32 (2), 344-354.
- Schrank, A., & Whitford, J. (2011). The anatomy of network failure. *Sociological Theory* 29 (3), 151-177.
- Sillanpää, I., Shahzad, K., & Sillanpää, E. (2015). Supplier development and buyer-supplier relationship strategies-a literature review. *International Journal of Procurement Management* 8 (1-2), 227-250.
- Simatupang, T.M., & Sridharan, R. (2005). The collaboration index: A measure for supply chain collaboration. *International Journal of Physical Distribution & Logistics Management* 35 (1), 44-62.
- Sinkovics, R.R., Penz, E., & Ghauri, P.N. (2008). Enhancing the trustworthiness of qualitative research in international business. *Management International Review* 48 (6), 689-714.
- Sparrowe, R.T., & Mayer, K.J. (2013). From the editors: Integrating theories in AMJ articles. *Academy of Management Journal* 56 (4), 917-922.
- Taras, V., Steel, P., & Kirkman, B.L. (2012). Improving national cultural indices using a longitudinal meta-analysis of Hofstede's dimensions. *Journal of World Business* 47 (3), 329-341.
- Thakkar, J., Kanda, A., & Deshmukh, S.G. (2008). Evaluation of buyer-supplier relationships using an integrated mathematical approach of interpretive structural modeling (ISM) and graph theoretic matrix. *Journal of Manufacturing Technology Management* 19 (1), 92-124.
- Tu, M. (2018). An exploratory study of internet of things (IoT) adoption intention in logistics and supply chain management: A mixed research approach. *The International Journal of Logistics Management* 29 (1), 131-151.
- Venkatesh, V., Brown, S.A., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS quarterly* 37 (1), 21-54.
- Venkatesh, V., Brown, S.A., & Sullivan, Y.W. (2016). Guidelines for conducting mixed-methods research: An extension and illustration. *Journal of the Association for Information Systems* 17 (7), 435-494.
- Whyte, G., & Classen, S. (2012). Using storytelling to elicit tacit knowledge from SME's. *Journal of Knowledge Management* 16 (6), 950-962.
- Wijetunge, P. (2012). Organizational storytelling as a method of tacit knowledge transfer: Case study from a Sri Lankan University. *The International Information & Library Review* 44, 212-223.
- Wilding, R., & Humphries, A.S. (2006). Understanding collaborative supply chain relationships through the application of the Williamson organisational failure framework. *International Journal of Physical Distribution & Logistics Management* 36 (4), 309-329.
- Williamson, O.E. (1987). Transaction cost economics: The comparative contracting perspective. *Journal of Economic Behavior & Organization* 8 (4), 617-625.
- Williamson, O.E. (1996). Economic organization: The case for candour. *Academy of Management Review* 21 (1), 48-57.
- Williamson, O.E. (2008). Outsourcing: Transaction cost economics and supply chain management. *Journal of Supply Chain Management* 44 (2), 5-16.
- Wu, L., Chuang, C.-H., & Hsu, C.-H. (2014). Information sharing and collaborative behaviors in enabling supply chain performance: A social exchange perspective. *International Journal of Production Economics* 148, 122-132.
- Wyld, J., Pugh, G., & Tyrrell, D. (2012). Can powerful buyers 'exploit' SME suppliers? *Journal of Small Business and Enterprise Development* 19 (2), 322-334.