# INNOVATIVE APPROACHES TO FORMATION OF SUPPLY CHAIN RELATIONSHIPS

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*ABSTRACT*

*Supply chain organisations realise that closer, long-term relationships are fundamental to management success and these are increasing in importance in today's dynamic and complex business world. Supply chain researchers (Cooper et al., 1997; Golicic, Foggin and Mentzer, 2003) agree that in many instances, not all inter-firm relationships need to be either cooperative or collaborative and that there is no unique relationship suitable for all circumstances The existence of numerous relationships within supply chains challenges actors such as freight businesses to think about the need to understand the formation and management of a portfolio of relationships. The key objective of this study is to explore the impact of trust, power and sharing to the formation of inter-organisational relationships in the Australian road freight transport industry. This study is part of a wider research project and represents the responses from a sample of 120 organisations involved in road freight. Initial findings indicate the importance of trust and power to relationships and the centrality of sharing to operationalise any long-term relationship. This clearly demonstrates to managers the importance of understanding the need to establish trust and balance power in forming a relationship between organisations.*

*Key words: Supply chain relationships, trust, power, sharing, road freight transport*

## 1. INTRODUCTION

Managing the supply chain involves the management of innumerable inter-firm relationships ranging from spot transactions and arms-length contracts to alliances and collaboration (Dyer, Cho and Chu, 1998; Bensaou, 1999; Lambert and Cooper, 2000), which have become increasingly important in developing a competitive position. The decision about what type of inter-firm relationship is appropriate for a specific circumstance appears complex and demands a particular degree of managerial attention (Kalwani and Narayandas, 1995; Cooper et al., 1997; Hyland, Ferrer and Bretherton, 2005). Organisations enter into different types of arrangement to survive because they are forced into them by external organisations or economic pressures or because they recognise that it will enhance their competitiveness. Furthermore, organisations can participate in close relationships with the view that future successes can be improved through long-term oriented and cooperative agreements (Vokurka, 2000; Power, 2005). Supply chain researchers advocate that there is no one relationship that is appropriate or necessary in all situations (Dyer, Cho and Chu, 1998; Lumsden, 1999; Golicic, Foggin and Mentzer, 2003). This also indicates that organisations need to participate in different types of relationships not only to react to external forces but also to proactively become more strategic. Consequently, while marketing channel theories and supply chain theories can provide some explanation for a wide range of inter-organisational relationships, they do not provide a complete picture on the nature of each type of relationship, how they vary throughout the portfolio and how both the relationships and attributes relate to the desired outcomes.

There is little empirical research on the use of a portfolio approach to understand how the relationships attributes (i.e., trust, power, sharing and longevity) vary within a portfolio. This paper aims to address this gap by explaining the existence, variation and inter-relatedness between the attributes and the formation of different types of relationships. The management of portfolios of relationships is often a process which needs to be established and managed; but this is not yet well understood (Hyland, Ferrer and Bretherton, 2005) as the drivers and inhibitors for such arrangements are situational and vary from link to link (Lambert and Cooper, 2000). Organisations such as small sized Australian road freight transport businesses, often lack the capability to think strategically (Castrogiovanni, 1996) and the necessary relationships portfolio management capabilities; whereas large freight corporations are increasingly improving internal and external business relationship capabilities (Gattorna, Ogulin and Selen, 2004). Additionally, larger businesses have the resources needed and allocate them and time by selectively managing the full range of relationships across the supply chain.

Shifting from arms-length contractual based relationships to alliances challenges firms in today's dynamic business environment; the switch in mind-set, culture, and understanding of attributes that characterise the different types of arrangements in a company's portfolio can be overwhelming for many managers. However, without these shifts and a better understanding of attributes, the cooperative, collaborative and alliance arrangements are nothing more than traditional, often adversarial, relationships under a new name. Thus, organisations pursuing the effective development and management of portfolios of relationships need to have a clear understanding of the attributes and how they interact if they achieve the desired outcomes of these relationships.

The key objective of this study is to explore the influence of trust, power, longevity and sharing on the formation of inter-organisational relationships in the Australian road freight transport industry. The research questions in particular are 'Is there any relationship between trust, power, sharing and the formation of inter-organisational relationships?'; 'How critical is trust to establish relationships?'; 'What is the impact of sharing on forming relationships?' and 'What is the result of power imbalance in the formation of inter-firm relationships?'

## 2. PORTFOLIO OF RELATIONSHIPS

Inter-firms relationships have traditionally been studied through the use of a governance lens. The relationships marketing literature was the first to propose a range of relationships from transactional, short duration and sharp ending by performance, to relational exchange, longer duration and reflection on ongoing process (Dwyer, Schurr, and Oh, 1987; Noordewier, John and Nevin, 1990). Likewise, the Economic School (e.g., Williamson, 1985); Behavioural School (e.g., Cyert and March, 1963) and the Strategic School (e.g., Araujo, Dubois and Gadde, 1999) agree that inter-firm relationships tend to follow a continuum ranging from adversarial to collaborative. In an attempt at completing the spectrum, some other authors have placed in an intermediate location cooperative orientated relationships (Heide, 1994; Rinehart et al., 2003; Golicic, Foggin and Mentzer, 2003). With more adversarial oriented relationships, the likelihood for future exchange between two parties occuring is low. Conversely, a higher probability of future interactions exists if the relationships are more collaborative oriented (Ganesan, 1994; Kaufman, Wood and Theyel, 2000).

Although the market response to growing competition has for some years been an increasing trend towards integration, it has been asserted that not all supply chain relationships that companies enter need to be either collaborative or cooperative (Cannon and Perreault, 1999;

Duclos, Vokurka and Lummus, 2003). Similarly other authors suggest that supply chain relationships do not need to be a 'one size fits all' as the market and product circumstances are dynamically changing (Dyer, Cho and Chu, 1998; Bensaou, 1999; Lambert and Cooper 2000). Each relationship is charactered by attributes which develop throughout the continuum. Thus, as relationship management is a situational approach firms need to consider and clearly understand how they vary as one of the determinants for a portfolio of inter-organisational relationships selection and management (Olsen and Ellram,1997; Hyland et al. 2006 forthcoming). Inter-organisational relationship terms such as collaborative arrangements, partnerships, and strategic alliances are too often used interchangeably by both academics and practitioners (Collins and Doorley, 1991) and often establishing a practical definition is problematic (Bresnen and Marshall, 2000). This supports the need for an understanding of differences and similarities between the types of inter-organisational relationships and their attributes.

### 2.1 *ARMS-LENGTH*

Arm's-length relationships (ALR) can be described as inter-organisational linkages characterised by dealings that are at "arm's-length" which involve spot transactions, often based on auctions or action like arrangements. In arm's-length relationships, detailed written contracts prevent the parties from operating and making decisions independently, however in many cases particularly in the road transport industry in Australia contracts are verbal. (Sako, 1992; Dore, 1992). These contracts, written before the initiation of the relationships, describe each partner's obligations in almost every possible scenario.

ALR evidences basic attributes that are present themselves in practice as identified by Sako (1992); Holland (1992); Rutherford (2001) and Cousin (2002). Arm's length agreements are characterised by short term horizons, limited information flows, preventing knowledge transfer, due to a tendency to refuse to give important information to be used in future negotiations. Studies have also found that arms-length relationships between supply chain partners lead to low responses to demand changes because parties see each other as rivals. This element of power imbalance prevents them from sharing information (Narasimhan and Jayaram, 1998). Balance of power is generally outside the short-term control of arms-length relationships and gaining greater power relative to firm's partners can be a long-term strategy. The third characteristic of ALR, according to Sako (1992), is that they are having little sharing of risks as there is a low level of asset specificity. Each party is expected to manage its own risk and risk responsibility is spelled out in detailed contracts. Finally, in ALR contractual types of trust are common. Sako (1992) describes contractual trust as each party keeping promises that were agreed through either written or verbal agreements.

### 2.2 *COOPERATION*

Cooperation involves the coordination of similar or complementary activities carried out by organisations in business relationships aiming to attain enhanced joint results or individual results with expected reciprocity as time progresses (Anderson, Hakansson and Johansen; 1994). The rationale behind cooperative efforts is focused on arrangements to share resources, either tangible or intangible, as well as the pursuit of other business goals through the redesign of processes and products (Cousin, 2000). External and horizontal relationships between partners characterise cooperative agreements (Polenske, 2004).

Cooperative efforts differ from arms-length relationships in that they rely on higher levels of trust (Mentzer et al., 2001), moderated levels of power (Dwyer, Schurr, and Oh, 1987) and are more long-term oriented. Cooperation seems to be one of the outcomes stated to be directly influenced by relationship trust between the parties and it is an important motivator for partners to share greater-risk, and coordinated behaviours (Morgan and Hunt, 1994). Trust among partners has been reported as a vital ingredient for success in inter-organisational cooperation. The studies suggest that being a trusted cooperator enables an organisation to be a better global competitor (Holmes and Smith, 1997; More and McGrath, 1999). Another characteristic that differentiate cooperation from arms-length relationships is power. Cooperation and power have been contrasted, suggesting that cooperation is negated by power usage. This means that firms participating in power-oriented relationships have more disincentives to cooperate (Dapiran and Hogarth-Scott, 2003). Furthermore, power is suggested to be the flip side of trust and constrains cooperation (Kumar, 1996; More and McGrath 1999), particularly in relationships between partners with different strengths and interdependency levels. For instance, despite the current push toward cooperation and integration, businesses relationships in the Australian freight industry tend to be extremely competitive, and the larger organisations maintain a relatively lop-sided power advantage over small owner drivers. Moreover, it is argued that when partners are performing as expected, that is, their repeated dealings meet the objectives set as well as the agreed norms; they will be gradually motivated to make interdependent and more permanent commitments (Ring and Ven De Ven 1992). Finally, partners in cooperative arrangements seek to lower transaction costs by sharing access to goods, manpower, services and information (Polenske, 2004), who also suggests that research conducted in the manufacturing industry indicates operational information may be shared among many cooperative firms, because cooperation agreements are non-exclusionary.

## 2.3 *COLLABORATION*

Collaboration appears to be closer to the alliance end of a continuum proposed by authors such as Heide (1994); Spekman, Kamauff and Myhr (1998); Rinehart et al. (2002) and Golicic, Foggin and Mentzer (2003). This type of relationship is viewed as a more durable relationship in which parties bring organisations into a new structure with full commitment to working more closely, with a shared mission, vision and trust (Lee and Billington, 1992). Such relationships require comprehensive planning, seamless linkages (Krause and Ellram 1997), unified seeking of synergies and goals (Stendhal et al., 2004) and well-structured communication channels operating at all levels. Information exchange plays an important role for improving supply chain collaboration (Lambert and Cooper, 2000). Collaborative structures require joint processes supported by a high degree of trust and commitment.

Trust is indispensable in collaborative processes and can result in lower transaction costs, easier conflict resolution, and a reduced need for formal contracting (Das and Teng, 1998; Akkermans, Bogerd and Doremalen, 2004). The literature suggests that trust is most likely to be needed in collaborative arrangements. It is less needed in cooperative relationships; and it has little or no presence in arms-length relationships (Polenske, 2004). Trust motivates participants in collaborative relationships to undertake activities that were not agreed previously. Sako (1992) defines this as goodwill trust. In turn, collaborative linkages involve some risks, such as loss of information to a partner and becoming dependant on a partner (Singh and Mitchell, 1996). Risk sharing is greater in inter-organisational collaborative relationships because each participant commits its resources and power can be unequal. Gain and risk sharing capabilities come from a willingness to set rewards and penalties across the firms involved. While resources sharing cooperative firms have equal access to these resources, it might appear that in collaborative agreements the firms tend to gain unique and often unequal access to some of these resources (Polenske, 2004). This can explain the motivation of firms to collaborate to not only improve performance by reducing costs but also by controlling the market.

## *2.4 ALLIANCES*

Alliances can be described as a structured mode of inter-organisational arrangement that involve exchange relationships between parties without necessarily having to create a new entity (Dickson and Weaver, 1997). Alliances are intended to be long-term, develop new resources or skills, and seek to enhance the competitive position of each partner. It has been asserted that the success or failure of a supply chain alliance is driven by commitment and trust between the parties (Whipple and Frankel, 2000). Trust must exist in an alliance since there is dependency between the parties to mutually achieve goals which are a pre-requisite for their initial creation, as a partner may be a competitor or be involved in other alliances with an organisation's competitors (Karahannas and Jones, 1999). Likewise, trust should exist for allies to not only share critical strategic information but also for each ally to consider that its long-term need will be better fulfilled (Moore, 1998).

Some other attributes that motivates alliance formation are the maximisation of companies' ability to offer more attractive services, share efficiency increase, risk or costs rationalisation (Powell, 1990; Koh and Venkatraman, 1991) and power balance (Steensma and Lyles, 2000). For instance, in developed economies such as Australia, distribution alliances between supermarket, food chains and gasoline retailers are becoming increasingly common. Fast food chains now partners with petrol retailers to either operate restaurants in established petrol stations or to jointly construct and operate new outlets. These types of alliances enable the fast food chain to have access to new sites rapidly, and enable the petrol stations to offer one-stop shopping experience, fast access markets, to take profit of scale economies in joint research and production, to source knowledge outside the firm boundaries, to share risks, and to contract for complementary skills (Powell, 1990; Bleeke and Ernst, 1995; and Hutt et al., 2000). Sharing resources in strategic alliances reduces the level of dependence on the environment and forming them usually increases a firm's dependence on its partners. However, any element of power imbalance has been found to be inversely related to perceived effectiveness in many alliances (Bucklin and Sengupta, 1993; Steensma and Lyles, 2000) and the shifts in the balance of partner bargaining power are responsible for instability and unplanned termination of alliances (Inkpen and Beanish, 1997). Joint problem solving is negatively impacted by unbalanced power in strategic alliances (Provan and Gassenheimer, 1994).

This study aims to test a model linking trust, power and sharing with relationships formation. Particularly, high levels of trust and longevity are expected to lead to formation of closer and long-term orientated inter-firm relationships such as collaboration and alliances; high levels of power imbalance lead to adversarial relationships such as arms-length and high level of resource, information and risk sharing are expected to result in the formation of relationships of collaborative and alliance arrangements. The expected relations are incorporated into propositions as follows:

1. P1 Trust and longevity influence the type of relationship formed.
2. P2 Power imbalance has a negative influence on the formation of different relationships

3. P3 The level of sharing influences the formation of relationships

## 3. METHODOLOGY

The research examined inter-firm relationships practice in the road freight transport industry in Australia to identify how trucking firms are managing their inter-company relationships and the attributes that characterise them. Australian road freight transport industry is a complex industry with owner drivers/small freight operators accounting for nearly two thirds of the total number of operating businesses, who are facing a critical financial situation due to intense competition and increasing concentration and an integration trend (BTRE 2003).

There were a number of stages to the research reported in this paper. The first research stage involved convergent interviews with nine freight organisations on which a questionnaire was based. The next stage of this ongoing research involves a mail survey targeting different freight business sizes involved in different types of relationships with the members of their supply chain (i.e., warehouse service providers; distribution centres; and other road freight operators). A survey questionnaire was mailed to 1000 road transport companies in Australia involved in different types of inter-firm relationships for which contact information could be found. The purpose of the questionnaire was primarily to gather data on issues relating to the attributes that characterise inter-firm relationships (i.e., trust, power, sharing) between Australian road freight businesses and their supply chain partners. Inter-company arrangements such as arms-length, cooperation, collaboration and alliances were the focus of this research. The survey was administered to the Australian road freight transport businesses. Therefore, the measures reflect the perceptions of the road freight transport businesses regarding the relationship in that industry.

The measures were developed by adapting elements of the theory and items used by previous researchers and by devising new measures. Whenever possible, multiple measures were used for each of the theoretical constructs. Firstly, trust was operationalised using multiple scale items (5 points Likert) designed to measure the extent to which the road freight businesses trusted the members of their supply chain not to behave opportunistically (Sako, 1992; Gulati 1995; Zaheer and Venkatraman, 1995; Green, 2003). The operationalisation of trust encompassed statements such as whether the road freight business has confidence in the member of the supply chain to the extent that non written agreements are needed, and whether the road freight business perceives that a supply chain partner will take unfair advantage of the road freight business. This scale had a Cronbach alpha of 0.85. Secondly, although the concept of longevity is stimulated by previous theory and research, the scale (5 points- Likert) to measure the concept was developed specifically for this research. Longevity has been conceptualised as to the length of a business relationship, that is, the time span between formation and dissolution. Consequently, the concept of longevity was operationalised taking into account the informal duration of relationships (Jagdev and Thoben, 2001). Informal duration was investigated as to the extent to which the partners are keen to continue working together in the future. This scale had a Cronbach alpha of 0.80.

Thirdly, the power variable was operationalised using multiple scale items to tap the power bases which have been broken into categories such as mediated and non-mediated (Jonhson et al., 1993). Included among these categories are information, expert, referent, legitimate, reward and coercive power. The operationalisation of power involved statements such as whether an organisation would comply with a request as a result of a belief that supply chain partners possessed the ability to penalise them and whether a trucking organisation believes that its supply chain partners have a lot of experience and therefore know best. This scale had a Cronbach alpha value of 0.88.

Finally, the convergent interviews with participants in the road freight transport industry prompted this study to identify four types of sharing in the industry: sharing information (four levels were differentiated operational, tactical and strategic), sharing resources, sharing risk, and sharing cost. The operationalisation of sharing encompassed statements such as: whether information such as sales, cargo arrival and billing were shared, whether depot and fleet and information systems capacity where shared, and whether a trucking organisation do not work with a partner if that may result in a customer or other partner loss. This scale had a Cronbach alpha value of 0.95.

## 4. FINDINGS

The results of the multiple regression analysis (forward selection) are as follows:

| Dependent Variable | Predictors | R | R Square | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| Armslength | Longevity | 0.319 | 0.102 | 0.1019 | 13.3855 | 1 | 118 | 0.0004 |
| CooperativeR | Longevity | 0.223 | 0.050 | 0.0496 | 6.1626 | 1 | 118 | 0.0145 |
| | Power | 0.302 | 0.091 | 0.0415 | 5.3443 | 1 | 117 | 0.0225 |
| CollaborativeR | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Alliances | Sharing | 0.180 | 0.032 | 0.0324 | 3.9493 | 1 | 118 | 0.0492 |

**Table 1 Predictors of inter-firm relationships**

Table 1 represents entry of the set of predictors of formation of arms-length relationships, cooperative relationships, collaborative relationships and alliances. The results show that 'Longevity' accounted for 10.2 % of the variance (R square) in the formation of arms-length relationships). Likewise, Table 1 shows that 'Longevity' accounted for 5.0%of the variance (R square) in the formation of cooperative relationships and sharing accounted for 3.02 % of the variance in the formation of alliances. Entry of the independent variable 'Power' which participate resulted in a significant F change, $F(1,117)= 5.34$, $p<0.05$ for cooperative relationships, and increased variance explained by 4.2 % (R square Change) to 9.2 %.

| Dependent Variable | Predictors | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|---|
| ArmsLength | Longevity | Regression | 9.998 | 1 | 9.998 | 13.386 | 0.000 |
| | | Residual | 88.135 | 118 | 0.747 | | |
| | | Total | 98.133 | 119 | | | |
| CooperativeR | Longevity | Regression | 5.831 | 1 | 5.831 | 6.163 | 0.014 |
| | | Residual | 111.649 | 118 | 0.946 | | |
| | | Total | 117.480 | 119 | | | |
| | Power | Regression | 10.708 | 2 | 5.354 | 5.867 | 0.004 |
| | | Residual | 106.772 | 117 | 0.913 | | |
| | | Total | 117.480 | 119 | | | |
| CollaborativeR | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Alliance | Sharing | Regression | 6.965 | 1 | 6.965 | 3.949 | 0.049 |
| | | Residual | 208.096 | 118 | 1.764 | | |
| | | Total | 215.061 | 119 | | | |

**Table 2 ANOVA for Inter-firm relationships**

In the Table 2, the results show that 'Longevity', and 'Sharing' in the case of arms-length relationships, cooperative relationships and alliances respectively, generated a significant prediction equation, $F(1,118) = 13.38$, $p<0.05$; $F(1,118) = 6.16$, $p<0.05$; and $F(1,118) = 3.94$, $p<0.05$ . Addition of the independent variable 'Power' resulted in an overall significant prediction equation for cooperative relationships, $F(2,117) = 5.86$, $p<0.05$

Looking at the Coefficients table (Table 3), it can be seen that 'Longevity' is the only significant predictor of arms-length relationships formation ($p<0.05$).A value of B= 0.319, $F(1,118) =13.38$ for the predictor 'Longevity' means that there is a direct relationship between longevity and arms-length relationships such that the longer the parties deal with each other and meet the expected performance the greater the chances form arms-length relationships. Likewise, 'Longevity' and 'Power' are the only significant predictors of cooperative relationships formation ($p<0.05$). ).A value of B= 0.392, $F(2,117) = 8.39$ for the predictor longevity and a value of for the predictor 'Power' suggests that there is a direct relationship between longevity and the formation of cooperative relationships such as the more the parties work with each other and meet the business expectations the greater the chances of participating in cooperative relationships. In turn, a value of B= -0.041, $F(2,117) = 5.344$ indicates that there is an indirect relationship between power and the formation of cooperative relationships such as the greater the power imbalances the lesser the chances of cooperating.

| Dependent variable | Predictors | Unstandardized Coefficients | | Standardized Coefficients | F | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| ArmsLength | (Constant) | 1.339 | 0.239 | | 31.357 | 1.4E-07 |
| | Longevity | 0.441 | 0.121 | 0.319 | 13.386 | 0.000 |
| CooperativeR | (Constant) | 1.168 | 0.269 | | 18.819 | 3.0E-05 |
| | Longevity | 0.337 | 0.136 | 0.223 | 6.163 | 0.0145 |
| | (Constant) | 1.531 | 0.308 | | 24.783 | 2.2E-06 |
| | Longevity | 0.392 | 0.135 | 0.259 | 8.390 | 0.005 |
| | Power | -0.041 | 0.018 | -0.207 | 5.344 | 0.023 |
| CollaborativeR | N/A | N/A | N/A | N/A | N/A | N/A |
| Alliance | (Constant) | 0.687 | 0.414 | | 2.756 | 0.100 |
| | Sharing | 0.273 | 0.137 | 0.180 | 3.949 | 0.049 |

**Table 3 Coefficient table for inter-firm relationships**

Overall, the multiple regression analysis suggests that the independent variables trust, longevity, power and sharing do not represent, at the same time, a significantly powerful set of predictors of the formation of arms-length, cooperative, collaborative relationships and alliances in the researched sample of the Australian road freight transport industry. Nevertheless, in support of proposition 1, the results indicate that for this study sample longevity seems to be an important condition for the formation of relationships, particularly those that one would expect are influenced by lower levels of trust such as arms-length and cooperative relationships. Similarly, consistent with proposition 3, this study's sample consider that sharing is important for the formation of closer relationships such as alliances. Finally, supportive of proposition 2, this study's road freight businesses indicated that power imbalance has a significant negative influence on the formation of arrangements such as cooperative relationships.

## 5. DISCUSSION

This study provides some valuable insights into the conditions for the formation of inter-organisational relationships in a critical but previously unexplored context, the road freight transport industry. Because of the exploratory nature of the study, however, we caution the results to be preliminary. Perhaps the most interesting result is that the sample of Australian road freight transport industry do not view trust as an important condition for the formation of different types of relationships as in some other developed economies channel relationships. Given the predominance of a price driven sector, fierce competition and tighter profit margins, the manifestation of a lack of trust-longevity duality should not be surprising.

Empirical studies in the past have theorised trust and longevity as factors that characterise inter-organisational relationships (e.g., Sako, 1992; Karahannas and Jones, 1999; Steensma and Lyles 2000; Wipple and Frankel 2000; Green 2003; Jagdev and Thoben 2001). Although the reliability of the scales measuring these constructs is high ($\alpha = .85$, $\alpha = .88$), the multiple regression analysis results only support longevity as a variable influencing the formation of relationships such as arms-length and cooperation. This is indicating that despite the increasing trend towards concentration and integration, the participants in this industry seems to rely on contracts or formal agreements as can be expected in a stable market (Jagdev and Thoben 2001). As such, the results suggest that, in the Australian road freight transport industry, knowing each other, mutually meeting agreed business goals and working together for a long period is regarded as far more important factor for the formation of arms-length and cooperative relationships than trust. These differences in how the sample of Australian road freight transport firms relate to trust could have implications for the management of relationships with this sector. For example, in order to build a closer relationship based on trust with an Australian trucking organisation, a supply chain member needs to have already worked and performed as expected for a certain period.

One of the expected findings in our study is the significant inverse relationship between the exercise of power and the formation of relationships ($B= -0.041$, $F(2,117) = 5.344$, $p<0.05$). The extant literature has demonstrated that power imbalance has a negative influence on the formation of relationships (Dapiran and Hogarth-Scott, 2003; Polenske, 2004). This sample, however, indicated that this is only a factor for cooperative relationships and there was no indication of either a positive or negative impact of power on the formation of other types of relationships. As reflected in the questionnaire answers, the endorsement of the negative influence of the use of power is an indication that cooperative freight transport organisations still tend to view use of penalties and expertise as sources of power that might prevent them from cooperating.

Though some correlation between sharing and formation of alliances was expected on the basis of past research, the correlation we found was just significant ($B= 0.273$, $F(1,118) = 3.95$, $p<0.05$) for the formation of alliances. The theory is suggesting that participants in strategic alliances are expected to share strategic information, greater risk and resources (Monckza et al., 1998; Whipple and Frankel, 2000). This sample of Australian road freight transport industry perceives, for instance, that sharing information fleet and depot capacity as a means of surviving, and the allies expect no less from their business partners.

As with all research, limitations moderate generalisability of this study results. Particularly, a larger sample and improved measures would have provided greater confidence in the proposition. Though the trust scale has good reliability, several items were deleted as they were not contributing to a high and significant Cronbach alpha value. The results of this study should prove a useful guide of more precise operationalisation to this construct. Additional qualitative research is needed to further explain the findings of longevity, power sharing, and the absence of trust in the relationships. Additionally, a dyadic approach that collects data on the trucking organisation partner's view on the same constructs could enhance our understanding of the factors characterising the formation of portfolios of relationships.

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