“SHOULD I STAY OR SHOULD I GO?” UNDERSTANDING THE ANTECEDENTS TO BUYER COMMITMENT IN THE CONTEXT OF THE US EYECARE INDUSTRY

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ABSTRACT

This study extends the existing stream of research on channel relationship by examining the antecedents and consequences of firm commitment (i.e., affective and calculative) among small-sized firms in the United States (US) eyecare industry. Achieving strong growth in today’s primary eyecare market presents a challenge for many independents as they face new uncertainties from competition and regulatory reforms. Compounded by their inability to offer lower prices as well as lacking individual negotiating power with manufacturers, many small independent opticals have turned to buying groups to help reduce product acquisition costs as well as to stay competitive as independent entities. A mail survey of 200 independent opticals was conducted, and the data was analysed using structural equation modelling. The two dependent variables of interest are repurchase intentions and relational tolerance. The effect of affective commitment is positive and significant for both repurchase intentions and relational tolerance while calculative commitment only had a positive impact on relational tolerance. Findings further suggest that both transactional- and relational-specific investments help govern the relationship between buying groups and independents in an uncertain environment. Transaction specific investment increase independents’ calculative commitment as it creates value in the form of cost saving and profit enhancement. At the same time, this study corroborates arguments from social exchange theory regarding the role of relational mechanisms in reducing opportunism by enhancing independents’ affective commitment. However, while the bright side of social capital has often been the focus on buyer-seller relationships, the positive relationship between relational embeddedness and calculative commitment supports the emergent notion of the dark side of social capital.
Keywords: transactional embeddedness, relational embeddedness, relational tolerance, repurchase intentions, environmental uncertainty

INTRODUCTION

Considerable work in the distribution channels literature favours the conclusion that uncertainty is a key environmental dimension that may affect channel relations (e.g., Buvik & Andersen, 2015; Jap & Ganesan, 2000). Although a negative relationship between environmental uncertainty and relationship commitment has been noted by several researchers (e.g., Heide & John, 1992; Saleh, Ali, & Julian, 2014), this assertion has not been confirmed in the context of small firms. Furthermore, there are gaps in our current understanding of the outcomes of commitment with respect to the kinds of value-creation strategies and services that sellers can engage with their small buyers to increase relationship commitment and performance.

Uncertainty has also been recognised as the main driver behind theories of governance (Abdi & Aulakh, 2014). Two schools of thought exist regarding the effect of environmental uncertainty on buyer-seller exchange relationships. The first suggests that high environmental uncertainty engenders greater coordination among channels (e.g., Beuve & Saussier, 2012; Su, Song, Li, & Dang, 2008). The other stream of literature, based on transaction costs, argues that firms will diminish their reliance on interfirm relationships by emphasising flexibility in their task environment (e.g., Abdi & Aulakh, 2014). While these responses may be undertaken by larger firms, size and other operational constraints faced by small and medium-sized firms may not allow them to terminate or exit easily from an existing relationship. Given their limited ability to spread risk in a changing environment, the magnitude of vulnerability to small firms is expected to be significantly greater than that for larger companies. As such small firms may seek to establish closer relationships with their supplier and use commitment as a strategy to resolve uncertainty in their task environment.

The commitment literature has distinguished between social and economic forms of exchange. Specifically, affective commitment has been associated with the social exchange framework (e.g., Zaefarian, Thiesbrummel, Hennerberg, & Naude, 2017) while calculative commitment is often associated with economic exchange theories (e.g., Poppo, Zhou, & Li, 2016). At the same time, while scholars have debated whether transactional and relational governance mechanisms substitute or complement each other, the fact that they may have differential effects depends on the underlying mutuality of the members’ motivations to work together for the
benefit of the entire distribution chain. Studies further suggest that affective and calculative represent two distinct forms of commitment and that they are associated with different antecedents and outcomes (e.g., Hammervoll, 2014; Poppo at el., 2016).

To add clarity to this debate and to understand the interplay of environmental uncertainty in shaping the effectiveness of the two key governance mechanisms used by buying groups in their relationship with independent opticals, we consider the US primary eyecare industry for the focus of this study. There are currently 40,000 independent opticals (independents) in the US eyecare practice. Nearly all independents are small businesses and typically operate a single location with less than USD1.5 million in annual revenue and employing twelve or fewer employees. A recent study found that independents are losing 2% to 4% market share per year (2014 US Optical Retailer Report & Directory, 2014). Achieving strong growth in today’s primary eyecare market presents a challenge for many independents as they navigate an uncharted sea of changes, such as new health care reforms, and competition from online retailing players (e.g., 1-800-Contacts) and big box competitors (e.g., Walmart, Costco).

Compounded by their inability to offer lower prices as well as lacking individual negotiating power with manufacturers, many small independents have turned to buying groups to help reduce product acquisition costs as well as to stay competitive as independent entities. Currently, there are more than 300 optical buying groups (sometimes called cooperatives or purchasing alliances) in the US with annual revenues greater than USD1 million and with members ranging from 1,000 to 4,000. Buying groups attempt to put their members on a level playing field with larger competitors by allowing them to join together to leverage their purchasing strength to purchase goods and services at lower prices.

As noted by Geyskens, Gielens, and Wuyts (2015), while buying groups have emerged as an important member of the supply chain, they have not been the subject of systematic empirical inquiry. This research is an attempt to add to the current research stream on buying groups by understanding whether small independent opticals want to maintain relationships with buying groups because they want to (i.e., with respect to repurchase intentions) or whether they maintain the relationship because they have to (i.e., with respect to relational tolerance). When seeking to understand the nature of the exchange relationship and the degree to which social and economic exchanges are reflected in the buying group-independent relationship, the author argues for the importance of examining both exchanges concurrently.
The remainder of the paper is organised as follows. First, this paper presents the theoretical model and hypothesise how the relationship between environmental uncertainty and affective and calculative commitment is moderated by the type of governance exchange. Next, the differential consequences of relational and transactional embeddedness on repurchase intentions and relational tolerance are investigated. The paper then describes the empirical testing of the hypotheses and their findings. Finally, the paper concludes with implications for management and for future research. The conceptual model for the study is captured in Figure 1.

**LITERATURE REVIEW**

**Impact of Environmental Uncertainty on Transactional Embeddedness**

Two kinds of environmental uncertainty are distinguished in the literature – objective and perceived (e.g., Rajagopalan & Spreitzer, 1996). Given that this study is interested in understanding how management perceives uncertainties in their external environment and their corresponding managerial behaviour and decision making, the perceived environmental uncertainty construct is adopted in this paper. Perceived environmental uncertainty arises when managers perceive their business environment or one of its components as unpredictable (Buvik & Gronhaug, 2000). For example, managers may feel uncertain about the direction of future technologies, about changing consumer preferences and social norms,
or about the operational impacts of changing regulations. Unpredictability may encourage a firm to make investments, to introduce deep changes, and/or assume important commitments (Aragón-Correa & Sharma, 2003; Bianchi & Saleh, 2011).

Transaction costs incorporate the ex ante costs, such as obtaining relevant information, negotiating, and safeguarding the contract; as well as ex post costs, such as monitoring and enforcing the contract. The proposition that increasing transaction costs lead to vertical integration has received support in the literature (Geyskens, Steenkamp, & Kumar, 2006; Klein, Frazier, & Roth, 1990). Indeed, the challenges facing the US optical industry in tackling uncertainty and risk in order to reduce transaction costs have led to greater vertical coordination between independent and buying groups. Building upon the transaction costs argument (Williamson, 1979), transactional mechanisms are a form of tool that govern buyer-supplier relationship through contractual clauses. Transactional embeddedness is defined in this study as the specific and durable assets that are tailored to a particular company or value-chain partner. Transaction-specific investments which can be tangible (specific tool or equipment) or intangible (specific knowledge or capability) in nature are often used as incentive instruments in monitoring relationships (Jap & Anderson, 2003), to promote each party’s accountability (Kotabe, Martin, & Domoto, 2003), and/or to protect themselves against various hazards of exchange (Yu, Liao, & Lin, 2006). In summary, when a buyer has not invested in supplier-specific investments, the buyer can easily switch to an alternative supplier should its performance be low. Therefore, by ensuring an effective incentive alignment, parties will find cooperation more valuable than termination in an uncertain environment. These arguments suggest the following hypothesis:

$$H_{1a}: \text{Perceived environmental uncertainty lead buying groups to enhance transactional embeddedness with independents.}$$

**Impact of Environmental Uncertainty on Relational Embeddedness**

Originating in in the 1950s and based on psychology, social exchange theory examines the influence of dyadic relationships and networks of relationship on members’ behaviour. The social exchange model argues that people and organisations interact to maximise rewards and minimise costs (Jiang, Shiu, Henneberg, & Naude, 2016). This level of interaction or social capital is also referred to as embeddedness. Five social capital dimensions are identified in the extant literature – cognitive, cultural, political, relational, and structural. The current study focuses on relational embeddedness.
The relational embeddedness construct can be viewed as a type of relationship enhancement defined by Bendapudi and Berry (1997) as the “broadening and deepening of relational bonds” whereby exchange parties expect to continue to work together and adapt jointly to external changes (p. 29). With efficient relational investments, partners in a relationally embedded relationship share similar “codes of interpretation” allowing for continuous cooperation and coordination despite uncertainty from improved communication and information sharing (Lado, Dant, & Tekleab, 2008). As argued by other researchers (e.g., Liu, Yuan, & Zhang, 2010), as a decision heuristic, relational embeddedness promotes a “we” orientation allowing parties to “act as if the future were more certain,” therefore:

\[ H_{1b}: \text{Perceived environmental uncertainty lead buying groups to enhance relational embeddedness with independents.} \]

**Impact of Transactional Embeddedness on Calculative Commitment**

Extant research has often conceptualised commitment as multidimensional (e.g., Meyer & Allen, 1997). In this study, we focus on affective commitment and calculative commitment. The former describes the extent to which a channel member wants to continue with an existing relationship and is often characterised by strong mutual commitment and the belief that a partner will not act opportunistically (Gruen, Summers, & Acito, 2000). While affective commitment represents a more emotional and social component, calculative commitment stands for a more rational and economic component to remain in the relationship because of the high costs of leaving (Geyskens, Steenkamp, Scheer, & Kumar, 1996; Gilliland & Bello, 2002).

Under conditions of high environmental uncertainty, firms may have greater difficulty assessing the relative rewards and costs that could result from staying with an existing relationship or switching to an alternative. As such, independents may be inclined to seek flexibility and look for alternatives instead of being locked into the current relationship with their buying groups. However, as argued by Williamson (1985, p. 59), “an increase in parametric uncertainty is of little consequence in transactions that are non-specific.” One way that buying groups can ensure commitment and reduce the fear of opportunism from their customers during uncertain times is by investing specific assets in their exchange relationship with independents with the objective of helping them manage the uncertainty and future-proofing their businesses (Rokkan, Heidi, & Wathne, 2003). Altogether the preceding arguments suggest the following hypothesis:

\[ H_{2a}: \text{Transactional embeddedness has a positive impact on calculative commitment.} \]
Impact of Relational Embeddedness on Calculative Commitment

While debates about social capital usually focus on its presumed positive consequences (e.g., Gilliland & Bello, 2002; Gruen et al., 2000), enthusiasm with the bright side of social capital has overshadowed the fact that social bonds may have unintentional detrimental effects. First, establishing and sustaining relationships may require investments of both specific tangible and intangible resources which can be costly for independents (Kilduff & Tsai, 2003). Second, these asset specific investments can become a liability in unpredictable environments (e.g., Villena, Revilla, & Choi, 2011). This study argues that in the context of the relationship between small independents and buying groups, expectations of future exchanges derived from relational exchanges may help reduce ex ante and ex post opportunism. Trust and relational norms built up from relational embeddedness can help reduce the costs of information and monitoring enforcement between partners, thereby facilitating cooperation between exchange partners. Therefore, it can be hypothesise that:

H$_{3a}$: Relational embeddedness has a negative impact on calculative commitment.

Impact of Transactional Embeddedness on Affective Commitment

Studies regarding the relationship between transactional embeddedness and affective commitment do not provide consistent findings. On one hand, if buyers perceive a high sense of feeling locked into the relationship, transactional embeddedness is likely to weaken the commitment that is based on the affective desired-based commitment (Zaefarian et al., 2017; Schilke & Cook, 2015). However, according to Wiener (1982), not all calculative commitment is negative in nature. Positive outcomes from calculative commitment can develop when a partner stays in the relationship to realise certain transactional gains or benefits (Poppo et al., 2016). Therefore, firms may initially develop the relationship due to transaction embeddedness (when there is no other option) but later develop positive sentiments and a liking for the partner over time. The preceding arguments suggest that:

H$_{3b}$: Transactional embeddedness has a positive impact on affective commitment.
Impact of Relational Embeddedness on Affective Commitment

Consistent with Lado et al. (2008) and Poppo et al. (2016), affective commitment is considered to be a factor that distinguishes social exchanges from economic exchanges. Relational governance reflects shared values and emotional attachment among individual members, which in turn promotes the continuity of relationships. According to social exchange theory, relational exchanges can serve to generate trust and discourage opportunistic behaviours between firms (Cao & Lumineau, 2015; Saleh, Ali, & Mavondo, 2014). Furthermore, the demonstration of benevolence and gratitude that underlie relational investments can provide assurance of non-opportunism to exchange parties (Raggio & Garretson, 2009). Based on these arguments, the following hypothesis is formed:

H3b: Relational embeddedness has a positive impact on affective commitment.

Impact of Commitment on Repurchase Intentions

Repurchase intentions is expressed in this study as the degree to which independents are willing to continue repurchasing from their current buying group. Repurchase intention is also viewed as a manifestation of customer loyalty in the literature (e.g., Rauyruen, Miller, & Barrett, 2007). Although the B2B literature identifies other dimensions of customer loyalty such as attitudinal and cognitive loyalty (e.g., Rychalski & Hudson, 2017), this study argues that repurchase intention is a more relevant dependent variable since it has a direct behavioural impact on a buying group’s profit.

The positive association between affective commitment and repurchase intentions is well documented (Su, Swansom, Chinchanachokchai, Hsu, & Chen, 2016), and formally stated here as a replication hypothesis. While a reverse effect has been observed between calculative commitment and repurchase intentions (Kumar, Scheer, & Steenkamp, 1995), others found a positive relationship (Jones, Reynolds, Mothersbaugh, & Beatty, 2007). Given that the industries examined in extant studies are those that involve significant switching costs (e.g., telecommunication sector and mobile phone), it is not surprising that despite the positive outcome, the loyalty expressed here is more of the passive kind or inertia (White & Yanamandram, 2004). Likewise, we argue that independents whose commitment is based on calculation are less likely to continue to repurchase from their buying groups. It might be expected that if they continue to stay with the buying group, they do so mainly because of high perceived switching costs or other (perceived) constraints. Accordingly, the preceding arguments suggest the following hypotheses:
H₄₅: Calculative commitment is negatively related to repurchase intentions.

H₅₅: Affective commitment is positively related to repurchase intentions.

Impact of Commitment on Relational Tolerance

Relational tolerance describes a situation when a partner in a buyer-seller relationship is willing to tolerate unexpected disadvantages which may threaten the current relationship. From the perspective of independents, these disadvantages may take the form of higher prices or shorter terms of payment. High relationship quality may help explain why buyers in such relationships are willing to accept temporary disadvantages and exhibit relational tolerance (Vidal, 2012). In high-value relationships, trust, an important attribute underscoring affective commitment leads buyers to accept temporary disadvantages while the overall relationship value remains superior to alternative relationships. With respect to relationships characterised by calculative commitment, higher switching costs from the current buying group to another, albeit perceived, may compel them to stay with their current buying groups by exhibiting relational tolerance. Altogether, the following hypotheses are proposed:

H₄₆: Calculative commitment is positively related to relational tolerance.

H₅₆: Affective commitment is positively related to relational tolerance.

METHODOLOGY

A three stage research design was employed in this study. The first stage involved interviews from which a questionnaire was developed. To identify and clarify the types of investments and other relevant constructs in the B2B relationships in the eyecare industry, an in-depth face-to-face and Skype interviews with two buying groups and eight independent opticals were conducted (these eight independent opticals varied in ages between 10 to 20 years in business). These interviews were conducted between June and September 2015. These semi-structured interviews lasted between 1 to 2 hours, were recorded, and transcribed. On the basis of these interviews and an extensive review of the B2B literature, a preliminary version of the questionnaire was developed. The second stage of the research involved pilot-testing the questionnaire with two former independents who collaborated earlier in this research and three new independents who did not participate in the earlier interviews. Based on their feedback, a small number of questionnaire items
were revised and deleted others to enhance clarity. Finally, the third stage involved sending the survey to a random sample of independent optical companies.

**Sampling Frame**

In collaboration with two organisations, Opticians Association of Massachusetts and Massachusetts Society of Optometrists, a mailing list of 1,550 companies provided the initial sampling frame for the study. To ensure a representative sample, the following criteria were used in the selection process. First, the company is independently owned and managed. Second, the company meets the definition of a small business which is defined as having fewer than 500 employees and annual sales less than USD2 million. These two criteria including firms that had gone out of business reduced the sample size to 820 firms.

Given that the level of analysis of this study is a specific supplier-customer relationship, each independent was contacted to ensure they have been in a continuous relationship with a buying group for at least five years. Following this qualification, the sample size was reduced further to 578. Using the key informant technique, each of the 578 companies was asked to name the specific individual in the firm who was “most involved with the on-going relationship with the buying group, from the standpoint of establishing initiatives and programmes.” This individual was then contacted to participate in the study. In the event if the independent had several on-going relationships with different buying groups, the key respondent was instructed to respond to the survey based on the buying group with which the company primarily do business with. Out of the 578 surveys which were mailed out, 200 usable questionnaires were returned, for a response rate of 34%. Of the firms included in the analysis, annual sales ranged from USD800,000 to USD2 million, with a majority of the firms (about 65%) falling in between the range of USD800,000 to USD1 million. About 83% have less than 50 employees. Finally, non-response error was addressed by comparing the firm size between participating and non-participating firms. Using the number of employees as a measure of firm size, the non-significant finding indicated that non-response bias was not a problem in the study.

**Measures**

Multi-item scales were used for the six exogenous constructs while the two dependent outcomes were measured with a single item. Given that the attributes underlying purchase intentions and relational tolerance are of the type that are concrete, that is, having little disagreement between raters, a single item measure is sufficient in this case (Rossiter, 2002). Unless specifically indicated, all items
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for the independent constructs were measured using a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree) (see Table 1). To capture the time effects for the commitment and relational outcome variables, a time framework of five years was employed in this study to avoid extraneous changes that may have taken place in the particular moment of data collection.

Table 1
Construct measurement summary: Confirmatory factor analysis and scale reliability

<table>
<thead>
<tr>
<th>Item description</th>
<th>Standardised loading</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repurchase intentions (Kumar, Hibbard, &amp; Stern, 1994)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• To what extent in the past five years did your company continue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to repurchase from your major buying group?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational tolerance (Geiger, Durand, Saab, Kleinaltenkamp,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baxter, &amp; Lee, 2012)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• To what extent in the past five years did your company willingly</td>
<td></td>
<td></td>
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<tr>
<td>accept temporary disadvantages in the relationship with your key</td>
<td></td>
<td></td>
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<tr>
<td>buying group in order to maintain it?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independent variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational embeddedness (adapted from Carey, Lawson, &amp; Krause,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011; Kale, Singh, &amp; Perlmutter, 2000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR = 0.91; AVE = 0.69; HSV = 0.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would you describe the relationship with your major buying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>group over the last five years? (1 = strongly disagree; 7 = strongly agree)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The relationship that we have with our key buying group can be</td>
<td>0.83</td>
<td>15.03</td>
</tr>
<tr>
<td>defined as close interactions at multiple</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• There is mutual trust at multiple levels between our company and</td>
<td>0.86</td>
<td>15.39</td>
</tr>
<tr>
<td>our key buying group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Our relationship with our key buying group can be characterised</td>
<td>0.78</td>
<td>12.70</td>
</tr>
<tr>
<td>by high levels of reciprocity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Our buying group cares about my business at a personal level</td>
<td>0.68</td>
<td>10.70</td>
</tr>
<tr>
<td>Transactional embeddedness (adapted from Heide &amp; John, 1992)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR = 0.90; AVE = 0.65; HSV = 0.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would you describe the relationship with your major buying group over the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>last five years? (1 = strongly disagree; 7 = strongly agree)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Our buying group has dedicated time and effort to help</td>
<td>0.85</td>
<td>15.03</td>
</tr>
<tr>
<td>my business to be more innovative and stay current in the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>marketplace</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued on next page)
Table 1 (continued)

<table>
<thead>
<tr>
<th>Item description</th>
<th>Standardised loading</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Our buying group has made substantial investments in software and technology services that help improve our company’s bottom line</td>
<td>0.80</td>
<td>12.79</td>
</tr>
<tr>
<td>• Our buying group has established many networks that my business can tap into (e.g., medical/optometric credentialing; financing options to customers; largest vendor selection and programmes)</td>
<td>0.88</td>
<td>15.86</td>
</tr>
<tr>
<td>• Our buying group has helped us implement the right marketing programmes to generate additional sales for our company</td>
<td>0.92</td>
<td>17.04</td>
</tr>
</tbody>
</table>

**Affective commitment** (adapted from Kumar et al., 1995)

CR = 0.90; AVE = 0.64; HSV = 0.29

Over the last five years __________ (1 = strongly disagree; 7 = strongly agree)

• It has been pleasant working with the buying group that is why we continue the relationship                                                                                                                   | 0.77                | 12.64   |
| • Our decision to remain a customer with our current buying group is based on our attraction to the things that the buying group represents as a company (e.g., image, brand, reference)                               | 0.86                | 15.11   |
| • Our company continued working with our current buying group because we feel like they are “part of the family”                                                                                               | 0.83                | 13.56   |
| • This buying group has grown to be an important ally of our company                                                                                                                                        | 0.73                | 11.89   |

**Calculative commitment** (adapted from Gilliland & Bello, 2002)

CR = 0.89; AVE = 0.65; HSV = 0.22

Over the last five years __________ (1 = strongly disagree; 7 = strongly agree)

• Our relationship with the current supplier is based more on an assessment of the costs and benefits of continuing the relationship                                                                            | 0.76                | 12.09   |
| • We found that changing buying groups will be too disruptive for our business, so we continue to work with this current one                                                                               | 0.83                | 13.50   |
| • Right now, staying with the buying group is a matter of necessity since no feasible alternatives exist                                                                                                | 0.72                | 11.33   |
| • We calculated that switching to a new buying group will involve significant upfront costs                                                                                                                 | 0.79                | 12.75   |

(continued on next page)
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Table 1 (continued)

<table>
<thead>
<tr>
<th>Item description</th>
<th>Standardised loading</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental uncertainty</td>
<td>0.94</td>
<td>17.16</td>
</tr>
<tr>
<td>How easy is it to predict the following aspects of your operating environment? (1 = strongly disagree; 7 = strongly agree)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>0.93</td>
<td>17.16</td>
</tr>
<tr>
<td>Competitors’ actions</td>
<td>0.92</td>
<td>17.01</td>
</tr>
<tr>
<td>Market demand</td>
<td>0.85</td>
<td>14.88</td>
</tr>
<tr>
<td>Wholesalers’ prices</td>
<td>0.86</td>
<td>15.05</td>
</tr>
<tr>
<td>Government regulations</td>
<td>0.79</td>
<td>12.75</td>
</tr>
</tbody>
</table>

Notes: Fit statistics for measurement model of 23 indicators for 7 constructs ($\chi^2 = 521.30$; GFI = 0.84; CFI = 0.89; RMSEA = 0.06; CR = composite reliability; AVE = average variance extracted; HSV = highest shared variance with other constructs)

Relational embeddedness

This construct was assessed using the scale developed by Kale et al. (2000) and validated by Carey et al. (2011). This scale examined the extent to which the independent-buying group is characterised by close interaction, mutual trust, personal understanding, and high levels of reciprocity. In the context of the relationship between buying groups and independents, it is clear that the relational dimensions reflect those found in other studies which stress the importance of closeness and trust gained through repeated interactions.

Transactional embeddedness

This construct captures the investments that the buying group has made into the channel relationship with independents. As shown in Table 1, the idiosyncratic investments of personnel, financial, and technology support were those which were discussed during the interviews and are often tailored to the needs of the independent (Heide & John, 1992).
Affective commitment

The scales for the affective commitment construct were adapted from Kumar et al. (1995). Consistent with previous research, this study conceptualised affective commitment as independents’ emotional attachment and level of involvement in their partnership with the buying group.

Calculative commitment

The four items for this measure describes independents’ attachment to the buying group with respect to sacrificed benefits and incurred losses if the relationship was to end. The items were derived from Gilliland and Bello (2002) and adapted for the study.

Perceived environmental uncertainty

This construct was measured with items borrowed from Cannon and Perreault’s (1999) perceived environmental uncertainty scale which captures different facets of the external environment that contribute to perceptions of uncertainty for independents. Based on earlier interviews with independents, this study captured perceived environmental uncertainty in the eyecare industry along five dimensions: technology, competitors’ actions, market demand, wholesalers’ prices, and government regulations.

The model was tested using LISREL structural equation modelling with maximum likelihood estimation techniques. Unidimensionality was assessed using a confirmatory factor analysis which showed a satisfactory fit to the data. The chi-square test is statistically significant [$\chi^2_{225} = 521.30; p < 0.001$] while the goodness-of-fit index (GFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) indicated a satisfactory model fit (GFI = 0.84; CFI = 0.89; RMSEA = 0.06). For all constructs, the average variance extracted and the composite reliabilities exceeded the minimum critical value of 0.5 and 0.6, respectively (Fornell & Larcker, 1981). Furthermore, all items loaded on their hypothesised factors, and the estimates are significant (the lowest $t$-value is 10.70). Finally, discriminant validity was confirmed since the average shared variance was lower than the average variance extracted for all the constructs.

Control variables

To control for the effects of extraneous variables, two variables were considered. First, the logarithm of the number of employees as a measure for firm size was
used. Second, given that relationship length has previously been shown to affect buyer satisfaction and trust, this study captured this variable by the number of years the independent optical firm has personally dealt with a particular buying group (Kumar et al., 1995). The basic descriptive statistics and correlations of the measures are presented in Table 2.

Table 2
Basic descriptive statistics

<table>
<thead>
<tr>
<th>Construct</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional embeddedness</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational embeddedness</td>
<td>0.50***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective commitment</td>
<td>−0.21**</td>
<td>0.39**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculative commitment</td>
<td>0.43**</td>
<td>0.31**</td>
<td>0.10</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental uncertainty</td>
<td>0.39**</td>
<td>0.54***</td>
<td>0.38**</td>
<td>0.43**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational tolerance</td>
<td>0.20**</td>
<td>0.31**</td>
<td>0.57***</td>
<td>0.40**</td>
<td>0.45**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repurchase intentions</td>
<td>0.07</td>
<td>0.18*</td>
<td>0.37**</td>
<td>−0.9</td>
<td>0.20**</td>
<td>0.55**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm size (log)</td>
<td>−0.01</td>
<td>−0.01</td>
<td>0.11*</td>
<td>−0.03</td>
<td>−0.08</td>
<td>−0.16*</td>
<td>−0.22**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Length of company’s relationship</td>
<td>0.28**</td>
<td>0.26**</td>
<td>0.14*</td>
<td>0.26**</td>
<td>−0.46**</td>
<td>0.38**</td>
<td>0.44**</td>
<td>0.14*</td>
<td>1.00</td>
</tr>
<tr>
<td>Mean</td>
<td>4.92</td>
<td>5.20</td>
<td>5.09</td>
<td>5.58</td>
<td>6.01</td>
<td>5.98</td>
<td>5.14</td>
<td>2.40</td>
<td>6.50</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.90</td>
<td>1.93</td>
<td>2.62</td>
<td>1.23</td>
<td>1.94</td>
<td>1.45</td>
<td>1.32</td>
<td>1.24</td>
<td>1.64</td>
</tr>
</tbody>
</table>

Note: * p < 0.05 (two-tailed); ** p < 0.01; *** p < 0.001

**FINDINGS**

Table 3 shows the results of the estimation of the structural model. The fit of the model is satisfactory. Both $H_{1a}$ and $H_{1b}$ are confirmed as higher perceived environmental uncertainty leads buying groups to strengthen relationship with independents by emphasising investments with a transactional ($β = 0.39; p < 0.05$) and relational ($β = 0.70; p < 0.01$) focus. Findings suggest a positive and significant influence for both transactional embeddedness ($β = 0.30; p < 0.05$) and relational embeddedness ($β = 0.28; p < 0.05$) on calculative commitment, thereby supporting $H_{2a}$ and rejecting $H_{2b}$, respectively. Affective commitment is
not influenced by transactional embeddedness as hypothesised by \( H_{3a} \), whereas a positive and significance impact is noted for relational embeddedness \( (\beta = 0.40; p < 0.01) \), lending support for \( H_{3b} \).

Table 3
Results of structural model

<table>
<thead>
<tr>
<th>Hypothesised linkages in the model</th>
<th>Standardised parameter estimates</th>
<th>( t )-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>( H_1 ) Environmental uncertainty → a. Transactional embeddedness</td>
<td>0.39</td>
<td>2.19**</td>
</tr>
<tr>
<td>( H_1 ) Environmental uncertainty → b. Relational embeddedness</td>
<td>0.70</td>
<td>12.80**</td>
</tr>
<tr>
<td>( H_2 ) a. Transactional embeddedness → Calculative commitment</td>
<td>0.30</td>
<td>1.98**</td>
</tr>
<tr>
<td>( H_2 ) b. Relational embeddedness</td>
<td>0.28</td>
<td>2.66**</td>
</tr>
<tr>
<td>( H_3 ) a. Transactional embeddedness → Affective commitment</td>
<td>0.01</td>
<td>0.09 n.s.</td>
</tr>
<tr>
<td>( H_3 ) b. Relational embeddedness</td>
<td>0.40</td>
<td>3.08***</td>
</tr>
<tr>
<td>( H_4 ) Calculative commitment → a. Repurchase intentions</td>
<td>-0.08</td>
<td>-1.19 n.s.</td>
</tr>
<tr>
<td>( H_4 ) b. Relational tolerance</td>
<td>0.38</td>
<td>3.40***</td>
</tr>
<tr>
<td>( H_5 ) Affective commitment → a. Repurchase intentions</td>
<td>0.51</td>
<td>5.66***</td>
</tr>
<tr>
<td>( H_5 ) b. Relational tolerance</td>
<td>0.40</td>
<td>4.90***</td>
</tr>
</tbody>
</table>

Notes: Fit statistics: \( \chi^2(252) = 63169; GFI = 0.80; CFI = 0.90; RMSEA = 0.08; ** p < 0.5; *** p < 0.01 \)

Both affective and calculative commitment exerted different influences on the two relational outcomes. The impact of calculative commitment was only supported for relational tolerance \( (H_{4b}: \beta = 0.38; p < 0.01) \). The effect of affective commitment is positive and significant for both repurchase intentions \( (\beta = 0.51; p < 0.01) \) and relational tolerance \( (\beta = 0.40; p < 0.01) \). Therefore, both \( H_{5a} \) and \( H_{5b} \) are supported.

We also ran additional analyses to examine whether the two control variables had influence on the relational outcomes. Larger independents exhibited less tolerance toward their buying group \( (\beta = -0.14; p < 0.10) \). However, independents who have been in a longer relationship with their buying group were more likely to repurchase \( (\beta = 0.20; p < 0.01) \) and also demonstrated higher relational tolerance \( (\beta = 0.13; p < 0.010) \). The values and significance of the structural model presented in Table 3 did not change with the addition of the control variables, suggesting that nomological validity was maintained.
DISCUSSION

The purpose of this study was to examine commitment as a two-attribute measure and show how transactional and relational-specific investments by buying groups influenced repurchase intentions and relational tolerance among independents. This study contributes to the literature by demonstrating (1) that uncertain market environments appear to offer buying groups an opportunity to strengthen their relationship with independent opticals through relational and economic governance mechanisms, (2) the two types of exchange mechanisms – relational and transactional embeddedness can operate independently, and (3) that different outcomes can occur from both forms of exchange mechanisms.

Firms with limited adaptive capacity or resources are likely to be negatively affected by environmental uncertainty. As argued in the channel literature, inter-organisational relationships is a vehicle for supply chain participants to secure resources they do not have and leverage partners’ resources and capabilities to cope with perceived environmental uncertainty (Qi, Zhao, & Sheu, 2011). As independent optometrists often lack the needed resources to compete against the larger competitors, there is a need to form committed relationships with buying groups who can supply the prerequisite resources and support the continued growth of members’ practices. The findings suggest that whether the exchange relationship between buying groups and independents should be governed by transactional or relational mechanisms is contingent on the level of independents’ commitment toward the former.

The positive relationship between transactional embeddedness and calculative commitment corroborates transactional cost logic, that is, transaction-specific investments by buying groups help reduce opportunism among independents in an uncertain environment. The hypothesis regarding the relationship between calculative commitment and repurchase intentions was non-significant. Two possible explanations may account for this unexpected outcome. First, affective commitment may overall be a stronger motivation among independents to continue with the relationship with their buying groups. Second, independents motivated by calculative commitment may continue to stay in the relationship if the current buying group fulfills needs that may not be met in alternative relationships.

Affective commitment had the strongest and most favourable positive impact on relational outcomes (i.e., repurchase intentions and relational tolerance). The significant impact on repurchase intentions may be a result of independents’ satisfaction with the buying group. Independents in high-value relationships with their buying groups will also tolerate temporary disadvantages and stay committed
to the relationship. Buying groups need to address whether independents, despite their affective commitment levels, are exhibiting repeat purchasing behaviours and relational tolerance due to inertia (White & Yanamandram, 2004). With inertia, buyers may continue to repurchase in spite of negative perceptions about the current service provider. Switching costs and inertia have been shown to play a critical role in customer retention. Studies suggest that when customers perceive that they must spend a greater amount of time and effort to search for alternative providers, customers with higher levels of inertia are more willing to exhibit relational tolerance and maintain their existing exchange relationships even in the face of dissatisfaction (e.g., Jones et al., 2007).

Relational embeddedness was found to have an unexpected impact on calculative commitment, thereby challenging the assumption that relational investments help reduce the risks arising from transactional attributes (e.g., Poppo, Zhou, & Zenger, 2008b). The benefit of relational embeddedness rests primarily on its deterrence of opportunistic behaviour among channel partners. However, longstanding relational embedded ties may also lead to unintended liabilities such as in this case, independents losing flexibility in decision making or discriminating against potentially better supplier group (Maurer & Ebers, 2006) or fear of potential loss of relationship specific assets (Poppo et al., 2008b). This may restrict independents from effectively responding or adapting to environmental changes, and thus, negatively impacting firm performance. Given that significant human interaction and time are required to develop affective commitment, buying groups should not overlook the value of lower cost strategy of developing effective control and incentive systems for maintaining calculative commitment among independent opticals.

**IMPLICATIONS FOR BUSINESS MARKETING PRACTICE**

Management who understands the differences between the various commitment types are less likely to commit the mistake of treating them as interchangeable. Instead, they can improve customer loyalty by differentially allocating resources to manage each type of commitment in a context-specific manner.

Recognising that not all customers may desire to enter into a long-standing committed relationship, the findings suggest that optical buying groups should (1) segment their customers according to their willingness to enter and develop the relationship, and (2) optimise each dimension of commitment rather than simply maximise overall commitment, that is, either emphasise transactional or relational governance mechanisms in managing their customers’ behaviours and
expectations of the relationship. To the extent that the antecedents and resources used to optimise each type of commitment are likely to vary, buying groups will need to have a differentiated and nuanced implementation strategy vis-à-vis their relationship with independents.

For those customers who are more calculatively driven, the key to governing the exchange relationships is to invest in economic mechanisms that create value for independents in the form of cost saving and profit enhancement. Unanticipated eventualities can disrupt the status quo of a relationship. As such, while ensuring that members save money on their purchases has always been at the core of optical buying groups’ core service offering, buying groups need to consider other value-added services that will help deepen their relationships with independents such as offering free professional development programmes\(^1\), marketing consulting\(^2\), and IT services\(^3\). Given that most of the independents, while proficient in the medical aspects of practice, lack education about running a small business; broadening their business management acumen will help them operate their businesses more effectively.

In contrast to transactional mechanisms, the flexibility of relational mechanisms can help partners respond more effectively to environment uncertainty and to deal with unpredicted problems. This study uncovers that relational mechanisms have a stronger effect than transactional mechanisms. In-depth interviews confirmed that independents who have strong interpersonal relationships with their buying groups appreciated the business friendship relationship developed with the providers’ personnel. Specifically, they believe the provider’s personnel respond to their needs faster and were more willing to assist in situations when problems arise. As quoted by an independent, “I know I am just a small fish in the big pond but knowing that I am not just a financial statistic to my buying group means a lot to my business.”

The positive finding between relational embeddedness and calculative commitment suggests a potential dark side to social capital. As the results suggest, buying groups should carefully establish the optimal level of relational capital so that it does not move beyond a threshold point. It is also recommended that buying groups need to do more than merely elicit affective commitment from their members; they should periodically monitor the relationships with their independents to identify whether there might be any signs of opportunistic behaviours and reduce the level of relational capital when they discover their customers moving to the dark side. As argued by Gargiulo and Benassi (1999), collaboration between supply chain members can be mutually beneficial for all parties but, if taken to extreme, it
can also inhibit the partnering companies’ capabilities to effectively adapt to an increasingly uncertain environment.

LIMITATIONS AND FUTURE RESEARCH

Other interorganisational variables such as satisfaction (economic and non-economic) (Geyskens, Steenkamp, & Kumar, 1999) and trust (e.g., Saleh, Ali, Quazi, & Wickramasekera, 2015; Xu, Cenfetelli, & Aquino, 2016) should be incorporated into the study!s model to further understand their potential moderating/mediating affects in promoting buyer relationship continuance. For example, one could argue that economic satisfaction is a necessary perquisite for an exchange to occur and as such is dependent on the level of a firm’s calculative commitment. Non-economic satisfaction, which is intangible in nature, in contrast, takes longer to develop than the more tangible economic satisfaction variable. Once suppliers and buyers have established a continued history of satisfactory economic transactions, they may move a step further to non-economic satisfaction. The positive relationship between relational embeddedness and calculative commitment could be explained by the presence/absence of these satisfaction outcomes. Social satisfaction, as a result of relational embeddedness, may make an independent feel comfortable about interactions with the buying group, but, without the presence of economic satisfaction, social satisfaction is not enough to ensure a committed economic relationship between the independent and buying group.

This study is constrained to the perspective of only one side of the partnership (i.e., the independent optical). The importance of contractual and relational governance mechanisms may change in different phases of cooperation. As such, collecting data from buying groups and independents and comparing the evolution of governance mechanisms will help refine our understanding on the interplay of relational and transactional governance mechanisms on interorganisational relationships. The cross-sectional nature of this study may not capture the dynamic and temporal nature of the relationship between commitment and relational and transactional investments. A longitudinal research or a process model via qualitative studies will further extend our understanding on this phenomenon.

Future research should also consider other B2B contexts that have different structural and relationship properties. This study took place within a single-service setting and geographic area. As a result, the findings of this study may not generalise to other industries or all types of firms. For the purpose of cross-validation, additional exploration of the relationships needs to be extended beyond the sample and setting reported here.
NOTES

1. Expertise in areas such as compliance, coding, medical billing and audit protection, organising annual conferences to allow members to learn about market trends, keep up with industry innovations, and connecting with experts and peers.
2. Working with members to plan and strategise their marketing programmes.
3. Facebook, Twitter, and Google+ page management.

REFERENCES


