Moderating effects of environmental uncertainty on behavioural intentions in business markets

– A study across theoretical perspectives

By

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Biography

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Abstract

Purpose - the current study examines the moderating effect of environmental uncertainty on the impact of the focal constructs of relationship quality and relationship value on behavioural intentions across the theoretical perspectives of commitment–trust and relationship value. The study examines to which extent the application of these two theoretical perspectives can absorb part of the environmental uncertainty in a buyer/seller relationship.

Design/methodology/approach – The study used empirical data from UK manufacturers from different sectors to test the hypotheses developed. The sample ranged from small enterprises to multi-billion companies. A structured questionnaire was used as a research instrument

Findings – The effects of relationship quality and relationship value on behavioural intentions are not found, to a large extent, to be moderated by environmental uncertainty. The findings support that the commitment–trust and relationship value perspectives can absorb part of the uncertainty firms face in business markets.

Research limitations/implications - The current study investigates the customer perspective only. Future dyadic research will be able to offer a more holistic view of the focal constructs and their performance outcomes.

Practical implications – The findings indicate that firms may find it productive to invest in more relationship marketing efforts in markets with higher levels of uncertainty to improve performance.

Originality/value – Although the role of environmental uncertainty as a key exogenous factor in relationship effectiveness should not be overlooked, the theoretical perspectives of commitment–trust and relationship value suggest that relevant approaches in explaining how favourable behavioural intentions can be generated succeed in absorbing part of the uncertainty that organizations can face in business relationships.

Keywords: Buyer-seller relationships, Environmental uncertainty, Behavioural intentions, Relationship marketing, Relationship quality, Relationship value

Paper Type: Research paper

1. Introduction

Many studies have recognized that relationship marketing (RM hereafter) efforts can improve outcomes of buyer–seller relationships (e.g. Palmatier *et al.,* 2008; Morgan and Hunt, 1994; Streukens *et al.,* 2011). However, RM can also be ineffective and the seller's RM investments may lead to disappointing results (Palmatier *et al.,* 2008; Abosag *et al.,* 2016) or, even worse, can have a negative impact on performance (Grayson and Ambler, 1999). Prior research (Palmatier *et al.,* 2006; Palmatier *et al.,* 2007; Wang and Fang, 2012) argued that this inconsistency with regard to RM performance can be due to environmental effects. At the same time, relational-based theories (e.g. commitment–trust, relationship value, dependence, transaction cost economics, and relational norms) have been argued to absorb or mitigate part of the uncertainty exchange parties may face due to environmental effects (Ganesan 1994; Noordewier *et al.,* 1990). This can partly explain why prior research has found only partial support for the argument that relationship effectiveness can vary according to the environmental uncertainty (Palmatier *et al.*, 2007; Jia *et al.*, 2014). Therefore, a deeper understanding of how the success of a relationship can potentially differentiate according to the external environment in which the relationships occur and the extent to which the theoretical perspectives can absorb part of the uncertainty in a buyer/seller relationship is rather lacking in the literature.

Environmental uncertainty has been recognized as one of the most critical environmental factors in business markets (Noordewier *et al.,* 1990; Merigó *et al.,* 2016; Slater *et al.,* 2010; Hibbard *et al.,* 2003; Wang and Fang, 2012). Due to environmental uncertainty the performance outcomes of a buyer/seller relationship cannot be specified ex ante (Jia *et al.*, 2014; Beckman *et al.,* 2004; Geersbro and Ritter, 2010). Cannon *et al.* (2000) suggest that relationship performance is higher in high-uncertainty environments, mainly because firms need to adapt and require relation-based exchanges (e.g. enhanced flexibility, information sharing, and negotiated solutions) to achieve competitive advantage. The current study focuses on three frequently researched types of environmental uncertainty in B2B markets: competitive intensity, technological uncertainty, and market diversity.

Amongst the various aspects of RM performance that have been proposed in the literature (i.e. seller-focused benefits, buyer-focused benefits, and dyadic benefits), the current study examines the

behavioural intentions of the customer, viewing RM performance from the customer perspective. First, assessing buyer/seller relationship effectiveness from the customer viewpoint suggests a rather under-researched perspective in the relevant literature (Arslanagic-Kalajdzic and Zabkar, 2015) and hence we believe that such an approach is worthwhile. Buyer/seller relationship effectiveness in the context of the study is viewed as the extent to which customer-focused outcomes are generated as result of RM efforts. Second, we included behavioural intentions as they were generally accepted in the relevant literature as key indicators of seller-focused RM performance (Hutchinson *et al.,* 2011; Kumar *et al.,* 2003).

Researchers usually employ one of two theoretical perspectives for modelling the behavioural intentions of customers in business markets: (1) commitment–trust, and (2) relationship value (cf. Hutchinson *et al.,* 2011). The present study also focuses on commitment–trust, and relationship value as both perspectives propose a set of variables that together can represent the mechanism towards successful relationships from the customer perspective, which suggest the scope of the study. The commitment–trust perspective originates from Morgan and Hunt (1994), who argued that commitment drives behavioural intentions, and that both commitment and trust are required to develop successful customer relationships because customers act positively towards committed and trusted sellers. The second perspective argues that the behavioural intentions of customers in business markets are driven by relationship value, which is a trade-off between benefits and sacrifices (Ulaga and Eggert, 2005; Eggert and Ulaga, 2002). In contrast to the commitment–trust perspective, relationship quality can only affect behavioural intentions indirectly through relationship value. Although many of the constructs used are similar, each perspective suggests different relational drivers as being the most critical in explaining relationship performance, and thereby a different mechanism of generating desirable behavioural intentions is proposed (Eggert and Ulaga, 2002; Ulaga and Eggert, 2005, 2006a). This indicates that the assessment of the relative effect of environmental uncertainty on behavioural intentions requires the comparison of the two perspectives on the basis of a common context (Hunt, 2002). We believe that the examination of both perspectives can add to the

generalizability of the findings, as both perspectives have their merits and suggest relevant approaches to explaining behavioural intentions in business markets (Hutchinson *et al.,* 2011).

In this context, based on a review of buyer/seller relationships literature and using insights from the research areas of contingency theory and transaction cost theory, the purpose of the current study is to examine: 1. the moderating impact of environmental uncertainty on the link between the focal constructs of relationship quality and relationship value and behavioural intentions with reference to the theoretical perspectives of commitment-trust and relationship value, and 2. to which extent the application of these two theoretical perspectives can absorb part of the environmental uncertainty in a buyer/seller relationship. The study aims to offer insights on the question: when the focal constructs of relationship quality and relationship value have the greatest impact on RM performance? The study investigates this issue by examining how behavioural intentions are built across the two perspectives under conditions of environmental uncertainty. To date, these links have not been sufficiently examined. Therefore, this is an area where further research is needed.

The current study contributes to existing knowledge in several ways. From a theoretical viewpoint, the study explores the drivers of RM effectiveness and the environmental conditions under which they have the greatest impact, which can lead to useful conclusions on how to develop relevant models of RM performance. While the drivers of RM effectiveness have been extensively examined in the business to business marketing literature, this study is novel in applying the focal constructs of relationship quality and relationship value across two relevant theoretical perspectives, specifically to understanding customer's behavioural intentions and to the extent this is moderated by the environmental uncertainty. This synthesis of influences, although adds to the complexity of the conceptualisation, provides a comprehensive study of behavioural intentions in business markets and suggests an approach that, to the best of our knowledge, is missing from the literature. Moreover, the study adds to our understanding on whether commitment-trust and relationship value perspectives can sufficiently, and to what extent, absorb the environmental uncertainty in buyer/seller relationships and, thereby, provide relevant paradigms in explaining RM performance in business markets.

From a managerial viewpoint, the key message that the present study offers is that firms need to have a deep understanding of the determinants of behavioural intentions before they design and apply RM strategies. In other words, from a customer's viewpoint, which dimensions are important to achieve favourable customer's behavioural intentions? Is the generation of customer-focused outcomes largely affected by environmental uncertainty or should suppliers primarily rely on their efforts to develop the drivers that lead to RM performance? Do commitment-trust and relationship value perspectives suggest relevant mechanisms to improve relationship performance? The study offers useful insights to practitioners who are seeking to achieve competitive advantage through the development of long-term customer relationships, especially when they operate in markets where it is difficult to generate new customers or the product differentiation is not easy, where the implementation of RM is particularly important. Below we further elaborate the pertinent literature to develop the hypotheses. The following section explains the methodology before the findings are presented and discussed.

2. Literature review and hypotheses

2.1. Behavioural intentions in business markets

Customer behavioural intentions signal actual purchasing decisions, and therefore firms want to monitor and influence them (Zeithaml *et al.,* 1996). In the context of business to business marketing, customer behavioural intentions are typically viewed as the assessment of customer loyalty towards the supplier and have been operationalized in different ways such as customers' intention to recommend (Mittal *et al.,* 1999), switching intentions (Bansal *et al.,* 2004), intention to purchase (Eggert and Ulaga, 2002), and willingness to pay a price premium (Keh and Xie, 2009). The study of the customer's behavioural intentions in the business markets is particularly relevant as, opposed to the consumer markets, it is more difficult to attract new customers due to the maturity of many industries and the complexity of organizational buying decisions (Katrichis, 1998; Keh and Xie, 2009).

A review of the literature shows that the constructs of repurchase intention and word-of- mouth are most commonly used to operationalize behavioural intentions in business markets (Olaru *et al.,* 2008). Repurchase intention reflects the customer's intention to continue the purchases from the supplier in the future. However, researchers have argued that the use of repurchase intention alone is insufficient to capture favourable customer's behavioural intentions as the intention to repurchase may be due to high termination costs of lack of alternatives rather than strong relational bonds (Oliver, 1999; Palmatier *et al.,* 2006). Word-of-mouth reflects the customer's intention to refer a seller positively to another potential customer and, therefore, indicates a positive attitude towards the supplier. In short, the key premise when using both repurchase intention and word-of-mouth is that a customer exhibiting higher purchase intentions and willingness to recommend the supplier to other potential customer is more likely to stay longer with the supplier firm and, ultimately, to lead to improved performance outcomes such as profits or revenues. Previous studies have provided empirical evidence that the repurchase intention and a positive word-of-mouth with exchange partners are reliable predictors of performance outcomes from buyer/seller relationships (Andaleeb, 1995; Doney and Cannon, 1997; Eggert and Ulaga, 2002; Olaru *et al.,* 2008; Hutchinson *et al.,* 2011; Kumar and Kumar, 2004). In line with previous studies, the study adopts the variables of repurchase intention and word-of-mouth to operationalize behavioural intentions (BI).

2.2. Theoretical perspectives for understanding customers' behavioural intentions in business markets

Previous research examining relationship effectiveness with a focus on customer-related outcomes identifies two main theoretical perspectives which provide insights into which relational variables can explain successful customer relationships. The ***commitment–trust perspective*** (Morgan and Hunt, 1994), suggests that relationship performance is mostly affected by a firm's commitment and trust in its suppliers. The main idea behind this perspective is that while the role of other relational norms (such as cooperation, information sharing, and relationship investments) in successful customer relationships is not ignored, trust and commitment, individually or together,

positively affect relationship performance, as customers tend to engage in long term relationships with suppliers they are committed to and trust (Anderson and Weitz, 1992; Palmatier *et al.,* 2007).

According to the commitment–trust perspective, the dimensions of relationship quality (i.e. trust, commitment) will have a direct impact on BI. This does not imply that the relational constructs suggest 'independent variables', as they are explicitly embedded as mediators into a complex model of relational exchanges (Morgan and Hunt, 1994). The perspective argues that dimensions of relationship quality (commitment and trust), not power or dependence, are central to understanding RM performance (Palmatier *et al.,* 2007; Ferro *et al,* 2016).

The second, the ***relationship value perspective*** (Ulaga and Eggert, 2006a), while not ignoring the role of commitment and trust variables, identifies relationship value as the key driver of relationship performance. Relationship value is based on the customer's perceptions of value, rather than what the firm objectively determines as the 'value proposition' of a certain product/service offering (Frow and Payne, 2011; Vargo and Lusch, 2008; Barry and Terry, 2008). Value creation does not refer to single, isolated exchanges, rather it involves the total benefits and sacrifices that are perceived by customers throughout their relationship with the suppliers (Ritter and Walter, 2012). The main idea behind the relationship value perspective is that the delivery of superior value to customers will lead to improved relationship performance (Lindgreen *et al.,* 2012).

Important to note that the literature has reported some contradictory empirical findings on the effect of RV on relational variables. Some studies suggest that RV affects relational variables such as trust and satisfaction (Čater and Čater, 2009; Walter *et al.,* 2000) whereas others argue that RV is affected by satisfaction (Yang and Peterson, 2004). Second, the construct of RV is found to have some overlaps, both conceptually and methodologically, with other key relational constructs such as satisfaction or RQ (Eggert and Ulaga, 2002). Therefore, even though RV has been widely recognized as a key variable in the building of effective customer relationships, there are some concerns, both theoretical and methodological, regarding the relevance of RV to predict relational outcomes that need to be taken into consideration (Spiteri and Dion, 2004).

The present study compares two research models in which the focal constructs and their inter-linkages that each perspective proposes suggest drivers of behavioural intentions. Consistent with Hutchinson *et al.'s* (2011) work, we assess the two perspectives by testing the inter-linkages of the constructs of relationship quality (RQ), relationship value (RV), and behavioural intentions (BI). For model comparison reasons, and reflecting prior research, the same constructs are used in each model, with the RV construct being introduced in model 2 (relationship value perspective). Then, we present the focal constructs of the study as well as a discussion of the research models and the hypotheses that drive our study.

2.3. Focal constructs

In the B2B marketing literature, the ***behavioural intentions (BI)*** construct usually refers to intention to repurchase from the same supplier and recommending a supplier to other customers (word of mouth) (Eggert and Ulaga, 2002; Kumar and Grisaffe, 2004). In line with previous studies (Kumar and Grisaffe, 2004; Hutchinson *et al.,* 2011), we identify repurchase intention and word of mouth as two key indicators of behavioural intentions in business markets, and we use them to operationalize the BI construct.

Relationship quality (RQ) is usually viewed as the evaluation of the strength of a relationship (Crosby *et al.,* 1990). While there is no general agreement in the literature on the variables that define relationship quality, satisfaction, trust, and commitment have emerged as key elements of relationship quality (Dorsch *et al.,* 1998; De Wulf *et al.,* 2001). Therefore, for the purposes of this study, RQ is comprised by the constructs of satisfaction, trust, and commitment.

Relationship value (RV) is usually defined as a trade-off between the benefits and sacrifices occurred in a relationship (Ulaga and Eggert, 2006a, 2006b). Even though relationship value is typically treated as a multi-dimensional higher-order construct, for efficiency reasons we operationalize relationship value using a uni-dimensional four-item measure (Ulaga and Eggert, 2006b). Benefits and sacrifices involve a number of factors, both financial and non-financial

(Biggemann and Buttle, 2012), such as revenues, reputation and ease of use (Grönroos, 2011; Keränen and Jalkala, 2013).

2.4. Modelling behavioural intentions in business markets

Based on the higher-order constructs discussed above, the current study examines two different research models that tap into the commitment–trust and relationship value theoretical perspectives. The first perspective (i.e. commitment–trust) suggests that a number of antecedents in customer relationships, both benefits and sacrifices, influence different indicators of RQ, which, in turn, affect BI. Other researchers have also found evidence for the impact of RQ on aspects of BI (Hewett *et al.,* 2002; Hennig-Thurau and Klee, 1997; Mitręga, 2012; Mitrega and Katrichis, 2010). Following this perspective, we predict that RQ positively affects BI.

From a rather different perspective, Ulaga and Eggert (2006a) introduce RV as a key parameter in the sequence of effects towards the development of BI. In particular, according to the relationship value perspective, RV is hypothesized to affect BI (Eggert and Ulaga, 2002; Bolton *et al.,* 2003). This perspective also argues that, as opposed to the commitment–trust perspective, RQ affects BI indirectly, through RV (Ulaga and Eggert, 2006a; Yang and Peterson, 2004; Chen *et al.,* 2017). These linkages are presented in the research models shown in Figure 1.

PLACE FIGURE 1 AROUND HERE

2.5. Moderating role of environmental uncertainty

Contingency theory argues that corporate success requires that the firm's strategy should be consistent to the environment conditions (e.g. Lawrence and Lorsch, 1986). The study focuses on environmental uncertainty, a frequently studied contingent factor, as prior literature has provided empirical support for the important role environmental uncertainty plays in inter-organizational relationships (Heide and John, 1990). Environmental uncertainty is defined as the inability to predict how the factors that are beyond the control of the firm will function in the future (Beckman *et al.,* 2004).

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Research in buyer/seller relationships has provided evidence that the success of relational exchanges may differ according to the environmental uncertainty. The key argument is that relational factors (e.g. trust, commitment, information sharing) improve relationship performance when there is high environmental uncertainty (Noordewier *et al.,* 1990; Fink *et al.,* 2008). More specifically, in high levels of uncertainty exchange partners are increasingly seeking to build strong, collaborative relationships to differentiate in the market. We can therefore argue that in high-uncertainty conditions relational norms will increase RM performance (Cannon *et al.,* 2000; Palmatier *et al.*, 2007).

In addition, in conditions of high uncertainty firms need to adopt more flexible, relational-based exchanges in order to increase trust between the buyer/seller dyad (Cannon and Perreault, 1999). Similarly, given the higher likelihood of tensions and conflicts in conditions of high uncertainty, it is vital for exchange partners to establish constructive conflict-resolution mechanisms to minimize the likelihood of conflict (Palmatier *et al.,* 2007). We can therefore argue that under high levels of uncertainty the positive effect of relational norms on performance will become stronger, as there is a need for more flexibility in the relationship (Palmatier *et al.,* 2007). This is in line with previous studies which highlight the importance of flexibility in B2B relationships when there is high uncertainty in the market. In particular, Dahlstrom and Nygaard (1995) show that under conditions of high environmental uncertainty, the structures that emerge between exchange partners become more rigid, which, ultimately, exerts a negative effect on performance. In a similar vein, relational norms are found to improve performance under conditions of high-uncertainty (Cannon *et al.,* 2000). There is strong evidence therefore that environmental uncertainty can moderate the effectiveness of RM efforts in business markets.

The transaction cost theory (cf. Noordewier *et al.,* 1990) suggests that performance effectiveness requires a fit between the governance structure employed and the underlying exchange norms (Williamson, 1979; Rindfleisch and Heide, 1997). Accordingly, due to the information asymmetry that often characterizes uncertain environments, the firm that holds the information can take advantage of this and exert an opportunistic behaviour over the other party (Klein *et al.,* 1990). In line with this, Dyer (1996) suggests that in conditions of high environmental uncertainty, when there

is information asymmetry, the specific investments that both parties contribute in the relationship can enhance performance. On the contrary, in more stable environments, when there is symmetry of information in the relationship, the investments in the relationship are not expected to have such a critical influence on performance outcomes. Building on this premise, Palmatier *et al.* (2007, p. 178) argue that as the relational norms in the relationship become stronger, the cooperation between the exchange partners is increased and the opportunistic behaviours are reduced. Palmatier *et al.* (2007) therefore conclude that environmental uncertainty increases the impact of the relationship efforts of the exchange parties on performance and the negative impact of opportunistic behaviours on relational outcomes is reduced. Similarly, Noordewier *et al.* (1990) found that while relational choices enhance customer performance in conditions of high environmental uncertainty, no similar effects on customer performance are found when the context is more stable.

These advancements indicate that the study of environmental uncertainty can help us better understand why and how the RM effectiveness may vary depending on the specific environmental context (Palmatier *et al.,* 2006). Current research builds on and extends current scholarship by testing the potential moderating effects of environmental uncertainty on the link between RM efforts and customers' behavioural intentions across the theoretical perspectives of commitment–trust and relationship value. In the present study three main types of environmental uncertainty were included: market diversity, competitive intensity, and technological uncertainty (Jaworski and Kohli, 1993; Miller and Dröge, 1986; Slater *et al.,* 2010). The present study focuses on these variables as they have been argued to influence the linkage between marketing practices and performance in business markets (Achrol & Stern, 1988; Fink *et al.,* 2008; Tsai *et al.,* 2008; Wang and Fang, 2012). Market diversity involves the extent to which the needs of buyers differ (Achrol and Stern, 1988). Market diversity is expected to enhance the impact of RM efforts on performance, because building and maintaining long-term customer relationships becomes crucial when a firm has to deal with an evolving mix of customers. Firms operating in conditions of high market diversity are likely to have greater need to invest in RM to track and respond to evolving customer needs, comparing to firms operating in more stable markets. Therefore, the following hypotheses are proposed:

Commitment–trust perspective:

H1a: RQ is more strongly associated with BI when there is high market diversity.

Relationship value perspective:

H2a: RQ and RV are more strongly associated with BI when there is high market diversity.

Similarly, when a firm has to deal with aggressive competitors it is important to rely on RM efforts in order to achieve customer retention and, ultimately, compete successfully in the market. Otherwise, there is always the danger that the customers will switch to competitors, given that they have lot of alternatives (Jaworski and Johli, 1993). On the contrary, in conditions of low competitive intensity, a firm may perform well for reasons other than the achievement of a strong relationship such as lack of alternatives or high termination costs. Therefore, the importance of RM efforts appears to be increased under conditions of high competitive intensity. The following hypotheses are proposed:

Commitment–trust perspective:

H1b: RQ is more strongly associated with BI when there is high competitive intensity.

Relationship value perspective:

H2b: RQ and RV are more strongly associated with BI when there is high competitive intensity.

Technological uncertainty involves the extent of technological changes in the market (Jaworski and Kohli, 1993). When technology is rapidly changing, firms may achieve their objectives through technological innovations and, hence, the investment in RM may not be so important. Conversely, when the technology is rather stable (hence limited technological changes) firms will have to rely on RM to a greater extent to achieve their objectives, as it would be difficult to differentiate through technological innovations. It should be noted that to the extent that conditions of high technological uncertainty exist, the importance of RM efforts in driving relationship success is diminished - not

eliminated. Stated differently, in conditions of high technological uncertainty the importance of RM efforts may be reduced due to the enhanced role of technological innovations in gaining competitive advantage, however the linkage between firm's efforts to build strong customer relationships and performance remain strong (Palmatier *et al.,* 2006). On these grounds, the following hypotheses were formulated:

Commitment–trust perspective:

H1c: RQ is more strongly associated with BI when there is low technological uncertainty.

Relationship value perspective:

H2c: RQ and RV are more strongly associated with BI when there is low technological uncertainty.

3. Methodology

3.1. Sample and data collection

The empirical study was conducted by collecting data from purchasing managers of UK manufacturing firms. A structured questionnaire was used as a research instrument. A random sample of 1000 companies, ranging from small enterprises to multi-billion companies, was provided from business list directories. The sample included firms from various industries, such as machinery, chemicals, metal products, mineral products, plastic products, and electrical equipment (a more detailed description of our sample can be provided on request). The study focuses on senior-level managers, as they are expected to have an overview of the firm's relationships with suppliers. The questionnaire along with a cover letter were sent to the head of the purchasing unit via email asking the questionnaire to be filled in by a manager familiar with the firm's purchasing decisions (purchasing manager or similar position). Firms not responding after three weeks were emailed a follow-up letter and another questionnaire. Overall, 228 completed questionnaires were returned, providing a response rate of 23%. Table 1 presents the description of our sample, which is acceptable compared to the rates obtained in similar studies (Ulaga and Eggert, 2006b; Palmatier *et al.,* 2008; Hutchinson *et al.,* 2011).

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A t-test analysis was performed to identify potential non-response bias between early and late respondents (Armstrong and Overton, 1977). No significant mean differences were found between them, indicating that non-response bias is not a concern. Also, a number of tests were carried out to assess for potential common method bias (Podsakoff *et al.,* 2003). First, participants were guaranteed that their answers will be treated anonymously and confidential. Second, we used existing (and hence pre-validated) scales and pre-tested the questionnaire to ensure content validity and clarity of the questions. Third, we followed the Harman's single-factor test (Podsakoff *et al.,* 2003). The results showed that the first factor is responsible for 34% of the variance indicating that there is no common factor emerging from the data. Fourth, as an additional, more stringent test to Harman's single-factor test, we used confirmatory factor analysis. All items were loaded into one confirmatory factor with very poor fit statistics ($x^2(233)=1819.3$, CFI=0.49, NNFI=0.46, GFI=0.46, RMSEA=0.16), indicating that one latent factor does not account for all variables. Therefore, common-method bias appears not to be a problem in the study (Podsakoff *et al.,* 2003).

3.2. Measures

Measures used in the present study consisted of existing scales that were derived from a review of the relevant literature that has undergone into extensive scale purification process. The constructs and measurement items are presented in the Appendix. Then, a pre-test of the questionnaire was held with eight academics and fifteen practitioners to ensure content validity and that the questions do not suffer from lack of clarity. On the basis of the feedback, some items were amended to ensure precision and better adapt to the content of the study.

The reliability and the validity of the measures were assessed. First, all composite reliability values are above 0.7 (Hair *et al.,* 2006). Furthermore, Cronbach's alphas met the 0.7 criterion (Nunnally, 1978). These values indicate reliability of the measures (see Table 2).

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Convergent and discriminant validity were assessed following Fornell and Larcker (1981) recommendations. In particular, in all measures, Average variance extracted (AVE) was above 0.50, which indicates convergent validity (Fornell and Larcker, 1981). Also, the squared correlation between two constructs is smaller than the AVE for each construct, which also met the Fornell and Larcker (1981) criterion and, therefore, indicates discriminant validity.

4. Results

The structural models and the path coefficients were assessed using structural equation modelling by means of AMOS. The global fit indices of the two structural models indicate acceptable fit, particularly given the attenuation in fit measures for large models such as the ones tested here (Byrne, 1998). The fit indices for the 1st model are: $x^2(103) = 186.7$ ($p < .01$), CFI = .97, TLI = .96, and RSMEA = .05. The fit indices for the 2nd model are: $x^2(171) = 309.3$ ($p < .01$), CFI = .96, TLI = .95, and RSMEA = .05. Also, all regression coefficients are significant at the .05 level, which indicates that both models have predictive power.

4.1. Main effects

The standardized regression coefficients of the research models were estimated. Regarding the commitment–trust perspective, RQ has a positive effect on BI ($\beta = .41$, $p < .01$). In the examination of the predictors of BI following the relationship value perspective, as the results in Table 2 show, RV has a positive effect on RQ ($\beta = .28$, $p < .01$) and, as expected, RQ positively affects BI ($\beta = .37$, $p < .01$). In addition, the results show that RV has a direct influence on BI, which is weaker relative to the RQ impact, but still significant ($\beta = .24$, $p < .01$). All path estimates are statistically significant ($p < .05$) providing additional evidence of the predictive capability of the models (Kenny, 1979).

4.2. Moderating effects

Then, the potential moderating effects across the theoretical perspectives were assessed. Researchers have usually used the interaction term and the moderating variable to examine a

moderation effect following the recommendations by Baron and Kenny (1986). Advances in moderation analysis have been proposed in the literature since Baron and Kenny (e.g. Jose, 2013), focusing mainly on the use of structural equation modelling techniques to deal with measurement errors (Jöreskog and Sörbom, 1989) and more sophisticated/complicated moderated models such as g. three-way interaction effects, curvilinear, multiple moderate regression (Aiken and West, 1991; Cohen *et al.,* 2003). Following previous studies (Palmatier *et al.,* 2007; Palmatier *et al.,* 2008; Schepers and Wetzels, 2007), this study employed a multi-group structural model analysis to test the potential moderation effects using a median split (N = 114 in both groups). The present study has adopted this approach as it considered a suitable statistical method for testing moderation effects with latent variables (Sauer and Dick, 1993). Two models are compared: a constrained model where all paths are restricted to be equal across the two groups (e.g. high and low market diversity groups, high and low competitive intensity, etc) with a with a free model where the paths have no restriction. If the x^2 of the constrained model is significantly higher than that of the free model, then there is evidence of a moderating effect (Palmatier *et al.,* 2007). The testing of the moderating effects of market diversity, competitive intensity and technological uncertainty was performed for each theoretical perspective separately. The results are shown in Table 3.

Regarding the commitment–trust perspective, RQ has a more positive effect on BI in conditions of high competitive intensity than on those with low competitive intensity ($\Delta x^2 = 5.3$, *p* < .01), supporting H1b. Neither market diversity nor technological uncertainty significantly moderates the relationship between RQ and BI. Hence, results appear not to support H1a and H1c.

Coming to the relationship value perspective, the findings show that the impact of RQ on BI is greater when competitive intensity increases ($\Delta x^2 = 3.9$, *p* < .05), whereas RV's impact on BI is not moderated by competitive intensity, as its effect does not differ significantly between the high and low competitive intensity groups. Thus, H2b is partially supported. The moderating role of market diversity yields mixed results. In particular, market diversity moderates the effect of RQ's on BI ($\Delta x^2 = 4.3$, *p* < .05), but the impact of RV on BI is not significantly moderated. Hence, H2a is also partially supported in the relationship value perspective. Finally, the results show that the moderating impact of

technological uncertainty on either the RQ – BI or the RV – BI link is insignificant, thus H2c is not supported.

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5. Discussion

Prior research has argued that relationship marketing (RM) efforts do not always generate positive results (Palmatier *et al.,* 2008; Grayson and Ambler, 1999). Environmental uncertainty can partly explain the variance in the success of RM efforts (Palmatier *et al.,* 2007; Heide and John, 1990). Beyond this broad generalization, little is known about how environmental uncertainty affects the generation of customer-focused outcomes in buyer/seller relationships. The empirical studies on this topic have typically focused on the performance outcomes from the supplier or the customer perspective only (cf. Palmatier *et al.,* 2006). Our study is not an exception, as it also does not capture both the buyer and the seller perspective (a point that is discussed further in the 'Limitations' section). However, it aims to shed more light on the influence of environmental uncertainty on the effectiveness of RM efforts in business markets by focusing on customers as the unit of analysis, a rather under-researched perspective in the B2B marketing literature. Moreover, the study evaluates whether the application of the commitment-trust and relationship value perspectives can absorb part of the uncertainty and hence provide sufficient explanation for the generation of behavioural intentions (BI) in business markets. This is a worthwhile effort, as most researchers investigating customer relationship performance use a single theoretical perspective and each perspective, either implicitly or explicitly, tends to propose a different set of drivers and a different nomological ordering of key constructs. To some extent, the study differs from related works in the field (e.g. Hutchinson *et al.,* 2011; Palmatier *et al.,* 2007) that have integrated the various relational drivers into a single framework. Although we acknowledge the value in synthesizing constructs from different perspectives to develop a single theoretical framework as this can lead to models of higher predictive power, the present study focuses on two closely related, though discrete theoretical perspectives, to better capture and compare each perspective's focal constructs on BI. The use of a common context was deemed necessary for comparison reasons. The examination of both theoretical perspectives

provides additional evidence in the assessment of the role that environmental uncertainty plays in explaining behavioural intentions in business markets.

The study provides support for the predictive power of the commitment–trust and relationship value perspectives in explaining BI in business markets. The findings are in line with previous studies in the field (Morgan and Hunt, 1994; Spiteri and Dion, 2004; Hutchinson *et al.,* 2011) and support the main premise of the commitment–trust perspective that relationship quality (RQ) affects BI. Also, and in line with the findings of Ulaga and Eggert (2005, 2006a, 2006b), the results indicate that relationship value (RV) is a key determinant of relationship effectiveness. Even though the relevance of RV in understanding BI in business markets has been questioned (Spiteri and Dion, 2004), the findings show that RV affects BI, and that RQ has also an effect, both direct and indirect through RV, on BI. The study concludes, and consistently with Hutchinson *et al.* (2011), that both commitment–trust and relationship value are relevant perspectives in explaining BI in business markets.

The results of the moderation analysis show that most of the hypotheses are not supported, with a few exceptions. First, in the case of the commitment–trust perspective, the results show that the positive impact of RQ on BI increases as competitive intensity increases, indicating that when competition is high, and hence attracting new customers is very difficult and/or very expensive (Reichheld, 1996), the investment in long-term relationships becomes more important. Second, when the relationship value model is applied, RM efforts, through the development of RQ, are found to have a greater impact on BI in situations where there is high competitive intensity and high market diversity. These findings indicate that high competitive intensity (primarily) and high market diversity (to a lesser extent), as sources of environmental uncertainty, facilitate the generation of behavioural intentions. Arguably, in conditions of high competitive intensity and high market diversity, exchange firms may attempt to invest in RM efforts, such as relationship quality and relationship value, to deal with uncertainty.

All the other hypothesized moderating effects proved to be not significant. More specifically, results do not support the moderating effect of market diversity and technological uncertainty on the links between the focal constructs (RQ and RV) and BI. It can be argued that, overall, the effects of

relationship quality (RQ) and relationship value (RV) on behavioural intentions (BI) are not sensitive to environmental uncertainty. This provides evidence to the assumption that the commitment-trust and relationship value perspectives suggest relevant theoretical paradigms to explain the generation of the BI and, to a large extent, absorb the environmental uncertainty in buyer/seller relationships. This imply that the effect of RM efforts on the generation of BI appears to be strong regardless of the level of market diversity and technological uncertainty the firms may face. (Alternatively, in some instances the non-significance of the hypothesized links may be due to measurement error or wording biases. To address these issues, the recommended steps [Bagozzi and Yi, 1988; Nunnally, 1978; Podsakoff *et al.,* 2003] were carefully followed, but there is always such a possibility.) That is not to say that RM effectiveness is largely independent of the environmental uncertainty surrounding the relationship; however, the results indicate that the endogenous factors in a buyer/seller relationship, in other words the factors that the firm can influence and/or determine to a large extent (the value delivered to the customer, RM investments, the trust and commitment between the exchange parties), have a greater impact on BI than the environmental effects. This is also in line with empirical studies on market orientation, which have found limited support for the moderating effect of environmental factors on the link between the market orientation and performance (cf. Kirca *et al.,* 2005).

6. Conclusions

6.1. Research contribution

The present study's contribution to the B2B marketing literature on buyer/seller relationships is twofold. First, an examination of the commitment–trust and relationship value perspectives is proposed, which have often been viewed in isolation from each other. Most researchers investigating the performance of customer relationships use a single theoretical perspective and, because each perspective tends, either implicitly or explicitly, to propose a different set of drivers and a different nomological ordering of key constructs, there is a lack of consensus on which constructs drive behavioural intentions or the interplay between the focal constructs. Assessing the moderating effect of environmental uncertainty by examining both perspectives provides additional evidence for and

further confidence in the evaluation of the extent to which environmental uncertainty affects inter-organizational relationships.

Second, a number of hypotheses regarding the moderating role of environmental uncertainty in the focal constructs - BI link were not supported. The results are similar to previous studies (e.g. Ganesan, 1994; Noordewier *et al.,* 1990), which suggests that focal theories (such as commitment–trust and relationship value) in inter-firm relationships absorb or mitigate the influence of environmental uncertainty. This implies that although the role that the exchange context plays in the effectiveness of RM should not be ignored, the success of the relationship is, first and foremost, the outcome of the RQ and RV that are established in the buyer/seller dyad. In other words, endogenous factors appear to be more important than environmental effects when it comes to evaluating the reasons behind a successful (or unsuccessful) relationship in business markets.

Third, on a more general level, the study is in line with the argument that the contribution of a study should not depend on the support for hypotheses (Babin *et al.,* 2016). Previous studies have shown that nearly all hypotheses (over 90%) are supported in marketing journals (Hubbard and Armstrong, 1992, Armstrong, 2003). One possible explanation for this is a belief that null results will outweigh rigorous methodology. As a result, researchers prefer to test 'safe' hypotheses (Hubbard and Armstrong, 1992). However, the contribution of a study should not depend on the statistical significance of the results or support for hypotheses but to the extent the researcher is able to conduct meaningful and academically sound research (Babin *et al.,* 2016). Many of our hypotheses, although well grounded, were not supported by the empirical results mainly due to the predictive ability of the theoretical perspectives to absorb part of the environmental uncertainty in a buyer/seller relationship. The support or lack of support of hypotheses does not diminish the contribution of the study. Non-significant results, although seemingly unexpected, are particularly important to better understand the relative impact of environmental uncertainty in business markets beyond general assumptions that environmental uncertainty always affects buyer/seller relationships. The present study posits that both significant and non-significant results must be reported. In this way, more surprising findings can emerge that could help us discover something beyond what we know so far (Armstrong, 2003).

6.2. Managerial implications

This study has some significant managerial implications too. The study provides guidance on how decisions at a relational level can influence behavioural intentions in business relationships, and thereby provides marketers with a framework that can lead to better relationship marketing (RM) strategies. In particular, the findings of the study indicate that RQ and RV are strong determinants of BI in business markets, regardless of the environmental uncertainty the firm may face. It is important to note that although the study failed to find strong moderating effects of environmental uncertainty on BI, there is some evidence of environmental effects, mainly with regard to competitive intensity. In practice, while suppliers may be well aware of what they need to do in order to achieve successful customer relationships, sometimes they may not be able to do it, or not to a great extent at least. This might be due to factors that suppliers cannot easily control, such as the level of competitive intensity (or other factors that go beyond the scope of the current study, such as the sector characteristics or the balance of power with customers). Although the environmental factors cannot be ignored, suppliers should be motivated to engage in the delivery of superior value to customers via increasing RV and establishing RQ between suppliers and customers. The benefits of such a strong relationship are significant (i.e. favourable behavioural intentions) and, as the findings imply, the customers' BI can be facilitated by the supplier's RM efforts. Therefore, firms may find it useful to allocate more RM efforts and investments to customer relationships with higher levels of uncertainty. The potential environmental uncertainty, although not to be ignored, appears to have a relatively smaller contribution in determining relationship effectiveness.

7. Limitations and future research

The study has a number of limitations that suggest opportunities for future research. First, the study focuses only on the three dimensions of environmental uncertainty – namely, market diversity, competitive intensity, and technological uncertainty – and cannot be generalized beyond that. It is likely, as also argued by Achrol and Stern (1988), other dimensions of environmental uncertainty might produce different results. Although the conceptualization in this study is well grounded, the constructs that are examined as part of the current study, apparently, are not exhaustive. Additional

dimensions of environmental uncertainty could be embedded in models of business relationships by future studies.

Second, for efficient reasons and due to the limitations that relate to the number of parameters we used unidimensional scales to measure the key constructs of our study. Although measures for the study consisted of established scales from previous studies, and hence pre-validated, we recognise that the indicators of some constructs suggest separate constructs (e.g. satisfaction, commitment, and trust). Future researchers may want to use separate measurement scales for the measurement of the sub-dimensions to provide a more comprehensive view of the constructs, capturing a wider range of their facets.

Third, the current study investigates the customer perspective only. Although the collection of empirical data from both the buyer/seller dyad is not an easy task, especially in business markets, we acknowledge that this is a limitation that prevents us from fully understand the entirety of the relationship performance picture. Future dyadic research will be able to offer a more holistic view of the focal constructs and their performance outcomes, and will compare/contrast the differences in their (buyers' vs sellers') perspectives.

Fourth, the study hypothesizes that the focal constructs will positively affect BI and that environmental uncertainty may moderate this positive relationship. Both of these assumptions may not be applicable to all contexts. Sometimes relational constructs, even though seemingly 'positive' such as trust, commitment, and information sharing, may lead to reduced returns (Palmatier *et al.,* 2007) or even to negative impacts on performance (De Wulf *et al.,* 2001). Put it simply, it is not always 'the more, the better'. The study of how buyer/seller relationships can result in negative effects has been the focus of an emerging body of literature in business markets, the 'dark side of relationships' (Grayson and Ambler, 1999; Abosag *et al.,* 2016). Future research examining both positive and/or negative effects of the focal constructs on relationship performance and how these effects might differ in conditions of high/low environmental uncertainty could provide a more holistic view of the environmental effects on customer relationships.

Finally, the heterogeneity of our sample (large and small firms from various industries) warrant some caution before the findings can be generalized. For example, the importance of endogenous factors over environmental effects when evaluating the drivers of a successful relationship may differ between a SME, which usually have very strong relations with their loyal customers, and a large, rather faceless organisation. Although the control for such effects was beyond the scope of the study, future research might want to focus on specific, more homogeneous industries.

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Appendix: Measures

Construct	Items	Item loadings
Behavioural Intentions (BI) (Eggert and Ulaga, 2002)		
Purchase intention[a]	Next time we will again buy from this supplier	.88
	In the foreseeable future we will consider this supplier as part of our evoked set	.83
	We intend to continue the purchasing relationship with this supplier.	.89
Word of mouth[a]	This supplier can use us as a reference customer	.77
	We would be glad to serve as a reference customer to this supplier	.81
	We will recommend this supplier to other purchasing managers	.85
Relationship Quality (RQ)		
Satisfaction (Cannon and Perreault, 1999)[a]	Our firm regrets the decision to do business with this supplier (R)	.77
	Overall, we are very satisfied with this supplier	.82
	We are very pleased with what this supplier does for us	.84
	Our firm is not completely happy with this supplier (R)	.76
	If we had to do it all over again, we would still choose to use this supplier	.85
Trust (Doney and Cannon, 1997)[a]	The supplier keeps promises it makes to our business	.77
	The supplier is not always completely honest with us (R)	.81
	We believe the information that the supplier provides us	.83
	This supplier is genuinely concerned that our business succeeds	.48
	When making important decisions, this supplier considers our welfare as well as its own	.81
	We trust this supplier keeps our best interests in mind	.83

	This supplier is trustworthy	.86
	We find it necessary to be cautious with this supplier (R)	.76
Commitment (Morgan and Hunt, 1994)[a]	*'The relationship that my firm has with this supplier':* Is something we are very committed to	.88
	Is very important to my business	.91
	Is of very little importance to us (R)	.77
	Is something my business intends to maintain indefinitely	.81
	Is very much like being family	.84
	Is something my firm really cares about	.89

Relationship Value [a] **(RV)** (Ulaga and Eggert, 2006b)

	The main supplier adds more value to the relationship overall	.86
	We gain more in our relationship with the main supplier	.91
	The relationship with the main supplier is more valuable	.90
	The main supplier creates more value for us when comparing all costs and benefits in the relationship	.73

Environmental Uncertainty

Market diversity (Achrol and Stern, 1988)[a]	Demographic characteristics (income, profession, education, social class)	.79
	Preferred variety of product brands/features	.80
	Product preferences in price/quality	.82
	Credit needs	.74
Competitive intensity (Jaworski and Kohli, 1993)[a]	Competition in our industry is cut-throat.	.79
	There are many 'promotion wars' in our industry	.83
	Anything that one competitor can offer, others can match readily	.43
	Price competition is a hallmark of our industry	.86
	One hears of a new competitive move almost every day	.77
	Our competitors are relatively weak (R)	.75
Technological uncertainty (Jaworski and Kohli, 1993)[a]	The technology in our industry is changing rapidly	.81
	Technological changes provide big opportunities in our industry	.83
	It is very difficult to forecast where the technology in our industry will be in the next 2 to 3 years	.86
	A large number of new product ideas have been made possible through technological breakthroughs in our industry	.46
	Technological developments in our industry are rather minor (R)	.77

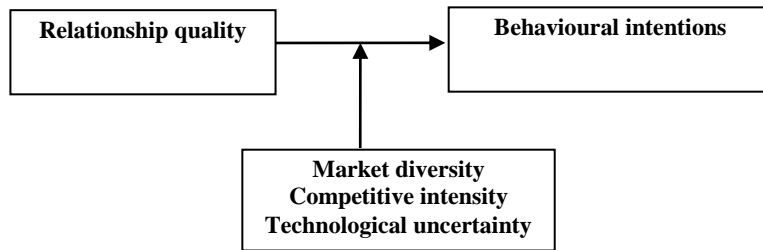[a] Seven-point scale with anchors 1=totally disagree and 7=totally agree
[b] Seven-point scale with anchors 1=much lower and 7=much higher
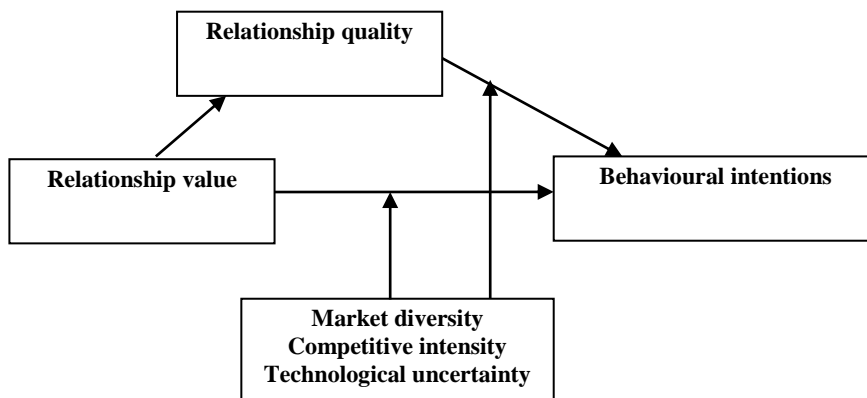Note: (R) denotes a reverse-coded item
Items with item-total correlations less than .30 and factor loadings less than .50 have been removed

Figure 1: Research models

Model 1: Commitment–trust perspective

```
┌──────────────────────────┐              ┌──────────────────────────┐
│   Relationship quality   │─────────────▶│   Behavioural intentions │
└──────────────────────────┘       ▲      └──────────────────────────┘
                                    │
                        ┌───────────────────────┐
                        │    Market diversity    │
                        │  Competitive intensity │
                        │ Technological uncertainty│
                        └───────────────────────┘
```

Model 2: Relationship value perspective

```
                    ┌──────────────────────────┐
                    │   Relationship quality    │
                    └──────────────────────────┘
                       ▲                   ╲
                      ╱                     ▶
┌──────────────────────────┐        ┌──────────────────────────┐
│    Relationship value     │───────▶│   Behavioural intentions │
└──────────────────────────┘        └──────────────────────────┘
                       ▲        ▲
                       │        │
                ┌───────────────────────┐
                │    Market diversity    │
                │  Competitive intensity │
                │ Technological uncertainty│
                └───────────────────────┘
```

Table 1: Sample description

		Total (n=228)
Industry	Machinery and equipment	20.6%
	Chemicals	15.8%
	Metal products	15.4%
	Food products	14.0%
	Mineral products	8.3%
	Plastic products	7.9%
	Electrical equipment	9.6%
	Office equipment	8.3%
Title of the respondent	CEO	6.6%
	Purchasing manager	25.0%
	Director of supply chain management	17.5%
	Marketing manager	16.2%
	Project manager	6.6%
	Sales manager	7.0%
	Executive director	11.4%
	Other	9.6%
Annual revenues	< £5 million	11.8%
	£5.1 million – £20 million	27.2%
	£20.1 million – £50 million	33.3%
	£50.1 million – £100 million	18.9%
	> £100 million	8.8%

Table 2: Measures properties

Constructs/ dimension	Mean	Std. De	α	CR	AVE	1.	2.	3.	4.	5.	6.
1. Behavioural Intentions (BI)	5.52	0.83	0.83	0.86	0.63	0.79					
2. Relationship Quality (RQ)	5.33	0.83	0.89	0.90	0.66	.59**	0.81				
3. Relationship Value (RV)	5.79	0.84	0.87	0.90	0.64	.56**	.34**	0.80			
4. Market diversity	3.82	1.44	0.80	0.81	0.54	-.09	.03	.15*	0.73		
5. Competitive intensity	6.27	0.99	0.79	0.81	0.57	.14*	.11	.02	.20**	0.75	
6. Technological uncertainty	4.19	1.42	0.75	0.76	0.52	.03	.08	.13	.62**	.17*	0.72

Notes: α = Cronbach's alpha, CR = Composite reliability, AVE = Average variance extracted

Correlation coefficients are included in the lower triangle of the matrix, and the square root of AVE is on the diagonal

* $p < 0.05$ ** $p < 0.01$

Table 3: Results: Hypothesized direct and moderation effects

Direct effects

Model 1: Commitment–trust perspective	β	t-value	Model 2: Relationship value perspective	β	t-value
RQ ⟶ BI	.41	6.76**	RV ⟶ RQ	.28	4.69**
			RQ ⟶ BI	.37	4.89**
			RV ⟶ BI	.24	3.62**

Moderation effects

	Market diversity			Competitive intensity			Technological uncertainty		
	β of low group	β of high group	Δx^2 (1 d.f.)	β of low group	β of high group	Δx^2 (1 d.f.)	β of low group	β of high group	Δx^2 (1 d.f.)
Commitment–trust perspective									
RQ ⟶ BI	.39**	.47**	.9	27**	.51**	5.3**	.34**	.45**	1.2
Relationship value perspective									
RQ ⟶ BI	.16*	.41**	4.3*	.25**	.43**	3.9*	.24**	.42**	1.3
RV ⟶ BI	.03	.27**	2.9	.11	.29**	3	.23**	26**	.02

Notes: β = standardized regression coefficients

* $p < 0.05$ ** $p < 0.01$