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## **Measuring Intangible Value in Business to Business Buyer- Seller Relationships: An Intellectual Capital Perspective**

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Roger's research interests are in business relationships and the value that is created in them. He is interested in how buyers and sellers can best manage relationships to mutual benefit. His current research centres on the identification of a set of measures for the intangible aspects of the value in business relationships between buyers and sellers, as seen from the point of view of the seller. Validation of such a set of measures will provide the basis for a useful tool for further work on relationships.

# **MEASURING INTANGIBLE VALUE IN BUSINESS TO BUSINESS BUYER-SELLER RELATIONSHIPS: AN INTELLECTUAL CAPITAL PERSPECTIVE**

## **ABSTRACT**

*The value in a firm's relationships needs to be developed and managed carefully and marketing managers need to be able to quantify this value in order to manage it and in order to argue for their share of the firm's resources to develop it. This paper describes a study that aims to test a hypothesised model of the intangible part of the value that is manifested in buyer-seller relationships and a set of scales to measure it. The focus of the research, which synthesises a framework from the intellectual capital literature, is on business to business situations and on the value of the relationship to the seller, rather than to the buyer. In the study described, data from a survey of relevant managers were analysed using confirmatory factor analysis and structural equation modelling techniques to test the hypotheses.*

## INTRODUCTION

We introduce this paper by outlining the aims of the research it describes, by establishing that relationships are resources with value, by defining the nature of the research in terms of the issues of value that it considers and then by discussing some ways in which intangible value can be measured.

## AIMS OF THIS STUDY

The aim of the research is to develop a model of the intangible part of the value that is manifested in buyer-seller relationships and a set of scales to measure it. We believe that a set of scales for measurement of this aspect of relationship value will be useful for managers when validated, because the value of a seller's relationships with its customers is an important contributor to the shareholder value of the organisation (Payne et al. 2000). Hunt (1997) has noted that a "firm's relational resources contribute to its organizational capital".

The value in a firm's relationships therefore needs to be understood and managed carefully and marketing managers need to be able to quantify their value in order to manage them as resources (Srivastava et al. 2001) and in order to argue for their share of the firm's resources to develop it (Srivastava et al. 1998). The effort to develop suitable scales for relationship value measurement is supported by calls for the quantification of market-based assets (Srivastava et al. 1998) and for the provision of meaningful "measures, inferences, and calibration" (Day and Montgomery 1999) in marketing.

The focus of the research is on business to business situations and is on the value of the relationship to the seller, rather than to the buyer. It is not on the "customer value" (e.g. Christopher 1996; Raval and Gronroos 1996) that is often the focus of relationship value research in marketing. It is specifically aimed at measuring the intangible part of the value in the relationship, rather than the tangible part, because assessment techniques are already available for the tangible part, such as "Customer Profitability Analysis" (e.g. Bellis-Jones 1989). It is also aimed at

achieving a broadly inclusive measure of the value rather than attempting to explain in terms of antecedents how that value comes about. Constructs derived from the intellectual capital literature are proposed as scales for this measurement. Based on the same literature, a model of relationship value and its manifestations is also proposed.

## RELATIONSHIPS AS RESOURCES

In a content analysis of the relationship marketing literature, Harker (1999) concludes that the following definition of relationship marketing by Gronroos (1994) has "best" 'coverage of the underlying conceptualisations of relationship marketing and its acceptability throughout the RM "community":

"Relationship marketing is to identify and establish, maintain and enhance and when necessary also to terminate relationships with customers and other stakeholders, at a profit, so that the objectives of all parties are met, and that this is done by mutual exchange and fulfilment of promises".

The profit outcome noted in this definition indicates that a relationship has value. The view of business buyer-seller relationships as resources that have value is well supported by the relationship literature, for example by the work of the IMP group and related researchers (Hakansson and Snehota 1982; Hakansson and Snehota 1995); by the application of the transaction cost literature to relationships (Wilson 1995); and by the writings in the marketing and management literature on the Resource Based Theory (Hunt 1997; Srivastava et al. 2001).

The vehicle for relationship marketing and its profit creation or value creation is the relationship entity and this entity is discussed in some detail in the literature. Wilson (1995; 1994) follows Thorelli (1986), Williamson (1991) and Borys and Jemison (1989) in using the word "hybrid" to describe relationships and describes (Wilson and Jantrania 1994, page 58) value creation as a stage in creating a hybrid relationship. We therefore have the concept of a relationship as a hybrid entity with value, which is a useful starting point for this research. Though a relationship, as a

hybrid, has characteristics of both a hierarchy (firm) and a market, the firm-like characteristics are of particular interest to this research. The existence of these characteristics supports the entity concept of a relationship and supports the application to a relationship of some of the value concepts that are applied to a firm, as will be discussed.

In accord with the view of relationships as valuable resources, interest is increasing in the measurement of that value and in the development of techniques for doing so. For example, Wilson and Jantrania (1994) outlined the components of relationship value as they saw them and Wilson (1995) synthesised many literature streams in his presentation of a comprehensive model of buyer-seller relationships that included discussion of their value. Mandjak and Durrieu (2000) describe a planned research project to investigate antecedents of relationship value that includes value from the seller's perspective. Hogan (2001) has discussed a proposed technique to assess the expected value of a relationship from the seller's perspective. However, despite calls in the literature for empirical studies of aspects of relationship value, few have been done, especially from the seller's point of view. One of these is by Werani (2001), who tested a model of buyer-seller relationship value in terms of both benefits and sacrifices from both sides of the dyad.

## VALUE IN RELATIONSHIPS

Value in a relationship has several issues that need to be considered in order to establish what it is that is to be measured in the research described in this paper. The first defining point is that the research is limited to business to business relationships and to a dyadic view of them rather than the broader network view discussed for example in the IMP literature (Hakansson and Snehota 1995). The viewpoint is of the relationship as a market-based asset of the seller, as described by Srivastava (2001; 1998).

A prime issue concerning relationships is that of their tangible value versus their intangible value. The tangible aspects of the value are relatively easily measured by extrapolating revenues and costs into the future, in the technique known as

“Customer Profitability Analysis”, described for example by Bellis-Jones (1989). The part of the value for which assessment tools are needed is the intangible aspect, and as pointed out by Morgan and Hunt (1999), it is the intangibility and hence inimitability of relationships that makes them important. Hence it is this intangible aspect that is the subject of this research.

Closely related to the issue of tangible versus intangible value is the issue of the time of the recognition and the manifestation of value. Researchers in fields such as accounting (Kaplan and Norton 1992; Kaplan and Norton 1993), intellectual capital (Roos et al. 1997) and marketing (Srivastava et al. 2001) note that intangible assets are associated with current and future value and with future performance. This research is concerned with the measurement of current and future value and the future performance that is the manifestation of that value.

## MEASUREMENT OF THE INTANGIBLE VALUE OF RESOURCES

A literature search for techniques of value assessment that include the measurement of intangible as well as tangible aspects of the subject resource reveals that several disciplines have developed or proposed ways to do this that are conceptually similar. They are based on discounted cash flow (DCF), which is the standard financial technique for value assessment. The DCF technique (for example, as described by Brealey and Myers 1988) can include an allowance for intangible value in the discount rate, but for thorough incorporation of intangible value aspects, measures need to be developed specifically for the type of resource under consideration.

Measures that extend the DCF technique to cope with high levels of intangibility have been developed for the valuation of some types of assets, although controversy still surrounds the use of these extended techniques, particularly with respect to the incorporation of these valuations in balance sheets. One of these asset types is the brand, for which the process is essentially to calculate a nett present value (NPV) of the future cash flows specifically associated with the brand and incorporate perceptions of brand strength (see e.g. Keller 1998) to modify the discount rate used.



Brand strength is a measure specifically developed as a factor to account for the more intangible and strategic aspects of the brand as a resource.

Rust's (1995) proposed framework for Return on Quality related to customer service programmes incorporates, amongst other things, the information from customer satisfaction surveys combined with changes in revenues and costs for the programme. A NPV for the programme is then calculated. Ehling's (1992) technique for calculating effectiveness of media spending takes intangible aspects of a communications programme and gives them dollar values which are combined with dollar values of other, more tangible, costs and benefits. A NPV is then calculated for the programme as a whole. The Dow Technology Factor method (Anonymous 1994 reviewed 1996) first calculates the NPV of the incremental business resulting from the resource which is the subject of the assessment and then multiplies this NPV by a Technology Factor which is less than or equal to one. The Technology Factor is assigned by a valuation team on the basis of the utility of the subject resource and its competitive advantage attributes and thus assesses its less tangible and more strategic aspects.

These valuation techniques have a common conceptual structure: they use discounted cash flow to calculate a present dollar value for the readily quantified cash flows, they estimate another "soft" factor for the intangible aspects, and they bring these two factors together to calculate one final dollar value that estimates both tangible and intangible aspects.

The aim of this research is thus to identify a set of measures that potentially will assess the intangible aspects of the value of a relationship in similar fashion to the factors used in the techniques described above. The challenge is to find a framework that will as inclusively as possible assess intangible relationship value. The following section describes the approach of this research to that challenge by utilizing the concepts of the resource based view of the firm and the intellectual capital literature.

## A CONCEPTUAL FRAMEWORK FOR RELATIONSHIP VALUE

The resource based view of the firm as applied to relationship marketing and the intellectual capital literature appear to provide a framework for the measurement of intangible relationship value, as described in the following paragraphs. Adopting a resource based view of relationship marketing, Morgan and Hunt (1999, p. 283), in discussing the conditions for the adoption of relationship marketing for competitive advantage, provide a list of “Types of Resources Gained in Marketing Relationships”. As they point out, an organisation can achieve competitive advantage by combining the resources it gains access to, by way of an inter-firm relationship, with its own resources. The authors’ resource descriptions categorise the resources that can be derived through its relationships and provide some indication of the ways in which they might be operationalised.

Two of the resource categories noted by Morgan and Hunt (1999), which are the financial and physical resources, may be described as the tangible ones. Four of the noted categories, namely the human, organisational, relational and informational resources, may be regarded as the more intangible ones and thus are the ones that are of specific interest to this research. Legal resources, which form the other category discussed by Morgan and Hunt (1999), are relatively tangible in that they may have property rights ascribed to them and generally have established techniques for their valuation, but they also have considerable intangible aspects. They are included with intangibles for the purposes of this research, thus aligning them with the categorisation adopted in the intellectual capital literature, which we now discuss.

The intellectual capital literature is of interest because it clearly differentiates between tangible resources, which it refers to as financial capital, and intangible resources, which it refers to as intellectual capital. As with the resource based view of the firm, it has its origins in the work of Penrose (1959) on the theory of the firm. Although the intellectual capital literature is in early stages of development and writers have different ways of describing the structure of intellectual capital, the

fundamental structure of these categorisations is very similar to the categorisation of marketing relationship resources provided by Morgan and Hunt.

The literature distinguishes between two types of capital in a firm. One is the financial capital, which comprises monetary and physical capital and is thus its tangible capital. The other is the intellectual capital, comprising in turn six categories. These are described by Roos (1997) as three human components, namely the competence, attitude and intellectual agility of the staff and three structural components, namely its relationships, its organisation and its capacity for renewal and development. These categories correspond fairly closely to those used by other writers.

The categorisations of intellectual capital are of particular use to this research, because they give an inclusive coverage of the intangible aspects of the value of a firm or a hybrid entity such as a relationship and map well onto the resource categories of a relationship that are noted by Morgan and Hunt (1999). Writers in the intellectual capital literature provide considerable information on the way in which the categories might be operationalised. Bontis (1998; 2000) has operationalised the intellectual capital categories and used them for empirical research, but not in a format that is usable for this research. However, the work both by practitioners at, for example, the financial services firm Skandia, (Anonymous 1994) and by academics such as Bontis (2002), Roos (1997) and others gives much assistance with operationalisation and is the basis for the proposed relationship value scales tested in this research.

Synthesis of the literature streams discussed above points to the way in which the intangible value in a relationship might be modelled in terms of the intellectual capital constructs, based on of the sets of resources achieved in the relationship as described by Morgan and Hunt (1999). Figure 1 thus shows a hypothesised model of the set of constructs, and the relationships between them, that were investigated in this study. Our hypothesis is that this is a representation of the structure of the intangible part of the value of a business to business buyer-seller relationship and its consequence, referred to as future financial performance.



*Figure 1: Theoretical model of intangible relationship value*

The six constructs on the left of the model are hypothesised as metrics of relationship value. They are based on the categories of intellectual capital or intangible value in a firm as described by Roos et al (1997). When operationalised, these are proposed as a set of scales for relationship value. Based on the work of Roos et al (1997), the model is conceptualised as having multiple levels, with two constructs, human intangible value and structural intangible value, between the six value constructs and the total intangible relationship value. Future financial performance is included in the model as a consequence of intangible value to provide a test of nomological validity of the value constructs. Srivastava et al (2001) and Morgan and Hunt (1999) note financial performance as an outcome of resource value, hence its inclusion.

The model illustrated in Figure 1 provides the theoretical framework for the research. The following method section describes the empirical part of the research and its analysis based on this framework.

## METHOD

The process for the research was as follows. A literature search provided the starting point for the operationalisation of constructs in the hypothesised model. Seven exploratory interviews with managers were conducted and analysed to check face validity of the constructs. The interview analysis provided more items for inclusion in the questionnaire used to collect the data for the main analysis, which was done with structural equation modelling software. The following sections give more detail of this process.

### *Measurement instrument development*

The six value metric constructs in the model described above were operationalised on the basis of the following domain descriptions, from sources in the intellectual capital literature, particularly Roos et al (1997) and Bontis (1998; 2002), but also taking cognisance of the work of Edvinsson and Malone (1997) and others. Many of these constructs have their origins in the work of Hamel and Prahalad (1994) and Nonaka and Takeuchi (1991). The domains of the human aspects are described first, then those of the structural aspects.

Competence is seen as that property which generates value “through knowledge, skills talents and know-how of employees” Roos et al (1997). The concept derives from the work of Hamel and Prahalad (1994). Attitude is a matter of personality traits and “covers the value generated by the behaviour of the employees on the workplace” (Roos et al. 1997). Roos et al (1997) suggest that the components of attitude are motivation, behaviour and conduct. Intellectual agility is the ability to use competences and to apply them and increase them through learning as described by Prahalad and Hamel (1990). Suggested components for intellectual agility are, for example, innovation and adaptation capabilities.

The relationships referred to in the construct in the model are those that a seller gains access to in its dealings with the buyer, for example the buyer’s alliance partners and shareholders. Morgan & Hunt (1999, p. 284) note in the broader

context that “relationships”, as well as including internal relationships, includes those “between the organization and its various external partners. For example, in the U.S. automobile industry, manufacturers realize the value of the relationships that dealers have with consumers”.

The “organisation” construct refers to attributes or possessions of the buyer that the seller may gain benefit from in its dealing with the seller. It includes such resources as databases, process manuals, culture and management styles, internal networks, and also intellectual property such as patents, trademarks, brands and processes that have legal protection. Renewal and development refers to those items “that have been built or created and that will have an impact on future value, but have not manifested that impact yet” (Roos et al. 1997) and from which the seller benefits in its relationship with the buyer. Examples are plant, machines, and training courses, but only as far as the planning stages.

Multiple items were used in the questionnaire for all the six value constructs and for the future financial performance construct. The items for the value constructs were drawn largely from the domain descriptions in the literature which are briefly described above. Some modifications and additions resulted from a set of seven interviews with relevant managers conducted after the literature search. Although there is a clearly hypothesised path structure for the model, there was little guidance in the literature as to which potential items from the literature and from the interviews with managers would best capture the domains of the six value constructs. There were thus 42 items included in the questionnaire for those constructs to give some certainty that the domains would be adequately captured, with the understanding that quite a few items might be eliminated in the analysis stage. There were 4 items for the future financial performance construct included in the model, asking about sales revenue, share of business, profitability, and return on investment.

Seven-point Likert-type statements were used in the questionnaire, for model constructs, with only the end-points of the scales labelled. The anchor points were, for example, “Strongly disagree” to “Strongly agree” and “Not at all” to “To a very great extent”. The questionnaire items that remained in the scales after analysis are given in the Appendix.

The draft questionnaire was given to academics with knowledge of the relationship field and to others with expertise in questionnaire design for their comments. After appropriate modification, practitioners were then asked to work through it. Minor additional modifications were made on the basis of this and 200 questionnaires were then mailed out. The 28 responses from this pilot survey indicated that there was a need to specify more exactly the selection criteria by the respondent for choice of subject for the questionnaire as noted in the next section, but little else was changed.

### *Sample and data collection*

The self-administered mail questionnaire was distributed to a randomly selected sample from a sample frame comprising managers in marketing or sales positions in New Zealand suppliers or distributors of manufactured goods on the database of a multinational directory company. After telephone verification of recipient names and addresses, 1407 questionnaires were mailed out and 318 responses received back after mailing of a postcard reminder, for a 23% response rate. Of the 318 responses, 314 were usable. Early and late responses were analysed as suggested by Armstrong and Overton (1977) to assess non-response bias; significant differences were not found in *t*-tests on key items in the questionnaire.

Some information on the size of the responding companies is provided in Table 1. The New Zealand economy is a small one, so the sample is a good representation of the size of companies in the sector and the distribution of sizes is similar to that in the sample frame.

The respondents were mainly sales managers (44.6 %), marketing managers (21.0 %), sales and marketing managers (13.7 %) or in a CEO/General Manager/Director position (8.6 %). Others were in positions such as product manager or customer service manager, so they were qualified to respond concerning relationships with sellers. The buyers used by respondents as the questionnaire subject came from a range of primary product, manufacturing and service firms.

Number of employees in respondent's firm	Percentage of sample
5 to 9 inclusive	9
10 to 19 inclusive	16
20 to 49 inclusive	32
50 to 99 inclusive	19
100 to 199 inclusive	9
200 to 499 inclusive	11
500 to 999 inclusive	3
1000 or more	1

*Table 1: Size of companies in the sample*

In the pilot study, it was established that if respondents were left to choose for themselves which relationship they used as the subject for their questionnaire answers, they would tend to choose a good one, thereby providing data that were skewed and did not have as much variance as desired for effective analysis. We needed good variance in the data for effective covariance analysis, so based on an approach used by Anderson and Narus (1990), respondents were asked in the main study to select their fourth largest customer as the subject. This approach, reinforced by discussion of their fourth largest customer with several sales managers prior to mailing the main survey, helped to obtain a spread of relationship types. We obtained a wide range of relationship durations and standard deviations ranging from 1 to 1.6 on the 1 to 7 scale for validation items such as “Our firm shares a lot of goals with this customer”.

Key data was sufficiently close to normal that transformations were not needed before analysis, as judged on the basis of the simulation work of Curran (1996) and on the basis of the non-normality analysis provided by the Amos® software.

### *Data analysis*

Because the approach to the research required the confirmation of a clearly specified model of relationship value, we used confirmatory factor analysis for development and evaluation of the scales, rather than exploratory factor analysis. The confirmatory factor analysis technique has the benefit that it directly tests for unidimensionality (Gerbing and Anderson 1988), which is a critical requirement of a



scale. A measurement model comprising all six value constructs and their indicators in the questionnaire was specified in the Amos® structural equation modelling software and then re-specified step by step to obtain a good fit by the removal of indicators. This re-specification was done on the basis of theoretical considerations and with the use of the modification indices provided by the Amos® software.

A selection of fit statistics for the initial and the final specifications for the value constructs measurement model are shown in the upper section of Table 2. On the basis of the criteria set by Hu and Bentler (1999) and Hair (1998), the statistics indicate a good fit for the final specification, which has 22 indicators in total for the six constructs, and thus comprises a parsimonious set of scales, with three or four indicators per construct. All scales have reliabilities in excess of the recommended lower level of 0.7 (Hair et al. 1998), as shown in Table 3.

In view of the re-specification needed for the evaluation of the value construct indicators, there is the possibility that the analysis has “capitalised on chance” (MacCallum 1986; MacCallum et al. 1992). Further data collection and analysis from a new sample is therefore needed for validation of the results. However, we did get some additional support for the hypothesised scales from an exploratory factor analysis, with Varimax rotation, of the items for the value constructs. These loaded very clearly onto six factors, in the pattern as hypothesised, and thus gave support to the outcome of the confirmatory factor analysis.

	CMIN	Df	p-value	CMIN/Df	SRM R	RMSEA	TLI	GFI
<b>Value constructs model</b>								
Initial specification	2094.6	804	0.000	2.61	0.066	0.072	0.828	0.754
Final specification	286.5	194	0.000	1.48	0.039	0.039	0.968	0.928
<b>Future benefits model</b>								
Initial specification	133.5	19	0.000	7.03	0.077	0.139	0.873	0.907
Final specification	8.9	8	0.349	1.12	0.026	0.019	0.998	0.991

*Table 2: Goodness of fit statistics for measurement models*

The future financial performance construct was estimated in a future benefits measurement model that included another future output construct which is not a part

of the discussion in this paper. The measurement model included four indicators for each of the two constructs. One indicator was dropped from each scale, producing a model with good fit, as shown by the fit statistics in the second part of Table 2. The reliability of the scale was good, at 0.8063, as shown in Table 3.

Scales	Number of items	Cronbach's alpha
<b>Value</b>		
Competence	3	0.7477
Attitude	4	0.8671
Mental agility	4	0.8967
Relationships	4	0.8429
Organisation	3	0.7796
Renewal and development	4	0.8073
Future financial performance	3	0.8063

*Table 3: Scale reliabilities*

The hypothesised model illustrated above in Figure 1 was tested by specifying it in Amos® as a structural model, using the indicators from the scales noted in Table 3, and then estimating it. The resulting goodness of fit statistics were: CMIN 397.6; Df 266; p-value 0.000; CMIN/Df 1.495; SRMR 0.048; RMSEA 0.040; TLI 0.963; GFI 0.913, which indicate a good fit. The model paths were significant at  $p < 0.01$ . A squared multiple correlation of 0.29 for the future financial performance construct indicated that 29% of the variance of this construct is explained by the intangible value construct.

The results of the analysis support the hypothesised structure and scales. It is always possible that other models fit a set of data, so several structurally similar competing models of relationship value were estimated in Amos®. The model illustrated in Figure 1 was found to have the best fit statistics, as listed in the paragraph above.

Path		Standardised regression coefficient
Human intangible value to:	Competence	0.704
	Attitude	0.924
	Mental agility	0.745
Structural intangible value to:	Relationships	0.717
	Organisation	0.792
	Renewal and development	0.945
Intangible value to:	Human intangible value	0.571
	Structural intangible value	0.701
Intangible value to:	Future financial performance	0.540

*Table 4: Path coefficients for structural model*

## DISCUSSION

The aim of this study was to test a hypothesised model of intangible value in business to business buyer-seller relationships and a set of scales for intangible value assessment. Analysis of the data obtained in the study supports the hypothesised scales as measures of the intangible relationship value construct and its relationship to future financial performance. The unidimensionality of the scales has been strongly established by the use of confirmatory factor analysis and their nomological validity has support in the significant positive value of the path from intangible value to future financial performance. The analysis therefore provides some evidence that the model is a useful approximation of the structure of the relationship value and that the scales based on the set of six constructs adopted from the intellectual capital literature are useful metrics of that value.

The findings appear to fit well with the concept of a buyer-seller relationship as a resource with a profit outcome and with the resource types outlined by Morgan and Hunt (1999). The squared multiple correlation of 0.29 for the future financial performance construct gives good support to the contention in the work of Srivastava (2001) and Morgan and Hunt (1999) that performance is an outcome of the intangible

value in market-based assets. The findings help to explain why relationships form, in order to gain access to the resources of the relationship partner. The items in the scales in the Appendix show specifically what is valuable, in their relationships, to the managers who responded to our questionnaire. They see value being provided by the competence, the attitude and the innovativeness and adaptability of the customer's personnel. They value access to the network of relationships of the customer, to intangible assets in the customer's organisations such as intellectual property and brands, and the help they get from the customer towards future developments.

The research provides outcomes that will be useful for managers. There is support for a set of measures, given further validation, of the differing values of the portfolio of relationships that a firm maintains. Use of such a set of measures would enable firms to differentiate between each of their customers' specific future contribution to profitability on a sounder basis than in the past. Previously, most assessment has been by the extrapolation of past revenues and costs, with only a guess as to their relative future contribution from their intangible aspects.

In the future, marketing managers will have the tools to assess which small customers have the potential to become big customers and thus have a basis for supporting proposals to senior management for the necessary resources to develop those small customers. With further work on measures, it may well be possible in future to estimate a dollar value for business to business relationships in a fashion similar to that used for consumer relationships in brand value estimations.

The measures, once further validated, will be useful in providing a basis for managerial action. On one hand, they provide information for strategic planning by suggesting which are the relationships to which resources should be applied for further development. On the other hand, they can be fairly specific in pointing to aspects of the subject relationship that are providing value.

## Conclusions and Further Research

By synthesising a set of measures from the intellectual capital literature into the marketing discipline, this research has suggested a potential way forward for research on the measurement of the value in a seller's relationships with its customers, which are critical resources of the seller.

The goodness of fit statistics of the estimated model provide a strong suggestion of a relationship value structure, even if the scales that result from the analysis may be specific to the situation in which the data was collected. There is the possibility that this structure can be used for research and for action in other relationship environments and for other relationship aspects. The squared multiple correlation for the future financial performance construct, whilst strong, raises the interesting question of what are the contributions of other factors that might be involved in determining value and hence performance, such as commitment, satisfaction and trust. This will be an interesting topic for further work.

The study has, of course, limitations. It was conducted using data from manufacturers in New Zealand and so its generalisation beyond this situation may be limited. It will be interesting to see how the results vary across industries and across countries in further research. It is a study of managers' perceptions and it is cross-sectional rather than longitudinal. Future longitudinal study of the dynamic aspects of these constructs should provide good information for use in managerial strategy development.

Another limitation of the study is that it looks only at dyads and only at these from the point of view of the sellers. In principle, the general value structure as tested can be applied to the dyad as seen from the customer's perspective and across networks. That will require the development of modified indicators for the value constructs and provides an additional interesting opportunity for research.

## APPENDIX: SCALE ITEMS

Scale and items	Anchor points	
<b>Competence</b> Technical skills including IT skills Professional skills Practical know-how in the work they do with you	Very low levels	Very high levels
<b>Attitude</b> They demonstrate a strong commitment to their relationship with your firm They show enthusiasm for their work with you They share their ideas with you They are ethical in their dealings with you	Strongly disagree	Strongly agree
<b>Mental agility</b> They are innovative in their approach They can adapt ideas from one situation to another They can successfully imitate existing concepts/products	Not at all	To a very great extent
<b>Relationships</b> To what extent does your relationship with your chosen customer allow you to utilise the relationships your customer has with the following? Members of a product or service user group to which your customer belongs Your customer's alliance or joint venture partners Key opinion leaders in your customer's field Business networks or other networks to which your customer belongs	Not at all	To a very great extent
<b>Organisation</b> To what extent does your relationship with your chosen customer allow you to gain benefits from the following in their organisation? Their intellectual property, including	Not at all	To a very great extent

patents, trademarks and copyrights  
Their brands  
Their information in databases and other  
documentation

**Renewal and development**

Not at all

To a very great  
extent

To what extent does your relationship  
with your chosen customer assist you in  
preparing for the future by helping with  
the following?

By helping to develop training  
programmes

By reporting and forecasting the trends in  
their markets

By helping to develop new systems,  
including IT systems

By helping to develop new networks or  
strategic partnerships

**Future financial performance**

Very much lower

Very much higher

Thinking now about the next 3 years,  
how do you expect your chosen  
customer's performance to rate? Please  
rate on the scale at the right according to  
the following criteria, as compared with  
your other customers

The size of their business with you  
relative to your total business

The profitability of your organisation's  
business with this customer

Return on investment of your  
organisation's business with this  
customer

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