

## The Quintessential Performance Matrix: Performance Measures Used in Strategic Decision-Making Under Governance Structures

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### ABSTRACT

*The paper examines business-to-business buyer-seller trading interactions that take place under a variety of governance structures, with each one undergoing different stages of development in the business relationship. Ongoing evaluation of the outcomes achieved determines whether or not the partners decide to continue their business relationship. The researcher views that the performance of business-to-business trading exchanges can be measured and has thus measured the outcome. Thus, from the scenarios that have been created of the possible outcomes a hypothetico-deductive positivist approach was followed to empirically test the research hypotheses. The development of a theoretically grounded conceptual matrix framework represents the bridging of a gap in the extant literature, which was tested in the UK furniture manufacturing industrial sector. The major managerial contribution of this research is the provision of a set of clearly defined, prescriptive guidelines that buying practitioners can use when evaluating the relative importance of performance measures as determinants during movements along the relational continuum, when deciding to continue or not with the relationship. These guidelines are empirically derived and reflect good practice, which is regarded as a strong differentiation of this research from all the studies debated. Other dimensions could be added to the social process between two organisations, apart from behaviours and attitudes, for example ethics, religion, strategic orientation, executive values, environmental and industry characteristics.*

**Keywords:** *Business-to-business marketing, Buyer-seller relationships, Measurements, Performance measurement, Relationship marketing, Strategic Decision-making*

## **INTRODUCTION**

New organisational forms, including strategic partnerships and networks, are replacing simple market-based transactions and traditional, bureaucratic, hierarchical organisations (Webster, 1992). The shift in the way marketing is being organised is accompanied by both environmental and structural changes (Morgan and Hunt, 1994; Palmer, 2000; Investor Digest, 2001). This new emerging paradigm of thought argues that it is more important to focus on the development and management of relationships than on discrete transactions (Ford, 1980; IMP Group, 1982; Webster, 1992; Grönroos, 1994a, 1994b, 1995, 1997a, 1997b; Berry, 1995). Kotler (1984) stated that the key to understanding and influencing marketing's role is being able to measure the success or failure of marketing initiatives, where organisations achieve their goals by satisfying their customers with greater efficiency and effectiveness than their competitors. This statement identifies two fundamental dimensions of performance, and highlights both internal (business processes, innovation) and external (customer, environment) reasons for pursuing courses of action (Slack, 1991).

## **LITERATURE REVIEW**

As the level of performance a business attains in a trading exchange is a function of the productivity, efficiency and effectiveness of its actions, the following definitions are fundamental: Performance measurement is the process, or structured set of managed work activities, used to quantify the productivity, effectiveness and efficiency of action (Churchman, 1959; Zairi, 1994). A performance measure is a metric or tool used to quantify the productivity, efficiency and/or effectiveness of the action (Euske, 1984). A performance measurement system is the set of metrics used to quantify the productivity, efficiency and effectiveness of actions

(Clark, 1999).

In the past short-term performance outcome of a trading exchange was of greater concern than the long-term prospects of the organisation (Brand Finance Report, 2000). Financial performance was the main indicator of future prospects, but the gap between book value based on accounting principles and market value is increasing.

Financial indicators such as value-added cost and total cost are aggregated performance measures that relate to the short-term survival of a company. Performance measures that relate to the long-term survival of the company consist of customer satisfaction (market share and number of complaints), the drivers of customer satisfaction (quality, on-time delivery and flexibility), learning and growth (Suwignjo, 1998).

The most common non-financial measures found to affect company performance are its ability to execute the intended strategy, its management credibility and its strategy quality. Other non-financial measures are innovativeness, ability to attract and retain a talented workforce, market position, management experience, executive compensation, quality of major processes and research leadership (Low, 1999).

### **Performance Metrics**

To measure performance accurately requires planning, control and evaluation (Euske, 1984). Change must be managed (Seiger, 1992), and communication (Daniels and Rosen, 1988), improvement (Miller, 1992), resource allocation (Thor, 1991), motivation Locke *et al.* (1981) and a long-term focus are needed (CIMA, 1993). Companies therefore need to understand the importance of non-financial performance measures and use them in evaluating the performance outcome of relationships. These include human resource, financial and marketing metrics.

### **Human Resource Metrics**

Human resource measures used in valuing organisations can be split into three main categories: internal operational, internal strategic and external strategic. Within each category six measurements can be used: staffing, training and development, performance appraisal, rewards, culture and communication (Youndt *et al.*, 1996; Krug, 1998; Marchington and Wilkinson, 1998).

### **Financial Metrics**

Sales, gross margins, net profit margins, profit before interest and tax, profit before tax, profit after tax, inventory turnover, return on investment, return on capital employed, return on assets, return on equity, earnings per share, and sales per employee are all well-established among accounting bodies as accepted measurements of performance outcomes for organisations (Eccles and Crane, 1987; Eccles, 1991).

Managers are skilled at maximising objective and unbiased accounting performance measures for individual firms. Nevertheless, accounting earnings are still very poorly correlated with market returns, and limited by the historical information of performance measures (Rappaport, 1981). Other problems occur with the accounting policies used by the organisation in valuing assets and liabilities. These valuations may be based on current market valuations or historical cost valuations and depend on the type of asset or liability being valued. This makes comparison of organisational performance between companies difficult. Economic returns using the discounted cash-flow technique to determine the present value and cash flows to determine the value to the organisation offer alternatives to the traditional accounting returns (Merchant and Bruns, 1986).

## **Marketing Metrics**

Marketing effectiveness has been extensively discussed because of its association with stable growth, enhanced customer satisfaction, competitive advantage and strong market orientation (Kotler, 1977). However, exact understanding of the relationship between market share and profitability still remains elusive (Sheth and Sharma, 2001). There is little published work related to this topic, as it requires knowledge of both marketing and finance. However, Ambler's (2000) three year study of marketing metrics amongst major companies found retention, relative perceived quality, customer satisfaction, number of complaints, total number of customers, market share, relative price, perceived quality, awareness and distribution to be the most important marketing metrics.

In comparison, Davidson's (1999) study of twenty-five companies found the ten most important marketing metrics in corporate reporting to be market trend, market share, major brand sales trend, retention, new product performance, unit volume trend, research and development trend, capital expenditure, total marketing investment and distribution trend. These marketing metrics were calculated differently in different sectors due to different time periods, as well as different customer and stakeholder segments. The metrics were aligned to the firm's strategy for the company's unique situation (Ambler, 2000; Sheth and Sharma, 2001).

There is an increasing demand by analysts for non-financial measures, that are linked to strategy, to be used to evaluate an organisation and measure corporate performance (Clark, 1999; Brand Finance Report, 2000). This is due to a change in power base from the supplier to the buyer and a transition from manufacturing to service industries. Mintzberg (1978) believes that metrics should be both financial and non-financial, and in line with the firm's strategy, an opinion with which the author of this research agrees.

The need to adopt a balanced range of financial and non-financial performance measures is widely accepted for strategy decision-making (Fiocca, 1982; Eccles, 1991). The gradual acceptance of non-financial performance measures requires a shift in organisational thinking, and a change in strategies, actions and performance measures. This has been deemed cutting the 'Gordian Knot' of misguided performance measurement by Dixon *et al.* (1990). Performance measurement is an important management process (Lusch and Brown, 1996). However, an integrated performance measurement system suitable for evaluating buyer-seller relationships has not yet been developed (Shaw and White, 1999). Companies define success through performance measures and by focusing on internal and external customer's needs. Customers' needs, expectations and requirements help establish organisational objectives and define the performance measures (Manoochehri, 1999). No single measure can cover all these aspects for management. A structured set of measures and balanced management interpretation is needed.

## **PROPOSED MANAGEMENT**

To create a performance measurement system classification, various performance measurement frameworks were critiqued (Keegan *et al.*, 1989; Fitzgerald *et al.*, 1991; Lynch and Cross, 1991; Brown, 1996; Kaplan and Norton, 1996a; 1996b; 1996c; Ambler and Kokkinaki, 1997; EFQM, 1997). A classification of performance measures based on the framework of Ambler and Kokkinaki (1997) has been developed, and in this author's opinion, this framework was the best starting point to measure the performance of relationship marketing trading exchanges. From the adopted performance measurement framework (Ambler and Kokkinaki, 1997) specific performance measures within each performance measurement classification are explained in the next section. These performance measurement classifications have been

developed: end-user thoughts and feelings, end-user behaviour, internal business processes, competitive market, innovation, learning and growth, financial and strategy, structure and culture and with three stages of a relationship, being initiation, monitoring and termination (Figure 1) (Heide, 1994).

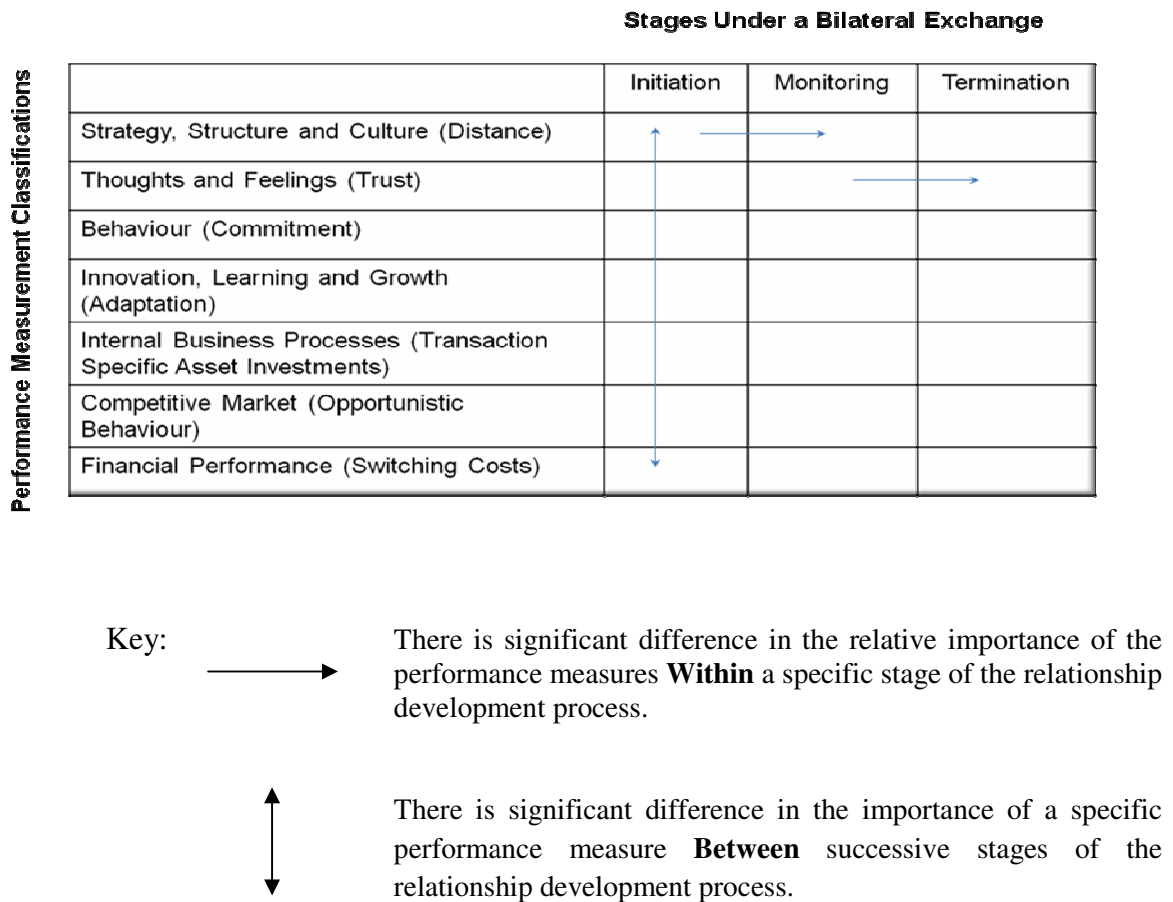


Figure 1: The Quintessential Performance Matrix (QPM)

**METHODOLOGY**

The classification of performance measures has been developed into a holistic examination of performance outcomes of the bilateral governance structure trading exchange during each stage

of the business relationship process. The conceptual framework required further modifications within each classification, into sixty specific performance measures capable of measuring the performance outcomes of buyer-seller governance structure trading exchanges.

The researcher has developed and defined all sixty performance measures. However, most of the sixty performance measures are latent variables, which under normal conditions should be measured on a summated scale, but it was impractical to create and measure all the performance measure variables using summated scales. Thus expert informants were asked to reduce this list of performance measures to the core elements, e.g. relationship strength, relationship importance and relationship value may be seen as a single measure and aggregated. These sixty performance measures were reduced by the expert informants to twenty-eight performance measures with four performance measures in each classification.

After pilot testing of the research instrument, it was found that the twenty-eight performance measures that made up the seven performance measurement classifications could not be reliably measured. Consequently it was decided that instead of collecting data for a number of measures in each classification a single representative measure in each classification would be examined. Again expert informants were asked to identify the seven most representative performance measures of each performance measurement classification. Hence, the final conceptual framework explicitly incorporates seven specific operationalised performance measures. These are trust, commitment, transaction specific asset investments, opportunistic behaviour, adaptation, switching costs and distance.

A total of 3,000 questionnaires were delivered to UK furniture manufacturers using a six-step sampling process (Churchill, 1979). A variety of inducements were used to improve response rates, with a 9.6% response rate being obtained. The resulting 288 usable responses, survey

errors such as non-response error, office processing error and random error were assessed. Finally, the accuracy of the measurements was assessed for reliability and validity, along with the evaluation of the proposed structural model.

## **EVALUATION OF PROPOSED MANAGEMENT**

Overall a low response rate of 9.6% was obtained and the researcher was unable to elucidate the reasons for the low response rate. As the response rate was 9.6% partial least squares (PLS) and bootstrapping were the main statistical techniques used (Chin, 1998). These data analysis techniques could be used with smaller sample sizes: one of the scenarios received only 16 responses (Chin and Newsted, 1999). In addition, the researcher followed the research methodology recommended by Dillman (1978 and 1983) for the administration of the mail and Internet surveys.

Data analysis comprised assessment/analysis of measurement accuracy, reliability, validity and evaluation of the proposed model. The researcher evaluated the relative importance between performance measures during business exchanges along the different stages of the business relationship development process under the bilateral governance structure using Partial Least Squares. The rest of this section provides a brief discussion of methods used during the analysis.

*Measurement accuracy:* The analysis included assessments of reliability and validity. Reliability was examined through Internal-consistency, Cronbach's coefficient  $\alpha$  and composite reliability, together with confirmatory factor analysis (CFA) as a validation tool. With respect to validity, content validity and convergent validity was tested using Partial Least Squares (PLS), whilst discriminant validity was tested using PLS and AVE (Average Variance Extracted).

*Evaluation of proposed model:* As the intention was to test the relative importance of seven independent variables (performance measures) to three non-metric dependent variables (decision to continue or not along stages of business relationship development) PLS was the main analytical technique. The statistical package for PLS was the software used as bootstrapping enabled the small sample size to be re-sampled to a larger sample size and Jack-knifing enabled cross-validation. Hence, the researcher empirically tested the conceptual framework in order to make generalisations on the wider population (Pallant, 2005).

## **CONCLUSION**

Consequently, this study examined trading exchanges within a bilateral governance structure, business relationship development stages and performance measures in relationship marketing. This has been achieved through a positivist empirical situational study in the form of scenarios, undertaken within furniture manufacturers in the UK. The results of the study make an original contribution to academia through an evaluation of the relative importance of performance measures as deciding factors in furthering (or not) the development of a business relationship within a bilateral governance structure. In addition, a contribution has been made to business practice, through the development of normative managerial guidelines.

## **Theoretical Contributions**

The behaviour of relationship-building performance measures is not uniform across all three stages of the relationship process. Different results will be obtained for each performance measure unless research takes into account the particular stage of the relationship. This pattern indicates that both hard and soft performance measures are required by the buyer to assess the

supplier during the early stage of the business relationship, as well as during the relationship. In contrast, in the later stage of the business relationship the buyer only uses soft performance measures to assess the business relationship with the supplier. This is because the buyer becomes more confident of the supplier's performance along the relational continuum and is more concerned about the behaviour of the supplier than hard investments.

### **Managerial Contributions**

This author believes that the major managerial contribution of this research is the provision of a set of clearly defined, prescriptive guidelines that buying practitioners can use when evaluating the relative importance of performance measures as determinants during movements along the relational continuum, when deciding to continue with the relationship. Normative guidelines are now briefly elaborated. Initiation stage: during this stage four performance measures were found to be significant determinants of the decision as to whether or not to continue with a business relationship (trust, commitment, transaction specific asset investments and distance). In order for a buyer to assess whether or not to continue the relationship to the monitoring, stage the supplier should demonstrate the following behaviour. Distance: buyers should ensure that technological distance is kept to a minimum during evaluations for the purchase of innovative products, or when an advanced seller is dealing with a less advanced buyer. Social distance will be considerable in all new relationships, as new companies know little of each other but should also be kept to a minimum. Moreover, cultural and geographical distances should be minimised when the companies are dealing across national boundaries. The potential buyers can ask present buyers whether or not the supplier they consider distance during business-to-business trading exchanges to be an issue. Finally, the buyers may be considering a

purchase that is unlikely to take place for a considerable time and this distance should also be minimised. The potential buyers can ask present buyers how long business-to-business trading exchanges have taken with the supplier.

### **SUGGESTIONS FOR FUTURE RESEARCH**

Test the proposed framework within other countries and other industries. Consequently, the generalisability of the research findings will be considered to be fully tested. This study was the first to evaluate the relative importance of performance measures during the decision-making process as to whether or not to move forward with the business trading relationship under a bilateral governance structure. The study was undertaken in the UK furniture manufacturing industrial sector.

### **REFERENCES**

- Ambler, T., (2000), 'Marketing Metrics'. *Business Strategy Review*, 11, 2, 59-66.
- Ambler, T. and Kokkinaki, F., (1997), 'Measures of Marketing Success'. *Journal of Marketing Management*, 13, 7, 665-678.
- Berry, L. L., (1995), 'Relationship Marketing of Services - Growing Interest, Emerging Perspectives'. *Journal of the Academy of Marketing Science*, 23, 4, 236-246.
- Brand Finance Report, (2000), 'Demand for Detailed Marketing Disclosure Rises'. *International Journal of Retail & Distribution Management*, 28, 9, 389-403.
- Brown, M., (1996), *Keeping Score: Using the Right Metrics to Drive World Class Performance*. New York: Quality Resources.

- Chin, W. W., (1998), 'The Partial Least Squares approach to structural equation modelling'. In: Marcoulides, G. A. (Editor), *Modern Methods for Business Research*, Mahwah, NJ: Lawrence Erlbaum Associated, 295–336.
- Chin, W. W. and Newsted, P. R., (1999), 'Structural Equation Modeling Analysis With Small Samples Using Partial Least Squares'. In Rick Hoyle (Editor), *Statistical Strategies for Small Sample Research*, New York: Sage Publications, 307-341.
- Churchill, G. A. Jr., (1979), 'A Paradigm for Developing Better Measures of Marketing Constructs'. *Journal of Marketing Research*, 16, 1, 64-73.
- Churchman, C. W., (1959), 'Why Measure?' In: Churchman, C. W. and Ratoosh, P., (Eds.) *Measurement: Definitions and Theories*, London: John Wiley and Sons.
- CIMA, (1993), *Performance Measurement in the Manufacturing Sector*. London: CIMA Research Studies.
- Clark, B., (1999), 'Marketing Performance Measures: History and Inter-relationships'. *Journal of Marketing Management*, 15, 8, 711-732.
- Daniels, A. C. and Rosen, T. A., (1988), *Performance Management: Improving Quality and Productivity through Positive Reinforcement*. 2nd edition, Tucker, GA: Performance Management Publications.
- Davidson, J. H., (1999), 'Transforming the Value of Company Reports through Marketing Measurement'. *Journal of Marketing Management*, 15, 8, 757-777.
- Dillman, D. A., (1978), *Mail and Telephone Surveys: The Total Design Method*. New York: John Wiley and Sons.
- Dillman, D. A., (1983), Mail and other Self-administrated Questionnaires, In: Rossi, P. H., Wright, J. D. and Anderson, A. B., (eds), *Handbook of Survey Research*, New York:

Academic Press.

- Dixon, J. R., Nanni, A. J. and Vollmann, T. E., (1990), *'The New Performance Challenge - Measuring Operations for World-Class Competition'*. Homewood, IL: Dow Jones-Irwin.
- Eccles, R. G., (1991), 'The Performance Measurement Manifesto'. *Harvard Business Review*, 69, 1, 131-137.
- Eccles, R. G. and Crane, D., (1987), 'Managing through networks in investment banking'. *California Management Review*, 30, 1, 176-195.
- EFQM, (1997), *Self-Assessment Guidelines for Companies*. The Netherlands: Pabo Print BV.
- Euske, K. J., (1984), *Management Control: Planning, Control, Measurement and Evaluation*. Reading, MA: Addison-Wesley.
- Fiocca, R., (1982), 'Account Portfolio Analysis for Strategy Development'. *Industrial Marketing Management*, 11, 1, 53-62.
- Fitzgerald, L., Johnston, R., Brignall, S., Silvestro, R. and Voss, C., (1991), *Performance Measurement in Service Business*. London: CIMA.
- Ford, D., (1980), 'The Development of Buyer-Seller Relationships in Industrials Markets'. *European Journal of Marketing*, 14, 5/6, 339-354.
- Grönroos, C., (1994a), 'From Marketing Mix to Relationship Marketing Towards a Paradigm Shift in Marketing'. *Management Decision*, 32, 2, 4-21.
- Grönroos, C., (1994b), 'Quo Vadis, Marketing? Toward a Relationship Marketing Paradigm'. *Journal of Marketing Management*, 10, 5, 347-360.
- Grönroos, C., (1995), 'Relationship Marketing: The Strategy Continuum'. *Journal of the Academy of Marketing Science*, 23, 4, 252-255.

- Grönroos, C., (1997a), 'Keynote paper From marketing mix to relationship marketing - towards a paradigm shift in marketing'. *Management Decision*, 35, 4, 322-340.
- Grönroos, C., (1997b), 'Value-Driven Relational Marketing: from Products to Resources and Competencies'. *Journal of Marketing Management*, 13, 5, 407-419.
- Heide, J. B., (1994), 'Interorganisational Governance in Marketing Channels'. *Journal of Marketing*, 58, 1, 71-85.
- IMP Group, (1982), 'An Interaction Approach', in *International Marketing and Purchasing of Industrial Goods*. Chichester, UK: John Wiley and Sons.
- Investor Digest (2001), 'B2B Poised for Strong Growth'. *Investor Digest*, Feb 16.
- Kaplan, R. S. and Norton, D. P., (1996a), *The Balanced Scorecard: Translating Strategy into Action*. Boston, MA: Harvard Business School Publishing.
- Kaplan, R. S. and Norton, D. P., (1996b), 'Using the Balanced Scorecard as a Strategic Management System'. *Harvard Business Review*, 74, 1, 75-85.
- Kaplan, R. S. and Norton, D. P., (1996c), 'Linking the Balanced Scorecard to Strategy'. *California Management Review*, 39, 1, 53-79.
- Keegan, D. P., Eiler, R. G. and Jones, C. R., (1989), 'Are your Performance Measures Obsolete?' *Management Accounting*, 67, 12, 45-50.
- Kotler, P., (1977), 'From Sales Obsession to Marketing Effectiveness'. *Harvard Business Review*, 55, 6, 67-75.
- Kotler, P., (1984), *Marketing Management Analysis, Planning and Control*. Englewood Cliffs, NJ: Prentice-Hall.
- Locke, E. A., Shaw, K. N., Saari, L. M. and Latham, G. R., (1981), 'Goal Setting and Task Performance: 1969-1980'. *Psychological Bulletin*, 90, 1, 125-152.

- Low, J., (1999), 'Gauging Results: What Measures Matter?' *Harvard Management Update*, 4, 1, 10.
- Lusch, R. F. and Brown, J. R., (1996), 'Interdependency, Contracting and Relational Behaviour in Marketing Channels'. *Journal of Marketing*, 60, 4, 18-38.
- Lynch, R. L. and Cross, K. F., (1991), *Measure Up - The Essential Guide to Measuring Business Performance*. London: Mandarin.
- Manoochchri, G., (1999), 'Overcoming obstacles to developing effective performance measures'. *Work Study*, 48, 6, 223-229.
- Marchington, M. and Wilkinson, A., (1998), *Core Personnel and Development*. 2nd edition, Wiltshire, UK: The Cromwell Press.
- Merchant, K. A. and Bruns, W. J. Jr., (1986), 'Measurements to Cure Management Myopia'. *Business Horizons*, 29, 3, 56-64.
- Miller, J. A., (1992), 'Designing and Implementing a New Cost Management System'. *Journal of Cost Management*, 5, 4, 41-53.
- Morgan, R. M. and Hunt, S.,D., (1994), 'The Commitment-Trust Theory of Relationship Marketing'. *Journal of Marketing*, 58, 3, 20-38.
- Neely, A. D., Gregory, M. and Platts, K., (1995), 'Performance Measurement System Design: A Literature Review and Research Agenda'. *International Journal of Operations & Production Management*, 15, 4, 80-117.
- Palmer, A., (2000), 'Co-operation and Competition: A Darwinian Synthesis of Relationship Marketing'. *European Journal of Marketing*, 34, 5/6, 687-705.
- Rappaport, A., (1981), 'Selecting Strategies that Create Shareholder Value'. *Harvard Business Review*, 59, 3, 139-149.

- Seiger, J. M., (1992), 'Manage Your Numbers to Match Your Strategy'. *Management Review*, 81, 2, 46-48.
- Lusch, R. F. and Brown, J. R., (1996), 'Interdependency, Contracting and Relational Behaviour in Marketing Channels'. *Journal of Marketing*, 60, 4, 18-38.
- Sheth, J. N. and Sharma, A., (2001), 'Efficacy of Financial Measures of Marketing: It Depends on Markets and Marketing Strategies'. *Journal of Targeting, Measurement and Analysis for Marketing*, 9, 4, 341-356.
- Suwignjo, P., Bititci, U. S., Carrie, A. S. and Turner, T. J., (1998), 'Performance Measurement System: Auditing and Prioritisation of Performance Measures'. In: Neely, A. D. and Waggoner, D. B. (Editors), *Performance Measurement - Theory and Practice*, Cambridge: Field Force Publications.
- Thor, C. G., (1991), 'Performance Measurement in a Research Organisation'. *National Productivity Review*, 10, 4, 499-507.
- Webster, F. E. Jr., (1992), 'The Changing Role of Marketing in the Corporation'. *Journal of Marketing*, 56, 4, 1-17.
- Youndt, M. A., Snell, S. A., Dean, J. W. Jr. and Lepak, D. P., (1996) 'Human Resource Management, Manufacturing Strategy and Firm Performance'. *Academy of Management Journal*, 39, 4, 836-866.
- Zairi, M., (1994), *Measuring Performance for Business Results*. London: Chapman & Hall.