

# Moving beyond intuition—Managing allocation decisions in relationship marketing in business-to-business markets

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## Abstract

Developing and estimating structural models is becoming a routine practice in marketing. In this study, the possibilities of applying such models in managerial decision making under uncertainty are investigated. In particular the feasibility of exploiting the inherent probabilistic nature of structural models to buttress decision making is demonstrated. The approach is based on making heavy use of standard simulation routines. The model that is under scrutiny describes the relationships between firms' efforts in three areas (the offer, customer relationships, and market positions) on the success of a new product introduction. Special attention is given to the aspect of risk aversion. Accounting for the risk attitude implies different allocation decisions for risk-averse compared to risk-prone managers, in line with common sense.

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## 1. Introduction

Structural equation modeling (SEM) is becoming standard practice in the marketing society nowadays. The benefits of SEM are well known: SEM is a rigorous and conceptually comprehensive approach that addresses fundamental issues, using fundamental constructs. The results of SEM are an increased understanding of underlying relationships with quantitative assessments of the relative importance of effects. The use of SEM in decision-making situations has been practically absent, however. This paper explores the possibilities for this usage of SEM.

A companion paper (De Ruyter, Moorman, & Lemmink, 2001) described the construction and estimation of a model that explained how customer loyalty depends on the efforts of management in various areas in the case of launching a new product. In that paper, three main areas that serve as antecedents were identified, namely, the offer, relationships, and market position. Intermediary variables are calculative

commitment, affective commitment, and trust. The conceptual model that was developed is depicted in Fig. 1, together with some selected references (E. W. Anderson & Weitz, 1992; J. C. Anderson & Narus, 1990, 1999; Cunningham & Tynan, 1993; Dick & Basu, 1994; Gemunden & Walter, 1994; Geyskens, Steenkamp, Scheer, & Kumar, 1996; Heide & John, 1988; Kumar, Hibbard, & Stern, 1994; MacKenzie, 1992; Moorman, Zaltman, & Deshpandé, 1992; Morgan & Hunt, 1994). The estimated model is reported in Fig. 2. Goodness-of-fit criteria were at least satisfactory; see De Ruyter et al. (2001) for an elaborate discussion of the model.

Basically the model describes how loyalty intentions are influenced by the perceptions of the customer of the company's "offer," the perception of the "relationship" between customer and company and the company's perceived "market position." Obviously, by active marketing, management can influence these customer perceptions and, consequently, management may seek for optimal levels in the three fields. However, the question becomes how this marketing is efficiently done, or alternatively, in marginal terms: How should an additional dollar be spent, given a certain, current position? The structural model can be used to answer such optimization questions.

In this paper the focus will be on how structural equations models can be used for decision-making analysis. As usual, decision making takes place under conditions of

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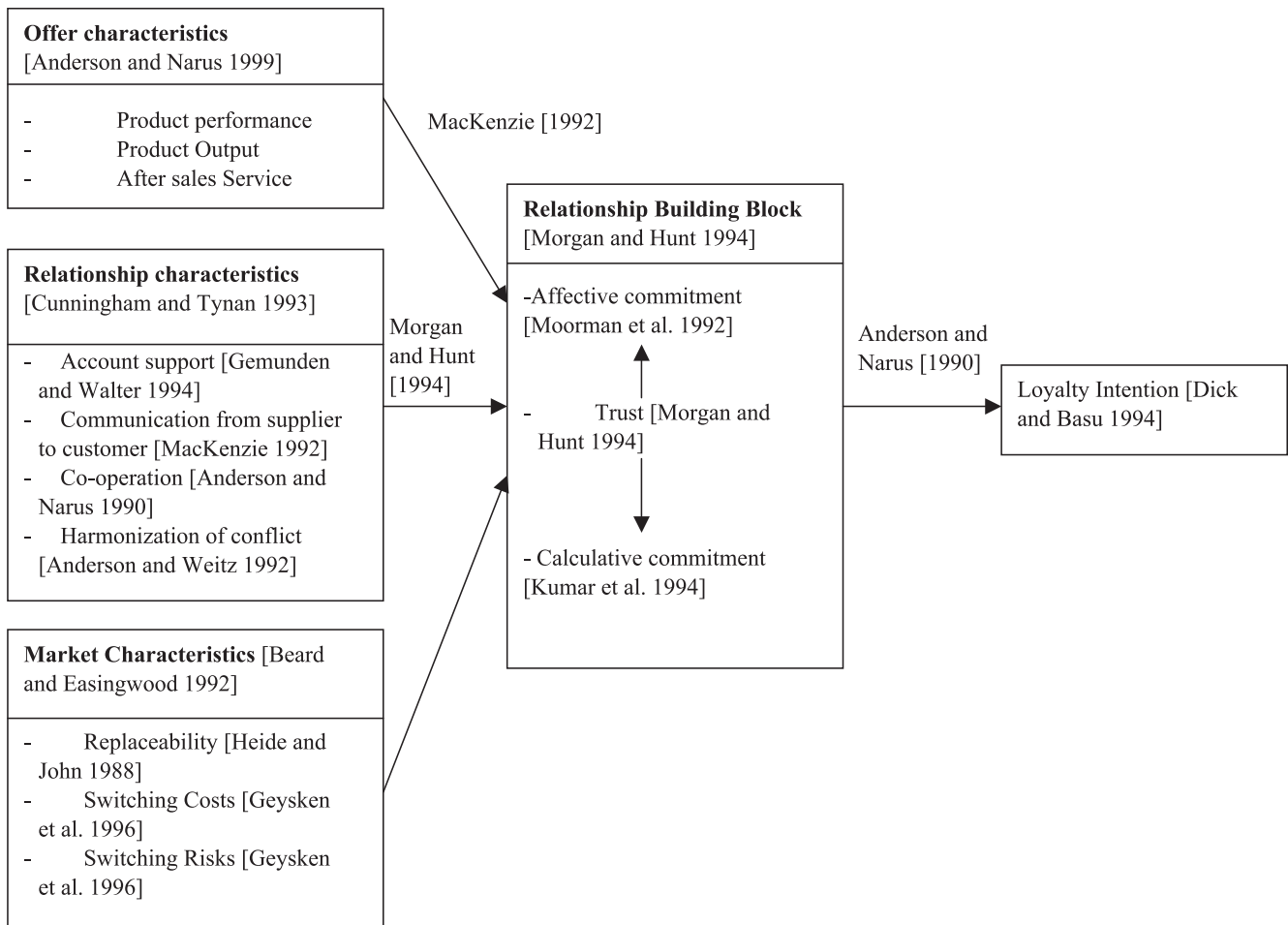


Fig. 1. The conceptual model with selected references.

uncertainty. In modeling terms, uncertainty shows up as nondeterministic, that is, probabilistic construct values, parameters, and error terms. It will be argued that this model uncertainty mimics (part of) the uncertainty a real decision maker is confronted with.

Thus, after describing the fundamentals of decision making with the help of structural equation models, the discussion will focus on how the uncertainty component comes in and how it affects the analysis. Next, the results of analysis are presented, followed by a discussion of the implications. Finally, the article concludes with some suggestions for future research.

## 2. Allocation decisions based on a structural equation model

The results of the model in Fig. 2 can be used to aid in managerial allocation decisions. The idea is that management can influence customers' perceptions of the constructs *offer*, *relationship*, and *market* and hence influence the *intention to stay* of the customer. The basic question is how should management allocate a fixed amount of resour-

ces over these three exogenous constructs in order to achieve the biggest increase in intention to stay?

To fix ideas: Suppose management has resources that when spent completely on improving the offer, the perception of the offer will increase by one point. Similarly, when spent completely on relationships, this construct will increase by one point, or when allocated completely to market that construct will increase by one point. Furthermore, management can also decide to allocate their resources over the three constructs. In that case, the sum of the increases will be exactly one again.

When the model results are considered deterministic, the question raised above is relatively easy to answer, but due to various sources of uncertainty, such interpretation of the estimation results is not very realistic. The first source is the common uncertainty due to model misspecification, measurement errors, and the like. This type of uncertainty is usually accounted for by incorporating error terms. A second source is found in the exogenous constructs. Changes in the measured items are taken as reflecting changes in the latent construct, but this relationship is not exact, reflected by errors in the measurement model. This uncertainty corresponds to the uncertainty related to the

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