The Effect of Relational Constructs on Relationship Performance: Does Duration Matter?

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The Effect of Relational Constructs on Relationship Performance: Does Duration Matter?*

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Abstract

We examine the effect of relational constructs, such as satisfaction, trust and commitment on relationship performance (that is, positive word-of-mouth communication and the margin provided by each customer) of customers of an insurance company. A central issue concerns the effect of duration on the associations between relational constructs and relationship performance. Our empirical results provide strong evidence of duration dependent effects of satisfaction and trust, but we find only weak evidence of such effects on performance.

Key words: Relationship marketing, performance, relationship duration, insurance industry

1 INTRODUCTION

The recognition of the importance of relationships in marketing almost two decades ago (Dwyer, Schurr and Oh, 1987; Häkansson, 1982) has generated many studies on marketing relationships in marketing channels (e.g., Ganesan, 1994; Morgan and Hunt, 1994), business-to-business markets (e.g., Stump and Heide, 1996) and business- to-consumer markets (e.g., Garbarino and Johnson, 1999; Tax, Brown and Chandrashekaran, 1998). Recently, three meta-analyses have appeared with regard to marketing relationships (Geyskens, Steenkamp and Kumar, 1998; 1999; Swan, Bowers, Richardson, 1998), indicating that research in this field has matured. However, although these three studies established generalizations, such as the link between trust and commitment, still some issues remain unresolved (Geyskens, Steenkamp and Kumar, 1999). First, more complex interactive effects, such as the interaction with relationship duration, should be studied to explore under which conditions general associations found in the literature do not hold. Second, there is a lack of studies that relate relational constructs to economic performance. As Geyskens, Steenkamp and Kumar (1999, p. 235) state "the effects *of relationship constructs* on performance have been relatively ignored"(italics added). This is remarkable, as in the closely related field of customer satisfaction/dissatisfaction research a number of studies have appeared that related satisfaction to performance at both the customer level (Bolton, 1998; Bolton and Lemon, 1999) and the firm level (Anderson, Fornell and Rust, 1997).

The importance of the above-mentioned issues is emphasized by three recent studies. First, Grayson and Ambler (1999), while replicating and extending the work of Moorman, Zaltman and Desphandé (1992), show that the effect of commitment and trust on use of a marketing service seems to disappear in long-term relationships. Second, Garbarino and Johnson (1999) report that in business-to-consumer relationships the effect of trust and commitment on purchase intentions differs between transactional customers and relational customers. Third, Verbeke et al. (1999) report that brand performance of a brand manufacturer in the FMCG-industry (that is, innovativeness, consumer fit, promo actions) is a better predictor of performance (that is, shelf space for brand, in store promotion support) than commitment and/or trust of the retailer in the brand manufacturer. Together these three studies provide some degree of skepticism with regard to the role of relational constructs in explaining relationship performance over time. Furthermore, both Garbarino and Johnson (1999) and Grayson and Ambler (1999) show that the assumption of customer homogeneity when studying relationships apparently does not hold.

We aim to contribute to the available literature on relationship marketing in the following ways. Our first contribution is the link between relational constructs and two relationship performance measures: positive word-of-mouth communication and contribution margin. Both performance measures are relevant to the general management of a company as suggested in Day and Montgomery (1999) and Lehmann (1999). Positive word-of-mouth communication can have important future profit implications in an era where customers are considered as co-creators of value (Prahalad and Ramaswamy, 2000). Moreover, many financial managers consider the contribution of each customer or group of customers to the profitability of a company as an important performance indicator. Our second contribution is that we study the effects of relational constructs on relationship performance over time. Our objective is to show which effects are affected by the duration of the relationship and which are not. For marketing managers this analysis can provide vital information on which relational constructs should be influenced in which stage of the relationship.

We address the above issues combining cross-sectional questionnaire data and data from a customer database of a sample of 1795 customers of a large Dutch insurance provider operating in the business-to-consumer market. We first estimate the proposed structural model for the total sample and next we analyze which parameters in this model are affected by the duration of the relationship.

One might argue that studying relationships in business-to-consumer markets is disputable, as firm-to-consumer relationships are less intensive and less important than relationships among channel partners (Iacobucci and Ostrom, 1995). However, in the insurance industry long-term relationships with customers are considered as an important asset (Crosby and Stephens, 1987). As such insurance companies strive for close relationships with their customers. Furthermore, for complex products such as financial services, constructs such as trust and switching costs can be important. Moreover, previous research has also studied relational constructs in business-to-consumer relationships (Bettencourt, 1997; Garbarino and Johnson, 1999; Tax, Brown and Chandreshekaran, 1996).

The structure of this paper is as follows. In section 2, we discuss the focal constructs and the differences between short-term and long-term relationships. We discuss the hypotheses underlying our analysis in section 3. In section 4, we describe our research methodology, while we present our results in section 5. We end with a discussion, managerial implications, limitations and future research issues in section 6.

2 CONCEPTUAL BACKGROUND

In this section we review the constructs of interest and we examine potential differences in their relevance of their role across the duration of a relationship.

2.1 Trust and commitment

Trust and commitment are usually seen as key constructs in relationship marketing. Morgan and Hunt (1994, p. 22) state that “the presence of relationship commitment and trust is central to successful relationship marketing”. Moreover, they argue that both trust and commitment mediate the relationship between satisfaction and loyalty.

Trust

Generally, trust is defined as the belief that an exchange partner is honest and/or benevolent (Geyskens et al, 1998; Kumar, Scheer and Steemkamp, 1995). Honesty refers to the perception of confidence in the exchange partner's reliability and integrity (Morgan and Hunt, 1994). Benevolence is the belief that the partner is genuinely interested in one's interest or welfare and is motivated to seek joint gains (Geyskens, Steenkamp and Kumar, 1998). Although there is some debate with regard to the independence of the two concepts of trust (Ganesan, 1994), most researchers in relationship marketing include one or both concepts of trust in a single, global, unidimensional measure of trust (Crosby, Evans and Cowles, 1990; Garbarino and Johnson, 1999; Geyskens, Steenkamp and Kumar, 1998; Macintosh and Lockshin, 1997; Odekerken-Schröder, 1999). Trust is reported to lead to commitment (Morgan and Hunt, 1994; Geyskens, Steenkamp and Kumar, 1999). Furthermore, meta-analytic results indicate that trust mediates the relationship between (non)-economic satisfaction and commitment in channel relationships (Geyskens, Kumar and Steenkamp, 1998, 1999). Notwithstanding this evidence, researchers have reported that the effect of trust does not always appear to be obvious (Garbarino and Johnson, 1999; Grayson and Ambler, 1999).

Commitment

Commitment is often defined as an enduring desire to maintain a valued relationship (Moorman, Zaltman and Desphandé, 1992). Gundlach, Achrol and Mentzer (1995) and Geyskens et al. (1996) distinguish two different components of commitment, which are affective (attitudinal) and calculative commitment. Affective commitment refers to the psychological attachment of one exchange partner to the other and it is based on feelings of identification, loyalty and affiliation (Gundlach, Achrol and Mentzer, 1995). Calculative commitment, in contrast, is the extent to which exchange partners perceive the need to maintain a relationship given the significant anticipated termination costs (Geyskens et al., 1996, p.304). Thus it results from a rationalistic decision process, in which a partner calculates the costs and benefits of maintaining or discontinuing the relationship. While affective commitment is regarded as a positive motivation for behavioral loyalty, calculative commitment can be regarded as a negative motivation.

Although it is acknowledged that switching costs are an important antecedent of behavioral loyalty (Dick and Basu, 1994; Klemperer, 1995), researchers studying business-to-consumer relationships have virtually ignored calculative commitment. Operationalizations of commitment are dominated by items reflecting the affective component of commitment (Bettencourt, 1997; Garbarino and Johnson, 1999). In channel research only Geyskens et al. (1996) and Kumar, Hibbard and Stern (1994) explicitly distinguish between affective and calculative commitment.. Geyskens et al. (1996) report that trust has differential effects on affective and calculative commitment. Moreover, calculative commitment less strongly influences stated loyalty than affective commitment does (Kumar, Hibbard and Stern, 1994). As such, both studies stress the need to explicitly distinguish between affective and calculative commitment.

2.2 Satisfaction

In channel literature satisfaction is most frequently defined as a positive affective state resulting from the appraisal of all aspects of a firm's working relationship with another firm (Frazier, Gill and Kale, 1989). Furthermore, researchers distinguish between economic and non-economic satisfaction. Economic satisfaction refers to the economic rewards that flow from the relationship with the exchange partner, such as price discounts. In contrast, non-economic satisfaction refers to the positive and affective response to non-economic psychological aspects of the relationship (Geyskens, Steenkamp and Kumar, 1999). Geyskens and Steenkamp (1998) show that economic satisfaction and non-economic satisfaction are related but distinct components and that they affect relationship outcomes differently. In studies with regard to business-to-consumer relationships (Bettencourt, 1998; Crosby, Evans and Cowles, 1990; Macintosh and Lockshin, 1997; Odekerken-Schröder, 1999) one does not find any example that specifically distinguishes between economic and non-economic satisfaction. In fact, the studies seem to be limited to non-economic satisfaction.

2.3 Performance measures

As relationship marketers strive for long and profitable relationships with customers (Sheth and Parvatiyar, 1995), we define relationship performance as actions of customers that generate the life-time value of the customer, which consists of both direct contributions (that is, transactions) and indirect contributions (that is, word-of-mouth communication, new product ideas) (Blattberg and Deighton, 1996; Hoekstra and Huizingh, 1999). Note that indirect contributions, such as positive word-of-mouth communication, can have important profit implications. For example, an unreported analysis of the individuals in our database shows that a significant part of the customers of the insurance company under study reports to have chosen for this company because of the advice of relatives or friends.

In the relationship marketing literature satisfaction, trust and commitment are mainly related to self-reported subjective performance measures, such as purchase intentions (Garbarino and Johnson, 1999; Kumar, Hibbard and Stern, 1994) and positive non-buying behavior (that is, word-of mouth communication) (Bettencourt, 1997). As self-reported measures are easier to collect than actual behavior, this is not surprising. However, the use of these measures has three disadvantages, which are related to marketing research and practical accountability. First, results of studies using these measures must be interpreted with caution, because relational constructs and self-reported performance measures will usually be correlated due to survey measurement effects, such as carryover and backfire effects (Bickart, 1993; Bolton, 1998). For example, Simmons, Bickart and Lynch (1993, p. 327) state "we suspect that theoretical researchers using surveys to test models of relations among beliefs, attitudes, and intentions may be forced to conclude that carryover in their domains should be prevalent". The mentioned effects can result in biased estimates (that is, overestimation) and thus in faster acceptance of the stated hypotheses. Second, in the case of self-reported purchase behavior, measurement error appears to be common because of response style and mistakes (Lehmann, Gupta and Steckel, 1999). Third, in competitive markets management will primarily be interested in the question whether investments in relationship marketing actions indeed lead to more profitable customers, see Blattberg and Deighton (1996), Churchill (1998, p. 281) and Lehmann (1999). As such, management will be interested in measures relevant for the chief financial officer (Lehmann, 1999, p. 14). In that respect the use of self-reported measures might be disputable, because the relationship of these measures with actual behavior and profitability is not always obvious. For example, it is widely known that the predictive validity of intention can be rather unstable (Morwitz and Schmittlein, 1992).

Based on these two arguments, we argue that the sole use of self-reported intention and belief-type measures limits both the generalization and the impact on managers of results found in relationship marketing literature. Hence, there is a need for better performance measures. Due to the upcoming of new technologies in the form of electronic data capture via scanners, mass data storage capabilities and more sophisticated database systems, behavior is more easily tracked and stored in a number of industries (Blattberg, Glazer and Little, 1995). As a result, the required performance measures, such as actual relationship duration and contribution margin, are more easily available.

2.4 Relationship development over time

According to Dwyer, Schurr and Oh (1987), relationships evolve through five general stages: (1) awareness, (2) exploration, (3) expansion, (4) commitment and (5) dissolution. This evolution has two consequences. First, theory suggests that each stage represents a major transition in how customers regard the supplier. This implies that the levels of (non)-economic satisfaction, trust and commitment and relationship performance will develop over time. For example, trust is thought to develop in the short run and to stabilize in the long run (Dwyer, Schurr and Oh, 1987; Geyskens, Steenkamp and Kumar, 1999). Second, relationship development over time might affect the associations between the different constructs. For example, Moorman, Zaltman and Desphandé (1992) suggest that in long-term relationships, in which commitment and trust are more likely to have been achieved, customers may feel that their suppliers no longer add much value. Hence, this may lead to in-significant associations between commitment, trust and relationship performance.

Grayson and Ambler (1999) indeed find support for differential effects of commitment and trust of clients in advertising agencies in short-term and long-term relationships. Using a median split they divide the sample in companies with short-term relationships and companies with long-term relationships. They only document changing associations between the relational constructs and relationship performance (that is, use of a marketing service). In short-term relationships they report a significant effect of trust on the use of a marketing service. However, in long-term relationships they report no significant effect of trust and a small significant effect of commitment. Instead, they report that in long-term relationships both quality of interaction and involvement affect the use of a marketing service.

The moderating role of relationship duration is also reported in customer satisfaction research. Customers with long-term relationships weigh satisfaction more heavily, because they are more certain about their opinions. As such, Bolton (1998) documents that the effect of satisfaction on behavioral loyalty is larger in absolute magnitude for customers who have longer relationships with the company.

2.5 Summary

The literature overview shows that the discussed relational constructs have been studied frequently. Considerable attention is needed for the relationship between these constructs and objective performance measures. Furthermore, we conjecture that in the relationship marketing literature some empirical evidence exists for a moderating role of relationship duration. Note however that this evidence is limited as it only considers a specific relationship dyad and a specific outcome variable. Therefore, we will propose a model in which we relate the discussed relational constructs to a self-reported subjective measure of performance and to a objective measure of performance. Next, we analyze whether the estimated model parameters depend on the duration of the relationship.

3 MODEL AND HYPOTHESES

In this section we put forward the model we will use in our empirical analysis below. Furthermore, we discuss the hypotheses we aim to test within the context of this model.

3.1 Model

As the basis for our hypotheses we use an adapted version of the meta-analytic model as reported by Geyskens, Kumar and Steenkamp (1999, p. 232) First, we specifically relate (non)-economic satisfaction to trust and trust to affective and calculative commitment. Next, we extend this model by incorporating two relationship performance measures, that is (1) self-reported positive word-of-mouth communication and (2) contribution margin of each customer. We relate trust and affective commitment to positive word-of-mouth communication. Furthermore, we relate affective commitment, calculative commitment and trust to contribution margin. In this model we hypothesize that trust and commitment mediate the relationship between satisfaction and relationship performance (Morgan and Hunt, 1994). The model is displayed in Figure 1.

<Insert Figure 1 about here>

3.2 Main hypotheses

As the relationships between the relational constructs, satisfaction, trust and commitment have been documented frequently in the literature, we will only briefly discuss our hypotheses with regard to these associations.

Satisfaction - Trust

Considerable evidence exists that non-economic satisfaction with the relationship leads to higher levels of trust (Ganesan, 1994; Geyskens, Steenkamp and Kumar, 1999; Garbarino and Johnson, 1999). In marketing channels, economic satisfaction is found to lead to lower conflict and thus to higher levels of trust (Geyskens, Steenkamp and Kumar, 1999). Hence, we hypothesize:

H_{1a} *Non-economic satisfaction is positively related to trust.*

H_{1b} *Economic satisfaction is positively related to trust.*

Satisfaction – Affective Commitment

Both Bettencourt (1997) and Garbarino and Johnson (1999) report that satisfaction is positively related to affective commitment. Geyskens and Steenkamp (1998) show that both economic satisfaction and non-economic satisfaction lead to higher levels of affective commitment in a channel context. Based on these findings, we hypothesize:

H_{2a} *Non-economic satisfaction is positively related to affective commitment.*

H_{2b} *Economic satisfaction is positively related to affective commitment.*

Trust – Commitment

There is substantial evidence in the marketing literature for a positive relationship between trust and affective commitment (Geyskens et al., 1998; Geyskens, Steenkamp and Kumar, 1999, Morgan and Hunt, 1994). As previously mentioned, the calculative component of commitment has gained less attention in the empirical literature. Geyskens et al. (1996) argue that when trust is low, decisions to stay will be based on the calculation of immediate benefits versus costs. In this situation the customer will be less likely to discontinue the relationship with a firm in the case of high switching costs. These authors document a negative relationship between trust and calculative commitment. Accordingly we hypothesize as follows:

H_{3a} Trust is positively related to affective commitment

H_{3b} Trust is negatively related to calculative commitment.

Relational constructs – Relationship Performance

Theory provides conflicting insights concerning the effect of commitment and trust on relationship performance. On the one hand, researchers report significant positive effects of both trust and commitment on self-reported measures of relationship performance, such as purchase intention and long-term orientation (Garbarino and Johnson, 1999; Kumar, Hibbard and Stern, 1994; Ganesan, 1994). For example, Bettencourt (1997) documents that affective commitment is positively related to customer voluntary performance. Moreover, also Morgan and Hunt (1994) report that commitment leads to a lower propensity to leave. On the other hand, researchers find only weak or no significant effects of either commitment or trust on relationship performance (Moorman, Zaltman and Desphandé, 1992; Verbeke et al, 1999). The primary difference between these studies lies in the operationalization of relationship performance. Studies reporting positive effects of trust or affective commitment mainly use intention or attitude like measures. It should perhaps be mentioned that these measures can be very close to commitment and trust. For example the use of purchase intention (see Garbarino and Johnson, 1999; Macintosh and Lockshin, 1997; Kumar, Hibbard and Stern, 1994) as a measure of performance might be disputable, as Geyskens, Steenkamp and Kumar (1999, p.234) state that commitment in fact is the intention to continue the relationship. Studies reporting no effects of trust or affective commitment use performance measures reflecting actual behavior. For example, Verbeke et al. (1999) focus on the resource allocation (that is: shelf space and instore promotion support) of retailers to manufacturer brands in the FMCG-industry.

Previous research thus shows support for positive effects of affective commitment on positive word-of-mouth communication, as this measure is relatively close to the measures used in previous studies. In contrast previous research provides uncertainty about the effect of both trust and commitment on the profitability of a customer. However, Morgan and Hunt (1994, p. 20) state that **successful** relationship marketing requires relationship commitment and trust. Successful relationships should be more profitable (Sheth and Parvatiyar, 1995). Moreover, investments in commitment and trust using relationship-marketing tools, such as loyalty programs or communication programs, should pay off. Despite the weak evidence found in the literature, we hypothesize that on the basis of normative statements made by previous researchers, and the fact that many companies invest in affective commitment and trust thereby using for example relationship magazines, both affective commitment and trust are positively related to the contribution margin of an individual customer.

The effect of calculative commitment on relationship performance differs from the effect of affective commitment (Kumar, Hibbard and Stern, 1999). As calculative commitment reflects a negative motivation for attachment with the company, we do not expect a relationship between calculative commitment and positive word-of-mouth communication. However, switching costs are acknowledged to be drivers of behavioral loyalty (Dick and Basu, 1994). For example, many companies use loyalty programs that focus on the creation of exit barriers (Dowling and Uncles, 1998). Hence, we expect that calculative commitment will be positively related to contribution margin.

H_{4a} *Trust is positively related to positive word-of-mouth communication.*

H_{4b} *Trust is positively related to contribution margin.*

H_{4c} *Affective commitment is positively related to positive word-of-mouth communication.*

H_{4d} *Affective commitment is positively related to contribution margin.*

H_{4e} *Calculative commitment is positively related to contribution margin.*

Mediating role of trust and commitment

Morgan and Hunt (1994) explicitly state that trust and commitment are key mediating variables in relationship marketing. Geyskens et al. (1998) find support for a key mediating role of trust. Despite this meta-analytic evidence, Garbarino and Johnson (1999) provide evidence that the mediating role depends on the relational background of the customer. In line with most of the literature we hypothesize that commitment and trust mediate the effect of satisfaction on relationship performance.

H_5 *Trust and commitment mediate the relationship between satisfaction and relationship performance.*

3.3 The effect of duration

The theoretical and empirical literature suggests that the duration of the relationship might affect the previously discussed associations (Dwyer, Schurr and Oh, 1987; Grayson and

Ambler, 1999). However, no empirical evidence for an effect of relationship duration on the strength and or sign of associations between the relational constructs appears to be documented. However, there is though empirical evidence that the effect of trust and commitment on relationship performance does not hold in long-term relationships (Grayson and Ambler, 1999). Grayson and Ambler (1999, p. 139) argue that "dark sides" of long-term relationships cause the dampening effect of relationship duration on the association of trust and commitment with relationship performance. However, they can not find support for this hypothesis. This may perhaps be due to the following phenomena. First, the effect of satisfaction on relationship performance may depend on the length of relationship. As previously mentioned, customer satisfaction research shows that the strength of the effect of satisfaction on loyalty depends on the length of the relationship (Bolton, 1998; Rust et al., 1999; Verhoef, Franses and Hoekstra, 1999). The explanation given for this result is that customers with longer relationships therefore are more experienced in their relationship and are better able to evaluate the company and therefore they have more confidence in their evaluation (Bolton, 1998). However, in the first stages of a relationship, customers are forced not to only base their loyalty decisions on satisfaction but also to base their decisions on feelings of trust and commitment. This is especially true as trust is mainly regarded as credibility. Trust then is a signal for quality. In longer relationships, trust is established and thus satisfaction is the decisive factor in deciding to stay with or buy more from the company. Thus we expect that trust is essentially important in short-term relationships, while satisfaction will be more important in long-term relationships. Note that this proposition is in line with the replication study of Grayson and Ambler (1999). They report that quality of interaction, which is closely related to satisfaction, is the only variable having a direct effect in later stages of the relationship. In the early stage of a relationship, they find no significant association between quality of interaction and marketing services use. This implies that satisfaction is more important in long-term relationships.

Second, high switching-costs may be another explanation for the reported results. Customers use services, because they have used them before and/or they find it difficult or costly to switch to another supplier (Dick and Basu, 1994; Uncles et al., 1998). As a result, less favorable attitudes will finally not result in lower usage levels. This will essentially be important in longer relationships, because in short-term relationships the choice of using a service will mainly be based on positive feelings (Grayson and Ambler, 1999). Thus it might be expected that calculative commitment becomes more important in long-term relationships.

Third, relationship theory already suggests that relationship performance will increase over time to a certain maximum (Dwyer, Schurr and Oh, 1987). This maximum will not only depend on inputs, but also on the extent to which customers wish to use certain services. For example, in consumer research there is considerable empirical evidence suggesting that consumers are loyal to a number of brands (Ehrenberg, 1988). Reasons such as variety seeking tendency or occasion specific buying explain this finding. Furthermore, use is bounded to a certain maximum (potential) due to consumption restrictions, such as available income, needs, and so on. This contention has one important implication. Once the relationship has developed fully, a positive attitude might not urge the customer to do more business with the supplier simply because the relationship has reached its fullest potential. And thus only certain internal or external actions, such as much better value offers by competitors, and a noticeable service or product failure, will result in changing attitudes and thus in changing behavior (Ehrenberg, 1988).

Based on the above discussion, we hypothesize:

H_{6a}: *Relationship duration will dampen the effect of trust and affective commitment on relationship performance.*

H_{6b}: *Relationship duration will reinforce the effect of calculative commitment on relationship performance.*

H_{6c}: *Relationship duration will reinforce the effect of satisfaction on relationship performance*

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With regard to the associations between the relational constructs we do not hypothesize any effect of relationship duration, as previous research does not document any differences. We therefore will explore the effect of duration on these associations. In the next sections we will examine the empirical validity of the hypotheses formulated above.

4 RESEARCH METHODOLOGY

This section continues with a discussion of our research methodology, including a discussion of the data, the relevant measures and the statistical methods.

4.1 Data collection and sample

The data used in this research are collected by phone using a key-informant approach from a proportional stratified sample of 6525 customers of a large direct writer in the Netherlands. The bases for stratification are relationship duration, purchase level of insurances and claiming behavior. Using this sample methodology we obtain a representative sample on these three important characteristics. The final sample size is 2300 (response rate 35%). As

23% refuses to participate, 24% can not be reached due to a wrong phone number or they are not at home and 12% is not able to participate due to language or other problems. Of these 2300 customers 505 respondents are left out of the analysis because of missing values on one or more of the questions. Hence, the final sample contains 1795 customers. The sample can be described as rather prosperous and well educated.

4.2 Measure development

As most of the literature on relationship marketing is executed in channels and/or very specific customer environments (Garbarino and Johnson, 1999), we adapt measures used in both contexts. We use the following procedure to develop our measures (Churchill, 1979; Steenkamp and Van Trijp, 1991):

(1) Generation of items based on literature study;

(2) Test of items among 10 marketing academics and experts in the area of relationship marketing and 3 marketing practitioners to check for clarity, wording and domain representativeness;

(3) Data collection for a sample of 200 customers of the insurance company;

(4) Reduction of set of items to items on (i) inter-item correlations, (ii) item-to-total correlations, (iii) Cronbach Alpha, (iiii) Exploratory Factor Analysis using Varimax Rotation and (iiiii) Confirmatory Factor Analysis;

(5) Data collection for a new sample of customers.

In step 1, ten items for the trust-scale are adapted from Crosby, Evans and Cowles (1990), Garbarino and Johnson (1999) and Kumar, Scheer and Steenkamp (1995). We adapt eight items from Anderson and Weitz (1992), Garbarino and Johnson (1999), and Kumar, Scheer and Steenkamp (1995) for the measurement of affective commitment. Calculative commitment is measured with six items adapted from Geyskens, Kumar and Steenkamp (1996) and Kumar, Hibbard and Stern (1994). We adapt four items of Singh (1990) and we add four items with regard to responsiveness for the measurement of non-economic satisfaction. For the measurement of economic satisfaction we focus on the insurance premium evaluation. We adapt one item of Singh (1990) and add one item ourselves. Word-of-mouth communication is measured with three items adapted from Zeithaml, Berry and Parasuraman (1996). An overview of the items in the pre-test and the reason for deletion is provided in Appendix Table A-1. In order to minimize carry-over and backfire effects, we have presented all items randomly to the customers using computer-assisted telephone interviewing (CATI) (Bickart, 1993).

The insurance company provides the contribution margin for each customer. This contribution margin is calculated as the summation of the expected contribution of each effected insurance policy. The contribution of an insurance policy is calculated as the average premium for an insurance minus the average monetary level of claims and minus the average level of costs that can directly be assigned to the insurance. Marketing costs are not included in the calculation. The assignment of marketing and customer service costs to individual customers is not straightforward. Marketing costs are decomposed in acquisition and reactivation costs. Acquisition costs often cannot be assigned to an individual customer (Mulhern, 1999), they are always historic and can be considered as sunk costs for an existing customer (Berger and Nasr, 1998). Another important problem of marketing costs is that decisions with regard to these costs will influence customer revenues (Brittan and Mondschein, 1996; Blattberg and Deighton, 1996; Pearson, 1994). Finally, data concerning the relationship duration are also available from the customer database. It is calculated as the interval between the time of measurement and the starting date of the relationship (see Bolton, 1998).

4.3 Validation of measures

In order to validate our measures we follow the well-known four-step procedure as described by Gerbing and Anderson (1988). After computation of the coefficient alpha, item-to-total correlations and the application of exploratory factor analysis for each scale separately, only one item of the economic satisfaction scale is deleted, because it had a item-to-total correlation below 0.3. Hence we are forced to choose between the two items measuring economic satisfaction. We decide to choose the item, "How satisfied are you about the insurance premium?" for two reasons. First, from a content perspective this item best reflects the economic satisfaction construct. Second, from a data perspective this item has more variation and is less skewed and therefore better fits the criteria for confirmatory factor analysis.

Next, we test the measurement model using Lisrel83 with a covariance matrix as input (Jöreskog and Sörbom, 1993). We set the error-variance of the economic satisfaction item to the lowest error variance of the other items and the lambda to 0.95*variance (Anderson and Gerbing, 1988). We delete two items of the calculative and affective commitment scale respectively, as this substantially increases the model fit and both items have standardized factor loadings below 0.5. The final model fit of the measurement model satisfies most of the stated criteria in the literature with a χ^2 of 735.52 (df =175, p=0.00), a χ^2/df of 4.2 (df= 1, $p < 0.05$), a GFI of 0.96, an AGFI of 0.95, a CFI of 0.96 and a RMSEA of 0.043 (Bagozzi and Yi, 1988; Baumgartner and Homburg, 1996). The χ^2 indices are the only fit-statistics not complying with these criteria. Note that these indices are fairly strongly correlated with sample size and are therefore problematic to use for the assessment of model fit in large samples (Bentler, 1990; Baumgartner and Homburg, 1996). The covariance matrix of the final measurement model is given in the Appendix Table A-2, while the final results of our measurement model are reported in Table 1.

<Insert Table 1 about here>

In order to assess the convergent validity of each construct we look at the sign, size and significance of the estimated factor loadings. We compute the composite reliability index and average variance extracted to assess how well each construct is measured by their indicators. Each standardized factor loading has the right sign and is highly significant with t-values larger than 20. All factor loadings are larger than 0.5. The composite reliabilities of all constructs lie above 0.7, while the average variance extracted for each construct is larger than 0.4. Based on these results we conclude that our constructs are reliable and unidimensional (Bagozzi and Yi, 1988; Gerbing and Anderson, 1988).

The assessment of discriminant validity of the used measures is important, as there seems to be a debate on the differences between the used constructs (Garbarino and Johnson, 1999). Constraining the estimated correlation parameter between two constructs to 1 and then performing a chi-square difference test on the values for the constrained and unconstrained model has been used to asses discriminant validity. This procedure is performed for each pair of factors at a time (Anderson and Gerbing, 1988). Using this procedure we find for each pair significantly lower chi-squares for the unconstrained models. Thus, discriminant validity appears to be achieved. Additional evidence for discriminant validity is also given by the fact that we do not find any of the confidence intervals for the correlation estimates between the separate pairs of factors to include the value of 1.

4.4 Estimation techniques

We use Lisrel83 to test the hypothesized model using the covariance matrix of the summated items as input, which is given in Table 2. As suggested by Anderson and Gerbing (1988) we also simultaneously estimate the measurement model and the structural model, thereby controlling for measurement error. Comparison of the two procedures does not reveal any important differences. Because of reasons of simplicity and the fact that simultaneous modeling of the measurement model and structural model for each subgroup puts restrictions on the sample size of each subgroup, we report the estimation results using summated scores. We also estimate an unrestricted model, where we allow direct paths from satisfaction to relationship performance in order to test for the mediating effect of commitment and trust (Jöreskög, 1993). We use a likelihood ratio test to check whether the unrestricted model has a significantly better fit than the restricted model.

<Insert Table 2 about here>

In order to test for possible moderating effects of relationship duration, we use the following procedure. First, we divide the sample in fourteen subgroups with different relationship duration. Next, we estimate the model, which is best for describing the data of the total sample (as suggested by our previous analysis), for each subgroup separately. Finally, we regress the estimated coefficients for each subgroup on relationship duration. We consider a significant coefficient for duration as evidence of an effect of duration on the association between the relational constructs.

5 RESULTS

In this section we first discuss the results for the total sample and next we examine subgroups, which are classified based on their average relationship duration.

5.1 Testing of structural model

Estimation of the structural model

We first estimate the hypothesized model as displayed in Figure 1. The fit of this model is quite reasonable with a χ^2 of 90.74 (df =8, p=0.00), a χ^2/df of 11.34 (df= 1, p < 0.01), a GFI of 0.99, an AGFI of 0.95, a CFI of 0.96 and a RMSEA of 0.076 (Baumgartner and Homburg, 1996). Next, we estimate a less restrictive model, where we allow paths from (non)-economic satisfaction to the relationship performance measures. The χ^2 of this model is 6.21 (df = 4, p=0.18). The χ^2-difference reveals a significant improvement in the model fit (χ^2 = 84.53, df=4, p<0.01). Note that also the other indices increase dramatically that is, these now obtain the values of GFI=1.00, AGFI=0.99, CFI=1.00 and RMSEA=0.018. We will use the estimation results of the second model to test our stated hypotheses. The results of our estimation are displayed in Table 3. Columns 1 and 2 display the estimated paths, while column 3 shows the unstandardized coefficients. Columns 4 and 5 display the standardized coefficients and the t-values.

<Insert Table 3 about here>

Relational constructs

As expected we find significant positive relationships between economic satisfaction and trust (γ_{12}=0.05, p<0.05) and non-economic satisfaction and trust (γ_{11}=0.68, p<0.001). Hence, both H_{1a} and H_{1b} are supported. We also find support for H_{2a} and H_{2b}, as both non-economic satisfaction and economic satisfaction are positively related to affective commitment (γ_{21}=0.22, p<0.001; γ_{22}=0.07, p<0.01). We find a significant positive coefficient for the path between trust and affective commitment (β_{21}=0.25, p<0.001), implying that H_{3a} is supported. However, no significant relationship between trust and calculative commitment is found (β_{31}=0.03, p>0.10). Hence, we find no support for H_{3b}.

Relationship performance

The hypothesized positive relationships between both trust and affective commitment and positive word-of-mouth communication (H_{4a}, H_{4c}) are supported by our analysis, as our analysis reveals highly significant coefficients for the relevant variables (β_{41}=0.26, p<0.001; β_{42}=0.31, p<0.001). In contradiction with H_5 no support is found for a fully mediating role of commitment and trust, as we find significant paths from (non)-economic satisfaction to positive word-of-mouth communication (γ_{41}=0.17, p<0.001; γ_{42}=0.08, p<0.01). Note also that the restricted model in which we do not allow for these paths has a significantly worse fit as compared to the unrestricted model.

With regard to the contribution margin of each individual customer, the analysis only reveals two significant paths. Both non-economic satisfaction and economic satisfaction are significantly related to contribution margin. Non-economic satisfaction has a significant positive impact, while economic satisfaction has a significant negative impact (γ_{51}=0.08, p<0.05; γ_{52}=-0.06, p<0.05). Note also that no significant effect of affective commitment and trust is found (β_{51}=-0.03, p>0.10; β_{52}=0.02, p>0.10). Hence, H_{4b} and H_{4d} are not supported by our analysis. We also cannot support H_{4e} because no significant association is documented between calculative commitment and contribution margin (β_{53}=-0.04, p>0.10). This result also implies that no evidence is found for a fully mediating role of trust or commitment in the relationship between satisfaction and contribution margin (H_5). Finally, note that we can only explain 1% of the variance in contribution margin, while we can explain 39% of the variance in positive word-of-mouth communication.

5.2 The effect of duration

Estimation of structural models

Table 4 gives some key statistics on the various subgroups: the average relationship duration, the size, and four fit-statistics of the estimated structural model. The groups with long-term relationships are relatively small compared to the groups with short-term relationships. As a result the estimated standard errors for each coefficient will be larger for customers with long-term relationships. The fit statistics of the estimated models are quite reasonable for each subgroup. Only two out of fourteen chi-squares are significant, while all GFI-indices and CFI-indices are larger than 0.95.

For each significant path in the model of the total sample, we will display a scatter diagram concerning the estimate for the subgroups against the average duration. In this scatter diagram the coefficients with their associated 95% confidence intervals of each subgroup are on the y-axis, while the mean duration of each group is displayed on the x-axis. In these diagrams we draw a trend line and we give the associated t-statistic of its slope.

<Insert table 4 about here>

Antecedents Trust

We do not specifically hypothesize an effect of duration on the associations between (non)-economic satisfaction and trust. The two relevant scatter diagrams are displayed in Figure 2. Our analysis reveals that duration has a significant impact on the association of both non-economic satisfaction (t-value=-2.48) and economic satisfaction with trust (t-value=3.27). With regard to non-economic satisfaction, we find that the coefficient significantly becomes smaller in long-term relationships. However, the coefficient of economic satisfaction becomes larger in long-term relationships.

<Insert Figure 2 about here>

Antecedents affective commitment

Figure 3 displays the three scatter diagrams of the antecedents of affective commitment for the different groups. For all three antecedents, our analysis does not show any effect of relationship duration on the size and relevance of the coefficients. Note that the majority of the coefficients of both non-economic satisfaction and trust are significant, while the majority of the coefficients of economic satisfaction is not significant.

<Insert Figure 3 about here>

Antecedents positive word-of-mouth communication

With regard to the effect of duration on the antecedents of positive word-of-mouth communication we hypothesize that for long-term relationships satisfaction would become more important. Figure 4 displays the four scatter diagrams of the four antecedents of positive word-of-mouth communication. Generally, our analysis does not show significant effects of duration, because all t-values are below 2. Specifically, we find the coefficient of trust slightly decreasing over time, while the coefficient of affective commitment is found to remain constant over time. Thus, our analysis does not provide support for H_{6a}. Note however that the size of the coefficient of non-economic satisfaction slightly increases over time (β=0.006; t-value=1.37) and also that the last coefficients are large and significant. Hence, we do find some evidence for a reinforcing effect of duration on the effect of non-economic satisfaction on positive word-of-mouth communication (H_{6c}). With regard to economic satisfaction, there is a tendency that the coefficient decreases when the relationship gets longer.

<Insert Figure 4 about here>

Antecedents of contribution margin

The coefficient of both non-economic satisfaction and economic satisfaction are not significantly affected by relationship duration with an absolute t-value of 0.77 (Figure 5). Hence, no support is found for H_{6c} with regard to contribution margin. Although the paths from trust, affective commitment and calculative commitment to contribution margin were not significant in the total sample, we also explore the effects of duration on these paths. Results of this explorative analysis show that the effect of affective commitment on contribution margin increases over time, while the effect of calculative commitment decreases. This first result would contradict H_{6a}, while the last result contradicts H_{6b}.

<Insert Figure 5 about here>

In sum, we find only weak evidence of the effect of relationship duration on the effects of relational constructs on relationship performances.

6 DISCUSSION

In the remainder, we discuss the implications of our findings for theory, we provide implications for managing firm-to-customer relationships and we discuss our research limitations and suggestions for further research.

6.1 Performance and duration

This research project had two main objectives, which will be the focus of this discussion. First, we examined the effect of relational factors on relationship performance. Second, we studied whether this effect would change as the relationship matures. With regard to the first objective our results depend on the used measure of performance. Using positive word-of-mouth communication as a measure of performance, we find that (non)-economic satisfaction, trust and affective commitment affect performance. This finding is much in line with previous studies and it shows that relational factors are important determinants of relationship performance. The only discrepancy with previous research is that we cannot find support for a fully mediating role of trust and commitment. Note, however that Garbarino and Johnson (1999) also question the fully mediating role of trust and commitment.

If we consider our second performance measure, the contribution margin provided by each customer, we only find a marginal effect of relational constructs. Using these constructs as independent variables we can only explain 1% of the variance in contribution margin.

Moreover, we do not find a significant effect of neither trust nor commitment. However, we find a small positive effect of non-economic satisfaction and a small negative effect of economic satisfaction. The latter effect can be explained by the fact that customers who are more satisfied about economic rewards, such as price, have effected more price attractive insurance policies. In fact a manager of the insurance company that supplied data acknowledges that they use a marketing strategy, in which some insurance policies are discounted in order to attract new customers, meanwhile they hope to sell other more profitable insurance policies in later stages of the relationship.

Although the results are in line with other studies that question the relationship between trust and commitment and performance (Verbeke et al., 1999), the question remains how we can explain the different results with regard to the two performance measures. We provide three possible explanations for this result. First and as mentioned earlier, the measurement procedure may have resulted in different effects. Where positive word-of-mouth communication is a self-reported subjective measure, contribution margin is an objective measure available from the customer database. Second, the result may be explained by the fact that the two measures differ with regard to content. Positive word-of-mouth communication is an activity that originates from positive and enthusiastic feelings for a company (Bettencourt, 1997). Hence it is a measure that also reflects some attitudinal components. In contrast, contribution margin is a behavioral measure, in which also the profitability of each effected insurance policy is taken into account. The decision to take an insurance policy is not only based on positive feelings. Nowadays customers can collect information on products and prices easily thereby using for example the Internet (Bakos, 1997). Moreover, customers have experiences with many service providers. As a result, customers will base their decisions on the performance of the company on economic aspects (that is, price) of the relationship and non-economic aspects of the relationship. Third, the company under study is a direct writer and their customers are rather prosperous and well educated. Moreover, customers of direct writers are often considered as price sensitive. Both factors may cause a more rational decision process.

Does our results imply that trust and commitment are no longer to be considered as central aspects of a successful relationship? The answer to this question is not straightforward. Our study provides some degree of skepticism on the effect of trust and commitment on economic performance. However, we do not argue that trust and commitment will not lead to positive outcomes, such as long-term orientation or customer voluntary performance. Moreover, we state that using cross-sectional data to study the effect of trust and commitment on economic performance and perhaps can lead to conflicting conclusions. Ideally, the effect of trust and commitment should be studied using a longitudinal methodology, in which the behavior of customers, and hence economic performance, is monitored for a longer time span.

We also studied whether the hypothesized associations depend on the duration of the relationship. In short, we only find marginal evidence that associations are duration dependent. The only significant effect of duration is found for the association between (non)-economic satisfaction and trust. In short-term relationships non-economic satisfaction is the only determinant of trust, while in long-term relationships this effect decreases while remaining significant and economic satisfaction becomes more important. Perhaps this result can be explained by the fact that in long-term relationships customers know what to expect with regard to non-economic aspects of the relationship. However comparing these aspects with the premium they have to pay, they may get the feeling that the company does not provide enough value. They even might expect lower premiums being a very loyal customer.

Hence, they less trust the company. In contrast with Grayson and Ambler (1999) we do not find a dampening effect of duration on the effect of trust and commitment on relationship performance. As such, we cannot find support for possible dark sides that dampen the effect of relational constructs on performance in long-term firm-to-consumer relationships. However, we find marginal evidence for a reinforcing effect of duration on the effect of non-economic satisfaction on performance. In long-term relationships, non-economic satisfaction has a stronger effect on positive word-of-mouth communication than it has in short-term relationship. This finding provide some weak evidence that in long-term relationships performance is based more on perceived outcomes of a relationship. Moreover, this finding is in line with findings in the customer satisfaction literature (see Bolton, 1998).

6.2 Management Implications

As mentioned, our study is in line with studies that question the role of trust and commitment. Moreover, we find that trust and commitment are not related to the bottom-line profitability of a customer. Does this result imply that trust and commitment are not worthwhile to invest in for companies? First, we note that trust and commitment are positively related to positive word-of-mouth communication, which can have important profit implications for a company. Second, what we find is that more committed customers are not more profitable at this moment. However, note that as a relationship develops, we may find that for example more committed customers remain customer for a longer time or have higher cross-selling ratio's. Our results only question the effect of commitment and trust on actual economic performance. Using this information, companies in the business-to-consumer market should evaluate whether investments in commitment and in trust indeed lead to more profitable customers in the long run. Our study provides some directions for a differential treatment of customers with short-term and long-term relationships. First, companies should be aware that they provide long-term customers a service that still meets the non-economic expectations given the price customers have to pay for it. This is substantiated by our finding that in long-term relationships economic satisfaction becomes more important. In order to keep the level of trust, companies should focus on sufficient economic performance or on making the relationship more attractive. Second, as we find that in long-term relationships the effect of non-economic satisfaction on positive word-of-mouth communication becomes larger we argue that in order to keep positive word-of-mouth communication in long-term relationships, companies should pay more attention to non-economic satisfaction in these relationships.

6.3 Research Limitations and Future Research

Some limitations of our study should be noted. First, and perhaps most important, our study only considers relationships in a business-to-consumer market of a specific insurance company in the Netherlands. As such the external validity of our results can be viewed as limited. However, to our knowledge this is the first study relating relational concepts to actual behavior. We therefore encourage other researchers to do the same in other relational dyads or other industries. Second, our study suffers from the same weakness as other studies in this field, as it only uses cross-sectional data. As a result we cannot make strong inferences with regard to the effect of relational constructs on (economic) performance. As such there is an urgent need for studies using a longitudinal approach. For example trust and commitment can be related to actual retention or cross-selling. Moreover, by using more measurement points over time, stronger inferences can be made about the development of relational constructs and their causal sequence (Geyskens, Steenkamp and Kumar, 1999). Third, we only used contribution margin as an economic measure of performance. We can imagine that also a measure, such as customer share, is an important indicator. Future research can account for these variables. Fourth, although we used a key-informant approach, decisions to effect insurance policies are likely to be made by more than one person in a household. Future research can use a multi-informant methodology.

In addition to the research issues arising from our limitations, the following research issues are important. First, in contrast with Grayson and Ambler (1999) we can not find convincing evidence that the dynamics of long-term relationships differ from the dynamics of short-term relationships. As such there is a need for more studies that focus on this issue. Again, longitudinal research can provide better insights. Second, our research sheds some light on the different effects of non-economic satisfaction and economic satisfaction on trust for short-term and long-term relationships. Future research should elaborate on this finding. Third, from a technical perspective, a simultaneous equation model that is formulated to accommodate customer heterogeneity can be used (Jedidi et al., 1996). Using this methodology, researchers can ex post stipulate for which groups of customers certain relationships are present or not.

Table 1: Measurement model evaluations

	Standardized Loading	t-value	Composite reliability	Average Extracted Variance
Affective Commitment			0.78	0.55
I am a loyal customer of XYZ	0.59	-		
Because I feel a strong attachment to XYZ, I remain customer of XYZ	0.79	23.33		
Because I feel a strong sense of belonging with XYZ, I want to remain customer of XYZ	0.84	23.56		
Calculative Commitment			0.76	0.55
Because it is difficult to stop my insurances at XYZ, I remain customer of XYZ*	0.69	-		
I remain customer of XYZ, because it is difficult to take my insurances to another insurance company	0.83	21.78		
I remain customer of XYZ , because it costs much time and energy to switch my insurance to another insurance company	0.63	21.75		
Trust			0.78	0.48
XYZ can be relied on to keep their promises	0.73	-		
XYZ puts the customer's interest on the first place	0.57	21.76		
XYZ usually keeps the promises that it makes to me	0.68	25.80		
I can count on XYZ to provide a good service	0.75	27.98		
Non-economic satisfaction			0.84	0.43
How satisfied are you about (1=very dissatisfied, 5= very satisfied)				
…the personal attention of XYZ	0.67	-		
…the willingsness of XYZ to explain procedures	0.56	20.82		
…the service quality of XYZ	0.73	26.30		
…the responding to claims	0.56	20.97		
…the expertise of the personnel of XYZ	0.65	23.77		
…your relationship with XYZ	0.72	26.18		
…the alertness of XYZ	0.69	25.27		
Economic satisfaction			-	
How satisfied are you about the insurance premium? (1=very dissatisfied, 5= very satisfied)	0.76	-		
Positive Word-of-Mouth Communication			0.73	0.48
I say positive things about XYZ to persons in my environment	0.67	-		
If somebody seeks for advice with regard to a good insurance company, I recommend XYZ	0.78	24.55		
I encourage relatives and friends to do business with XYZ	0.63	21.60		

Table 2: Correlation/Covariance matrix

	Mean	Standard deviation	X1	X2	Y1	Y2	Y3	Y4	Y5
Non-economic Satisfaction (X1)	3.74	0.47	0.22	0.08	0.13	0.15	-0.01	0.13	0.03
Economic satisfaction (X2)	3.77	0.68	0.25	0.46	0.06	0.09	-0.01	0.09	-0.02
Trust (Y1)	3.77	0.46	0.60	0.20	0.21	0.15	0.01	0.14	0.01
Affective Commitment (Y2)	2.98	0.78	0.40	0.17	0.41	0.61	0.07	0.24	0.02
Calculative Commitment (Y3)	2.48	0.70	-0.01	-0.02	0.03	0.15	0.49	0.01	-0.02
Word-of mouth communication (Y4)	3.47	0.61	0.47	0.23	0.51	0.50	0.04	0.37	0.03
Standardized Contribution margin (Y5)	0.00	1.00	0.06	-0.04	0.01	0.03	-0.04	0.05	1.00

Table 3: Lisrel parameter estimates of path model

Path		Estimates			
To	**From**	**Unstandardized Coefficient**	**Standardized Coefficient**	**t-value**	R^2
Trust	Non-economic satisfaction (γ_{11})	0.58	0.68	29.97	0.36
	Economic satisfaction (γ_{12})	0.04	0.05	2.81	
Affective Commitment	Trust (β_{21})	0.42	0.25	9.63	0.21
	Non-economic Satisfaction (γ_{21})	0.41	0.24	9.25	
	Economic Satisfaction (γ_{22})	0.07	0.07	3.04	
Calculative Commitment	Trust (β_{31})	0.05	0.03	1.40	0.00
Positive Word-of-Mouth Communication	Trust (β_{41})	0.35	0.26	11.14	0.39
	Affective Commitment (β_{42})	0.24	0.31	15.09	
	Non-economic satisfaction (γ_{41})	0.22	0.17	7.01	
	Economic Satisfaction (γ_{42})	0.07	0.08	4.05	
Contribution margin	Trust (β_{51})	-0.07	-0.03	0.90	0.01
	Affective Commitment (β_{52})	0.03	0.02	-1.58	
	Calculative Commitment (β_{53})	-0.05	-0.04	-1.02	
	Non-economic satisfaction (γ_{51})	0.17	0.08	2.55	
	Economic Satisfaction (γ_{52})	-0.08	-0.06	-2.33	

Fit indices

χ^2 (df) =6.21 (4); GFI=1.00; AGFI=0.99; CFI=1.00; RMSEA=0.018

Table 4: Duration, size and fit statistics for each subgroup

Duration (years)	N	c^2 (4)	GFI	AGFI	CFI	RMSEA
0.5	208	13.80	0.98	0.87	0.97	0.11
1.5	245	4.37	0.99	0.96	1.00	0.02
2.5	227	4.40	0.99	0.96	1.00	0.02
3.5	150	3.54	0.99	0.95	1.00	0.00
4.5	117	8.70	0.98	0.86	0.97	0.10
5.5	100	2.51	0.99	0.95	1.00	0.00
6.5	103	3.84	0.99	0.93	1.00	0.00
8	115	2.53	0.99	0.96	1.00	0.00
10	128	3.66	0.99	0.94	1.00	0.00
11	105	2.53	0.99	0.95	1.00	0.00
13	76	7.48	0.97	0.82	0.97	0.10
18	83	5.60	0.98	0.87	0.99	0.07
20	76	3.45	0.99	0.91	1.00	0.00
25.8	62	4.95	0.98	0.85	0.99	0.06

Figure 1: The model

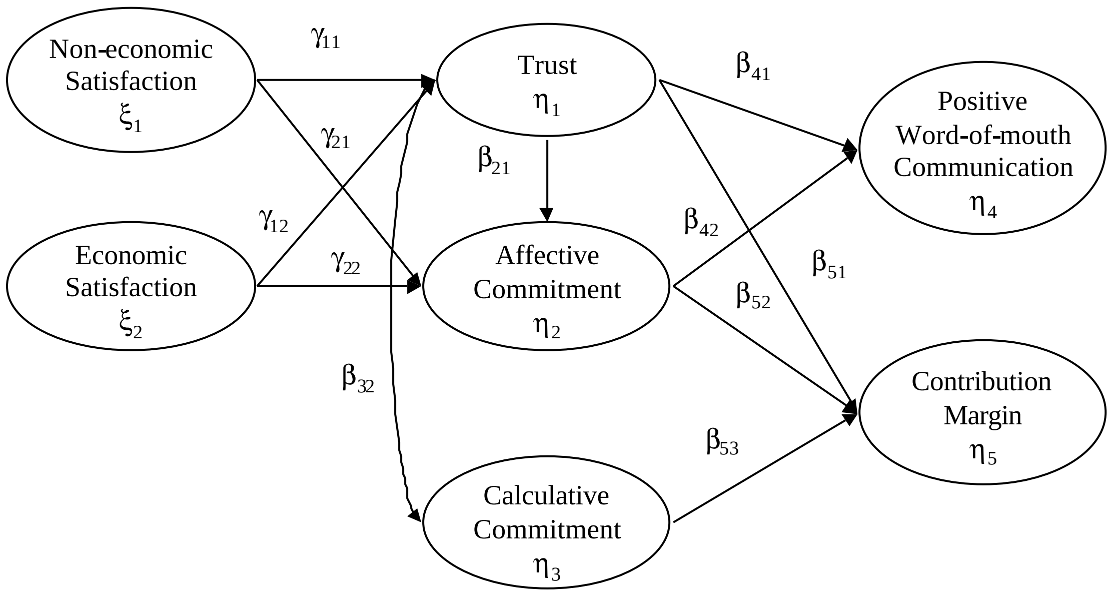
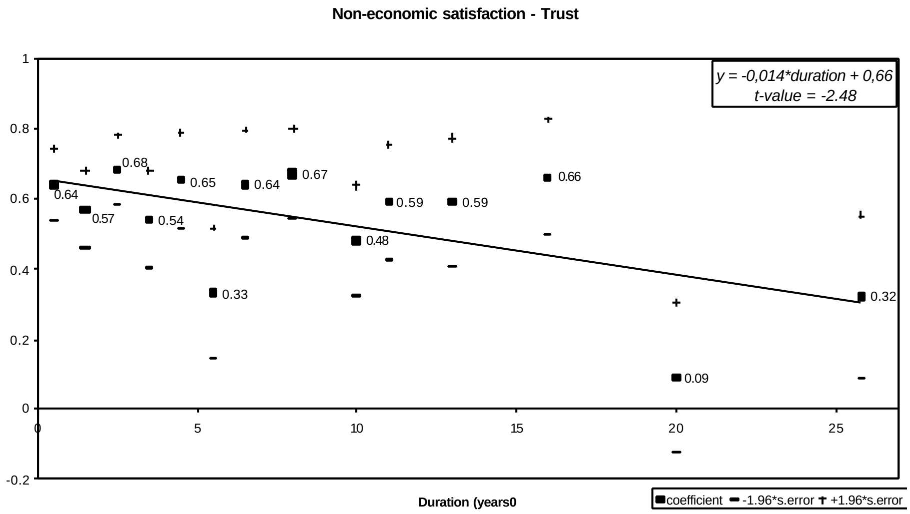


Figure 2: Effect of duration on antecedents of trust



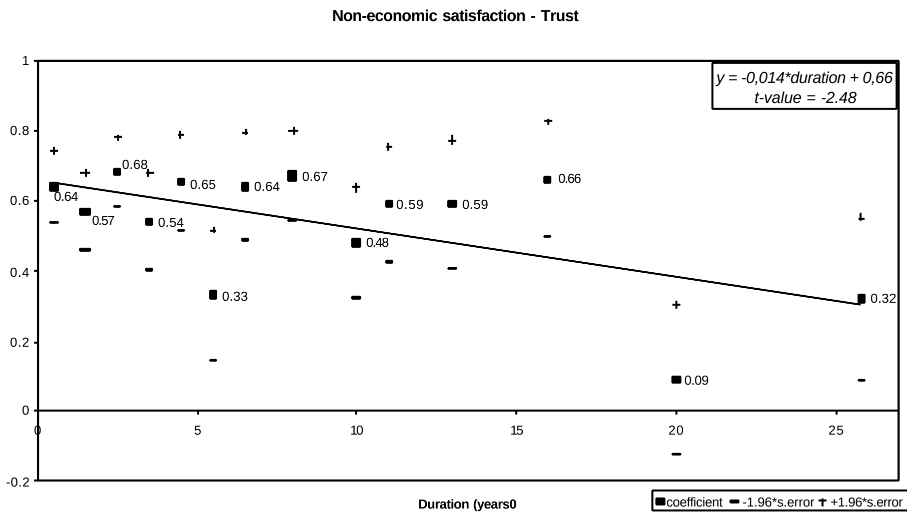
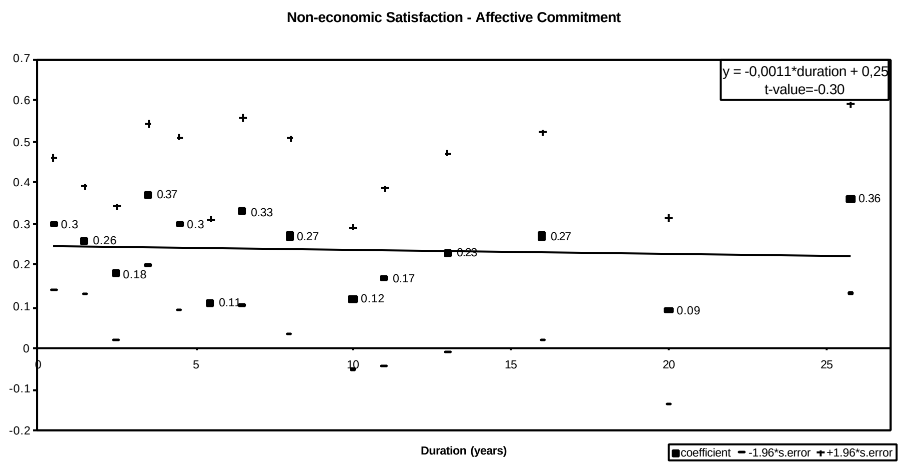
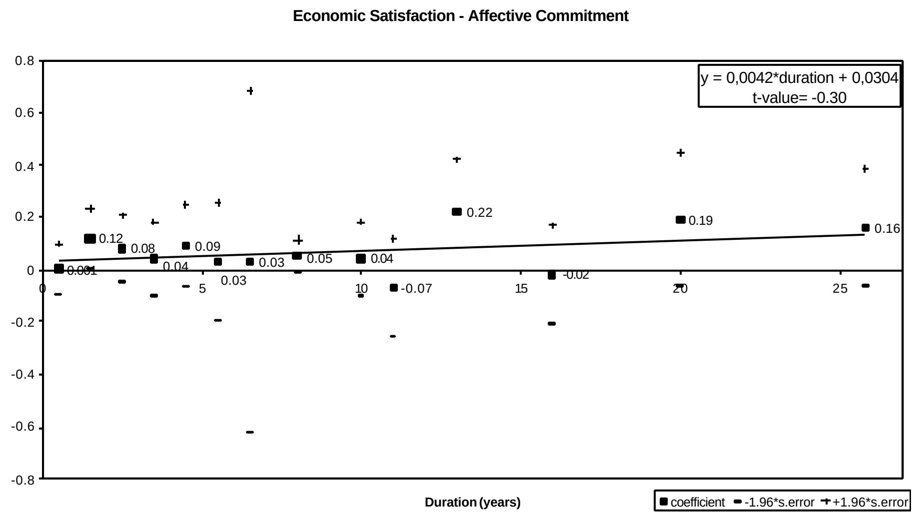
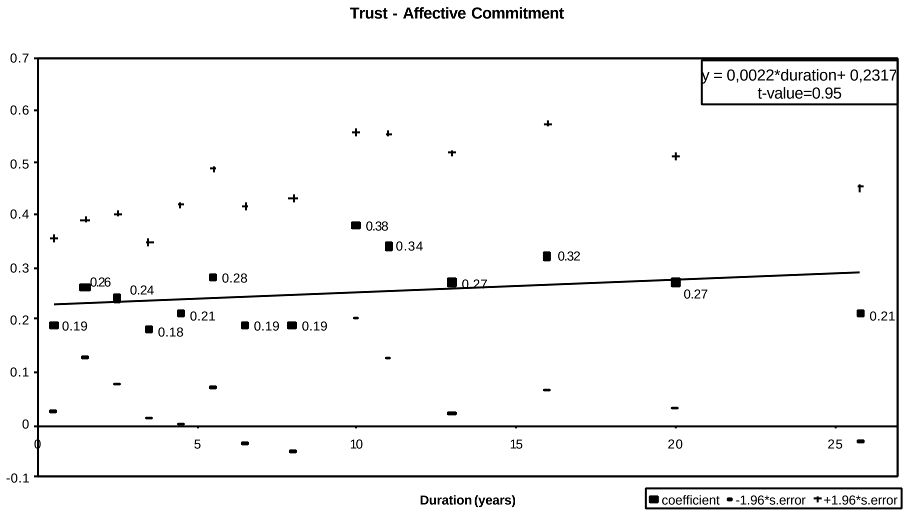


Figure 3: Effect of duration on antecedents of affective commitment

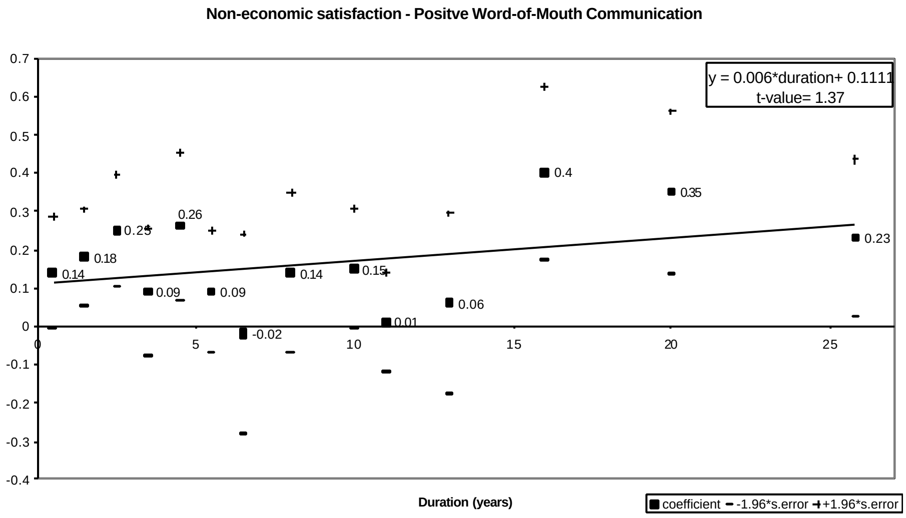


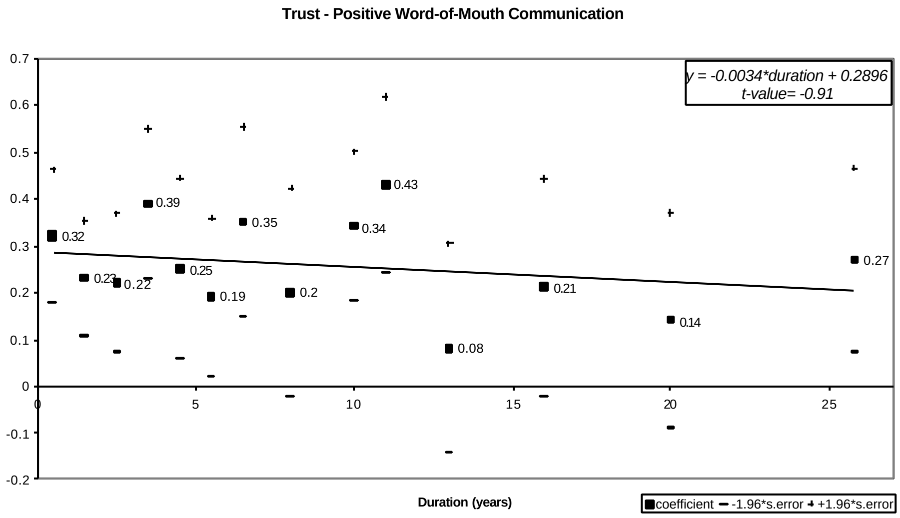


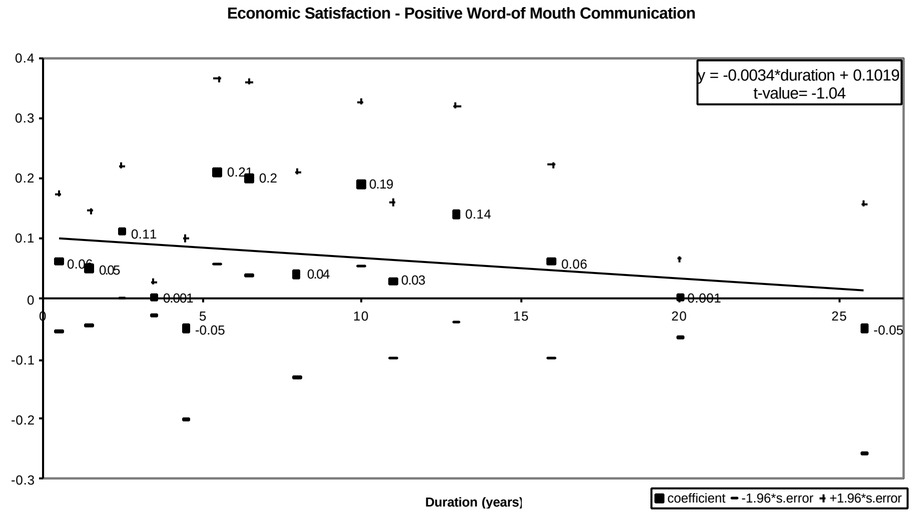


Trust - Affective Commitment
y = 0,0022*duration+ 0,2317
t-value=0.95
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
0
5
10
15
20
25
0.38
0.34
0.32
0.26
0.24
0.28
0.27
0.27
0.19
0.18
0.21
0.19
0.19
0.21
Duration (years)
coefficient
-1.96*s.error
+1.96*s.error

Figure 4: Effect duration on antecedents of positive word-of-mouth communication






Economic Satisfaction - Positive Word-of Mouth Communication
y = -0.0034*duration + 0.1019
t-value= -1.04
Duration (years)
coefficient
-1.96*s.error
+1.96*s.error

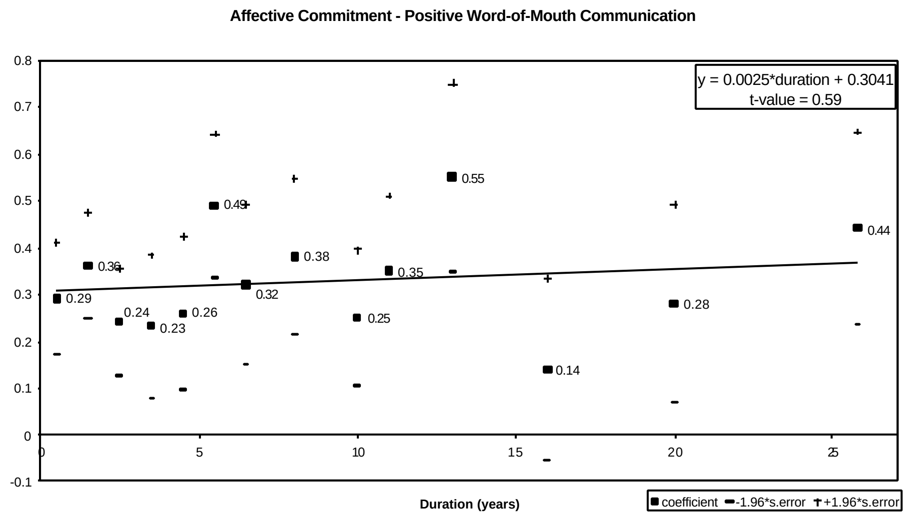
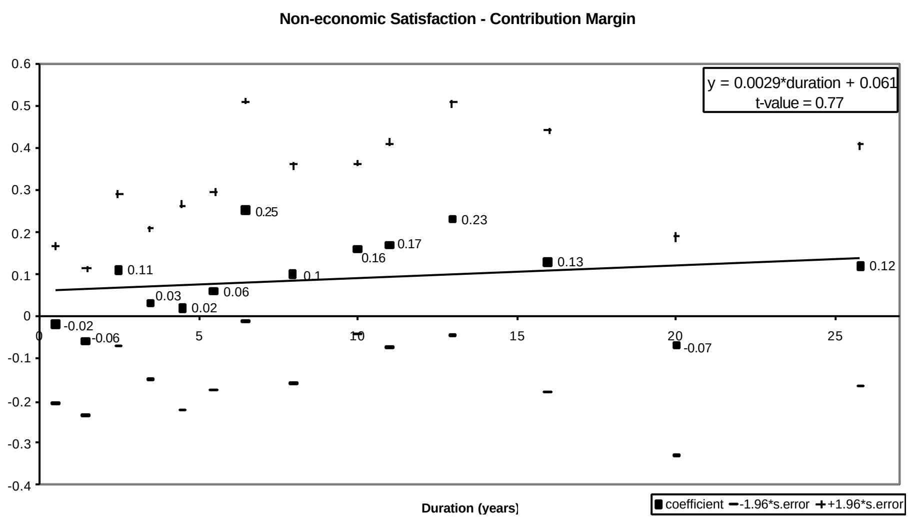
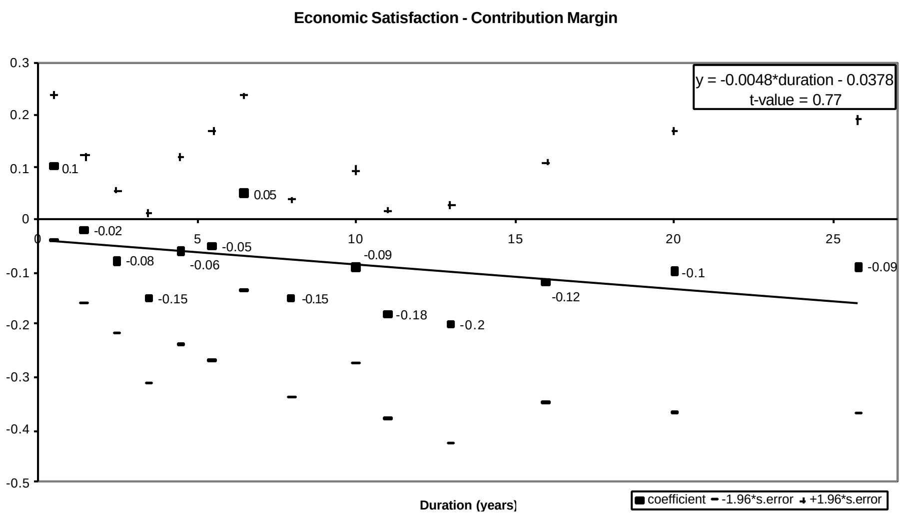

Affective Commitment - Positive Word-of-Mouth Communication
y = 0.0025*duration + 0.3041
t-value = 0.59
Duration (years)
coefficient
-1.96*s.error
+1.96*s.error

Figure 5: Effect of duration on antecedents of contribution margin





Appendix Table A-1: Measurement of Constructs

Affective Commitment	**Source**
If another insurance company would offer me better insurances, I would take my insurances to that company	Anderson and Weitz (1992)
If XYZ would make troublesome mistakes, I would not immediately stop my insurances at XYZ[2]	Anderson and Weitz (1992)
I am interested in offers of competing insurance companies[2]	Anderson and Weitz(1992)
I am a loyal customer of XYZ	Garbarino and Johnson (1999)
Because I feel a strong attachment to XYZ, I remain customer of XYZ	Kumar et al. (1994)
I think XYZ is a good insurance company and I therefore keep my insurances with XYZ[2]	Kumar et al. (1994)
Because I feel a strong sense of belonging with XYZ, I want to remain customer of XYZ	Kumar et al. (1995)
I have positive feelings about XYZ and therefore plan to remain customer of XYZ[3]	Kumar et al. (1995)
I like to be a customer of XYZ[3]	Kumar et al. (1995)
Calculative Commitment	**Source**
Because it is too costly to move my insurances to another company, I keep my insurances with XYZ[3]	Kumar et al. (1994)
Because it is difficult to stop my insurances at XYZ, I remain customer of XYZ	Kumar et al. (1994)
Because no other good insurance companies are available, I remain customer of XYZ	Kumar et al. (1994)
I remain customer of XYZ, because I find it easy to do so[1].	Geyskens et al. (1996)
I remain customer of XYZ, because it is difficult to take my insurances to another insurance company	Geyskens et al. (1996)
I remain customer of XYZ , because it costs much time and energy to switch my insurance to another insurance company	Geyskens et al. (1996)
Trust	**Source**
XYZ can be relied on to keep their promises	Crosby et al. (1990)
There are times when I find XYZ to be insincere[3]	Crosby et al. (1990)
I find it necessary to be cautious in dealing with XYZ[2]	Crosby et al. (1990)
XYZ is a trustworthy insurance company[3]	Crosby et al. (1990)
XYZ puts the customer's interest on the first place	Crosby et al. (1990)
XYZ usually keeps the promises that it makes to me	Kumar et al. (1995)
XYZ has sometimes provided us information, that later has proven to be inaccurate[2]	Kumar et al. (1995)
When ever XYZ gives me advice, I know it is a good advice[3]	Kumar et al. (1995)
I can count on XYZ to provide good insurances[3]	Garbarino and Johnson (1999)
I can count on XYZ to provide a good service	Garbarino and Johnson (1999)
Non-economic satisfaction	**Source**
How satisfied are you about (1=very dissatisfied, 5= very satisfied)	
…the personal attention of XYZ	Singh (1990)
…the willingsness of XYZ to explain procedures	Singh (1990)
…the service quality of XYZ	Singh (1990)
…the quickness of reponding to claims[3]	Singh (1990)
…the responding to claims	New
…the expertise of the personnel of XYZ	New
…your relationship with XYZ	New
…the alertness of XYZ	New
Economic satisfaction	**Source**
How satisfied are you about the insurance premium? (1=very dissatisfied, 5= very satisfied)	Singh (1990)
Do you think the insurance premium of your insurance is?[4]	New
- Too high, high, Normal, Low, Too low	
Positive Word-of-Mouth Communication	**Source**
I say positive things about XYZ to persons in my environment	Zeithaml et al. (1996)
If somebody seeks for advice with regard to a good insurance company, I recommend XYZ	Zeithaml et al. (1996)
I encourage relatives and friends to do business with XYZ	Zeithaml et al. (1996)

Notes:

[1] Item deleted after pre-test based on Cronbach Alpha or item-to-total correlation's
[2] Item deleted after pre-test based on exploratory factor-analysis
[3] Item deleted after pre-test based on confirmatory factor-analysis
[4] Item included after pre-test 1

Appendix Table A-2: Covariance Matrix of Measurement Model

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	Y_1	Y_2	Y_3	Y_4	Y_5	Y_6	Y_7	Y_8	Y_9	Y_{10}	Y_{11}	Y_{12}	Y_{13}
Non-economic satisfaction																					
X_1	0.50																				
X_2	0.20	0.44																			
X_3	0.19	0.15	0.35																		
X_4	0.18	0.14	0.19	0.58																	
X_5	0.20	0.18	0.18	0.18	0.39																
X_6	0.24	0.18	0.20	0.18	0.19	0.43															
X_7	0.18	0.14	0.19	0.17	0.16	0.19	0.33														
Economic satisfaction																					
X_8	0.08	0.07	0.10	0.07	0.06	0.09	0.07	0.46													
Trust																					
Y_1	0.13	0.11	0.14	0.16	0.12	0.15	0.13	0.06	0.38												
Y_2	0.16	0.12	0.13	0.16	0.12	0.16	0.12	0.09	0.17	0.48											
Y_3	0.11	0.08	0.13	0.16	0.09	0.13	0.09	0.03	0.19	0.13	0.31										
Y_4	0.13	0.10	0.14	0.14	0.11	0.14	0.11	0.06	0.18	0.16	0.16	0.29									
Affective commitment																					
Y_5	0.18	0.13	0.13	0.16	0.12	0.17	0.15	0.11	0.17	0.19	0.11	0.14	0.86								
Y_6	0.17	0.13	0.11	0.15	0.11	0.13	0.12	0.07	0.13	0.20	0.10	0.10	0.38	0.88							
Y_7	0.21	0.15	0.13	0.16	0.13	0.17	0.15	0.09	0.15	0.23	0.11	0.13	0.41	0.61	0.91						
Calculative Commitment																					
Y_8	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.06	0.15	0.11	0.79					
Y_9	0.00	0.00	-0.01	0.00	-0.01	0.00	-0.01	-0.01	0.01	0.02	0.01	0.01	0.05	0.11	0.09	0.39	0.59				
Y_{10}	0.00	-0.01	0.00	0.00	-0.02	0.00	0.00	-0.01	0.01	0.00	0.01	0.01	0.04	0.06	0.05	0.35	0.37	0.82			
Positive Word-of-Mouth Communication																					
Y_{11}	0.13	0.11	0.14	0.15	0.11	0.14	0.11	0.07	0.15	0.16	0.13	0.15	0.19	0.16	0.19	0.01	-0.01	-0.03	0.42		
Y_{12}	0.17	0.13	0.15	0.17	0.14	0.16	0.14	0.11	0.16	0.18	0.14	0.15	0.28	0.24	0.28	0.06	0.02	0.00	0.25	0.59	
Y_{13}	0.12	0.12	0.11	0.13	0.12	0.12	0.12	0.10	0.13	0.16	0.10	0.11	0.26	0.25	0.28	0.03	0.03	0.02	0.21	0.33	0.70

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