

Some Methodological Issues with Structural Equation Model Application in Relationship Quality Context

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Abstract

The article focuses on operationalization of relationship quality and related constructs, reliability and validity assessment and rival hypotheses consideration in structural equation modeling in the relationship quality context. Data from main advertisers in Slovenia is used to evaluate measurement and structural models in this context.

1 Introduction

The purpose of this paper is to focus on methodological issues related to structural equation modeling in the relationship quality context. Methodological issues are closely linked to theoretical postulates as well as empirical observations. Various aspects of fitting, formulating and testing hypotheses are discussed as well as methodological problems with structural equation model (SEM) application in the relationship quality context presented.

An empty space between theory construction and hypothesis testing is the consequence of failed correspondence rules and failed employment of valid measurement of concepts in marketing theories (Bagozzi, 1984). Therefore we start with conceptualization, specification of corresponding rules and measurement of concepts. Furthermore we discuss scale purification, reliability and validity of measures, measurement model testing through pseudo chi-square test, sequential chi-square difference tests (SCDT) and SEM estimation. Finally we discuss some implications and limitations of the analysis.

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2 Conceptualisation of relationship quality and related constructs

The following concepts were conceptualized for the purpose of SEM application in the context of relationship quality: encounter quality, relationship quality, satisfaction, switching barriers, loyalty and dissolution.

Encounter quality is formed during the period of time when the buyer and seller meet and engage in behaviors and activities that could lead to the development of a long-term relationship. This period of time is called the exploration stage.

The importance of the buyer-seller encounter has been recognized by several scholars in the area of services marketing (Bitner, 1990). According to Thibaut and Kelley (1959), individuals enter relationships with prior experiences. These experiences form a standard (comparison level, CL, or expectations) which will be used in forming future relationships.

When neither buyer nor seller is perceived as being opportunistic, their relationship may expand beyond the exploration stage. That is, by then, the buyer has expressed his expectations and preferences to the seller and has formed opinions about the seller's customer orientation and opportunistic behavior.

The *relationship quality* may be more important in later stage of relationship development, during the expansion stage. Relationship quality has a significant effect on anticipation of the future interaction.

The progression of the relationship from exploration to expansion stage requires that the seller be totally committed to the buyer. Continuous communication, conflict avoidance and adaptability to each buyer's needs are examples of behaviors that the seller can exhibit to enhance the quality and expansion of the relationship.

Most of these behaviors are discussed in the service quality literature (e.g., Berry, Zeithaml, and Parasuraman, 1990; Grönroos, 1984; Parasuraman, Zeithaml, and Berry, 1985). Grönroos (1984) believed that the perceived quality of service is a function of the consumer's involvement in the service delivery process, the consumer's experiences, and the post-consumption evaluation. He maintains that two variables seem to influence the perceived service quality: a. expected service and b. perceived service.

In another study, Berry, Zeithaml, and Parasuraman (1990) believe that service quality should be defined by the customer, not by the manager. They state that the results of their studies dealing with the issue of service quality suggest that service quality is the congruency between what customers want or expect and what they actually get or perceive. Further, they maintain that customers look for five

behaviors in service provider: tangibles, reliability, responsiveness, assurance, and empathy.

In summary, the review of service quality literature suggests that the service encounter could lead to service quality and/or relationship quality. On the other hand, relationship quality could also affect customer satisfaction. In addition, the literature suggests several components and determinants of service and relationship quality. As general applicability of Parasuraman, Zeithaml, and Berry model for relationship quality is questionable, we decided for another approach.

The progression of the buyer-seller long-term relationship from the expansion stage to the commitment stage is an indication that the quality of relationship has been high for both buyer and seller. Relationship commitment could be examined as the outcomes of relationships with high quality such as high levels of buyer-seller *satisfaction* and buyer's *loyalty* to the seller.

Fornell (1992) believes that customer satisfaction could lead to increase in market share which in turn could lead to higher profitability. Satisfaction and complaint-handling skills together tend to increase customer loyalty. Customer satisfaction makes it costly for a competitor to take away another firm's customers. Fornell indicated that some examples of *switching barriers* are search costs, learning costs, emotional cost and cognitive effort, coupled with financial, social, psychological risks on the part of the buyer. He believes that customer satisfaction is a function of expectations and perceived performance, with loyalty being a function of customer satisfaction, switching barriers and voice.

In marketing literature, buyer-seller long-term relationships eventually *dissolve*. The dissolution may occur due to poor relationship encounter, poor relationship quality, low levels of satisfaction, low levels of loyalty or when the rewards and attractiveness of the existing relationships become lower than those of alternative relationships (Bejou, 1994).

Following from the theoretical rationale above, the following hypotheses were developed (see Figure 1):

Hypothesis 1: *There is a positive causal effect from encounter quality to relationship quality.*

Hypothesis 2a: *There is a positive causal effect from encounter quality to satisfaction.*

Hypothesis 2b: *There is a positive causal effect from relationship quality to satisfaction.*

Hypothesis 3a: *There is a positive causal effect from satisfaction to loyalty.*

Hypothesis 3b: *There is a positive causal effect from switching barriers to loyalty.*

Hypothesis 4a: *There is a negative causal effect from satisfaction to dissolution.*

Hypothesis 4b: *There is a negative causal effect from loyalty to dissolution.*

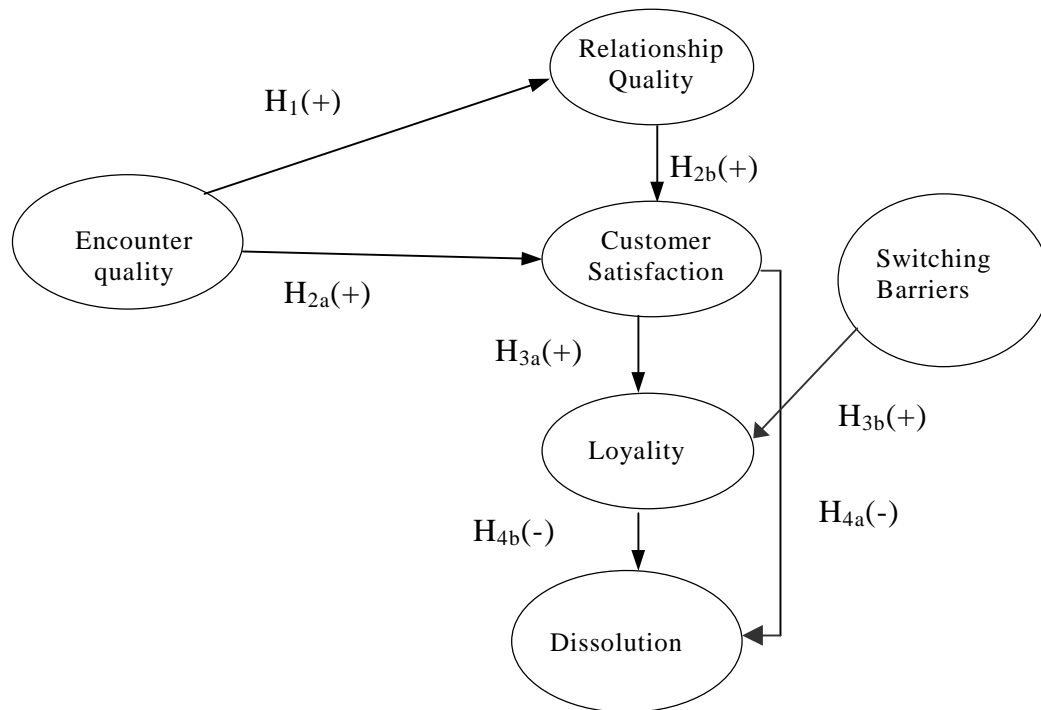


Figure 1: Conceptual framework of relationship quality and related constructs.

The following sections describe the methodology used to test the model and hypotheses, including operationalization of the variables, data collection procedure and statistical techniques and analysis.

3 Operationalization of the variables

The study focuses on the perception of the buyer; thus, all the variables in the study are operationalized from the buyer's point of view. The operationalization of the variables is grouped into encounter quality, relationship quality, satisfaction and loyalty.

According to Bagozzi's holistic construal (1984), the conceptual meaning of focal concepts is to be obtained through specification of its antecedents and consequences. In other words, constructs achieve their meaning through the set of relationships with other constructs as specified by some theory (the nomological network).

For the purposes of our study, the following measures for constructs were developed, drawing from the conceptual work in the relationship quality context (see Table 1):

Table 1: Latent variables and measurement variables used in the model.

Variables: description	Mean	SD
<i>Encounter quality (ξ_1)</i>		
X ₁ : importance of creativity of agency people	6.34	0.91
X ₂ : importance of time investments on agency side	6.71	0.59
X ₃ : importance of marketing knowledge in the agency	6.48	0.90
X-1: importance of attitude on agency side	6.34	0.91
X-2: importance of understanding on agency side	6.60	0.59
(scale for all: 1 = not important at all, 7 = maximally important)		
<i>Relationship quality (η_1)</i>		
Y ₁ : quality of creative work of agency (compared to alternatives)	4.99	1.60
Y ₂ : quality of marketing knowledge of agency (compared to alternatives)	4.93	1.57
Y ₃ : quality of relationships with people in the ag. (comp. to alternatives)	5.59	1.58
Y-1: number of creative awards won by agency (compared to alternatives)	4.32	2.03
Y-2: experienced agency (compared to alternatives)	5.29	1.45
(scale for all: 1 = much worse, 7 = much better than alternatives)		
<i>Satisfaction (η_2)</i>		
Y ₄ : overall satisfaction with agency	5.67	1.06
(scale: 1 = not at all satisfied, 7 = completely satisfied)		
Y ₅ : degree to which needs/wishes are fulfilled with this agency	5.32	1.05
(expectancy disconfirmation, scale: 1 = not at all fulfilled, 7 = completely fulfilled)		
Y ₆ : performance versus the client's ideal service	4.58	1.13
(scale: 1 = very far from ideal, 7 = completely ideal)		
Y-4: satisfaction with experience of this agency	5.22	1.09
Y-5: satisfaction with creativity of this agency	5.37	1.20
Y-6: satisfaction with effectiveness of their work	4.95	1.48
<i>Loyalty (η_3)</i>		
Y ₇ : relationship with the agency over the longer period of time	5.11	1.75
Y ₈ : agency as a partner, not only somebody to deal with	5.58	1.57
Y ₉ : much superior alternative necessary for switching	5.35	1.64
(scale for all: 1 = do not agree at all, 7 = completely agree)		
Y-7: relationship with this agency will not continue much longer	3.03	1.80
Y-8: high probability for the next project to be carried out by this agency	4.92	1.89

1. *Encounter quality*: Encounter quality is conceptualized as having several dimensions, including preferences about seller's marketing knowledge (Henke, 1995), effort, attentiveness, and fulfillment of seller's needs and wishes. A modified version of variables, suggested by Halinen (1997) was used. However, empirical analysis revealed very low correlations for the selected items (see Table 7). Also, respondents were rating encounter quality on importance scale where most of the items were rated as very important (therefore mean values were high and variances for these variables low). When variability in variables is low, also regression estimates usually are weak. When faced with similar problems, some authors omitted expectation variables from analysis (Saurina, 1997).
2. *Relationship quality*: Relationship quality was operationalized using perceived seller's performance comparing to alternatives available (Bejou, 1994; Halinen, 1997; Henke, 1995; Oliver, 1996).
3. *Customer satisfaction*: In order to determine the importance of satisfaction in buyer-seller relationship, modified versions of Anderson and Sullivan (1993), Johnson et al. (1995) and Fornell (1992) scales were used. Consumer researchers often employ relatively simple measures for customer satisfaction, despite its complexity. Most often these measures are single-item rating scales of 4-7 points between the extremes of "very satisfied" and "very dissatisfied". These measures commonly yield very skewed distribution of responses which suggests that these scales may be insufficiently sensitive to detect gradations of consumer's sentiments. Some researchers suggest the Delighted-Terrible scale which should improve representation of the construct of satisfaction, improve differentiation of responses and reduce potential response bias due to obtrusiveness and demand effects (Westbrook, 1980). In our measurement, we also allowed for respondents who have never evaluated their satisfaction with the service.
4. *Loyalty*: Loyalty in a buyer-seller relationship was measured using the scale suggested by Halinen (1997), Morgan and Hunt (1994) and Bejou (1994). Empirical analysis revealed again low correlations for the selected items, implying that variables used in our loyalty scale referred to dimensions in the loyalty concept which only partly correlate.

All measures in the model are attitudinal and cognitive - judgments (see Table 1 for means and standard deviations). Unfortunately, no meaningful indicators could be employed for switching barriers and dissolution. This became obvious late in the analysis when it was not possible to change the questions and to investigate these concepts more deeply. A pre-test assessment of the substantive validity for the item measures was conducted through a pre-test item-sort task with marketing experts. Judging from the proportion of substantive agreement and the substantive-validity coefficient as suggested by Anderson and Gerbing (1991), a minimum of three measurement items was kept for each of the four constructs.

Table 2: Exploratory factor analysis for initial measurement variables.

Variable	Factor 1 Satisfaction / Loyalty	Factor 2 Relationship Quality	Factor 3 Encounter Quality
X1	.11001	-.01524	.51799
X2	.02767	.01813	.37517
X3	.15377	.14421	.49986
X-1	-.07209	-.05841	.41050
X-2	.06719	.01706	.47146
Y1	.31051	.73911	.02660
Y2	.27895	.75034	.02531
Y3	.18978	.53160	.21314
Y-1	.14976	.53938	-.14910
Y-2	.19338	.76888	.06712
Y4	.67957	.29375	.27439
Y5	.71404	.25439	.13950
Y6	.70660	.34549	.07032
Y-4	.67094	.33321	-.04069
Y-5	.70150	.37857	-.22539
Y-6	.59718	.29120	.05477
Y7	.39676	-.04051	-.03320
Y8	.39006	.21390	.23943
Y9	.32730	.09364	.05753
Y-7	-.53679	-.13535	-.14100
Y-8	.69435	.13979	.11982
Variable	Factor 1	Factor 2	Factor 3
Eigenvalue	6.18	1.36	1.11
% of variance	29.4	6.5	5.3

4 Sample and data collection

A serious restriction was imposed by the data collection itself: only versions corresponding to shorter versions of scales could be employed to fit several constructs into a short telephone interview time frame. Empirical observations for the study were obtained from the sample size of 200 main advertisers in Slovenia. A questionnaire was prepared for computer assisted telephone interviewing and tested. Telephone interviews with 153 managerial people of major Slovenian advertisers have been conducted (response rate 76.5%). According to Anderson and Gerbing (1988), this size should be sufficient to obtain a converged and proper

LISREL solution for models with three or more indicators per factor. Non-respondents did not differ significantly from respondents with respect to the size or the main area of business.

5 Reliability and validity

Although the assessment of the reliability of measures in any particular study is crucial to its evaluation, it is seldom performed (Bagozzi, 1984). Reliability and validity issues were in our study addressed using several methods, such as exploratory factor analysis, reliability analysis, convergent and discriminant validity.

Exploratory factor analyses of measures were conducted using PAF extraction method and oblimin rotation. The purpose of these examinations was to assess the dimensionality of scales used in this study. Exploratory factor analysis on the data from Slovenian companies showed unidimensional factors of encounter quality and relationship quality (see Table 2). Customer satisfaction and loyalty measures were all loading on the same factor (accounts for almost 30% of variance). Overall, the loadings were consistent, none of the items loaded highly on more than one factor. Each factor had an eigenvalue above one and explained from a low of 5 percent to a high of almost 30 percent of variance. Further, 41.2 percent of total variance was accounted for by the three factors.

In order to test the internal consistency of the measurement scales, a reliability analysis was conducted for each distinct dimension that emerged as a result of factor analysis, with exception of satisfaction/loyalty dimension (see Table 3). Except for measurement scales for encounter quality and loyalty, the coefficient alphas (Cronbach, 1951) exceed the suggested 0.80 level from the literature. Therefore, measurement scales for relationship quality and satisfaction demonstrated relatively high degree of reliability.

Table 3: Reliability coefficients.

Construct	No. of items	Cronbach's α
Encounter quality	5	0.68
Relationship quality	5	0.82
Satisfaction	6	0.88
Loyalty	5	0.75

Convergent validity was determined from the measurement model by examining whether each indicator's estimated loading on its posited underlying factor was large. Anderson and Gerbing (1988) suggest that parameter estimates should be high in value and t-values should be statistically significant. The measures in the resulting measurement model showed acceptable convergent

validity, with each measure being significantly related to its underlying factor and t-values were statistically significant (see Table 4).

Table 4: Standardized solution for measurement model.

Parameter		<i>t</i>	Parameter		<i>t</i>	Parameter		<i>t</i>
λ_{x1}	0.430	4.02	λ_{y8}	0.615	5.67	δ_3	0.227	0.87
λ_{x2}	0.300	3.08	λ_{y9}	0.397	4.01	ϵ_1	0.322	4.62
λ_{x3}	0.879	5.50	ϕ_{21}	0.219	2.16	ϵ_2	0.315	4.50
λ_{y1}	0.823	10.96	ϕ_{31}	0.386	3.76	ϵ_3	0.704	8.00
λ_{y2}	0.828	11.03	ϕ_{32}	0.650	10.09	ϵ_4	0.330	5.83
λ_{y3}	0.544	6.68	ϕ_{41}	0.223	1.68	ϵ_5	0.325	5.77
λ_{y4}	0.819	11.54	ϕ_{42}	0.486	4.10	ϵ_6	0.429	6.86
λ_{y5}	0.821	11.59	ϕ_{43}	0.751	7.06	ϵ_7	0.884	8.08
λ_{y6}	0.756	10.33	δ_1	0.815	7.21	ϵ_8	0.622	5.12
λ_{y7}	0.341	3.44	δ_2	0.910	8.28	ϵ_9	0.843	7.79

Discriminant validity was assessed for the pairs of factors (constructs) having large correlations (relationship quality, customer satisfaction and loyalty). A test of discriminant validity (chi-square difference test) was to constrain the correlation parameter between the factors at 1.0 and then employ a chi-square difference test on chi-square values from the constrained and unconstrained models. The discriminant validity is achieved when the unconstrained model has a significantly lower chi-square value, indicating that the traits are not perfectly correlated (Jöreskog, 1971; Andersen and Narus, 1984). The chi-square difference tests indicated that discriminant validity was achieved between relationship quality and satisfaction ($\chi^2_{d(1)} = 113.9 - 53.07 = 60.9$, $p = 0.00$), relationship quality and loyalty ($\chi^2_{d(1)} = 64.2 - 53.07 = 11.14$, $p < 0.001$), and also between satisfaction and loyalty ($\chi^2_{d(1)} = 57.34 - 53.07 = 6.82$, $p < 0.01$).

The purpose of a measurement model in SEM is to describe how well the observed indicators serve as a measurement instrument for the latent variables. The testing of the structural model may be meaningless unless it is first established that the measurement model holds. The initial measurement model with all twenty-one measures converged, however gave unacceptable overall fit. Given a converged and proper solution but unacceptable overall fit there are four basic ways possible to respecify indicators: relate indicators to a different factor, delete indicators from the model, relate indicators to multiple factors or use correlated measurement errors. The first two were preferred as they preserved the potential to have unidimensional measurement. Therefore, after comparisons to the pre-test item sorting task results, several indicators were removed from the model (in Table 2 indicated by ‘-’ in their names). The resulting measurement model retained twelve variables in the model and provided an acceptable fit ($\chi^2 = 53.07$, d.f. = 48, $p = 0.285$, CFI = 0.989).

6 Structural equation model

The nomological network can be explored within the context of the full structural equation model. One way for accomplishing this is the approach developed by Anderson and Gerbing (1988) which allows an assessment of nomological validity that is asymptotically independent of the assessment of the measurement model. The measurement model is first developed and evaluated separately from the full structural equation model that simultaneously models measurement and structural relations. The measurement model in conjunction with the structural model makes a comprehensive confirmatory assessment of construct validity possible.

The further analysis was conducted by means of LISREL 8 program, which provides a simultaneous test of measurement models and structural model (Jöreskog and Sörbom, 1993). The rationale for choosing LISREL 8 and structural equation modeling was that causal theories can be tested using these techniques. In addition, LISREL provides a more powerful approach since more information can be derived from the data.

Parameters were estimated by the maximum likelihood method implemented in LISREL. This approach assumes at least approximately normally distributed variables which was not entirely satisfied in our example. However, several studies have shown the robustness of LISREL model regarding these basic assumptions (Satorra, 1990). Following recommendations for applied researchers by Coenders (1996), by far most often applied strategy by practitioners is to use cross-product covariances and Person correlations, consecutive integer scores and models which assume that all error covariances are zero, without paying attention to the consequences of discrete ordinal measurement. Coenders states that results so obtained can often be fairly correct, unless under extremely unequal spacing of the thresholds for latent variables. In such a case, none of the considered alternative strategies performs uniformly better, including Polychoric/Polyserial correlations, multitrait-multimethod designs and models. Variance-covariance matrix was used in our example (see Table 7).

7 Nested models

Researchers often fail to systematically consider rival hypotheses. Generally, it is not possible to eliminate rival hypothesis because marketing methodologies are imperfect and theories embryonic. At a minimum, however, it is possible to search and test for alternative explanations for the phenomena (Bagozzi, 1984).

Given that the measurement model was holding, the structural model of relationship quality/customer satisfaction/loyalty was tested. The model has not been rejected ($\chi^2=53.4$, d.f. 50, $p=0.344$, CFI=.993).

Even if the model fits the data, it is not necessary the correct model. Many equivalent models can fit the data equally well as judged from any goodness-of-fit measure. One must be able to exclude all models equivalent on logical or substantive grounds. This can be achieved through a series of nested models (Anderson and Gerbing, 1988).

A model is said to be nested within another model when its set of freely estimated parameters is a subset of those estimated in the other model. That is, one or more of the parameters in this model are constrained. A saturated structural submodel M_s can be defined as one in which all parameters among constructs are estimated (formally equivalent to the confirmatory measurement model). A null structural submodel, M_n has all parameters among the constructs fixed at zero (there are no posited relations of the constructs to one another). The theoretical model of interest, M_t , represents the researcher substantive model of interest. Finally, the constrained and unconstrained models, M_c and M_u , represent the next most likely alternatives from a theoretical perspective to the theoretical model. This set of structural submodels is nested in the following sequence:

$$M_n < M_c < M_t < M_u < M_s.$$

Researcher could first assess whether any structural model would have acceptable goodness of fit with pseudo chi-square test: chi-square value for M_s is taken (smallest possible value for any structural model) with the degrees of freedom for M_n (largest number of degrees of freedom for any structural model). If this pseudo-statistic is significant than no structural model would give acceptable fit because it would give greater chi-square value with fewer degrees of freedom. Sequential chi-square difference tests should be estimated next. Each of these tests is set as a null hypothesis of no significant difference between two nested structural models. For each of the tests in which the associated null hypothesis is confirmed, the more constrained model of the two is tentatively accepted (Anderson and Gerbing, 1988).

Following the Anderson and Gerbing (1988) two-step approach for assessing the structural model, we estimated a series of nested structural models. As a comparison to the proposed model, a model was estimated where a path from encounter quality to customer satisfaction was constrained. This claim offered a more parsimonious model. Another comparison was to a model with a direct path from relationship quality to loyalty added. Rationale behind this path was that if this parameter estimation was significant, a direct effect could be added to the theoretical model, whereas in the proposed model only indirect effect through customer satisfaction was employed.

Before conducting sequential chi-square difference tests (SCDT) we assessed whether any structural model would have acceptable goodness of fit. This was accomplished by a pseudo chi-square test: chi-square value for M_s (saturated structural model (M_s), in which all parameters relating constructs to one another are estimated) with degrees of freedom for M_n (largest for any structural model) was 53.07 (66 d.f.) and not significant. Significance would suggest a fundamental

misspecification of the measurement model (see Table 5 for the chi-square values for the models).

Table 5: Nested models.

	Chi-square	d.f.	p	CFI
M_s	53.07	48	0.285	0.989
M_u	53.418	49	0.308	0.991
M_t	53.419	50	0.344	0.993
M_c	61.99	51	0.139	0.977
M_n	535.60	66		

Following SCDT decision tree we tested the chi-square difference between the proposed model and the saturated model: $M_t - M_s = 53.4 - 53.07 = 0.33$ (2 d.f.). As the difference was not significant, the chi-square difference test was conducted between the constrained and proposed model: $M_c - M_t = 61.99 - 53.42 = 8.56$ (1 d.f.). As it was significant, we finally tested the chi-square difference between the proposed and the unconstrained model: $M_t - M_u = 53.419 - 53.418 = 0.001$ (1 d.f.) which was not significant. We would accept M_t because it represents the most parsimonious structural model of the three hypothesized alternatives and because it provides adequate explanation of the estimated construct covariances. The fit of alternative more restricted model was significantly worse and the fit of alternative less restricted model was not significantly better. It was concluded that the theoretical model provided the better explanation.

Table 6: Summary assessment of research hypotheses.

Factor		Hypoth.	Path Coefficient	Standard Error	t-values
Relationship quality	Encounter quality	H_1	0.219	.11	2.06
Satisfaction	Encounter quality	H_{2a}	0.25	.09	2.56
	Relationship quality	H_{2b}	0.595	.11	5.50
Loyalty					
	Satisfaction	H_{3a}	0.744	.24	3.10

The predicted relationships that could be tested with this model were generally supported (see Table 6). The signs of paths agreed with a priori specified signs and sizes. Also, strengths of relationships were sufficiently large. Exogenous variable encounter quality was hypothesized to affect relationship quality (H_1) and relationship satisfaction (H_{2a}). Both hypotheses were supported, suggesting

significant positive structural paths from encounter quality to relationship quality and satisfaction. Nevertheless, explained variance for relationship quality is low, reaching only 4.8%. Furthermore, several relationships were hypotheses among the endogenous variables, although relationships with switching barriers and dissolution could not be tested. Relationship quality was hypothesized to influence satisfaction (H_{2b}) and satisfaction to influence loyalty (H_{3a}). Significance in both hypothesis tests indicated that there is a significant positive effect from relationship quality to satisfaction and from satisfaction to loyalty. The results indicate that a higher level of encounter quality in the exploration stage and a higher level of relationship quality in the expansion stage brings more satisfied clients, leaving all other variables in the model unchanged (explained variance is 48.1%). Finally, loyalty was positively influenced by customer satisfaction (explained variance is 55.3%). Here it has to be stressed that relationship between constructs of customer satisfaction and loyalty when taking into account the confidence interval approaches equality (estimate for the path coefficient is 0.74, with standard error of estimate 0.24). Measures of both constructs were successfully separated in the pre-test item sort task, however loaded on the same factor in the exploratory factor analysis. An alternative model where items on loyalty scale enter in the structural equation model directly, without latent variable loyalty and are related to satisfaction independently is a suggested solution to the problem (such a model has the following goodness of fit statistics: $\chi^2 = 52.1$, d.f. = 48, $p = 0.319$, CFI = 0.991).

Table 7: Covariances matrix.

<i>O</i>	<i>X1</i>	<i>X2</i>	<i>X3</i>	<i>Y1</i>	<i>Y2</i>	<i>Y3</i>	<i>Y4</i>	<i>Y5</i>	<i>Y6</i>	<i>Y7</i>	<i>Y8</i>	<i>Y9</i>
<i>X1</i>	0.495											
<i>X2</i>	0.064	0.355										
<i>X3</i>	0.241	0.141	0.820									
<i>Y1</i>	0.094	-0.030	0.258	2.556								
<i>Y2</i>	0.063	0.012	0.193	1.728	2.465							
<i>Y3</i>	0.044	0.064	0.234	1.081	1.116	2.508						
<i>Y4</i>	0.147	0.079	0.286	0.737	0.638	0.717	1.138					
<i>Y5</i>	0.024	0.048	0.253	0.673	0.699	0.461	0.769	1.105				
<i>Y6</i>	0.103	0.051	0.264	0.855	0.823	0.473	0.716	0.745	1.279			
<i>Y7</i>	-0.030	0.005	-0.030	0.293	0.061	0.143	0.294	0.397	0.396	3.075		
<i>Y8</i>	0.089	0.078	0.244	0.524	0.611	0.838	0.703	0.580	0.644	0.595	2.472	
<i>Y9</i>	-0.053	0.033	0.069	0.482	0.549	0.437	0.425	0.496	0.279	0.558	0.557	2.694

8 Summary and implications

Several methodological issues with SEM application in the relationship quality context were presented, including the Anderson and Gerbing (1988) two-step approach for assessing the structural model, operationalization of constructs, convergent and discriminant validity. An attempt was made to conceptualize and empirically test the SEM in the context of relationship quality. It is conceptualized that the relationship development occurs in four stages: exploration, expansion, commitment and dissolution. The model was tested with sample data from main advertisers in Slovenia. Several hypotheses were proposed and tested. Data is used to evaluate buyer's perceptions of the buyer-seller relationships. Operationalizing encounter quality, relationship quality, satisfaction and loyalty, the study makes a contribution to the measurement of these constructs.

The limitations of the study are discussed below. Lack of support for some of the hypotheses and problems associated with exploratory factor analysis and convergent and discriminant validity could be due to measurement of these variables. Confirmative factor analysis showed discriminant validity, consumer satisfaction can be according to CFA considered as a separate construct from loyalty in the model while in the exploratory approach the items of both constructs load in the same factor. Furthermore, there is a need of cross-validation of the model as it was fitted to the same sample that was used to select questionnaire items. Cross-sectional survey was used for this study: however, relationships develop over time. Thus, data should be longitudinal in nature and, when possible, independent variables should be manipulated in experimental settings. It is only under these conditions that causality can be tested. In spite of the above limitations, the findings provide tentative conclusions which may stimulate future research.

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