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CONSUMERS FELT COMMITMENT TOWARDS RETAILERS: INDEX DEVELOPMENT AND VALIDATION

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ABSTRACT: This work seeks to develop an index of the consumer's felt commitment towards the retailer through a formative scale. By using structural equation modeling (SEM), in particular the multiple indicators and multiple causes (MIMIC) model, as well as reflective and formative indicators, the methodology developed by Diamantopoulos and Winklhofer is applied in order to construct this index. To clarify the whole meaning of the concept, the article undertakes a thorough review of literature on felt commitment and formative index development. Several MIMIC models are developed in order to validate the index. The empirical study was carried out in the financial services sector.

KEY WORDS: commitment; consumer–retailer relationships; formative index; LISREL; MIMIC model.

INTRODUCTION

From a management point of view, scholars and practitioners have always been very interested in obtaining indexes which make the handling of several variables easier. Thus, index construction in business management has been conceived as a way to analyze market areas (Brockway & Mangold, 1988), and quality of life (Johnston, 1988), design job descriptions (Maghrabi & Pettingell, 1994), estimate economic performance and productivity (Fornell, Johnson, Anderson, Cha, & Bryant, 1996), summarize consumers' service quality (Hurley & Estelami, 1998), and cultural compatibility (Veiga, Lubatkin, Calori, & Very, 2000), measure employee satisfaction (Martensen & Gronholdt, 2001), or assess performance of managed portfolios in financial markets (Lashgari, 2001). However, in the context of marketing management, formative

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indexes are scarce because most of the variables are complex constructs treated as reflective measures using structural equation modeling (SEM or LISREL models) (e.g., see Andreassen, 1994). Scale development composed of causal items has therefore been the norm in marketing.

Consumer–retailer relationships are characterized by their complexity. The multiple concepts explaining consumer behavior make the task of building a model to represent these relationships extremely difficult. This paper seeks to provide some insights into the phenomenon by focusing on the development of a scale that provides an index of the felt commitment construct. To this end, a formative index construction is applied. This approach is adopted due to the existence of a set of indicators that cause changes in the latent construct. Complex concepts in consumer behavior requires an enormous task to build a model including all relationships. Conveniently developed, formative index constructions can simplify those cases in which causality is not the mechanism that guides the scale construction or, at least, not the only one.

The empirical research is developed in the Spanish retail bank industry. It has been traditionally characterized as a "product-oriented bank" (Garcia, Polo, & Urquizu, 1999) that implemented undifferentiated strategies geared towards a target client. However, in recent years, this sector has adopted a new marketing strategy as a result of the liberalization of the sector, the higher level of activity and changes in bank client behavior. It has become more market-oriented, since current competition requires the development of long-term strategies that imply the foundation of strong and stable relationships and the ability to adapt to the market needs (Gardener & Molineux, 1995).

Concerning the development of relational marketing strategies, Spanish retail banking is aiming to offer service quality, satisfy customers and attain their loyalty, by going far beyond the traditional strategies geared towards temporarily gaining assets and liabilities (Aragon & Llorens, 1999). Private banks are progressively reducing the number of branches and introducing new information technology (on-line banking), although the evolution of on-line banking is proving slower than in other European countries. Meanwhile, savings banks and land banks are increasing the number of outlets, backed in the reduction of the operative costs per branch (less personnel in each branch and a small place) and in an attempt to get closer to the client (Casilda, Lamothe, & Monjas, 1997). In both cases, there is an underlying relational marketing strategy and commitment is a key concept.

From a methodological point of view, when former approach considers the existence of a casual relationship between the indicators and the constructing measures. The latent variable causes the indicators (Bollen & Lenox, 1991). This is based on the domain-sample model which explains that a scale is constructed by a sample of items that reflects the domain and thus are interchangeable (Nunnally & Bernstein, 1994). This approach, propelled by criticism, has been the most widely used since the 1980s.

The formative approach, on the other hand, has an additive nature: the scale is comprised of parts. This perspective considers indicators as causes of the latent construct. Although this approach is previous to the reflective approach, its use, with errors and lack of evaluations, was simple before the 1980s. Whereas for reflective measures there existed Churchill's (1979) findings and subsequent works (e.g., Ruekert & Churchill, 1984), one of the reasons for the formative measure's scarce use is thought to be the absence of an evaluation methodology for formative scales.

Most formative measures have an additive construction. However, from a methodological point of view, the simple addition of values does not always reflect the phenomenon under measurement. Diamantopoulos and Winklhofer's (2001) paper has changed this situation. They have developed a methodology that contributes considerably towards filling the gaps in scale construction: the development of formative scales by means of models with multiple indicators and multiple causes (MIMIC model) implemented through SEM.

After examining the concept of felt commitment and its application for marketing purposes, the paper develops an index of felt commitment under the formative approach. Several reasons support this approach to index construction as opposed to a reflective scale procedure.

Firstly, the content analysis reveals several non-related sources of felt commitment, and all facets of commitment should be considered to build an unbiased index of commitment. We therefore follow the line of Allen and Meyer (1990), who distinguish clearly between the more common conceptualizations of attitudinal commitment[1] and develop measurements of each one. They propose a three-component model of organizational commitment which integrates various conceptualizations found in the literature: what they label affective, continuance and normative commitment. Gundlach, Achrol, and Mentzer (1995) also support this three-component model. However, they label each component differently.

Common to the approaches of Allen and Meyer (1990) is the *link* between the employee and organization that decreases the likelihood of turnover, but the nature of that link differs. Employees with strong affective commitment remain because they *want* to, those with strong continuance commitment because they *need* to, and those with

[1]Allen and Meyer (1990) focus on attitudinal commitment, but a distinction is made in commitment literature between attitudinal commitment and behavioral commitment (Mowday, Porter, & Steers, 1982; Straw, 1977).

strong normative commitment because they feel they *ought* to do so. These authors point out that affective, continuance and normative commitment are best viewed as distinguishable components, rather than types of attitudinal commitment; that is, employees can experience each of those psychological states to varying degrees. Some employees, for example, might feel both a strong need and a strong obligation but a strong desire, and so on. Commitment, therefore, can be said to reflect each of these separable psychological states.

Given their conceptual differences, it seems reasonable to suggest that each of the three components of commitment develops somewhat independently of the others as a function of different antecedents.

Within marketing channels relationships, Kim and Frazier (1997) suggest continuance, behavior and affect as three essential and interrelated components of distributor commitment, and hypothesize that each component of commitment has a different set of driving forces.

Secondly, index construction requires a cause-effect relationship between indicators and the construct. The MIMIC model overcomes the simplicity (and biases) of the mere addition of indicators for index construction of latent concepts. The formative operationalization states that the latent variable (construct of felt commitment) is determined by its indicators rather than *vice versa* (as happens with reflective scales). There are other similar concepts operationalised as formative indexes: the perceived coercive power measure (Gaski & Nevin, 1985), where items are the list of coercive sources; or the company reputation measure (Burke, 1984). Diamantopoulos and Winklhofer (2001) also use a related concept (resource commitment) as an example of formative scale.

FELT COMMITMENT OF THE CONSUMER TOWARDS THE RETAILER

The analysis of the exchanges from a marketing relationship perspective makes it imperative to highlight the presence of a set of variables which contribute towards the formation and later development of the relationship between consumers and businesses. Commitment is one of the factors that favor the development and maintenance of such relationships, having been considered, together with confidence, as a key influential variable of such exchanges (Morgan & Hunt, 1994). Commitment produces a positive effect on the efficiency, productivity and effectiveness of the results of an organization. Commitment has also been positively linked to consumer loyalty (Bettencourt, 1997). At the same time, loyalty reduces the cost of retaining clients and searching for new ones, which may have a negative effect on the company's results as far as maintaining or increasing consumption is concerned. Given this scenario, the analysis of this variable in the relationship between consumer and retailer would appear to be justified. We will begin by explaining the fields in which studies have been performed, and as a point of departure we will focus on one of the dimensions that comprises it: felt commitment.

Commitment has been analyzed in interpersonal relationships, principally from a psychological-social perspective (Michaels, Acock, & Edwards, 1986; Rempel, Holmes, & Zanna, 1985; Thompson & Spanier, 1983), although the relationship between the company and its employees (Allen & Meyer, 1990; Dutta & Ghose, 1997; Iverson & Roy, 1994; Watson & Papamarcos, 2002) and the relationship among organizations (Anderson & Weitz, 1992; Holm, Eriksson, & Johanson, 1999; Morgan & Hunt, 1994) have also been studied. Perhaps the area in which this variable has been analyzed least is the relationship between consumers and companies, although in the last decade some studies have emerged (Bettencourt, 1997; Kelley & Davis, 1994; Pritchard, Havitz, & Howard, 1999).

These extensive studies have given rise to the presence of numerous and diverse definitions and compositions of commitment. The differences between them are found in the psychological state that reflects the conditions that drive the development of commitment and in the behaviors that result (Allen & Meyer, 1990).

Generally speaking, the main part of the definition of commitment in the relationship focuses on the analysis of the attitudinal aspect. In this sense, three distinct branches can be considered. One of these is based on the affective nature of the commitment (Kumar, Scheer, & Steenkamp, 1995; Allen & Meyer, 1990); another emphasizes the cognitive character (Anderson & Weitz, 1992; Kumar et al., 1995; Morgan & Hunt, 1994), and a third one points out the conductive aspect or behavioral intention (Anderson & Weitz, 1992; O'Malley & Tynan, 1997; Simpson & Mayo, 1997; Tax, Brown, & Chandrashekaran, 1998).

Most of the studies regarding commitment focus solely on the third point side, which has been considered as one of the dimensions that forms consumer commitment. It is termed felt commitment[2], and covers the psychological state that moves the individual to act, to respond and to develop a real behavior. It captures the willingness or intention of maintaining a stable and durable relationship (Geyskens, Steenkamp, Scheer, & Kumar, 1996; O'Malley & Tynan, 1997), and of making the maximum efforts in this direction (Anderson & Weitz, 1992; Morgan & Hunt, 1994). Such intention can be moved by desire (Andaleeb, 1996; Porter, Steers, Mowday, & Boulian, 1974; Simpson & Mayo, 1997) or by the need of doing it (Allen & Meyer, 1990; Geyskens et al., 1996).

[2]This denomination was used by Pondy (1967) to define conflict episodes. Latent, felt and manifest commitment can be distinguished. This study focus on the second one.

Four different aspects can be considered as part of the commitment concept: A willingness to adapt, the intention to decline other opportunities, communications to third parties, and patience. A willingness to adapt refers to an effort towards the maintenance of the relationship. This happens when one party in the relationship alters his/her processes or the exchanged item to adapt to the other (Wilson, 1995), and can take the form of reducing costs, increasing revenues or exerting a differential control on exchange, or of demonstrating trust at the beginning of the relationship. At consumer–retailer level, the adaptation of the consumer to the retailer is not the most frequent occurrence (Liljander & Strandvik, 1995). Nevertheless, it does exist in certain cases, where it can be seen as an indication of commitment to the relationship. In this way, a consumer will show the intention of committing him/herself if he/she is willing to adapt him/herself to changes introduced by the retailer.

Another aspect to be considered is the intention of renouncing or abandoning the active search for other opportunities. Following Howard and Sheth's theory of buyer behavior (1969), consumers try to simplify their decision making by adopting routine behaviors and learning to reduce the number of alternative choices. However, they deliberately try to look for variety by leaving the relationship when they are tired of it. Howard and Sheth call this the "psychology of complication". In such a situation, individuals look for information and additional alternatives to change the relationship. Considering as normal behavior the active search for alternative possibilities, and starting from a situation of free choice, the intention of reducing the number of alternatives voluntarily or of renouncing other opportunities perceived as more favorable will be a reflection of commitment (Cook & Emerson, 1978; Dwyer, Schurr, & Oh, 1987) and, in particular, a felt commitment because of the intention of remaining with the original relationship. Such rejection of alternatives can be understood as a sacrifice to not obtain higher, short-term profits provided the relationship is maintained (Anderson & Weitz, 1992).

The third aspect of felt commitment on the consumer–retailer level can be found in the willingness on the part of the consumer to share favorable experiences with other people who have no part in the relationship. In such communication, good opinions of, or attitudes toward the retailer, are transmitted. This aspect is present mainly in the organizational commitment measurement scales (Meyer & Allen, 1984; Porter et al., 1974), although it can be extended to channel relationships (Anderson & Weitz, 1992; Brown, Lusch, & Nicholson, 1995; Kelley & Davis, 1994).

Patience is the final aspect of felt commitment. The committed party should be patient when faced with the other party's mistakes. This is a means of showing good will towards maintaining the relationship (Anderson & Weitz, 1992).

CONSTRUCTING FORMATIVE SCALES

Structures of Formative Measures

In order to measure concepts within a socioeconomic framework, it is frequently convenient to combine various indicators to form a single indicator or index. Many reflective scales have been constructed in marketing (Bruner & Hensel 1992, 1996). However, there are not many papers that stress the usefulness and methodology of formative scale construction (see Diamantopoulos & Winklhofer, 2001 for a review). Nevertheless, starting in the 1980s some contributions were made which take into account this methodological distinction (Bollen & Lennox, 1991; Fornell & Bookstein, 1982; Fornell & Cha, 1994; Howell, 1987).

Three main analytical approaches are distinguished in formative scale construction. To a certain extent, there is an evolutionary process when considering formative scale approaches. The first approach consists of the direct measurement of the concept (η) with an item (x):

$$\eta \equiv x. \tag{1}$$

Known as the *operational model*, it was utilized during the 1960s and 1970s and presents considerable deficiencies due to its excessive simplicity. With the generalization of the multivariable analysis (in particular, factor analysis), the construction of complex formative scales becomes more commonplace, measuring the concepts as lineal combinations or aggregations of indicators, according to the following formula:

$$\eta = \gamma_1 x_1 + \gamma_2 x_2 + \cdots + \gamma_n x_n. \tag{2}$$

However, it is the confirmatory factorial analysis through the LISREL model which provides a more realistic measurement by including errors, such as is indicated in Equation (3):

$$\eta = \gamma_1 x_1 + \gamma_2 x_2 + \cdots + \gamma_n x_n + \zeta. \tag{3}$$

This measurement structure of reflective indicators has a higher capacity than the previous one (Equation (2)) as it includes the disturbance term ζ as explanatory of the latent construct η.

Several issues distinguish formative measurements from reflective ones. First, every indicator is needed in order to obtain the latent concept value. The absence of any of the observations (items) would mean that incomplete measurements were obtained. Also, indicators are exogenous determined, so, patterns of signs should not be specified. Formative indicators do not have error terms. Unlike reflective scales, the formative indicator measurement part cannot be estimated in isolation due to identification problems; it should be part of a larger model that includes effects. All the same, identification problems may arise when a formative structure is estimated (Diamantopoulos & Winklhofer, 2001; Fornell & Cha, 1994).

Formative scales provide some advantages over reflective ones. First of all, they allow latent concepts to be measured using causal indicators, whereas with reflective scales, it is the latent concept that causes the indicators. This issue is quite useful in social research, because many constructs are defined as the combination of explanatory variables. Moreover, formative index methodology can benefit from SEM methodology to measure latent variables. This methodology also allows several measurements to be compiled in one overall index.

Evaluation of Formative Indexes

With the absence of an adequate methodological framework that covers all the necessary steps and requisites for the formative index construction, Diamantopoulos & Winklhofer (2001) initially propose four critical aspects for analysis: content specification, indicator specification, collinearity of the indicators and external validity.

Content specification consists of determining whether the index contains the domain of the latent variable under study; the equivalent of content validity in reflective scales. This aspect is crucial because the absence of any aspect would mean the invalidity of the index already developed.

Indicator specification gathers the total indicators/items that cover the content of the concept under study. While reflective scales apply the domain-sample model, here the census is the norm.

Collinearity of the indicators is another of the statistical requirements to be studied. As can be deduced by Equation (3), the underlying regression model requires that problems do not exist, and high correlations between variables would make it difficult to quantify the effect of each observed variable on the latent variable.

The fourth aspect is *external validity*. In other words, how the index is related to other concepts with which a theoretical relationship exists. This aspect is probably the most complex to verify. The nature of a formative index renders the internal consistence inadequate as a desirable property in measurement scales. The problem occurs in determining which items are those that should be included in the scale and which should be considered as invalid. When faced with theoretical problems (e.g., changing the content of the analyzed concept) and statistical issues (e.g., excessive number of parameters in the model under analysis) that this problem raises, Diamantopoulos and Winklhofer (2001) suggest testing MIMIC models that contain multiple indicators and multiple causes.

According to Jöreskog and Sörbom (1993), the approach to a MIMIC model is as follows. In its simplest form, a latent variable is "caused" by various exogenous observed variables (x) and "indicated" by various endogenous observed variables (y). The equations of the model are:

$$y = \lambda\eta + \varepsilon, \tag{4}$$

$$\eta = \gamma' x + \zeta, \tag{5}$$

where $y' = (y_1, \ldots, y_p)$ are indicators of the latent variable η, and $x' = (x_1, \ldots, x_q)$ are the causes of η. Equation (4) can be considered as the measurement model and Equation (5) as the structural model for η. The parameters ε and ζ are supposed not to be correlated.

METHOD

Sample and Data Setting

Once the concept of commitment has been defined and analyzed, a formative index can be constructed using the set of items that define it. The validity of the resulting measurement according to the steps exposed can be tested.

The sample was determined by a quota procedure. The sample includes 400 banks clients from four Spanish cities (of different size) who were selected by sex and age according to data provided by the National Statistic Bureau based on the latest population census. The quality of the sampling procedure was maintained by assuring that at all times the sample had a distribution similar to that of the population. Data were gathered by means of personal interviews with individuals aged 20–74. These interviews were carried out in the street, in direct contact with the clients in order to explain all the items clearly. Interviews lasted approximately 15 min. This method avoids the bias of surveys performed within the establishments, lack of sincerity and environmental pressures. Nonetheless, some limitations are derived from interviews in the street such as the timing issue.

The interviewees were requested to identify the bank with which they were most involved, and to base their answers on it. Besides the name of the bank and items to measure commitment, another series of socio-demographical questions were asked.

Measures

Specification of the content was carried out by reviewing the definitions of commitment and specifying the domain of the concept including affective, cognitive and conductive aspects of intentional commitment.

The indicators selected were gathered from an analysis of literature and in agreement with the specified domain. Four distinctive aspects of felt commitment have been detailed in the theoretical part of the paper: the willingness to adapt, the intention to decline alternatives, communication to third parties, and patience. Eight items were selected to cover the scope of felt commitment. The review of previous works and scales shows that in some features nuances can be distinguished. Thus, for some aspects more than one item was used. Wording of the commitment items and reference of sourcing are specified in Table 1. In particular, $COMP_1$, $COMP_7$ and $COMP_8$ cover the content of adaptation; $COMP_2$ and $COMP_6$ refer to the aspect of declining competing alternatives, $COMP_3$ and $COMP_4$ correspond to communication to third parties, and $COMP_5$ refers to the patience content. All these items can be considered as parts of the felt commitment concept. All items used in the analysis have been measured using a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

Table 1
Items of Felt Commitment Indicators

Items	References
COM 1: You wish to maintain a relationship with this bank	Meyer and Allen (1984); Allen and Meyer (1990); Kumar et al. (1995); Gundlach, Achrol, and Mentzer (1995)
COM 2: Although you know that other banks offer better conditions, you will continue with your current one	Allen and Meyer (1990); Anderson and Weitz (1992)
COM 3: You would defend this bank if others were to criticize it	Still (1983); Anderson and Weitz (1992); Baker, Simpson, and Siguaw (1999)
COM 4: You would not recommend this bank to a friend	Brown et al. (1995)
COM 5: You feel a certain need or moral obligation to continue working with this bank because of ties that have been formed	Allen and Meyer (1990)
COM 6*: If another bank were to offer you better conditions for some product or service in which you were interested, you might go to that bank	Anderson and Weitz (1992); Baker et al. (1999)
COM 7: You would contract some of the banking products if the employees with whom you relate asked you to, even though you have not thought of doing so beforehand (stocks, investment funds)	Kumar et al. (1995); Brown et al. (1995)
COM 8: If your bank does not have a product that you desire, and you cannot get it from another bank, you adapt to what your bank offers you	Anderson and Weitz (1992)

*Item in reverse value.

The analysis of collinearity performed on the eight variables that cause felt commitment shows values for the conditioning index no higher than 13. The highest limit possible is 30 (Hair, Anderson, Tatham, & Black, 1998). Likewise, considering the variance inflation factor (VIF), none of them exceeded 10 and none of the tolerance values falls below 10 (in such a percentage). Evidence of the existence of multicollinearity is not found between the set of variables that compose felt commitment.

ESTIMATION AND RESULTS

Under the formative structure of the latent commitment index with these eight items, the external validity of this index requires other indicators related to the latent concept. Thus, three items have been retained as indicators of the latent felt commitment variable: loyalty (y_1) (Bettencourt, 1997; Pritchard et al., 1999), satisfaction (y_2) (Bloemer & de Ruyter, 1998) and global commitment (y_3) (see Table 4 in the appendix). Both sets of indicators fit the MIMIC model and can be seen in Figure 1.

In accordance with the recommendations of Bollen (1989), Bagozzi (1994) and Hair et al. (1998) for assessing SEM models, different types of measures were used. To evaluate the absolute fit of the model, the

Figure 1
Initial MIMIC model for the commitment index

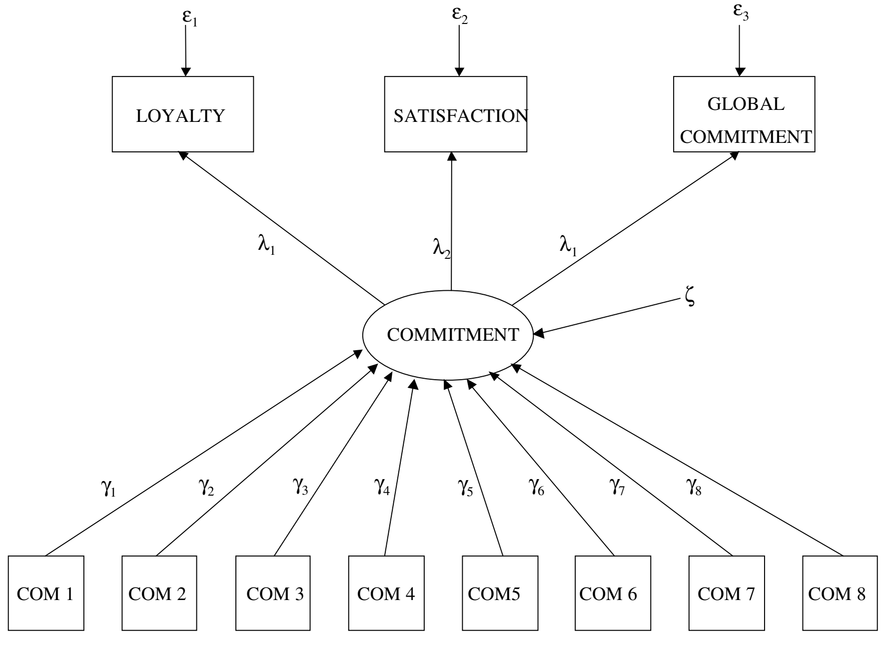


Table 2
Parameter estimations of the MIMIC formative model

Measurement model		Structural model	
Parameter	Estimation (t-value)	Parameter	Estimation (t-value)
λ_1	1.00 (n.a.)	γ_1	.17 (4.45)
λ_2	.82 (10.94)	γ_2	.11 (3.01)
λ_3	.56 (7.51)	γ_3	.20 (4.94)
$\theta_{\varepsilon 1}$	.47 (9.83)	γ_4	.07 (1.83)
$\theta_{\varepsilon 2}$	.64 (12.40)	γ_5	.18 (4.67)
$\theta_{\varepsilon 3}$	.83 (13.60)	γ_6	.11 (3.11)
		γ_7	.05 (1.46)
		γ_8	.14 (3.84)
		ζ	.11 (3.02)

likelihood-ratio chi-square statistic was estimated. This model initially shows a raised ratio of $\chi^2_{16} = 151.94$. The rise may be due to the sample size (400), which is larger than the ideal size (200) (Hair et al., 1999). The root mean square residual (RMSR) has an acceptable value of .053. The goodness of fit index (GFI) is also good (.94). In terms of incremental fit measures, the normed fit index (NFI) rises to .88. However, the significance of the parameters γ is linked to the validity (convergence) of the latent concept (Steenkamp & Van Trijp, 1991), and is therefore easy to verify. All the coefficients γ were positive and significant ($p < .05$) except γ_4 and γ_7. All the coefficients λ were significant for $p < .01$ (see model parameters in Table 2). Thus, the MIMIC model without $COMP_4$ nor $COMP_7$ was reevaluated (see Figure 2).

In the model, the significant γ and λ parameters were obtained (see Table 3). The statistic $\chi^2_{12} = 139.06$. The RMSR reaches an acceptable value of .057, as does the GFI, which is highly elevated (.93). In regard to the measurement of the incremental adjustment, the NFI rises to .85.

A comparison between both models shows a significant improvement in the fit of the six-indicator model as opposed to the eight-indicator model ($\nabla\chi^2_4 = 12.88$, significant for $p < .05$). Thus, the latter one will be the model used in successive analyses.

Another external validation of the *nomological* type was carried out relating the index to another concept which is expected to be linked (Churchill, 1979). As Diamantopoulos and Winklhofer (2001) hold, this

Figure 2
Reevaluation of the MIMIC model for the commitment index

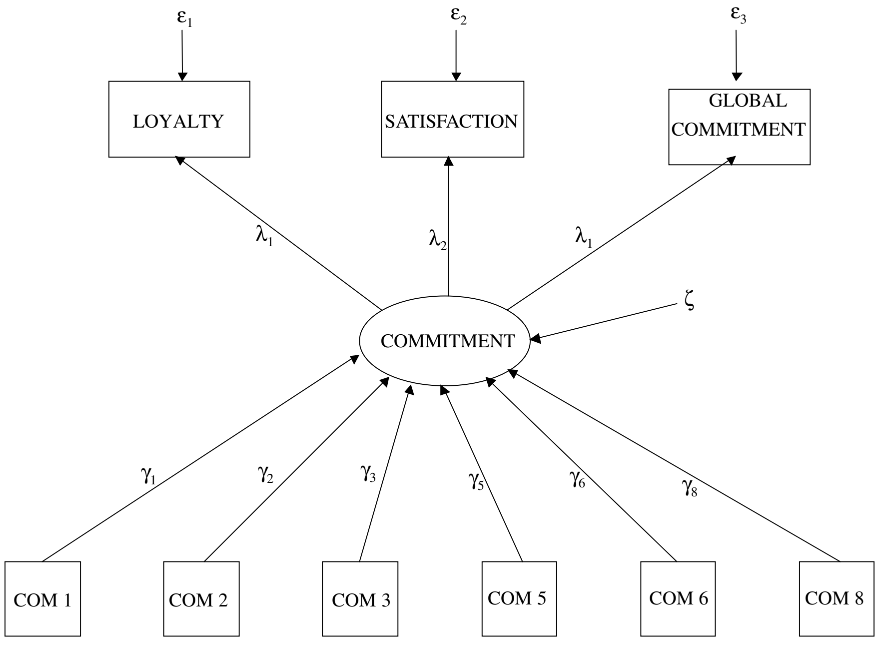
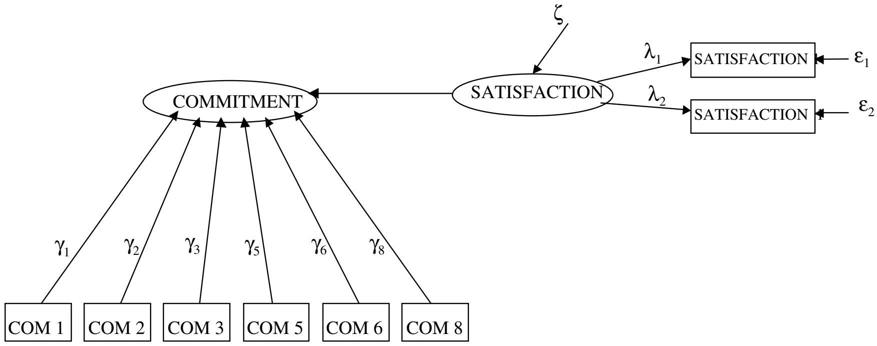


Table 3 Parameters of the revised MIMIC formative model

Measurement model		Structural model	
Parameter	Estimation (t-value)	Parameter	Estimation (t-value)
λ_1	1.00 (n.a.)	γ_1	.18 (4.89)
λ_2	.78 (10.64)	γ_2	.11 (3.09)
λ_3	.57 (7.70)	γ_3	.23 (5.87)
$\theta_{\varepsilon 1}$	.45 (9.35)	γ_5	.19 (5.12)
$\theta_{\varepsilon 2}$	.66 (12.54)	γ_6	.11 (3.16)
$\theta_{\varepsilon 3}$	.82 (13.53)	γ_8	.17 (4.73)
		ζ	.12 (3.29)

Figure 3
Model of Two Latent Constructions with Formative and Reflective Indicators



validation is convenient when items of the original index are eliminated, as in this case, in order to evaluate whether the new composition of the index is adequate. The validation requires (1) that the information be obtained for at least one other concept of the index, (2), the other concept be measured through reflective indicators, and (3) that there exists a theoretical relationship between the measured concepts. Figure 3 depicts a model that meets these circumstances, with felt commitment acting as a predictor of another latent variable such as consumer satisfaction with the retailer, measured through two indicators -satisfaction 1 and satisfaction 2- (see Table 5 of the Appendix), and with both concepts linked through parameter β.

The estimated model represented in Figure 3 was carried out after the second estimation of the MIMIC (see Figure 2), in which the index is composed of six items. A higher level of satisfaction means a higher loyalty commitment. In this case, the index of felt commitment is a consequence of the satisfaction variable. Parameter β was positive and significant ($p < .01$) because higher satisfaction generates higher commitment (Garbarino & Johnson 1999; Tax et al., 1998). The fit of the model is acceptable, with a value of $\chi^2_{\ 6} = 45.34$. The RMSR is only .046 and the GFI is elevated (.97). In terms of the incremental fit measures, the NFI reaches .94. These values range within the recommended values (Hair et al., 1998). The felt commitment index can, therefore, be considered valid.

Considering the validity of the index, based on the second estimated MIMIC model (Figure 2), the formative specification of the model (using standardized values), following (6), would be:

$$\begin{aligned}\text{Felt commitment} = {} & 0,12x_1 + 0,08x_2 + 0,16x_3 + 0,14x_5 \\ & + 0,08x_6 + 0,12x_8 + \zeta.\end{aligned} \tag{6}$$

CONCLUSIONS

This paper aims to contribute to the application of traditional B2B concepts like commitment to B2C relationships. The specific purpose of this research was to build an index of felt commitment. Theoretical and operational justifications support the application of a formative approach. The choice of a formative operationalization is primarily based on theoretical considerations regarding the causal priority between the indicators and the concept of commitment. A set of indicators causes changes in the latent commitment construct.

The formative methodology in the literature is limited to scales and index construction. Based on the analysis performed by Diamantopoulos and Winklhofer (2001), we have provided a formative scale for commitment operationalised as an index. The present study extends the application of the psychological commitment concept in marketing and the evidence supporting formative indicators as a useful approach to scale construction. In order to do this, a construction methodology was applied involving both theoretical aspects of the scale and the operatives of external validity (nomological). The analysis performed allows us to model the causal relationships between indicators of felt commitment and the felt commitment construct using MIMIC models.

The application of the LISREL model through the construction of the MIMIC models constitutes a powerful one to develop the methodology of scale construction. Frequently, it is affected by problems of internal consistence or validity due to the elevated number of items that they contain. Also, this methodology allows the formation of indexes of higher strictness. As extension of this model, the commitment index could make easier the consideration of commitment in more complex models. In fact, one of the main applications of this analysis is the use of the construct index as a component of (causal) models. Thus, the development of future works should be directed towards the methodological perfection of the indexes used in the models.

Understanding the formative measurement process may be useful for those researchers interested in scale construction and causal modeling. In particular, researchers can obtain accurate measures of constructs that are caused by different and independent aspects, where a reflective approach is not suitable.

Many concepts in psychology and management (e.g., degree of exercised power, occupational training, ecological awareness, customer value, extent of resources) should be measured formatively.

Another application of interest is that when testing causal models the formative methodology allows indexes of concepts to be obtained which fit better than the simple addition of values. As complex models with many latent and observed variables are difficult to estimate, the formative methodology could be applied to combine several indicators and reduce the size of the model.

The scale developed needs more empirical evidence to support its stability and generalize its use to other settings of consumer–supplier interaction. The construct is based on an interdisciplinary analysis. It would seem, therefore, that the scope of application is extensive. Foundations of the concept come from literature with an international scope that allows generalizations of the scale to other settings and/or industries with minor changes (if necessary). Pretests with experts and checking of key issues of the setting could help to perform those minor changes. Further empirical applications and purifications of the concept through MIMIC models could provide additional support for the scale.

APPENDIX

Table 4
Reflective indicators used in the MIMIC model

Loyalty	Y_1: You have a strong sense of loyalty towards this bank
Satisfaction	Y_2: On the whole, you are satisfied with this bank
Global commitment	Y_3: You do not feel obliged to use this bank*

*Item in reverse value.

Table 5
Reflective indicators used in the MIMIC model

Satisfaction 1	Your expectations of the services of this bank coincide with what your receive	Steers (1977), Tax et al. (1998)
Satisfaction 2	On the whole, you are satisfied with this bank	Shamdasani & Sheth (1995); Oliver (1990)

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