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WORKING PAPER

Relationship Quality and the Theory of Planned Behavior Models of Behavioral Intentions and Purchase Behavior

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Abstract

Using real-life purchase behavior data of apparel and survey information, this study compares the Relationship Quality and the Theory of Planned Behavior models. The attitude towards the buying behavior, the subjective norm and perceived behavioral control (antecedents of the buying intention in the Theory of Planned Behavior) are better predictors of behavioral intentions than Relationship Quality. In both models intentions fully mediate the impact of attitudinal antecedents on behavior, both in terms of purchase incidence and purchase behavior (amount spent, number of visits, and types of products bought). Frequency and recency of prior buying behavior and, to a lesser extent, its monetary value, predict subsequent purchase incidence, above and beyond the impact of attitude and intention. Attitudinal antecedents of behavior significantly predict buying behavior, but they become insignificant when buying behavior is included in the model.

Keywords: Relationship quality model, theory of planned behavior, customer-firm relationship, intention, behavior.

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Introduction

One of the basic models to explain purchase intention and/or behavior in a non-contractual customer-firm relationship is the Satisfaction-Profit Chain or *Relationship Quality Model* (RQ): high levels of relationship quality result in accordingly high levels of purchase intention and behavior (Reichheld, 1996). Many authors have used relationship quality concepts such as trust (e.g. Morgan and Hunt, 1994), commitment (e.g. Pritchard, Havitz, and Howard, 1999) and satisfaction (e.g. Zeithaml, Berry and Parasuraman, 1996) as antecedents of behavioral intention. Research does confirm the intuitive impact of these antecedents of relationship quality on behavioral intentions (e.g., Ebner, Hu, Levitt and McCrory, 2002). Another widely used model to predict (buying) behavior is the *Theory of Planned Behavior* (TPB) (Ajzen, 1991; Ajzen, 2002; Armitage and Conner, 2001; Ouelette and Wood, 1998): attitude towards the behavior along with the impact of relevant reference people (referred to as the subjective norm) and the perceived control a customer has over the behavior under study (referred to as perceived behavioral control), result in the formation of a behavioral intention, which in turn results in behavior (Ajzen, 1991; Ajzen, 2002). The meta-analysis by Armitage and Conner (2001) shows the effectiveness of the approach in a wide variety of contexts. However, examples of the use of the Theory of Planned Behavior in a customer-firm relationship context are scarce.

Behavioral intentions do not evidently translate in objectively measured buying behavior and profitability. The TPB encounters the same problem as the RQ approach of predicting behavior. Therefore, the usefulness of both models to predict real buying behavior has been questioned (for an overview, see Foxall, 1997, 2005). Most reported research lacks objective measures of real behavior to prove that behavioral intentions mediate the impact of the attitudinal antecedents under study. When measures of actual behavior are available, these models often fail in predicting behavior, and typically show low correlations between attitudinal measures such as intentions and real behavior (Foxall, 2005). Previous studies have suggested a large number of intrapersonal and situational variables that may have the potential to improve the predictive power of these models (for an overview, see Foxall, 1997). In many of these studies, prior or past (buying) behavior has been suggested as one of the factors that may improve the predictive power of these cognitively inspired frameworks. The important role of past behavior is particularly prominent in research in the data mining context suggesting that past behavior is the best predictor of future behavior (Bauer, 1988; Kaslow, 1997; Magidson, 1988; Reinartz and Kumar, 2000; etc.). Therefore, one might question the usefulness of survey-based attitudinal or intention antecedents in the presence of behavioral information. Although some insights indicate that attitudinal antecedents do play a separate role even when combined with past behavior (Thogersen, 2002; Davies, Foxall and Pallister, 2002), research on the added value of attitudinal antecedents for the explanation of actual buying behavior is scarce.

This study investigates the effectiveness of the RQ versus the TPB model in predicting real-life buying behavior in a customer-firm relationship context. Moreover, the mediating role of intentions is assessed, above and beyond the effects of past behavior. The study is based on a combination of behavioral and self-reported measures in the context of apparel retailing. The

first contribution of the study is that it is based on a substantial sample of a combination of real-life purchase and survey data. Many studies only explain intentions and generally assume that they are good predictors of behavior. Checking this assumption of the mediating role of intentions is a second relevant contribution. The third contribution of this study is that it investigates whether attitudinal antecedents of intentions have an added value to predict purchase behavior above and beyond actual past behavior. Finally, a fourth contribution consists of comparing two frequently used models of consumer behavior, the Relationship Quality Model and the Theory of Planned Behavior, to assess their relative robustness and predictive power.

Theoretical framework

The Relationship Quality Model

Anderson and Mittal (2000) have defined the most commonly used approach to predict customer behavior in customer-firm relationship contexts as the Satisfaction-Profit Chain. It is a chain of variables influencing each other, starting with product/service satisfaction, over overall/relationship satisfaction, with additional influences of commitment and trust, onto purchasing/loyalty intentions and finally to behavior and profit (Reichheld, 1996). Operationalisations of the building blocks of this chain are often confusing. Dick and Basu (1994) suggest that loyalty is built up of attitudinal loyalty (consisting of commitment, trust, and satisfaction), which leads to repeat patronage intentions, which in turn lead to loyal behavior. This study follows the same approach. Past research has primarily focused on trust (e.g. Doney and Cannon, 1997; Morgan and Hunt, 1994; Ganesan, 1994), commitment (e.g. Harrison-Walker, 2001; Moorman, Deshpandé and Zaltman, 1993; Pritchard et al., 1999), and/or satisfaction (e.g. Homburg and Giering, 2001; Fullerton and Taylor, 2002; Zeithaml et al., 1996) as predictors of behavioral intentions. De Wulf, Odekerken-Schröder and Iacobucci

(2001), Garbarino and Johnson (1999) and Hennig-Thurau, Gwinner and Gremler (2002) have argued and empirically shown that the best understanding of the influence of these three central and often conceptually confusing concepts lies in the approach of their combined effects. They argue that it is preferable to model the three antecedents as a higher order construct, 'relationship quality', that is, the overall assessment by the respondent of the strength of his relationship to the provider (De Wulf et al., 2001). In the RQ logic, repeat patronage intentions mediate the relationship between relationship quality and behavior. However, this mediating role is generally left out of empirical investigations, as the data available do not provide the necessary behavioral data to test this assumption. The vast majority of academics have to content themselves with intentions to purchase, which has been repeatedly indicated as a possible source of error in the conclusions of academic research (Anderson and Mittal, 2000; Reinartz and Kumar, 2000; Zeithaml, 2000; Foxall, 2005). Indeed, when taking the step towards real behavior, confirming the hypothesis of high relationship quality leading to high purchasing behavior proves to be unexpectedly hard (Ebner et al., 2002; Reichheld, 1996).

The Theory of Planned Behavior

An alternative approach to predicting intentions and behavior that is widely used in consumer behavior research is the Theory of Planned Behavior (Ajzen, 1991; Ajzen, 2002). It postulates three conceptually independent determinants of intention: attitude towards the behavior, subjective norm, and perceived behavioral control (Ajzen, 1991; Ajzen, 2002; Armitage and Conner, 2001; Ouellette and Wood, 1998). The relative importance of each antecedent varies across behaviors and situations. Also this model suggests that intentions are the immediate antecedent of behavior (Ajzen, 2002), and intentions fully mediate the impact of attitude towards the behavior and subjective norm on behavior, and partially mediate the impact of perceived behavioral control (Ajzen, 1991). Most empirical applications of the TPB try to

explain or predict newly introduced behavior (Armitage and Conner, 2001; Davies, Foxall and Pallister, 2002; Ouellette and Wood, 1998), also in a marketing context (Bamberg, 2002; Bansal and Taylor, 1999; Chiou, 2000; Cook, Kerr and Moore, 2002; Klöckner and Matthies, 2004; Fortin, 2000). The contexts of these studies are, however, fundamentally different from the customer-firm relationship context, insofar as the majority of them model and study the impact of intentions to shift from a habit to a newly introduced behavior. Within the customer-firm relationship framework of the present study, the models are used to assess how attitudes, subjective norm, perceived behavioral control and intentions predict the extent to which existing behavior will be repeated or reinforced in the future. This may be an even more relevant application than the 'new behavior' one. Foxall (2005) suggests that attitudes that were formed on the basis of past behavior may be more stable predictors of subsequent behavior than attitudes that are not based on behavioral experience. A study by Chiou (2000) in the family restaurant business indeed shows that the TPB constructs can be effective predictors in such a repeat patronage context.

Some studies have compared the predictive power of the TPB model with models designed for application in specific domains (e.g., health belief, integrated waste management… (Ajzen, 2002)). These alternative models did not perform much better, and sometimes worse, than the more general TPB. The present study compares the predictive power of the TPB with the RQ model. They are comparable in that they are both cognitive psychological frameworks that assume a path from attitudinal antecedents over intentions to behavior. Their usage so far is different in that the focus of the first has usually been newly introduced behavior, whereas the focus of the latter has usually been repeat buying behavior. Formulating a dominant hypothesis concerning the outcome of this comparison would be hazardous. Indeed, findings from previous comparisons of models with the TPB do not consistently conclude in favor of or

against the specific model. The RQ model focuses on satisfaction, trust and commitment, all factors of experience-based attitudes that are assumed to be better predictors than attitudes formed without buying experience (Foxall, 2005). Moreover, the RQ model is context-specific, and it has been frequently shown that this improves the predictive power of cognitively-based models (Foxall, 1997, 2005). On the other hand, the TPB incorporates a more diversified set of explanatory factors (attitude, subjective norm and perceived behavior control), and could also benefit from the fact that in the present study these components were also formed after buying experience. Therefore, the present study approaches the comparison of both models in an exploratory way.

Past behavior

The generally poor correlation between attitudinal measures such as intentions and actual behavior has often been attributed to inadequate measurement. Already Ajzen and Fishbein (1977) stated that high correlations between attitudes and intentions on the one hand and actual behavior on the other, can only be expected if the attitude measures refer to a specific action, a well-defined target to which this action is directed, contextual similarity, and timing in that the closer the temporal proximity between attitude measurement and behavior, the better the predictive power of the model will be. However, besides these measurement issues, many authors have suggested to take non-attitudinal factors such as intrapersonal and situational factors into consideration as extra factors in the prediction of behavior from attitudes (see, for instance, Davies, Foxall and Pallister (2002) for an empirical application in the field of recycling). One frequently cited and used factor is (self-reported) past behavior (e.g., Bagozzi and Kimmel, 1995; Bagozzi and Warshaw, 1990, East, 1992; Foxall, 1997). For instance, in the context of purchasing organic red wine, Thogersen (2002) showed that accounting for past behavior in a TPB model substantially increases the understanding of the subsequent behavior

under study. Sheeran, Orbell and Trafimow (1999) also introduce past behavior into the TPB and show it has a significant impact.

Conventional wisdom even suggests that the best predictor for future behavior is past behavior (Ajzen, 1991; Foxall, 1997, 2005; Kumar, Bohling and Ladda, 2003; Sheeran and Abraham, 2003; Triandis, 1977). Ouellette and Wood (1998) explain the predictive power acknowledged to past behavior as the impact of habit on behavior through various processes. When customers had ample opportunity to perform a given behavior frequently in the past, it can be performed automatically. Mulhern (1997) and Volle (2001) approach past behavior as a measure for the gravitational attraction of the store and a customer's preference. Hence, incorporating past behavior into customer-firm relationship research is a way of accounting for gravitational and preferential variables not explicitly modeled when the context of the research is a non-contractual retail environment. Studies incorporating past behavior variables in a customer-firm relationship model are mostly situated in the database or data mining line of research. Some authors have used a single predictor of past behavior (e.g., the monetary value of past purchases: Bult and Wittink, 1996 ; Reinartz and Kumar, 2000); others have combined two indicators (e.g., recency and frequency of past purchases: Gönül and Shi, 1998; Van den Poel, 2003 ; recency and monetary value: Bult, Van der Scheer and Wansbeek, 1997; Morwitz and Schmittlein, 1998 ; Zahavi and Levin, 1997 ; frequency and monetary value: Piersma and Jonker, 2004), or even three (a combination of recency, frequency, and monetary value: Bitran and Mondschein, 1996; Kaslow, 1997; Van den Poel, 2003). Depending on the context, industry, and outcome variable to predict, the relative importance of each indicator may vary. This recency, frequency, monetary value (RFM) approach has been applied extensively to operationalise past behavior. The present study follows this approach.

Notwithstanding this sheer amount of empirical work, there is a lack of understanding of the effects of prior behavior in combination with RQ or TPB attitudinal antecedents in a customer-firm relationship context. The present study investigates how a model behaves that combines both types of indicators, in an effort to understand the true impact of each category of indicators. The three research questions of this study are graphically represented in Figures 1 and 2:

1. Do the RQ constructs outperform the TPB constructs in predicting purchase behavior, or is it the other way around?
2. Do intentions effectively predict real behavior, and do they act as a full mediator of both the RQ and the TPB constructs?
3. Do attitudinal antecedents affect behavior beyond and above the impact of past behavior?

Figures 1 and 2 here

Research method and data collection

Research method

The study uses a combination of behavioral and survey data gathered from a sample of customers from a Belgian apparel retailer. This retailer operates 71 shops throughout Belgium, situated in peripheral areas in cities and villages, and in the low- to mid-price range. The database provided by the retailer contains data on the buying behavior of all its customers between February 2004 and July 2004 (summer season). Variables measured include: amount spent, number of visits to a store, and number of different product types bought. Also the buying history of these customers is included. Data on the length of the relationship, buying frequency and monetary value are available for ten seasons. During a 4-day period in February

2004 (beginning of the summer season) a questionnaire was distributed to consumers visiting 12 of the 71 stores of the retailer, selected to be a representative sample of the total range of shops. The shops are equally distributed over the country, located nearby cities as well as on the countryside, and large shops as well as smaller shops in terms of turnover are included. During this four-day period 1753 customers bought at least one item in one of the twelve shops, and the researchers distributed 2306 questionnaires. Evidently, there are more visitors then buyers. The fact that the number of questionnaires is 32% higher than the number of buyers indicates that the vast majority of visitors received a questionnaire. They also received a letter, stressing the academic nature of the study, and a prepaid response envelope. Nine-hundred and sixty customers returned the questionnaire, a response rate of 42%. As this recruitment method could have resulted in an overrepresentation of frequent customers of the retailer, the team made a selection of 2500 additional customers, classified by the retailer as 'cold customers'. They only had spent an amount ranging from 0 to 50 euro in the preceding winter season (August 2003 – January 2004). They received exactly the same questionnaire by mail. Two-hundred and sixty-six customers returned a completed questionnaire (response rate: 11%).

Respondents

Based on information given by the customers on the questionnaire (customer number, name and address) a unique link was established for 634 of the 1226 (960 + 266) respondents to their buying behavior information provided by the retailer. This sample is used for analysis. All respondents are actively involved in buying clothes for themselves, their partner and/or children, and 90.1% is female. About 7.7% are less than 30 years old, 30.8% are between 30 and 40, 31.5% between 41 and 50, 20.8% between 51 and 60, and 9.1% is older than 60. In about two thirds of the families there are two adults, and in 15.2% three adults. Of the families 43.5% have no children under 18, 20.1% have one child and 25% have two children. These characteristics are in line with previous studies of the retailer and management insights on the

characteristics of their customer base. The characteristics of the sample of linkable (634) and non-linkable (575) respondents are very similar in gender and age structure, as well as number and age of the children. This gives further confidence into the relevance of the sample studied here.

Measures

Dependent variables

A single seven-point semantic differential item (Cronin and Taylor, 1992; Rossiter, 2002) measures buying intention, capturing the intention to buy at least once at the retailer during the upcoming summer season (February 2004 – July 2004). Four indicators measure actual buying behavior in the season subsequent to the survey: purchase incidence (buy or not buy), total expenditure (amount spent during the season in one or more shops of the retailer), number of visits with buying event to one of the retailer's shops, and number of product types (shirts, trousers, coats…) from which the customer purchased. The three indicators measure partially different aspects of buying behavior. Total expenditure and number of visits are highly correlated (r=.85). This is less the case for number of product types bought and total expenditure (r=.35) and number of visits and number of product types (r=.51).

Independent variables

The three RQ (or attitudinal loyalty) components are measured by means of three seven-point Likert type multi-item scales, i.e. trust, commitment and satisfaction (Table 1). With respect to the three constructs of the TPB, attitude towards the behavior is measured by means of 9 items; subjective norm 6 items, and perceived behavioral control 2 items (Table 2). The item pools were developed in an exploratory study. An in-depth study of the literature resulted in a selection of scale items. The item set was then presented to ten marketing research

professionals. Based on their questions and remarks some items were removed or rephrased. A pretest of the remaining items among 30 customers of the shops under study confirmed their relevance, validity and reliability. Past behavior is measured using the three indicators of the RFM-model: number of seasons between February 2002 and January 2004 with a buying event (Frequency); 1/(number of seasons with no buying event + 1) over the same period (Recency), and Ln(total expenditure) over the same period (Monetary value).

Tables 1 and 2 here

Validity and reliability of the measured constructs

Relationship Quality constructs

A confirmatory factor analysis (LISREL 8.5) with the three attitudinal loyalty components trust, commitment and satisfaction as three different latent constructs leads to a suboptimal solution. Chi^2/df is 22.28, which is much too high (Bollen and Stine, 1992). RMSEA is .15, well over the maximum of .08 recommended by Browne and Cudeck (1993). CFI and TLI are .96 and .93 respectively, approaching the minimum desired level of .95 (Hu and Bentler, 1999). As also reported in previous studies (e.g. Garbarino and Johnson, 1999), the RQ constructs are highly correlated. The correlation between trust and commitment and between satisfaction and commitment is .91, and between satisfaction and trust even .98. Therefore, some researchers suggest that it does not really matter which construct is used because they are completely interchangeable, and some have developed a combined 'relationship quality' scale (Rust, Zahorik and Keiningham, 1995; De Wulf et al., 2001).

In line with these observations, in the present study a confirmatory factor analysis is carried out assuming one latent construct defined by all nine items measuring trust, commitment and satisfaction. Based on loadings, information on standardized residual covariances and modification indices (Bagozzi and Baumgartner, 1994; Steenkamp and van Trijp, 1991), one disturbing item is left out (see Table 1). In the final model, Chi^2/df is 6.952; RMSEA is .09, which is just above the desired maximum value of .08. CFI (.98) and TLI (.98) are well above the minimum cut-off value of .95. These measures indicate unidimensionality. The significant factor-regression coefficients, along with the fact that all item-construct correlations are higher than the recommended value of .50, support the assumptions for convergent validity (Hildebrandt, 1987; Steenkamp and van Trijp, 1991). Average variance extracted is .68, which exceeds the .50 recommended by Steenkamp and van Trijp (1991). Cronbach's alpha is .94, suggesting strong reliability. Furthermore, the single model fit outperforms the three construct model fit ($\mathbf{\Delta}$ Chi^2=58.04 < 2.353, $\mathbf{\Delta}$ df=3). The various RQ indicators appear to clearly collapse into one 'relationship quality' construct. The more parsimonious single-construct model shows to better fit the data than the three-construct model. Therefore, the mean of the eight remaining items is used as the variable 'relationship quality' in subsequent analyses.

Theory of Planned Behavior constructs

The correlation between the three constructs of the TPB model is substantial, but much lower than between the constructs of the RQ model: the correlation between attitude and subjective norm is .54; between attitude and perceived behavioral control .69; and between subjective norm and perceived behavioral control .48. A structural equation model is carried out using the three TPB constructs as latent variables (Chi^2/df = 3.507, RMSEA = .049, CFI = .98), and TLI =.98). Further, the significant factor-regression coefficients, along with the fact

that all item-construct correlations were higher than .50, again support the assumptions for convergent validity. Also, Cronbach's alphas for attitude (.87),subjective norm (.84) and PCB (.88) are satisfactory. Therefore, the three separate constructs are retained for further analysis.

Results

Comparing the Relationship Quality Model and the Theory of Planned Behavior and the mediating role of intentions

A series of regression analyses compares the predictive power of the RQ model and the TPB. Logistic regression is used to predict purchase incidence (Table 4), and linear regression to predict the three measures of buying behavior (Tables 3, 5-7). Four regression analyses are combined to assess the mediating role of intentions within both types of models (Baron and Kenny, 1986):

1. Step 1: RQ/TPB components → intentions (Table 3)
2. Step 2: intentions → behavior (Tables 4-7)
3. Step 3: RQ/TPB components → behavior (Tables 4-7)
4. Step 4: RQ/TPB components + intentions → behavior (Tables 4-7)

Step 1 is, by the nature of the variables in the equation, always to be evaluated through a linear regression. It indicates whether or not the attitudinal antecedents share variance with intentions. Step 2 to Step 4 are evaluated through logistic regressions in the models assessing purchase incidence, and through linear regressions in the models assessing the three other indicators of purchase behavior. Step 2 tests the intention – behavior relationship. The combination of Step 3 and Step 4 indicates whether or not intentions fully mediate the impact

of the attitudinal antecedents on behavior. Full mediation is indicated when the attitudinal antecedents impact the outcome variable directly when intentions are not taken into account, and when this impact disappears when intentions are introduced as an extra antecedent variable. The results of the analyses are given in the order of the steps described.

Tables 3-7 here

RQ and the TPB constructs predict intentions quite well (Table 3). The TPB outperforms the RQ approach, with an adjusted R^2 of .523 as compared to .368. Overall, behavioral intentions are a weak predictor of behavior (Tables 4-7). Be it in the purchase incidence model or in the purchase behavior models, they achieve a maximum R^2 of only .19. The attitudinal antecedents of the RQ, as well as of the TPB model impact behavior. Nagelkerke R^2 is about .12 for both models in the logistic regressions. Adjusted R^2 is the lowest in the number of product type models both for RQ (.012) and TPB antecedents (.024), and highest in the number of visits model for the TPB antecedents (.048) and in the total expenditure model for the RQ antecedents (.034). In all four models intentions are significant while the significant effects of the attitudinal antecedents found in step 3 disappear. Along with the fact that step 1 shows the impact of attitudinal antecedents on intentions, and that step 2 shows the impact of intentions on behavior, this last step confirms that intentions fully mediate the impact of both the RQ and the TPB antecedents.

As far as the purchase incidence models are concerned, the classification percentages indicate that modeling only the attitudinal antecedents yields the weakest model (65.7% for the RQ model, 66% for the TPB), whereas the mediated models yield the best classification percentages (71.5% for the RQ model, and 71.9% for the TPB). Improvement as compared to a model with intentions only as an antecedent to behavior (70.7%) is negligible, which further

confirms the fully mediating role of intentions. Both models behave in exactly the same way. Since the indicators of the linear regressions on intentions are better for the TPB constructs than for the RQ constructs, the conclusion is that the TPB outperforms the RQ model in predicting subsequent behavior in terms of the purchase incidence model. As far as the linear regressions are concerned, the model disregarding intentions is consistently performing the worst, both with RQ and TPB antecedents. The models testing the impact of the RQ and TPB constructs directly on behavior all show that the TPB slightly outperforms the RQ model in predicting behavior. All six models incorporating both intentions and RQ respectively TPB constructs show that intentions fully mediate the impact of the antecedent constructs on behavior. The conclusion is that the TPB is a sound alternative to the RQ approach in predicting behavior. Both RQ and the TPB can predict purchase incidence as well as purchase behavior, and their effect is consistently and fully mediated through intentions.

The impact of past behavior

In order to investigate how both the Relationship Quality Model and the Theory of Planned Behavior behave when used in combination with behavioral data on past purchases, a similar series of both logistic and linear regressions in four steps as described above is carried out, but taking past behavior into account using the RFM-approach described earlier. The results indicate that as far as the purchase behavior models are concerned, attitudinal antecedents and intentions fail to predict behavior when combined with past behavior (results not reported here). However, as far as the purchase incidence model is concerned, besides past behavior, also intentions and attitudinal antecedents capture part of the variance in the dichotomous outcome variable. For the sake of parsimony, the analyses in this section combine indicators of past behavior and attitude towards subsequent buying behavior (the most important antecedent of intentions in this study), and thus discard subjective norm and perceived behavioral control.

RQ respectively TPB constructs predict intentions, and intentions are a significant predictor of behavior, even when combined with indicators of past behavior. The TPB outperforms the RQ approach (Table 8). The attitudinal antecedents of the RQ as well as of the TPB impact behavior above and beyond the impact of past behavior. When incorporating intentions as well as attitudinal antecedents in the model, in both models intentions are significant, while the significant effects of the attitudinal antecedents found in the previous step disappear. This confirms that intentions fully mediate the impact of both the RQ and the TPB antecedents, while keeping an independent role in predicting behavior next to the effects of past behavior (table 9).

The effects found in the regressions of the attitudinal models without past behavior as an antecedent are confirmed for the purchase incidence model, but not for the purchase behavior models. The findings indicate that intentions and attitudinal antecedents capture unique variance in the purchase decision that is not captured by past behavior, whereas they do not capture unique variance in purchase behavior. Past behavior significantly predicts both the purchase decision and purchase behavior.

The results of all analyses are summarized in Table 10.

Tables 8, 9 and 10 here

Discussion

The Theory of Planned Behavior, the Relationship Quality Model and the impact of past behavior

The first finding is that the more specific RQ model is not outperforming the TPB in terms of predicting behavior. This confirms conclusions of previous research in different fields that the general model of the TPB is a worthy alternative for a more context specific model (Ajzen, 2002). The results in all choice and response models lead to the conclusion that RQ and TPB are interchangeable models to uncover the dynamics of the customer-firm relationship. However, since the TPB constructs outperform RQ in predicting intentions, the predictive power of the former approach seems to be higher than that of the latter. All three TPB constructs should be taken into account, as they all contribute to the explanatory power of the model. Leaving these constructs out of the model would lead to incomplete conclusions, even in the context of customer-firm relationships.

The second issue that is addressed in this study is the role of intentions in attitudinal models predicting behavior. The findings show that intentions do indeed predict actual behavior. Although the variance explained is low, it is clearly significant. The purchase incidence models yield stronger predictive results than the other buying behavior models, although this cannot be statistically confirmed. The adjusted R^2 is strongest for the number of visits model and weakest when predicting total expenditure or number of product types. These results are not surprising, given the fact that actual buying behavior was predicted. Perkins-Munn, Aksoy, Keiningham and Estrin (2005) report an R^2 of .65 between intentions and actual repurchase in the pharmaceutical industry. However, the purchase behavior in this study was a self-reported measure. In the truck industry, the same authors find an R^2 of .47. In this context, a 5-point Likert scale was used to predict a dichotomous actual repurchase, probably again a

self reported measure, although this is not clear from the discussion of their results and method. Seiders, Voss, Grewal and Godfrey (2005) also confirm that predicting intentions based on survey based information is more easily achieved than predicting real behavior. As both the choice and the response models incorporating intentions together with the RQ or TPB antecedents show that only intentions have a significant impact on behavior, the mediating role of intentions between the antecedents and the subsequent behavior is confirmed.

The third issue is the impact of the attitudinal models on behavior subsequent to the survey beyond and above the impact of past behavior. Behavioral intentions do indeed predict behavior, even when combined with actual past behavior, albeit only in the purchase incidence model. This seems to indicate that intentions and attitudinal antecedents capture unique variance in the purchase decision that is not captured by past behavior, whereas they do not capture unique variance in the purchase behavior. This might be due to the phrasing of the intentions construct that in the present study referred to the probability of the customer visiting the retailer at least once in the next summer season (a phrasing more close to the other buying behavior variables would have been unrealistic in this context). Generally speaking, the results confirm previous findings that attitudinal antecedents do indeed play a role apart from past behavior (e.g. Thogersen, 2002).

Why the Theory of Planned Behavior may outperform the Relationship Quality Model

Some authors suggest inferring causality to significant relationships in a model asks for a longitudinal approach (e.g., Morgan and Hunt, 1994) since effects of attitudinal antecedents sometimes need a time lag to come to their full effect, as is the case, for instance, with the impact of quality perception and satisfaction on market share and profitability (Anderson, Fornell and Lehmann, 1994). On the other hand, one of the conditions for attitudes and

intentions to be good predictors of actual behavior is the temporal proximity between cognitive and behavior measurement (Ajzen and Fishbein, 1977, Foxall, 1997). These seemingly contradictory requirements may explain why the TPB outperforms the RQ model. In the present study, attitudes and intentions were measured at the beginning of the summer season in which actual behavior was measured. Therefore, there is relatively close temporal proximity between the two measures. This could be in favor of the TPB, since RQ perceptions may need more time and experience to become stable and to translate into actual behavior than the attitudinal factors in the TPB. Additional analysis indeed confirmed that the level of stability of the TPB factors is higher than that of the RQ measure. When comparing these constructs for two periods in time (6 months apart), the correlation between relationship quality items ranged between .30 and .55, and the correlation between TPB items between .40 and .59. Maybe the most important reason for the superiority of the TPB model is the fact that the RQ measure (and indeed its underlying constructs trust, satisfaction and commitment) is by nature less specific than the TPB constructs, i.e. as opposed to the TPB components measured here, it refers less specifically to specific actions in a specific context. As was extensively documented (see, for instance, Foxall, 1997, 2005), situational and action-directed measures of attitudinal antecedents to behavior are an important prerequisite to adequately predicting actual behavior. The TPB model seems to better comply with this condition than the RQ model. Finally, it is not surprising that, even in an ideal measurement situation, in the context of a non-contractual, mature and fashion-sensitive product as in the present study, the relationship between intentions and real behavior is found to be weak.

Conclusions, implications and suggestions for further research

The study leads to three major findings. First, the TPB constructs are a sound alternative to the RQ approach for predicting intentions and subsequent behavior in a customer-firm

relationship context. Second, intentions fully mediate both the RQ and the TPB constructs. Third, in the purchase incidence model, intentions fully mediate the impact of attitudinal antecedents on behavior, above and beyond the effects of past behavior. All of these effects are not only significant; the specific methodology used leaves no doubt as to the underlying causality.

The results have a number of managerial implications. Using the TPB constructs is a sound approach for marketers who wish to gain insights into the intentions of the customers in the context of a customer-firm relationship, that is, when the satisfaction, commitment and trust measurements are not needed as a managerial tool per se. Moreover, predicting future behavior on the basis of past behavior only, or using purchase intentions as a proxy, is suboptimal. Models predicting buying behavior should use all three categories of variables: attitudinal antecedents of intentions, buying intentions themselves, and indicators of past behavior. With regard to past behavior, frequency and recency of prior purchases appear to be the most relevant indicators to include. With respect to the TPB components, in this context the attitude towards the behavior contributes most to the explanation of behavior, although the subjective norm and perceived behavioral control are not entirely irrelevant. In any case, customer research aimed at predicting buying behavior should pay close attention to the requirements of the measurement of TPB model components: questions should relate to specific and targeted actions, be set in a situational context that is as similar as possible to the context in which actual behavior is measured, and be asked in close temporal proximity of actual behavior.

The predictive power of intentions on real behavior is low, which clearly leaves room for improvement of the model. There may be two main explanations for the small impact of intentions on behavior in the present study. First, although in the real-life setting of this study,

the temporal proximity between the two measures were kept as low as possible (measuring attitudes and intentions at the beginning of the season), for a number of consumers the time elapsed between the measurement of intentions and the scanning of behavior is relatively large, with a maximum of almost six months. Within this time frame, changes to the customer's general and purchase specific context are bound to happen, which might negatively impact the predictive power of intentions on behavior. Second, heterogeneity among customers (intrapersonal factors) might also account for part of the unexplained variance. Characteristics of consumers, even when measured cross-sectionally, might explain how intentions held by one consumer are steadier than intentions held by another customer. Future research should explore these issues further. The study was set in the apparel retailing environment, which is a specific context. Different relationships between the variables under study might emerge in different contexts. The level of hedonism or utility of a product as well as environmental elements such as industry-level competition or product maturity level might result in altered findings. In order to study these effects, replicating the present study in another research context or a large scale cross-industrial study is necessary.

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Figure 1: The relationship quality model

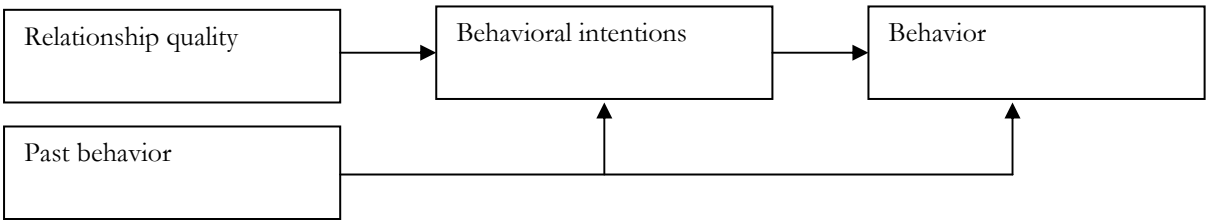

Figure 2: The theory of planned behavior model

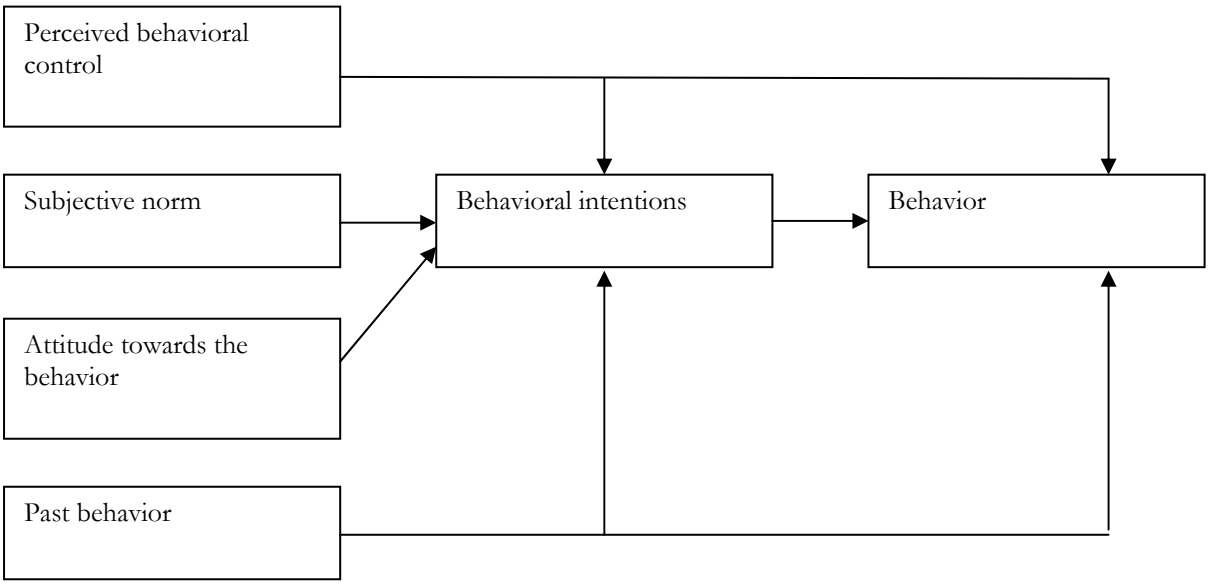

Table 1. The items of the Relationship Quality construct

1. I have confidence in the retailer (trust)
2. The retailer gives me a feeling of confidence (trust)
3. I have the feeling that the retailer is trustworthy (trust)
4. I am willing to go the extra mile to buy apparel at the retailer (commitment)
5. I have a clear commitment towards the retailer (commitment)
6. I would recommend the retailer to a family member, friend or acquaintance (commitment)*
7. I certainly like the retailer (satisfaction)
8. I am very satisfied with the retailer (satisfaction)
9. I have a favorable opinion about the retailer (satisfaction)

*This item was not retained in the final analysis

Table 2. The items of the Theory of Planned Behavior constructs

<u>Attitude toward the behavior</u>
To me, buying apparel at this retailer is…
1. Exciting
2. Important
3. Handy
4. Pleasant

5. Worth the effort
6. A good idea
7. Good for me
8. A waste of time
9. Enjoyable

Subjective norm

1. My family considers it a good idea if I purchase apparel at least once at the retailer during the upcoming summer season
2. Friends who influence my behavior consider it a good idea if I purchase apparel at least once at the retailer during the upcoming summer season
3. Friends who influence my behavior will purchase apparel at least once at the retailer during the upcoming summer season
4. My friends approve that I purchase apparel at least once at the retailer during the upcoming season
5. Family members who influence my behavior will purchase apparel at least once at the retailer during the upcoming summer season
6. Family members who influence my behavior approve that I purchase apparel at the retailer during the upcoming summer season

Perceived behavioral control

1. It does not fully depend on me whether or not I will purchase apparel at the retailer at least once during the upcoming season
2. I do not fully control the fact that I buy apparel at the retailer at least once during the upcoming season

Table 3: Step 1 – Standardized estimates from linear regressions of RQ/TPB constructs on intentions (**=significant at the .01-level; *=significant at the .05-level)

	Relationship Quality model Dependent: Intention		Theory of Planned Behavior model Dependent: Intention			
	Adj R^2	RQ	Ajd R^2	ATT	SN	PBC
Step 1	.37**	.61**	.52**	.65**	.10**	.06*

RQ: relationship quality; ATT: attitude toward the behavior; SN: subjective norm; PBC: perceived behavioral control

Table 4: Step 2 to Step 4 – Standardized coefficients from hierarchical logistic regressions of the RQ versus the TPB model (**= significant at the .01-level; °=significant at the .10-level)

	Relationship Quality model Dependent: buy/no buy			Theory of Planned Behavior model Dependent: buy/no buy				
	Nag R^2	INT	RQ	Nag R^2	INT	ATT	SN	PBC
Step 2	.19	0.48**	-	.19	0.48**			
Step 3	.12	-	.57**	.12		.52**	.04	.13°
Step 4	.22	.44**	.18°	.22	.48**	.06	-.03	.09

Nag R^2: Nagelkerke R^2; INT: buying intention

Table 5: Step 2 to Step 4 – Standardized coefficient from hierarchical linear regressions of the RQ versus the TPB on total expenditure model (**= significant at the .01-level; *significant at the .05-level)

	Dependent Variable: Total expenditure							
	Relationship Quality model			Theory of Planned Behavior model				
	Adj R^2	INT	RQ	Adj R^2	INT	ATT	SN	PBC
Step 2	.06**	.24**	-	.06**	.24**	-	-	-
Step 3	.03**	-	.19**	.04**	-	.15*	.07	.06
Step 4	.06**	.20**	.08	.05**	.21**	.02	.03	.03

Table 6: Step 2 to Step 4 – Standardized coefficients from hierarchical linear regressions of the RQ versus the TPB on number of visits model (**= significant at the .01-level; *=significant at the .05-level; °=significant at the .10-level)

	Dependent Variable: Number of visits							
	Relationship Quality model			Theory of Planned Behavior model				
	Adj R^2	INT	RQ	Adj R^2	INT	ATT	SN	PBC
Step 2	.08**	.29**	-	.08**	.29**	-	-	-
Step 3	.03**	-	.19**	.05**	-	.14*	.10°	.08
Step 4	.08**	.27**	.03	.08**	.28**	-.04	.06	.03

Table 7: Step 2 to Step 4 – Standardized coefficients from hierarchical linear regressions of the RQ versus the TPB on number of product types model (**= significant at the .01-level; *significant at the .05-level)

	Dependent Variable: Number of product types							
	Relationship Quality model			Theory of Planned Behavior model				
	Adj R^2	INT	RQ	Adj R^2	INT	ATT	SN	PBC
Step 2	.03**	.18**	-	.03**	.18**	-	-	-
Step 3	.01*	-	.12*	.02*	-	.09	.03	.12*
Step 4	.03**	.17*	.02	.03*	.17*	-.004	.003	.08

Table 8: Step 1 – Standardized coefficients from linear regressions of RQ/TPB constructs on intentions (**=significant at the .01-level; *=significant at the .05-level)

	Relationship Quality model Dependent: Intention					Theory of Planned Behavior model Dependent: Intention				
	Adj R^2	RQ	FR	RE	MV	Ajd R^2	ATT	FR	RE	MV
Step 1	.42**	.51**	.02	-.15**	.14**	.54**	.63**	.01	-.10*	.14**

FR: Frequency; RE: recency; MV: monetary value

Table 9: Step 2 to Step 4 – Standardized coefficients from hierarchical logistic regressions of the RQ versus the TPB model combined with past behavior (**= significant at the .01-level; *=significant at the .05-level; °=significant at the .10-level)

	Relationship Quality model Dependent: buy/no buy						Theory of Planned Behavior model Dependent: buy/no buy					
	Nag R^2	INT	RQ	FR	RE	MV	Nag R^2	INT	ATT	FR	RE	MV
Step 2	.62	.19**	-	1.30**	-.01**	.20	.62	.19**		1.30**	-.01**	.20
Step 3	.62	-	.28**	1.13**	-.01**	.24°	.61		.21*	1.27**	-.01**	.24°
Step 4	.63	.17*	.15	1.32**	-.01**	.21	.61	.15*	.09	1.27**	-.01**	.19

Table 10. Summary of main results

Dependent variable	Independent variables	Significant impact (5%)	R^2
Without past behavior variables			
Intention	Relationship quality	Relationship quality	.37
Intention	Attitude, subjective norm, perceived behavioral control	Attitude, subjective norm, perceived behavioral control	.52
Purchase incidence	Intention	Intention	.19
Purchase incidence	Relationship quality	Relationship quality	.12
Purchase incidence	Intention, relationship quality	Intention	.22
Purchase incidence	Attitude, subjective norm, perceived behavioral control	Attitude	.12
Purchase incidence	Intention, attitude, subjective norm, perceived behavioral control	Intention	.22
Total expenditure	Intention	Intention	.06
Total expenditure	Relationship quality	Relationship quality	.03

Total expenditure	Intention, relationship quality	Intention	.06
Total expenditure	Attitude, subjective norm, perceived behavioral control	Attitude	.04
Total expenditure	Intention, attitude, subjective norm, perceived behavioral control	Intention	.05
With past behavior variables (frequency, recency, monetary value)			
Intention	Relationship quality, frequency, recency, monetary value	Relationship quality recency, monetary value	.42
Intention	Attitude, frequency, recency, monetary value	Attitude, recency, monetary value	.54
Purchase incidence	Intention, frequency, recency, monetary value	Intention, frequency, recency	.62
Purchase incidence	Relationship quality, frequency, recency, monetary value	Relationship quality, frequency, recency	.62
Purchase incidence	Intention, relationship quality, frequency, recency, monetary value	Intention, frequency, recency	.63
Purchase incidence	Attitude, frequency, recency, monetary value	Attitude, frequency, recency	.61
Purchase incidence	Intention, attitude, frequency, recency, monetary value	Intention, frequency, recency	.61

For ‘buying behavior’, only the ‘total expenditure’ results are given. The results for the ‘number of visits’ and ‘number of product’ types are very similar.