Investigating the moderating influence of customer characteristics on the relationship between behavioural loyalty and its antecedents

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Information for the reader

The dissertation consists of seven chapters. First, an introductory chapter situates the research context (Chapter I) followed by a general discussion of the theoretical framework of the dissertation (Chapter II) and a discussion of the methodology applied (Chapter III). All three chapters highlight the challenges within the research context that were faced throughout the dissertation.

The three chapters following this introduction (Chapters IV to VI) each discuss a specific theme situated within the research framework. Each chapter was conceived as a separate article, that will be submitted to an international journal. As a result, Chapters IV to VI can be read separately or in a different order, without losing any vital information. Each of these three chapters therefore consists of an introduction, theoretical framework, results and discussion section. For the method and data collection, we kindly refer the reader to Chapter III. Where useful, information from the theoretical framework chapter (Chapter II) is repeated.

The titles of the separate articles are:

1. Relational versus promotional direct mail impact on apparel buying behaviour: The moderating impact of relational strength, price related attitudes, and personal source confidence (Chapter IV)

2. The moderating impact of relational strength, non search purchase tendency and attitudinal versus normative control on the relationship quality model in predicting purchasing behaviour (Chapter V)

3. Comparing the predictive power of relationship quality and theory of planned behaviour antecedents on behavioural intentions and purchasing behaviour (Chapter VI)

General conclusions synthesizing the findings from all three studies described in Chapters IV to VI can be found in Chapter VII. For bibliographical references, we kindly refer the reader to the full bibliography of the dissertation bundled at the end of the work (pp 174 and following).
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Samenvatting

Zowel de theorie als de praktijk suggereren dat trouwe klanten behoren tot de meest winstgevende sterktes van om het even welk bedrijf. We overlopen kort een aantal van de redenen waarom klantentrouw zo belangrijk is. Door de aard van de relatie die trouwe klanten ontwikkelen ten aanzien van het bedrijf, genereren ze namelijk bijkomende omzet zowel als gratis reclame voor het bedrijf. Bijkomende omzet wordt gerealiseerd omdat trouwe klanten kostenbesparend kunnen worden bediend en omdat trouwe klanten minder prijsgevoelig zijn. Gratis reclame is dan weer het resultaat van de positieve mond aan mond reclame die op haar beurt voor extra omzet zorgt. Het belang van trouwe klanten in de huidige marktomgeving voedt dat ook een constante stroom van wetenschappelijk onderzoek dat zich tot doel stelt om het gedrag van de klanten beter te begrijpen, te voorspellen of de beïnvloeden.

Het onderhavige onderzoek combineert inzichten uit uiteenlopende stromen van bestaand onderzoek in een geïntegreerde benadering gebaseerd op gedragsmatige informatie, informatie over de direct mail inspanningen en enquête onderzoek bij een steekproef van klanten van een Belgische kledingketen. De combinatie van gegevens uit verschillende bronnen stelt ons in staat om de dynamiek van de relatie tussen klant en bedrijf beter te begrijpen. Verder verzekert de gebruikte methodologie, waarbij gegevens op opeenvolgende tijdstippen werden verzameld, dat de causaliteit van de verbanden moeilijker in vraag kan worden gesteld dan bij purie cross-sectioneel onderzoek.

Drie kernvragen worden behandeld: hebben verschillende soorten direct mail inspanningen een verschillende impact op gedrag, kunnen attitudinele modellen gedrag voorspellen, kunnen die effecten van zowel de direct mail inspanningen als van de attitudinele modellen aangetoond worden ook als de effecten van gedrag uit het verleden mee worden opgenomen?

De kernbevindingen van het onderhavige onderzoek bevestigen grotendeels de voorspelde effecten. De impact van direct mail wordt aangetoond, ook in aanwezigheid van gedrag uit het verleden. De relatie tussen verschillende soorten direct mail inspanningen is soms onverwacht, wat verder aantoont dat de context van een onderzoek een belangrijke rol speelt in de effecten die men kan vinden. In de context waarin het huidige onderzoek werd uitgevoerd, namelijk een kledingketen waarvan de marketingstrategie voornamelijk steunt op relationele direct mail inspanningen, blijken de relationele inspanningen een grotere impact te hebben op gedrag dan promotionele inspanningen.
Het hamstergedrag dat volgt uit promoties in het verleden wordt gedeeltelijk bevestigd, en de lange termijn effecten van relationele direct mail blijkt ook positief te zijn.

Ook de attitudinele antecedenten beïnvloeden gedrag, zelfs wanneer rekening wordt gehouden met gedrag uit het verleden. Wanneer de gangbare benadering van het relatiekwaliteitsmodel (commitment, vertrouwen, en relatietevredenheid) vergeleken wordt met de impact van de theory of planned behaviour (met attitude ten aanzien van het gedrag, subjectieve norm en gepercipieerde controle over het gedrag als constructen) op koopintenties en koopgedrag, komen we tot de conclusie dat de theory of planned behaviour een bruikbaar alternatief is voor het relatiekwaliteitsmodel, alhoewel die benadering ongebruikelijk is in de context van relaties tussen klant en bedrijf.

De vierde kernvraag die in dit doctoraatsonderzoek aan bod komt is klantenheterogeniteit. Onverwachte resultaten uit vroeger onderzoek in de domeinen van direct mail effecten en van attitudinele antecedenten van gedragstrouw zijn in het verleden herhaaldelijk toegeschreven aan de homogeniteit tussen klanten die impliciet ingebed is in een benadering die alle klanten gelijk behandelt. Daarom werd herhaaldelijk aangegeven dat het een belangrijke doorbraak zou kunnen opleveren in toekomstig onderzoek om klantenheterogeniteit toe te voegen aan de onderzoeksmodellen. Een aantal bestaande resultaten tonen de effectiviteit van die benadering inderdaad aan, zowel in het kader van attitudinele modellen als in het kader van direct mail impact. We breiden die inzichten uit tot nieuwe klantenkarakteristieken die in de gegeven context een zinvolle bijdrage kunnen leveren.

We tonen aan dat de sterkte van de klantenrelatie met het bedrijf zowel de impact beïnvloedt van direct mail inspanningen op gedrag als de verklarende kracht van de attitudinele benadering vergroot. We stellen verder vast dat prijsbewustzijn de impact van direct mail inspanningen wijzigt, terwijl prijskwaliteit denken van de consument dat niet doet. Het type persoonlijke informatiebronnen waarop de consument vertrouwt, blijkt in onze context ook geen impact te hebben op de relatie tussen direct mail inspanningen en gedrag. De mate waarin de consument bereid is voorafgaand aan de aankoop alternatieven te zoeken heeft ook geen invloed op de relatie tussen zijn attitudes, intenties en gedrag. De mate waarin de consument zijn intenties baseert op eigen attitudes dan wel op de subjectieve norm heeft dan weer wel een significante impact op de attitudinele antecedenten van gedrag.

In bestaand onderzoek verschilt de afhankelijke variabele in de voornoemde modellen sterk. Sommige onderzoeken concentreren zich op intenties als afhankelijke variabele, andere een dichotome aankoop/geen aankoop variabele, nog andere aankoopgedrag. Die afhankelijke variabelen
kunnen gebaseerd zijn op database gegevens dan wel op gedrag dat door de consument zelf wordt gerapporteerd via een enquête. Aangezien verwacht kan worden dat de keuze van de afhankelijk variabele mee de resultaten van het onderzoek bepaalt, kiezen we ervoor om zowel het dichotome model als drie gedragsmodellen te bestuderen, en dit in alle studies die we rapporteren. In de modellen die attitudinele antecedenten bestuderen, voegen we verder intenties toe. We verwachten dat die variabele de impact van attitudinele antecedenten op gedrag volledig zal mediëren.

Wat betreft het verschil in resultaten naargelang het type gedrag dat als afhankelijke variabele wordt gekozen, tonen de resultaten uit ons onderzoek duidelijk aan dat modellen met dezelfde antecedenten en uiteenlopende afhankelijke variabelen tot verschillende conclusies leiden. Dat geldt niet alleen voor het model met direct mail inspanningen, maar ook voor de attitudinele modellen. Wat betreft de rol van intenties kunnen we bevestigen dat intenties inderdaad de impact van zowel relatiekwaliteit als van de theory of planned behaviour constructen op gedrag volledig mediëren. De gedeelde variantie tussen intenties en gedrag is evenwel laag, wat op zich niet verwonderlijk is, gezien de gescheiden oorsprong van de metingen, en gezien resultaat uit voorgaand vergelijkbaar onderzoek.

Algemeen kunnen we stellen dat dit onderzoek voortbouwt op bestaande literatuur om een nieuwe benadering voor te stellen van zowel attitudinele antecedenten als direct mail inspanningen. Verder bevestigt het de mediërende rol van intenties, en toont het relevante interactie-effecten aan van klantenkenmerken met de antecedenten van de uiteenlopende modellen.

De empirische resultaten beantwoorden een aantal onbeantwoorde kernvragen in het domein van de klant-bedrijf relatie. Direct mail heeft een impact op gedrag, ook wanneer rekening gehouden wordt met gedrag uit verleden, theory of planned behaviour is een bruikbaar alternatief voor het relatiekwaliteitsmodel, en klantenkenmerken modereren de impact van zowel direct mail als relatiekwaliteit op koopintenties en/of koopgedrag. Om onze bevindingen met zekerheid te kunnen veralgemenen, moet ons onderzoek eerst in andere contexten worden herhaald.

Onze resultaten hebben ook een aantal implicaties voor marketing management. Zo zal de effectiviteit van een promotionele zowel als relationele direct mail campagne stijgen naarmate het bedrijf rekening houdt met zinvolle klantenkenmerken die de impact van de campagne kunnen modereren. Klantenheterogeniteit die gebaseerd is op database gegevens (relatiesterkte) zowel als op enquêtes (prijsbewustzijn, attitudinele/normatieve controle) kan niet alleen de direct mail benadering
efficënter maken, maar ook een beter begrip van attitudinele antecedenten mogelijk maken. Theory of planned behaviour constructen kunnen een alternatief zijn voor klassiek satisfactie-onderzoek. De keuze van de doelstelling van een strategie of onderzoek heeft een belangrijke impact op de resultaten, aangezien het beïnvloeden of verklaren van gedrag in termen van aankoop/geen aankoop dan wel van meer gedetailleerde gedragsindicatoren anders verloopt.
Summary

Both theory and practice suggest that loyal customers are among the most profitable assets of any firm. We briefly introduce some of the key reasons why customer loyalty is so important. Indeed, by the nature of the relationship loyal customers develop regarding the focal provider they generate extra turnover and free positive publicity for the company. Extra turnover results from serving loyal customers in a more cost-effective way as well as from their reduced price sensitivity. Free publicity is the result of the positive word-of-mouth loyal customers spread, which in turn generates extra business. The importance of loyal customers in today’s marketing environment fuels a continuous flow of academic research, aimed at understanding, predicting, or effectively influencing the customers’ behaviour.

The present research combines insights from various types of existing research into an integrative approach based on behavioural information, direct mail efforts information and survey based data for a sample of customers from a Belgian apparel retailer. By the combination of data from different sources, we further our understanding of the dynamics of the customer-firm relationship under study. Moreover, as the data was gathered at subsequent moments, the causality of the relationships we study is less questionable than it would be in the case of a purely cross-sectional approach.

Three major questions are addressed: do different types of direct mail efforts have a differential impact on behaviour, do attitudinal models predict buying behaviour, do both the attitudinal models and the direct mail efforts model predict behaviour above and beyond the effects of past behaviour?

The major findings of the present research largely confirm the expected effects. As far as the direct mail efforts model is concerned, impact of these efforts above and beyond the impact of past behaviour was present. The relative impact of different types of direct mail efforts shows some unexpected results, which confirms that context effects play an important role. In our context, studying an apparel retailer relying heavily on relational direct mail efforts, relational efforts outperform promotional efforts. The stockpiling like effect of past promotional efforts is partially confirmed, and the long term effects of relational direct mail turn out to be positive.
As far as attitudinal models are concerned, effects are present above and beyond the effects of past behaviour. Comparison of the generally used relationship quality antecedents (trust, commitment, and relationship satisfaction) with the theory of planned behaviour antecedents (attitude towards the behaviour, subjective norm, and perceived behavioural control), shows that using the theory of planned behaviour to predict loyal behaviour is a sound alternative to the relationship quality model, although it is uncommon in the customer-firm relationship context.

The fourth major issue addressed in this dissertation is customer heterogeneity. Indeed, puzzling results from existing research in these domains of both attitudinal and direct mail efforts antecedents to loyal behaviour have been largely attributed to the homogeneity among customers that is implicitly understood in a model treating all customers equally. Hence the introduction of customer heterogeneity has been repeatedly suggested as an avenue for further research. First insights have been gained in both attitudinal and marketing efforts' contexts that we expand to new context salient customer characteristics.

We show that the relational strength of customers influences the impact of direct mail efforts as well as the explanatory power of attitudinal models. Furthermore, price consciousness levels of the customers alter the impact of direct mail efforts, while price-quality schema does not have the expected moderating impact. Influence of personal sources in which the customers have confidence could not be traced either. The tendency to search for alternatives previous to purchase does not alter the impact of attitudes on behaviour, while the type of control customers are under does (attitudinal versus normative control).

Existing research largely shows that the outcome variable under study varies. Indeed, while some academics report effects on intentions as an outcome variable, others use purchase incidence or purchase behaviour, be it based on database information or on self-reported measures. As it is likely that the choice of the outcome variable impacts the findings, we choose to model both purchase incidence and three types of purchase behaviour as the final outcome variable throughout all the models in our study. When studying the impact of attitudinal antecedents, we further add behavioural intentions to the models, and expect it to fully mediate the impact of the attitudinal antecedents on behavioural loyalty.
Regarding the potential differences between types of purchase behaviour, our results clearly show that with equal antecedents and different outcome variables conclusions vary. This is not only the case with the direct mail efforts models, but also in the attitudinal models. Regarding the fully mediating role of intentions, we find that intentions do indeed mediate the impact of both relationship quality and theory of planned behaviour antecedents on behaviour. However, as can be expected based on previous findings and based on the fact that the intentions and behaviour variables stem from different information sources, shared variance between intentions and behaviour is low.

Overall the present study builds extensively on existing literature to suggest a new approach to both attitudinal and direct mail efforts as antecedents to loyal behaviour. It further confirms the mediating role of intentions, and shows interesting interaction effects of customer characteristics with the models’ antecedents.

The empirical results provide the researchers in the field of customer-firm relationships with answers to major questions in the field that remained undisclosed so far. Direct mail impact is present above and beyond the effects of past behaviour, theory of planned behaviour antecedents are a sound alternative to relationship quality to predict intentions and buying behaviour, and customer characteristics moderate the impact of direct mail efforts as well as relationship quality antecedents on buying intentions and buying behaviour. Replicating our empirical research in other contexts than apparel retailing is a challenge for future research, and will deliver the evidence of generalizability that is limited given the single context we worked with.

Furthermore, the results of our research can be directly translated into managerial implications. Take customer characteristics into account when targeting the customers with promotional or relational direct mail enhances the effectiveness of the marketing strategy. Accounting for customer heterogeneity based on database (relational strength) or survey information (price related attitudes, measuring attitudinal versus normative control) can enhance the effectiveness of the marketing strategy of the retailer and the understanding of the dynamics of attitudinal models such as the relationship quality model in predicting buying intentions and behaviour. Both relationship quality and theory of planned behaviour items can predict intentions and buying behaviour. Modelling both purchase incidence and purchase behaviour results in different findings, thus the choice of the desired outcome shapes the results that can be found.
I Introduction: Why study customer loyalty
(i) Relevance of the topic

Along with a shift from transaction tactics toward relational tactics in the business world, research is increasingly focusing on perceptions of the customer-firm relationship (Rust et al., 2004). Marketing also shifts away from brands towards customers as the focal object of research (Leeflang and Wittink, 2000). Amidst these shifts, customer loyalty is an important construct for all marketers who wish to develop relationships with customers and hence increase business and customer retention (Kumar and Shah, 2004). The vast body of research on loyalty and related topics proves the ongoing interest of both academics and practitioners for it.

The interest for the topic is due to the firm belief in the profitability of loyal customers, as posited by Reichheld (1996). Firms that succeed in selecting those customers with whom they can develop long-term relations achieve a situation where each customer directly or indirectly contributes positively to the firm's expected profits. Recent research continues to confirm the importance of loyal customers to the bottom line. Indeed, Reichheld, Markey, and Hopton (2000) show customer loyalty to be one of the fundamental drivers of company profitability. Gupta, Lehmann and Stuart (2004) calculated that a 1% improvement in retention improves firm value by 5%, while a 1% improvement in margin or customer acquisition cost will only result in a 1% raise of firm value. Furthermore, Gremler and Brown (1999) show that loyal customers originate a ripple effect, that generates additional turnover for the firm. Thus, the financial impact of serving loyal customers at a lower cost is further enhanced not only through the servicing of less price-sensitive customers, but also through the free publicity the loyal customers make for the firm among their friends and families. Academic research has been conducted and is still ongoing, in an effort to uncover the dynamics within the loyalty effect.

Important insights have been collected, but some areas remain undisclosed. Previous research focussed on the thorough understanding of the customer-firm relationship through concepts such as relationship quality, trust, commitment and satisfaction, on the prediction of future behaviour through past behaviour, or on the influence of marketing efforts on future behaviour of the customer. In all three domains, addition of customer heterogeneity to the research models has often been suggested as an important avenue for further research. Moreover, little research has been conducted aimed at discovering the impact of attitudinal or marketing efforts antecedents in combination with past behaviour antecedents.

In our approach, we take the customer focus one step further, accounting as much as possible for customer heterogeneity. Furthermore, we combine both behavioural and direct mail efforts.
information from a customer database with questionnaire based information, in order to gain new insights in the explanatory power of different kinds of information sources for the future behaviour of the customer.

(ii) Research questions

The objectives of our research are built around four research areas: understanding behaviour, predicting behaviour, influencing behaviour, and customer heterogeneity. Four major questions are addressed: do different types of direct mail efforts have a differential impact on behaviour, do attitudinal models predict buying behaviour, do both the attitudinal models and the direct mail efforts model predict behaviour above and beyond the effects of past behaviour, and does the introduction of customer heterogeneity to the models significantly add to our understanding of the dynamics?

While research so far has been concentrating on either one of these four areas, we suggest that it is in the combination of these conceptual models that we gain more in depth understanding of the customer's loyalty. As the combination of these elements introduces a new approach, we choose to study models that combine certain elements, but not all of them. Thus we gain a stepwise understanding of the additional value of each aspect. Eventually this approach may lead to an overall model encompassing all suggested antecedents. However, this is beyond the scope of the present dissertation.

Thus we identify the following research questions:

Chapter IV: Do promotional and relational direct mail efforts have a differential impact on behaviour? Is that impact present above and beyond the effects of past behaviour? Is that impact different in the long and in the short run? Is that impact moderated by customer characteristics?

Chapter V: Is the impact of relationship quality on buying behaviour fully mediated through intentions? Do customer characteristics moderate the impact of relationship quality on intentions? Do they moderate the impact of intentions on behaviour?

Chapter VI: Does the relationship quality model outperform the theory of planned behaviour in predicting intentions and buying behaviour? Is their impact fully mediated through intentions?

(iii) Overview of the studies

We conducted an empirical research that generated both survey based and behavioural as well as direct mail information on a sample of customers from a Belgian apparel retailer. Information given by the respondents to our survey provided us with the unique link of respondents of the survey to customers in the database. The link enabled us to combine survey based information with data based information for a sample of over 600 customers. This wealth of information resulted in three distinct
studies, each emphasizing specific aspects of the Theoretical framework discussed in Chapter II (p 27 to 60) and building on the methodology discussed in Chapter III (p 61 to 86).

We complete findings from existing research lacking the measures for real behaviour in the customer-firm relationship domain by the integration of database information with survey information. The studies presented here take past behaviour into account, and assess the impact of direct mail (Chapter IV) and relationship quality respectively theory of planned behaviour (Chapter VI) above and beyond the effects of past behaviour. Furthermore, all three studies (Chapter IV through VI) have purchase behaviour as measured through the customer database as outcome variable. As discussed in the Theoretical framework (Chapter II, § iii, p 55 to 56), this outcome behaviour often is absent from customer-firm relationship research. The absence of a measure for true behaviour has been indicated as the most difficult to document, because of the methodological implications. The outcome behaviour can further be approached as a purchase incidence or a purchase behaviour model, with a dichotomous outcome variable for the first and several continuous outcome variables for the latter. The importance of taking both types of outcome variables into account described in the Theoretical framework (Chapter II, § iii, p 55 to 56) is translated into an approach where each of the three studies encompass both a purchase incidence and purchase behaviour models.

We better predict behaviour, based on a combination of both promotional and relational direct mail efforts, by additionally assessing the impact of those efforts above and beyond the impact of past behaviour. In Chapter IV, we study the impact of short versus long term relational versus promotional direct mail efforts on the behaviour.

We assess the impact of individual differences between customers on the attitudinal model and the direct mail efforts model based on either behavioural or attitudinal customer characteristics, more specifically the impact of relational strength, personal source confidence, price related attitudes, non-search purchase tendency, and attitudinal versus normative control. In Chapter IV we analyse the moderating impact of price related attitudes, personal source confidence scales and relational strength on the relationship between these direct mail antecedents and purchase behaviour. In Chapter V we study the moderating impact of relational strength, non-search purchase tendency and attitudinal versus normative control on the relationship quality model in predicting both purchase intentions and purchasing behaviour.

We further the understanding of the customer-firm relationship through attitudinal antecedents both from the relationship quality and the theory of planned behaviour line of research, by taking the research one step further, namely from purchasing intentions to purchasing behaviour. In Chapter VI, we compare the explanatory power of relationship quality with the theory of planned behaviour antecedents on behavioural intentions and purchasing behaviour, and assess the impact of these
attitudinal antecedents above and beyond the impact of past behaviour. The mediating role of intentions is extensively assessed.

(iv) Main contributions to loyalty research

The originality of the present research lies in four main topics:

The study combines behavioural data with survey data and direct mail data

Objectively measured direct mail efforts are combined with past behaviour to assess their true impact on future behaviour

Customer characteristics are introduced to account for the heterogeneity of the customers and hence enhance our understanding of the loyalty relationship, both in the direct mail efforts model and the relationship quality model

The effectiveness of the generally accepted relationship quality antecedents are tested against the more general approach of the theory of planned behaviour

This approach results in new insights in the domains of understanding, predicting and influencing behaviour, as well as in the interaction effects of customer characteristics within these three domains. The insights are discussed in detail per chapter (Chapter IV, Chapter V, and Chapter VI), and synthesized around the general research themes within the General Conclusions (Chapter VII).
II Theoretical framework
(i) What exactly is customer loyalty?

The importance of loyalty to marketing practice has fuelled an important body of academic research. However, the concept of loyalty is so vast, that it results in an extremely wide range of operationalizations.

Academics have used the term ‘loyalty’ to indicate concepts as diverse as:

- (re)purchase intentions (Anderson, Fornell, and Lehmann, 1994; Chiou, Droge, and Harvanich, 2002; Cronin and Taylor, 1992; Crosby and Stephens, 1987; Doney and Cannon, 1997; Garbarino and Johnson, 1999; Gremler and Gwinner, 2000; Hennig-Thurau, Gwinner, and Gremler, 2002; Jones, Mothersbaugh, and Beatty, 2000; Sirdesmukh, Singh, and Sabol, 2002; Zeithaml, Parasuraman, and Berry, 1996),
- word-of-mouth intentions or advocacy (Chiou, Droge, and Harvanich, 2002; Fullerton and Taylor, 2002; Gremler and Gwinner, 2000; Harrison-Walker, 2001; Hennig-Thurau, Gwinner, and Gremler, 2002; Mittal, Kumar, and Tsiros, 1999; Sirdesmukh, Singh, and Sabol, 2002),
- self reported loyal behaviour (De Wulf, Odekerken-Schröder, and Iacobucci, 2001),
- current behaviour (Doney and Cannon, 1997),
- switching intentions (Fullerton and Taylor, 2002),
- willingness to pay more (Fullerton and Taylor, 2002),
- commitment (Shankar, Smith, and Rangaswamy, 2003),
- a combination of attitude and self-reported behaviour (Ganesh, Arnold, and Reynolds, 2000; Homburg and Giering, 2001),
- self-reported share-of-purchase and share-of-visit (Mägi, 2003), and
- share-of-wallet (Sirdesmukh, Singh, and Sabol, 2002).

Far from pretending to give an exhaustive overview of all operationalizations of loyalty, this list only suggests how diverse the interpretation of the term has been in past research. In Appendix 6, Table II.1, the reader will find a broader overview of customer loyalty conceptualizations, the operationalizations used, and the empirical findings of the research. A clear definition of the concept at the start of a research on loyalty is therefore paramount.

In their effort of presenting a framework of customer loyalty, Dick and Basu (1994) achieved an important goal by suggesting an approach that integrates most of the operationalizations listed above. At the core, we find the customer’s attitude and repeat patronage as two separate constructs that build the loyalty relationship. Whereas the customer’s attitude is considered to have cognitive, affective and conative antecedents, repeat patronage or behavioural loyalty derives directly from a
loyal attitude. However, the authors stress that research results tend to indicate there is no straightforward relationship between a customer's attitude and repeat patronage. Low attitude can be combined with high patronage behaviour, high attitude with low patronage behaviour, and both attitude and repeat patronage can be found high or low. These four possible combinations result in four quadrants, that reflect four types of loyalty: true loyalty (high attitude combined with high patronage behaviour), latent loyalty (high attitude with low patronage behaviour), spurious loyalty (low attitude with high patronage behaviour), and disloyalty (low attitude with low patronage behaviour). Thus, the repeat patronage behaviour of different customers within a company's customer base is not a mere function of their attitude. As Dick and Basu (1994) suggest, customers differ in their type of loyalty relationship, and it is likely that customer characteristics help the researcher understand how the loyalty relationship differs from one customer to another.

Considering that the integrative approach of Dick and Basu (1994) suggests loyalty as a general term refers to both attitudinal and behavioural elements, we refine the outcome variable in our approach to behavioural loyalty. We will refer to the general line of research that intends to reveal antecedents of behavioural loyalty as 'customer-firm relationship research'. In the following paragraphs, we base an extensive discussion of possible antecedents of behavioural loyalty on the consumer decision process of Blackwell, Miniard, and Engel (2001) and identify areas that remain under-researched.

(ii) Conceptual framework

The consumer decision model described by Blackwell, Miniard, and Engel (2001) gives a detailed description of the internal processes the consumer experiences when planning, making and evaluating a purchase. It is also a model that offers an integrated approach of the cross-sectional, measurable context of that purchase: Stimuli and individual differences. Stimuli are considered to be both marketer-dominated and non-marketer dominated sources of information. With marketer-dominated stimuli, the authors refer specifically to "anything the supplier does for purposes of information and persuasion" (Blackwell, Miniard, and Engel, 2001; p74). Individual determinants of consumer behaviour cover a wide range of characteristics of the consumer, that are salient to his purchasing behaviour, such as demographics, psychographics, motivation, knowledge, attitudes, etc. (Blackwell, Miniard, and Engel, 2001; p184). We redraw the consumer decision process model with special attention for these two elements (see Figure II.1).
Figure II.1: External influences on the consumer decision process model.

At the core of the model, we find the purchase event (see Fig II.1, 0 ‘Purchase event’). Indeed customer-firm relationship marketing research has a threefold aim: understand, predict, and influence customer behaviour effectively.

The major lines of research that intend to result in a better understanding of the dynamics of the customer-firm relationship and consumer behaviour are the satisfaction-profit chain and the theory of planned behaviour. These models refer to individual differences that shape the purchase event (see Fig II.1, the direct impact of 3a ‘Individual differences, Attitudes’ on 0 ‘Purchase event’).  

However, understanding the behaviour or at least behavioural intentions does not necessarily result in accurate prediction of behaviour. The best predictive results are obtained by research that taps into the past behaviour of the consumers (see Fig II.1, 1 ‘Past purchase behaviour’).

Beyond understanding and predicting behaviour, a vast body of research tries to unfold the effects of marketer driven stimuli on subsequent customer behaviour. This research tries to identify effective

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1 Although in applied customer behaviour research attitudes such as relationship quality are commonly introduced as antecedents and customer heterogeneity is considered to moderate the relationships between antecedents and outcome variables, this methodological distinction is less strictly reflected in the model by Blackwell, Miniard, and Engel (2001). In our method (Chapter III) we do apply the usual approach.
ways of influencing behaviour, by the means of stimuli (see Fig II.1, the direct impact of 2 'Stimuli' on 0 'Purchase event').

In both the context of understanding and influencing consumer behaviour, taking customer heterogeneity into account enhances our understanding of the customer-firm relationship. It is done by the introduction of individual characteristics into models on the understanding and the influencing of behaviour (see Fig II.1, moderating impact of 3b 'Individual differences, customer characteristics' on the relationship between 3a 'Individual differences, attitudes' and 0 'Purchase event' and on the relationship between 2 'Stimuli' and 0 'Purchase event').

In the following paragraphs we discuss the findings from existing research in the foregoing areas (understanding, predicting, and influencing behaviour, and customer heterogeneity), and identify areas of research that remain under researched.

1) Understanding behaviour

Attitudes towards the purchasing behaviour and towards the provider are customer characteristics that are believed to shape the subsequent purchase. We discuss two important lines of research. First, the satisfaction-profit research line, that suggests satisfied customers build more positive intentions towards the provider, and will thus purchase more from the company. Second, the theory of planned behaviour line, that suggests consumers who have built positive intentions towards a given behaviour based on positive attitudes towards this behaviour are more likely to perform it.

i) The satisfaction-profit chain

The satisfaction-profit chain of effects states that service quality leads to specific consumer attitudes such as satisfaction, commitment, and trust, which in turn result in behavioural intentions that are believed to result in a specific, profit yielding behaviour (Anderson and Mittal, 2000). The generally accepted explanation for this effect resides in the idea that high levels of relationship quality result in accordingly high levels of purchasing behaviour (Reichheld, 1996). The increased profitability firms achieve when retaining customers is believed to result from higher spending by the existing customers, positive word-of-mouth, and a customer base that is easier to satisfy (Bolton, 1998; Rust, Zahorik, and Keiningham, 1995).

Research in the domain of the satisfaction-profit chain is generally aimed at understanding repetitive buying behaviour. A wide variety of models has been used in the context of the satisfaction-profit chain to suggest how the building blocks interrelate (For an overview of recent research in the satisfaction-profit chain line of research, we refer to Appendix 6, Table II.2).

Some models concentrate on a specific aspect of the chain. The parsimony of those yields focussed results. Homburg, Koschate, and Hoyer (2005), for instance, show that satisfaction does indeed lead
to willingness to pay a price premium. Morgan and Hunt (1994) show that the impact of commitment and trust specifically on propensity to leave and uncertainty is present in a business-to-business context. Verhoef, Franses, and Hoekstra (2002) investigate the impact of all three relationship quality antecedents on customer referrals and number of services purchased. They largely confirm the impact of trust, affective commitment and relationship satisfaction on customer referrals (self-reported), while only affective commitment has a significant direct impact on the number of services purchased (a variable based on the customer database). Thus the relationship of the antecedents to the outcome variables is more easily traced with questionnaire based variables than it is with database variables. No intentions measure was taken into account. Other models strive to be more comprehensive, generally by incorporating a range of concepts that extends previous approaches, thus enhancing our understanding of the whole picture. Bloemer, de Ruyter, and Wetzels (1998), for instance, investigate the impact of specific service quality items on word-of-mouth, purchase intentions, prices sensitiveness, and complaining behaviour in four different industries. They show that in each industry the impact of the service quality dimensions are different. Reliability, for instance, has no impact on the outcome variables in the fast food and health care industry, while it impacts both word-of-mouth and purchase intentions in the supermarket industry and only purchase intentions in the entertainment industry. Sirohi, McLaughlin, and Wittink (1998) investigate the impact of perceived value of the store, service quality, perceived value of the competitor, sales promotion perceptions, perceived relative price, and perceived value for money on store loyalty in the supermarket industry. They find that store loyalty intentions build primarily on perceived value, which directly or indirectly results from merchandise quality perceptions, service quality, sales promotions perceptions and perceived relative price.

Based on this extensive literature, integrative approaches emerged that intend to combine findings from apparently opposed research lines into a single model. We discuss two integrative approaches, one at the level of determinants of service quality (Brady and Cronin, 2001), and one at the level of the attitudinal variables reflecting the customers' attitude towards the provider, more specifically relationship quality (De Wulf, Odekerken-Schröder, and Iacobucci, 2001).

The hierarchical approach of perceived service quality suggested by Brady and Cronin (2001) reconciles the Nordic model, the service quality model, the three-component model, and the multilevel model. The Nordic model (Grönnroos, 1984) introduces the idea that perceived service quality builds on the comparison between perceived and expected service. This comparison is based on two dimensions of service: functional service quality (how the service is delivered) and technical service quality (the outcome of the service act). With the three component model, the basic idea of functional and technical aspects of the service is expanded with the service environment. (Rust and Oliver, 1994) The service quality model extended this conceptualization to five underlying
dimensions of perceived and expected service quality, namely reliability, responsiveness, empathy, assurances, and tangibles (Parasuraman, Zeithaml, and Berry, 1988). Finally, Dabholkar, Thorpe, and Rentz (1996) have suggested that retail service quality is a higher order construct that builds on both primary and secondary dimensions, based on the rationale that a multilevel model better represents the complexity of human perception. Brady and Cronin (2001) have identified these secondary dimensions through qualitative research. They suggest and test the applicability of a model comprising three dimensions of service quality, namely interaction quality, physical environment, and outcome quality. These dimensions refer to the three component model as well as the Nordic model. Each service dimension comprises three sub-dimensions. Interaction quality is built up of attitude, behaviour, and expertise. Physical environment is built up of ambient conditions, design, and social factors. Outcome quality is built up of waiting time, tangibles, and valence. Each of these nine sub-dimensions is in turn measured by three items that reflect reliability, responsiveness, and empathy. Thus the dimensions of the service quality model are all five represented in the hierarchical model suggested by Brady and Cronin (2001), be it at the level of construct or through the phrasing of specific items. Empirical research in four domains, namely fast food, photograph developing, amusement parks, and dry cleaning, largely confirm the hypothesized model with good fit statistics.

Another interesting example of an integrative model is the quite recent approach of attitudinal antecedents of behaviour(al intentions) as a higher order construct, relationship quality, encompassing trust, commitment and satisfaction (De Wulf, Odekerken-Schröder, and Iacobucci, 2001). In an effort to uncover the dynamics behind the customer’s behaviour academics have suggested and proven that detailed analysis of the impact of relationship quality antecedents such as trust (defined by Morgan and Hunt as the confidence in the exchange partner’s reliability and integrity (Morgan and Hunt, 1994), see f.i. Morgan and Hunt, 1994), commitment (defined by Moorman, Zaltman & Deshpande (1992) as an enduring desire to maintain a valued relationship, see also f.i. Pritchard, Harvitz, and Howard (1999)), and satisfaction (defined by Anderson, Fornell, and Lehmann (1994) as an overall evaluation based on the total purchase and consumption experience with a good or service over time; see also f.i. Zeithaml, Berry, and Parasuraman, (1996)) on the customer’s subsequent behaviour(al intentions) yields interesting results. Several authors have discussed the interrelationship of trust, commitment, and/or satisfaction or combined all three attitudinal antecedents in order to better predict behaviour(al intentions) (e.g. Agustin and Singh, 2005; Bloemer and Odekerken-Schröder, 2002; Garbarino and Johnson, 1999; Morgan and Hunt, 1994; Verhoef, 2003; Verhoef, Franses, and Hoekstra, 2002). The integrative approach of all three attitudinal antecedents into one higher order construct has been described as a meta-construct composed of several key components reflecting the overall nature of relationships between companies and consumers (Hennig-Thurau, Gwinner, and Gremler, 2002). Relationship quality, defined by De Wulf, Odekerken-Schröder, and Iacobucci (2001)
as an overall assessment of the strength of a relationship, proves to be an effective way of reflecting the level of relationalism of the customer. It also circumvents the barrier of conceptual confusion that seems to exist in the respondent’s mind regarding trust versus commitment versus satisfaction (De Wulf, Odekerken-Schröder, and Iacobucci, 2001). Although the separate approach of the three building blocks (trust, commitment, and satisfaction) has also shown to yield interesting insights, the central aim of our research calls for an integrated approach in a first phase. Further decomposition of the effects lies beyond the scope of the present research.

Generally speaking, research does confirm the intuitive impact of attitudinal antecedents of the relationship quality type on behavioural intentions. However, as the findings do not evidently translate in objectively measured behaviour and profitability, the usefulness of the satisfaction-profit chain as a model to predict real behaviour has been questioned. In the US automobile sector, for instance, 90% of the customers indicate to be satisfied, yet only 40% repurchase the same brand of car (Reichheld, 1996). Recent research indicates that the intuitive impact of relationship quality on real behaviour does indeed exist, but that it requires an approach where the variability of the purchase context is taken into account. This variability is believed to originate both at the individual level and at the environmental level. For example, the moderating impact of confidence on the linkage between expectations and satisfaction has been investigated (Spreng and Page, 1997), as well as the moderating impact of closeness of the customer-firm relationship (Goodman, Fichman, Lerch, and Snyder, 1995). Furthermore, contextual factors are believed to determine whether or not trust impacts outcome variables (Singh and Sirdeshmukh, 2000), and purchasing in an on- or off-line environment has proven to alter the impact of satisfaction on the expressed degree of loyalty to the service provider. Type of industry has repeatedly been indicated as an important element in shaping the impact of service quality effects on behavioural intentions (Bloemer, de Ruyter, and Wetzel, 1998; Seiders, Voss, Grewal, and Godfrey, 2005).

As the aim of our study is to better understand objectively measured behaviour, we concentrate on the impact of relationship quality as a higher order construct on intentions, and the mediating role these intentions play in predicting real behaviour. This approach counters a major problem with satisfaction research as such: That it is conducted as a goal in itself, apart from the behaviour it is intended to foster (Reichheld, 1996). The introduction of database consumer behaviour along with several customer characteristics, and the special attention for the mediating role of intentions between attitudinal antecedents and real behaviour is a new step in understanding the customer-firm relationship. Chapter V presents a detailed discussion of the impact of relationship quality on intentions and behaviour (Figure II.2).
ii) The theory of planned behaviour

Another widely accepted model used to understand consumer behaviour is the theory of planned behaviour (Ajzen, 1991; Ajzen, 2002; Armitage and Conner, 2001; Ouelette and Wood, 1998). It builds on the rationale that attitude towards the behaviour along with the impact of relevant reference people (referred to as subjective norm) and the perceived control a customer has over the behaviour under study (referred to as perceived behavioural control), results in the formation of a certain intention, which in turn results in a given behaviour (Ajzen, 1991; Ajzen, 2002) (see Fig. II.3). The meta-analysis by Armitage and Conner (2001) shows the effectiveness of the approach in a wide variety of contexts.

The theory of planned behaviour was introduced by Ajzen (1985) as an enhanced version of the theory of reasoned action. He extended it with an additional antecedent variable, perceived behavioural control (PBC). Thus measuring attitudes, intentions, and behaviour under circumstances beyond pure volitional control was made possible. It has proven to be an actionable framework for marketers to influence behaviour (Bansal and Taylor, 1999; Fortin, 2000; Gauff, 1992; Liao, Shao, Wang, and Chen, 1999; Taylor and Todd, 1995).

Each attitudinal antecedents is believed to shape the intentional construct differently. Relative impact of each antecedent is context specific. In the context of purchasing genetically modified goods, for instance, Cook, Kerr, and Moore (2002) show that attitude towards the behaviour has the highest impact on intentions, followed by perceived behavioural control. Subjective norm is a significant predictor variable too, but its impact is much smaller. In the context of mortgage, Bansal and Taylor (2002) prove that switching service provider is significantly predicted by intentions to switch, which in turn build on attitude towards the behaviour, followed by subjective norm and perceived behavioural control. In a comparison of the health and the exercise domain, for instance, Finlay, Trafimow, and Villareal (2002) have shown that the impact of subjective norm is much higher in the health domain than it is in the exercise domain.

The theory of planned behaviour has some recognized limitations, however (Bagozzi, 1992, Eagly and Chaiken, 1993). In the relationship marketing context specifically, it has been suggested and tested whether the antecedent variables of the theory of planned behaviour interact with each other. Bansal and Taylor (2000) have proven that interactions between PBC and intentions on behaviour,
and between PBC and attitude on intentions, exist in the context of predicting mortgage renewal with the current service provider. Although Eagly and Chaiken (1993) suggested that interactions are expected to play a role in the circumstance of negatively evaluated behaviour, this result contradicts their theoretical expectation. Thus assessing interaction effects within the theory of planned behaviour should be part of further research, in order to document possible interaction effects, even in the context of positively evaluated behaviour.

Although the theory of planned behaviour has been used in a customer-firm relationship context (Bennett and Rundle-Thiele, 2002), it is generally applied to a newly introduced behaviour, whereas the relationship quality constructs, as described above, concentrate on repetitive buying contexts. Previous comparative research between specific models and the generalizing approach of the theory of planned behaviour tends to conclude in favour of the latter. A comparison between theory of planned behaviour and relationship quality constructs should give a first indicative answer about the comparative performance of both models in the specific context of repetitive buying.

Furthermore, although both the satisfaction-profit chain approach and the theory of planned behaviour approach inherently posit that intentions mediate the linkage between the attitudinal antecedents and real behaviour, to the best of our knowledge there is no research that combines survey and database information with the aim of tracking this role of intentions. Bagozzi, Baumgartner and Yi (1989) explicitly addressed the mediating role of intentions in a series of studies based on self-reported behaviour. They confirm that properly measured intentions can indeed fully mediate the impact of attitudinal antecedents on behaviour. Although direct impacts of separate relationship quality constructs have been suggested to directly impact behaviour, we do not model these constructs separately. Hence the strongest theoretical and empirical reference we can build on, is the study by Bagozzi, Baumgartner, and Yi (1989), and we accordingly hypothesize the intentions construct to fully mediate the effects of the relationship quality antecedents on behaviour. We take the research one step further, and introduce customer database measurement of the behaviour. Recently, Seiders, Voss, Grewal, and Godfrey (2005) used both intentions and real behaviour in models assessing the impact of satisfaction as an antecedent, but they modelled both variables as outcome variables in separate models. We suggest investigating whether intentions truly play a mediating role, both in the context of the satisfaction-profit chain and in the context of the theory of planned behaviour. The mediating role of intentions is studied in Chapter V and VI (Figure II.2, p35 and II.3, p37). The thorough comparison of the relationship quality model (Figure II.2) with the theory of planned behaviour model (Figure II.3) is discussed in Chapter VI.
2) Predicting behaviour

Both in the context of initial and repeat behaviour the consumer’s behaviour anterior to the purchase is believed to shape the subsequent purchase at least partially (Blackwell, Miniard, and Engel, 2001). Conventional wisdom even suggests that the best predictor for future behaviour is past behaviour (Ajzen, 1991; Kumar, Bohling, and Ladda, 2003; Sheeran and Abraham, 2003; Triandis, 1977). On the other hand, as past behaviour and future behaviour are usually measured in the same format, the strong effects from past to future behaviour reported in a number of studies can be partially due to an instrument effect, be it the survey or the database (Thogersen, 2002).

The predictive power acknowledged to past behaviour has been approached explicitly as the impact of habit on future behaviour through multiple processes (Ouellette & Wood, 1998). When customers had ample opportunity to perform a given behaviour frequently in the past, it can be performed automatically. Some authors disagree with the approach of past behaviour’s impact as resulting from habit. Indeed, the impact of past behaviour does not necessarily imply automaticity in the behaviour under study. They suggest that the impact of past behaviour rather accounts for all non-inserted effects in the model that could be e.g. reduced perceived risk, increased certainty, increased salience of preferences, etc. (Thogersen, 2002).

In the context of retail related research, past behaviour has further been approached as a measure for the gravitational attraction of the store and a customer’s preference by Volle (2001). This store location effect on the customer-firm relationship was also indicated by Mulhern (1997) as a crucial element. Hence incorporating past behaviour into customer-firm relationship research is a way of accounting for gravitational and preferential variables not explicitly modelled when the context of the research is a non-contractual retail environment.
Whether resulting from habit, unaccounted antecedents or gravitational attraction, the predictive role of past behaviour is widely confirmed in existing research.

Evidently, incorporating the behaviour of consumers anterior to a purchase event requires that this anterior behaviour be available. Two approaches are possible and have been used: Make the anterior behaviour available by asking respondents about their past behaviour through a questionnaire, or use objectively gathered behavioural data, stored in a database. With the growing number of databases present within companies, objective measures of past behaviour are increasingly introduced into academic research.

Whether the data on past behaviour is collected through questionnaires or from a company’s database, operationalization of the past behaviour construct is a crucial element in the research. Bauer (1988) discusses the application of a model including recency, frequency and monetary value to predict the probability of customers purchasing from the next direct mailing. She defines recency as time since the last purchase, frequency as how often the customer makes a mail order purchase within a specified time period, and monetary value as the dollar sales value of past purchases. She suggests using the indicators in a multiplication, in order to predict future behaviour of the customers of a direct mail company. The aim of her study was not to evaluate the relative impact of the indicators on the future behaviour. This recency, frequency, monetary value approach has been applied extensively to operationalize past behaviour and is known as the RFM-approach.

Research incorporating RFM-variables in a customer-firm relationship model is mostly situated in the database or data mining line of research, often in the context of direct marketing applications. Some authors have limited the RFM-model to a single predictor, more specifically monetary value (Bult and Wittink, 1996; Heiler, Kaefer, and Ramenofsky, 2003) or recency (Reinartz and Kumar, 2000), while others have discarded monetary value and used only recency and frequency (Gönül and Shi, 1998; Van den Poel and Leunis, 2003). Other research reports the use of recency in combination with monetary value as predictor variables (Bult, Van der Scheer, and Wansbeck, 1997; Morwitz and Schmittlein, 1998; Zahavi and Levin, 1997), or frequency in combination with monetary value (Piersma and Jonker, 2004).

The full RFM-model has been extensively used in the direct marketing context (e.g. Bitran and Mondschein, 1996; Kaslow, 1997; Levin and Zahavi, 1998; Magliozzo, 1989; Suh, Noh, and Suh 1999; Van den Poel, 2003). Other contexts have been studied too. Buckinx and Van den Poel (2005), for instance, predict the future probability of (partial) defection based on all behavioural and demographic information on customers present in a FMCG retailer. Behavioural antecedents are interpurchase time, frequency of purchases, and monetary indicators. In another context, past purchase history was not a significant predictor of coupon-usage (Buckinx, Moons, Van den Poel, and Wets, 2004). Elsner, Krafft, and Huchzermeier (2003), however, used an approach where the
segmentation of a direct mail order company's customer base is done primarily on the basis of recency. Frequency and monetary value are used to refine this segmentation. Jonker, Piersma, and Van den Poel (2004) use information on past responses to direct mailing to segment the customer base of a charitable organization, and optimize the profitability of each segment. They also use the three types of antecedents: an indicator for recency of response to direct mailings, an indicator for frequency of response, and an indicator for the monetary value of the response. Viane et al. (2001) found that in the context of repeat-purchase modelling in a direct marketing setting, frequency and monetary value variables largely predict subsequent behaviour, while recency plays a less important role. Whenever all three indicators are available or can be computed based on the database information available, it is thus preferable to model all three indicators, unless existing research has established that a single indicator or a combination of two out of the three is sufficient to reliably predict the behaviour under study in the given context.

Note that the target behaviour under study shapes the operationalization of the RFM-variables. The R, F, and M-values sometimes refer to elements of the direct mailing efforts under study (e.g. Jonker, Piersma, and Van den Poel (2004) in the context of direct mail for a charitable organization). Indeed, in the context of a mail order company, each marketing effort sent out by the company can be directly linked to the purchase behaviour of the customers originated by the mailing. Then recency becomes number of mailings without response since last response of a specific customer, frequency becomes the response percentage to these mailings over a reference period, and monetary value the average monetary value of responses. In the context of predicting (partial) churn of a retailer's customer base, Buckinx and Van den Poel (2005) use variables that directly refer to the behaviour of the customer in the past, not necessarily linked to a direct mail campaign. As their aim is to study churn in general terms, this more generalist approach of the RFM-variables is preferable. When the operationalization of the RFM-variables is conceptually different from the outcome variable, they fail to predict the future variable under study (see e.g. Buckinx, Moons, Van den Poel, and Wets, 2004).

On the other hand, as past and future behaviour are usually measured in the same format, the strong effects from past to future behaviour reported in a number of studies can be partially due to an instrument effect, be it the survey or the database (Thogersen, 2002). Part of the shared variance is a result of comparable measurement levels and scales used. Research building primarily on measures that share levels and scales and indicating high predictive power thus overestimate the effects, while research combining measures that do not share levels and scales might underestimate the power of the model. Formulating exact hypotheses as to the expected effects and bearing in mind the measurement level and scale effects when assessing the effects will result in the most reliable interpretation of the results.
Research based on a company database often uses very large amounts of data which calls for specific techniques, even more so if the aim of the research is to improve the predictive validity of the model under study (Balasubramanian, Gupta, Kamakura, and Wedel, 1998). However, in a multi-source data environment with a limited number of records, and where the aim is not to optimize the predictive validity of a model, but rather grasp the relative impact of distinct antecedents, these specialized techniques are not necessarily the best approach. In other words, the structure and nature of the data as well as the purpose of the analyses evidently influences the choice of analysis techniques.

It is clear that the effects of past behaviour per se have been widely documented in the past. First steps have been taken towards understanding the impact of past behaviour in combination with attitudinal antecedents. Thogersen (2002) shows that accounting for past behaviour in a theory of planned behaviour model increases the understanding of the subsequent behaviour under study substantially. However, we lack understanding of these effects in combination with attitudinal antecedents such as relationship quality or theory of planned behaviour predictors in a customer-firm relationship context. We suggest to investigate how a model behaves that combines both types of indicators, in an effort to refine our understanding of the true impact of both types of indicators. In Chapter IV (see Figure II.4; see paragraph 3 Influencing behaviour for a discussion of the impact of direct mail efforts) we extensively discuss the impact of direct mail efforts above and beyond past behaviour, whereas the impact of attitudinal antecedents such as the relationship quality construct and theory of planned behaviour constructs above and beyond the effects of past behaviour are discussed in Chapter VI (see Figure II.5 and II.6).

Figure II.4: The direct mail efforts model with past behaviour

![Diagram of direct mail efforts model with past behaviour]

Figure II.5: The relationship quality model with past behaviour

![Diagram of relationship quality model with past behaviour]
3) **Influencing behaviour**

During the pre-purchase process, consumers are exposed to several sources of information that can shape their intentions and their actual behaviour. Blackwell, Miniard, and Engel (2001) distinguish two main types of sources of information: marketer dominated and non-marketer dominated sources. Non-marketer dominated sources of information are for instance friends, family, opinion leaders, etc... However, given the severe limitation that objectively measuring non-marketer dominated stimuli is quasi unfeasible, research approaches often come down to building a scale measuring the impact of non-marketer dominated sources as perceived by the respondent of a research. This type of scale is closer to an attitude measure, and relates more to the impact of the non-marketer dominated stimuli on the respondent as a person than to the objective count of stimuli. Therefore, we suggest considering non-marketer dominated stimuli rather as attitudinal measures than as stimuli per se and accordingly discuss them in the section on customer heterogeneity (see paragraph 4, Customer heterogeneity).

Marketer dominated sources of information are defined as "*anything the supplier does for purposes of information and persuasion, such as using advertising, salespersons, infomercials, web sites, and point-of-sales material*" (Blackwell, Miniard, and Engel, 2001, p). Two main lines of research can be identified here: How marketer dominated stimuli work, and if they impact the subsequent behaviour.

As discussing the whole literature on marketer dominated stimuli would take us too far, we choose to limit our discussion to relevant themes in the context of our research, where direct mailings are at the core. We report studies that further our understanding of two main aspects of marketer dominated
stimuli: The impact of the stimulus and the importance of the outcome variable under study. Whenever findings from research in the strict domain of targeted direct mail could benefit from findings in the broader area of marketing efforts in general, we extended our discussion to these references. It is, however, not our aim to extensively discuss the vast literature on all kinds of marketing efforts, ranging from advertising to sales personnel over promotions, point of sales marketing, product trial, internet based marketing, etc.

i) Impact of categories of marketing stimuli
At a more conceptual level, research can also look into the differential effects of certain categories of marketing stimuli. A good example here is the benefit congruency model proposed by Chandon, Wansink, and Laurent (2000). In the non-targeted sales promotions domain, Chandon, Wansink and Laurent (2000) develop a model that compares the hedonic and utilitarian benefits of monetary versus non-monetary promotions. As monetary promotions build more heavily on utilitarian benefits, they show to be more effective when used for utilitarian products. This effect is called the benefit congruency framework. In the same spirit, the fairness of bargains has been studied. Customers expect the bargain they receive from a promotion to be fair, and research has shown that perceived price fairness mediates the relationship from bargain to satisfaction (Darke and Dahl, 2003). Zeelenberg and van Putten (2005) experimentally showed that after having missed a discount on their preferred brand, consumers tend to switch to another brand, especially when the missed opportunity was considerable.

The ideas of consumer goals confirming and going beyond the purely economic have been studied in several settings. On the one hand Burton, Lichtenstein, Netemeyer, and Garretson (1998) show that both the purchasing of products on sale and coupon redemption are negatively correlated with the purchasing of private labels. This indicates that in buying a private label, consumers achieve at least partially the goals they seek in using promotions to lower the prices of their purchases. This indirectly confirms the economic goal of sales promotion: To lower the overall price of the purchases. On the other hand Garretson and Burton (2003) show that the effect of price promotions on consumers goes beyond the mere price advantage. Indeed, compared to an every day low price strategy, the effects of promotions are not the same.

Research considering the purchase context’s influence on the effectiveness and impact of marketing stimuli yields interesting insights. As early as 1978, Jacoby, Chestnut, and Fisher showed that information acquisition relates positively to the product’s importance to the individual, the strategy of the customer when making the purchase (satisfy a need versus looking for the best possible outcome), and past purchase experience. Furthermore, they found a negative relationship between information acquisition and attitudinal brand loyalty. Mano and Elliott (1997) suggested the concept of smart shoppers, and developed a scale to assess how smart a consumer is. They further showed
that depending on the type of purchase under study, the impact of the trait of smart shopping is quite different. Indeed, in the case of a routine purchase, smart shopping does not impact utilitarian evaluation, hedonic evaluation or purchase satisfaction, whereas it significantly does impact all three outcome variables in the case of a smart purchase. Thus the general disposition of a consumer towards his shopping style influences the way in which he scans promotional information on the product to purchase.

Impact of direct (e-)mailings is another topic of research. Volle (2001) showed that direct mailings do influence customer share development in the grocery store industry. Lewis (2004) found a positive impact of e-coupons, in that they increase demand in the current period. Pauwels, Hanssens, and Siddarth (2002) show that price promotions do not affect category incidence or brand choice in a series of food products across different stores. Ehrenberg, Hammond, and Goodhardt (1994) add the finding that promotions in the packaged grocery industry have no after-effect on brand sales or repeat-buying loyalty. Verhoef (2003) reports a study on database information of a financial services company limited to the insurance products of that company. The loyalty program of the company has a positive effect on retention, as well as on customer share. Direct mailings also impact customer share positively. In a comparative study of loyalty programs and promotions of an Internet retailer based on database information, Lewis (2004) showed that the short-term effects of coupons interact with the long-term benefits of the loyalty program rewards. Indeed, as the e-mail coupon directly increases demand in the current period, it also affects the customer's cumulative buying or investment in the reward program. Mela, Gupta and Lehmann (1997) study the differential impact of advertising and promotions, distinguishing between price and non-price promotions. The results of their empirical research on a packaged non food product strongly indicate there is a difference in impact of each marketing tool. Studying the effects of advertising and promotions on brand choice, Jedidi, Mela, and Gupta (1999) show that advertising and promotions have different short-and long-term effects on brand choice in a retail context, more specifically for a non food mature product. Short term promotion effects are positive, long term advertising also has a positive effect, whereas long term promotions have an equally important although negative effect. Bell, Chiang, and Padmanabhan (1999) showed that promotions result in stockpiling like buying behaviour for storable products, which translates into a negative impact of promotions in the past on the current purchase occasion. Studying the effects of price reduction, advertising and promotions on brand choice and purchase quantities for a mature, non food product, Jedidi, Mela, and Gupta (1999) found that advertising elasticity is about ten times smaller than price elasticity, when brand switching is the outcome variable. Almost all of the advertising elasticity effect is on the choice decision of the consumers, which is attributed to the brand building nature of national advertising by the authors. An in depth evaluation of promotion elasticity shows that both depth and frequency of promotions have
a comparable elasticity to price reductions. Long term effects of promotion depth and frequency are consistently negative, and about two fifths of the positive short term effects. In the long run, deep discounts have the lowest overall effect, in spite of the very high response rates they generate. They further confirm the expected low effect of advertising on a mature product in terms of profit, and find that both price cuts and promotions have a negative impact on profits. Their findings refer to brand comparisons in a single product category.

ii) The outcome variable under study

Apparent contradictions in the results of marketing stimuli research is often due to the differences in outcome variables chosen. Part of the literature considers the effects of marketing efforts on attitudinal variables. Laroche et al. (2003) showed that information search influences affect towards three kinds of promotions via cost/benefit estimation. Affect towards each kind of promotion than leads to behavioural intentions. Ehrenberg (2000) showed that there is little scope for persuasive advertising. Advertising's main role is to reinforce feelings of satisfaction for brands already being used, and to remember the brand to the consumer. From his/her reawakened awareness, trial can follow, and then result in the development of a repeat buying habit. As mass media is generally a marketing tool used by competing brands, there is little more to expect as a result than merely stay in business. Smith and Swinyard (1983) compare the effectiveness of advertising and product trial in attitude building. They show that product trial generates attitudes that result in intentions and overt behaviour to a much higher degree than does advertising.

Effects of marketing stimuli on behaviour have been reported at several levels. In a study combining survey information on examining an advertising flyer with purchase information from a grocery retailer’s database, Burton, Lichtenstein, and Netemeyer (1999) show that exposure to the flyer positively influences the number of advertised items purchased, the amount spent on items in ads, and the number of coupons redeemed. Thus they prove that the information scanning behaviour does indeed influence the effectiveness of a flyer advertising sales promotions. Interestingly, a study based on a totally different methodology confirms these findings. Based on infrared counter data, Lam, Vandenbosch, Hulland, and Pearce (2002) show that price promotions and individual promotion elements have a differential impact on e.g. store entry ratio (how many consumers choose to enter the store based on the promotion elements) and average spending (how much did consumers spend during that specific shop visit). For instance, price promotions show to have a positive impact on all but the average spending variable, where it has a negative effect. Thus they show that decomposing the effects of two types of promotions on a series of outcome variables helps better understand how promotions work.
Our main conclusion from the studies described above is that type of purchase and outcome variable under study both influence the findings. Hence, any new investigation will face the choice and challenge of either studying the types of effects detailed here, or keeping them constant in one way or another. We further discuss our approach regarding these elements in the methodology section (Chapter III).

Furthermore, the literature implicitly identifies at least three important dimensions in the study of the impact of marketing efforts: the nature of the marketing effort (promotional versus non-promotional), the timing of the effect (long- versus short-term effects), and the frequency of the marketing tool used. Academics repeatedly suggested the importance of all three dimensions. Leeflang and Wittink (2000) call for research exploring how reward programs and other events influence both current purchases and retention. Burton, Lichtenstein and Netemeyer (1999) suggest that studying the long-term effects of promotional efforts should add to our understanding of their impact.

Finally, targeted communication’s effects above and beyond past behaviour haven’t been extensively studied. Estimating a dichotomous response, Gönlü and Shi (1998) showed that the number of catalogues received in the past significantly added to the prediction of purchase probability from the next catalogue above and beyond the impact of past behaviour, as measured through recency, frequency, and monetary value. This study on a single type of marketing effort, in a single timing of effect, limited to predicting a future incidence and not tracking behaviour more in depth invites us to further investigate the topic.

In Chapter IV, we discuss the differential impact of promotional and relational direct mail efforts above and beyond the effects of past behaviour (see Fig. II.4), thus enhancing our knowledge in the field of comparative studies on direct mail efforts as well as in the field of marketing effectiveness above and beyond the effects of past behaviour.

4) Customer heterogeneity

Both theoretical insights and empirical research from diverse viewpoints in various contexts and disciplines suggest that different purchase occasions lead to different buying behaviour patterns (Blackwell, Miniard and Engel, 2001; Dunn, 1993). Wedel, Kamakura, and Böckenholt (2000) consider that shifting contexts in which purchase decisions were made are directly related to customer heterogeneity. Tracking this heterogeneity can be done in various ways.

A first approach is to study buying behaviour and antecedents impacting that behaviour in a cross-sectional setting by comparing industries, or channels. This approach requires multiple samples. However, theoretically the differences found can (partially) result from differences between the
samples rather than from the model researched. Even a strictly applied methodology will hardly exclude sample-driven variance.

A second approach is a longitudinal research, which avoids the methodological problem of multiple samples. Indeed, heterogeneity can be tested by studying attitudinal or behavioural responses of the same consumers in different contexts, accounting (in a field study) or controlling (in an experiment) for the differences in contexts. The major methodological challenge faced by longitudinal approaches at the data-collection level, is that of keeping the sample constant, and preventing the panel from too high learning effects in answering the questionnaires. Panel data can deliver this type of information, but the dollar and time investments to be made often exclude longitudinal research as an option.

A third approach to model differences between purchase occasions resides in the idea that purchasing a single type of product via a single channel in a single country is still perceived differently from one consumer to another. Seiders, Voss, Grewal, and Godfrey (2005) use this approach to explore the moderating effect of income, convenience, level of industry competition, and involvement on the relationship between satisfaction and spending and on the relationship between satisfaction and repurchase intentions. Customer characteristics that grasp the perceptual differences between customers thus reflect contextual variation, within a single sample. A research model can account for the heterogeneity of contexts between customers studied in a cross-sectional approach, by introducing accountable and salient elements of that heterogeneity. This is in line with the loyalty relationship conceptualization by Dick and Basu (1994). Several authors agree that integrating a customer’s opinions and attitudes to the behavioural database will yield interesting results (Bolton, 1998; Reinartz and Kumar, 2000). Furthermore, Zeithaml (2000) acknowledges that viewing and serving all customers the same is a key reason why the ties within the chain from service quality to profitability have been elusive.

We suggest studying the impact of salient customer heterogeneity through the introduction of moderating variables in a single sample at the cross-sectional level.

In the context of understanding behaviour, recent research confirms the expectation that customer heterogeneity enhances our understanding of the models under study. Both in the context of relationship quality and the theory of planned behaviour, recent research has concentrated on improving the predictive power of the models through the introduction of moderating variables (Homburg and Giering, 2001; Mittal and Kamakura, 2001; Sheeran and Abraham, 2003; Sheeran and Orbell, 2000; Sheeran, Orbell, and Trafimow, 1999; Seiders, Voss, Grewal, Godfrey, 2005). In the relationship quality context, demographics and shopping related variables are most often used, whereas theory of planned behaviour approaches dig deeper into general attitudes of consumers. We investigate the moderating impact of relational strength, non search purchase tendency, and attitudinal versus normative control on the relationship quality model in Chapter V. Introducing past
behaviour as a further antecedent would be interesting based on the literature on past behaviour. However, as we wish to concentrate on the moderating impact of customer characteristics, we choose to introduce past behaviour next to relationship quality at a later stage of the research.

**Figure II.7: The relationship quality model with moderating customer characteristics**

![Diagram](image)

In the context of influencing behaviour, recent research incorporating moderators into models predicting the impact of marketing efforts variables also confirm the theoretical expectations. We investigate the moderating impact of relational strength, price related attitudes, and personal source confidence in Chapter IV (see Fig. II.8).
At the level of individual differences as described by Blackwell, Miniard, and Engel (2001), we have identified a number of customer characteristics that shape the customer's perception of the purchase occasion. The characteristics were identified during an iterative process of literature analysis and focus group discussions (see Chapter III, Method). Although identifying a theoretical framework synthesizing the characteristics to be studied would provide us with the most reliable starting point for variable selection, to the best of our knowledge such a framework is not available yet in the context of the retail shopping experience. Therefore, we relied on the customers' discussion of their shopping and mailing experiences, combined with literature analysis on separate indicators. During this process characteristics were identified and extensively studied that unfortunately led to zero results. They were left out of extensive discussion in an effort to be concise. However, more detailed information is available from the author on these characteristics. Existing research on each specific characteristic suggests how and why each of the characteristics could play a role in distinguishing customers from one another. We discuss each characteristic, and suggest in how far it will impact models that aim primarily at understanding or at influencing behaviour.

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2 The characteristics were: Time pressure, product involvement, purchasing involvement, self scheme, and anticipated regret.
i) Relational strength

Several authors indicate that modelling the past relationship between the customer and the company in some way adds to our understanding, our ability to predict and to influence behaviour (e.g. Bolton, 1998; Conner et al., 2000; Grayson and Ambler, 1999; Kashima et al., 1993; Kumar, Bohling, and Ladda, 2003; Jap and Ganesan, 2000; Mittal and Karichis, 2000; Sheeran, Orbell, and Trafimow, 1999; Verhoef, Franses and Hoekstra, 2002; Vlaene et al., 2001; Weiss and Kurland, 1997). In the majority of the research reported, length of relationship is the variable under study, i.e. the number of days elapsed since the start of the customer-firm relationship. We find examples of the impact of length of relationship in research on attitudinal models built to understand behaviour, on the impact of past behaviour, and on marketing efforts’ effectiveness in influencing behaviour. We first review insights into the effects of length of relationship from past research and then introduce the concept of relational strength, based on the combination of length of the past relationship with regularity of the past relationship.

Length of relationship was used by Rust and Zahorik (1993) to study the satisfaction – intention linkage, while Garbarino and Johnson (2001) showed that trust and commitment affect intentions for loyal customers but not for non-loyals. Yi and La (2004) found that loyals use satisfaction directly in building repurchase intentions in the family restaurant market. As Agustin and Singh suggest (2005) based on a study both in the airline travel and apparel retailing context, managers should invest in trust-building factors for the loyal segment, while investing in satisfaction and value building factors for the non-loyal segment. These effects have been attributed to levels of direct experience (Smith and Swinyard, 1983) and to the learning process (Verhoef, Franses, and Hoekstra, 2002) reflected by the length of the relationship.

Length of relationship has been shown to influence the future purchasing behaviour directly (Buckinx and Van den Poel, 2005; Bult, van der Scheer, and Wansbeek, 1997). Vlaene et al. (2001) found that enhancing a predictive model with an indicator for customer/company interaction improved the predictive validity of a model based on the RFM approach. Bult, van der Scheer, and Wansbeek (1997) have further shown that the length of the relationship of a household with a health care fund raiser strongly influences the behaviour in the future. Interestingly, this variable significantly interacts with all mailing characteristics discussed in their study. Mela, Gupta and Lehmann (1997) study the differential impact of advertising and promotions, distinguishing between price and non-price promotions. The results of their empirical research on a packaged non food product strongly indicate there is a difference in impact of each marketing tool according to the level of loyalty of the customer. Volle (2001) shows that length of relationship is a U-shaped moderator of the promotional efforts on store choice probabilities. Promotional efforts have the highest impact on shoppers with
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an intermediate level of loyalty. This suggests the learning theory does not apply in the same shape to the moderation of marketing efforts as it does to attitudes. Nevertheless, we can conclude that the relationship characteristic of the customer interacts with mailing characteristics in influencing future behaviour.

Studies that incorporate length of relationship as a moderator variable argue that with the length of the relationship the effects of antecedents to purchase intentions or real buying behaviour increase, due to the learning process reflected by the length of the relationship (e.g. Verhoef, Franses, and Hoekstra, 2002). This approach of length of relationship is highly comparable to the knowledge characteristic as described by Blackwell, Engel, and Miniard (2001).

However, in our opinion the length of the relationship is a biased indicator of direct experience and learning process, because it does not inherently reflect comparable frequencies of purchases between customers. Indeed, customers can also differ in the regularity of their relationship to the retailer. We suggest that considering the length of the relationship along with the regularity of that relationship more truthfully reflects the learning process and direct experience of the customers with the provider under study. Customers who have been buying occasionally for a long time have less opportunities of building intimacy and of learning from the relationship than customers who have been buying more, regardless of the length of the relationship. Thus we suggest to model relational strength as a variable that reflects both the length of the relationship and the regularity of relationship.

As we find indications for an impact of relational strength in the context of the models studying attitudinal antecedents as well as the marketing efforts model, we will study the variable's impact on both types of models. In Chapter IV we discuss the variable's impact on the direct mail efforts model, and in Chapter V we discuss the variable's impact on the relationship quality model.

ii) Price related attitudes

In their thorough analysis of customer profitability as related to customer lifetime duration, Reinartz and Kumar (2000) suggest price consciousness and the price-quality schema being two of the key customer characteristics to investigate in order to enhance our understanding of the customer-firm relationship. In line with the narrow definition of both concepts detailed by Lichtenstein, Ridgway, and Netemeyer (1993), we define price consciousness as "the degree to which the consumer focuses exclusively on paying low prices" (p.235), and price quality schema as "the generalized belief that the level of the price cue is related positively to the quality level of the product".

This is in line with Lichtenstein, Ridgway, and Netemeyer (1993), who suggest that research incorporating customer price perceptions in both the negative and positive valence with marketplace behaviour is likely to yield interesting results. As Leeflang and Wittink (2000) point out, every customer may want to consider quality and price but the dimensions of quality will vary across
customers as will the manner in which these two aspects are combined. The fact that price has proven to have both a positive (as a cue for quality) and a negative role (as representing the amount of money to be paid for a product or service) urges us to consider the possible moderating effects of the attitudes of customers towards price in itself, and the price quality relationship (Lichtenstein, Ridgway, and Netemeyer, 1993). Researchers in other settings have proven that price consciousness and price quality schema are different in nature. For example, price consciousness impacts the purchase of Private Label Brands positively, while price-quality perceptions impacts it negatively (Sinha & Batra, 1999), and price consciousness influences both coupon and sale proneness positively, while price-quality perceptions influence both negatively (Garretson & Burton, 2003). Based on an experimental study, Alford and Biswas (2002) show that price consciousness of consumers solely impacts their information search behaviour. There is no significant impact of price consciousness on value perception or buying intentions.

Lichtenstein, Ridgway, and Netemeyer (1993) empirically showed that the price-quality schema is quite sensitive to contextual cues that reinforce the perceived validity of using price to infer quality, which suggests that the price-quality schema will affect certain types of marketing efforts, while leaving others unaffected. Burton, Lichtenstein and Netemeyer (1999) further prove that price conscious customers are more likely to read promotional communication. This finding was confirmed by Krishna, Currin, and Shoemaker (1991), who showed that a price oriented segment processes price promotions differently from less price oriented segments. Processing promotional communication is an inevitable step from receiving it to positively reacting to it, which again suggests that price consciousness is likely to affect a specific type of marketing effort.

Although price quality schema is a price related construct with positive valence, and price consciousness is a price related construct with negative valence, we do not expect the constructs will necessarily yield opposite effects. Relying on the fact that research has indeed proven price quality schema and price consciousness measure different underlying dimensions of the broad array of significances of 'price', we expect that each of the attitudes will have a specific moderating impact on specific marketing tools. We study the impact of both price related attitudes in Chapter IV.

iii) Non search purchase tendency

In their description of the consumer decision process Blackwell, Miniard and Engel (2001) emphasize the importance of the level of prepurchase search effort made by the consumer to understand the subsequent buying behaviour. This prepurchase search effort can be influenced by the purchase circumstances (e.g. first purchase or repeat purchase), and Blackwell, Miniard and Engel (2001) explicitly approach it that way. However, prepurchase search effort can also be influenced by the customer's disposition to search activity in the specific industry under study. Different authors have approached the prepurchase effort phenomenon from different angles: as impulse buying behaviour
(Beatty and Ferrell, 1998; Mägi, 2003), variety seeking (Bloemer and Odekerken-Schröder, 2002; Homburg and Giering, 2001), and, in a more general way, decision making style (McDonald, 1993). Reinartz and Kumar (2000) suggest that in a non-contractual setting impulse buying and the potential thereof influences the lifetime duration of the customer. Thus, depending on the context of the research, the attitude of consumers towards pre-purchase search is a type of characteristic that can be expected to moderate the influence of antecedents on subsequent behaviour. There are, however, fundamental differences between the concepts of impulse buying, variety seeking and decision making style. As we intend to measure the moderating impact of the pre-purchase search activity on the relationship between attitudinal antecedents and behaviour(al intentions) in the context of a customer-firm relationship, we choose to study the impact of non search purchase tendency, because it most closely relates to the setting we work in. We thus define non search purchase tendency as the disposition of the customer not to search for alternatives. Whereas impulse buying and variety seeking can take place within the context of the relationship between the customer and the focal firm, non search purchase tendency concentrates on the disposition of the customer to look for alternative providers in the apparel retailing industry. Indeed, when customers do not have the tendency to look for alternatives, but would rather stick to the provider for a given product, the contextual influence on their intentions is lower than when they explicitly state that they are likely to look for alternatives.

In their thorough analysis of customer profitability as related to customer lifetime duration, Reinartz and Kumar (2000) suggest that level of information is one of the key customer characteristics to investigate in order to deepen our understanding of the customer-firm relationship. Information attitudes of different kinds have been studied in the past in relationship with both marketing efforts and store choice. Volle (2001) studies the impact of search for promotional information. Based on its moderating effect in a brand choice context, Volle (2001) introduced the variable into his store choice model for grocery shopping. Although Volle (2001) unsuccessfully introduced this psychographic moderator into his model of store choice probabilities, we believe methodological constraints rather than the absence of the effect account for the results. Indeed, the time elapsed between measurement of the behavioural variables and measurement of the psychographic variable might have hidden the already hard to find moderating effects. It is commonly acknowledged that finding moderating effects in a non-experimental setting is hazardous, due to the natural dispersion of the moderating variables under study (whereas in an experimental setting moderating variables are manipulated to take more extreme high versus low values). On top of this inherent lack of sensitiveness of the empirical setting for identification of moderating effects, the moderating variable in Volle’s (2001) study has been measured a year after the behaviour under study. During this time frame information search attitudes might have changed.
In the catalog context, McDonald (1993) proved the decision making style to be the most distinguishing characteristic among customers in terms of their loyalty, stronger than demographics and relationship strength variables. Customers who reduce their search are expected to develop stronger linkages between attitudinal antecedents and intentions and behaviour (Mägi, 2003). Sheeran and Orbell (2003) along with Greve (2001) defend the idea that stable intentions are better predictors of subsequent behaviour than are unstable intentions. Sheeran and Orbell (2003) show that in the context of exercise behaviour, the stability of intentions is indeed a moderator of the intentions-behaviour linkage. Non search purchase tendency reflects the potential stability of these intentions.

The results of existing research fuel our expectation that we will find moderating effects of non search purchase tendency on the relationship quality model. We study these effects in Chapter V.

iv) Personal source confidence

Non-marketer dominated sources of information have been introduced into research models on repeat and initial purchase occasions. The perspectives of sender and receiver have both been researched. As far as the sender perspective is concerned, the origins of word-of-mouth behaviour are the best documented area. As far as the receiver perspective is concerned, scales have been developed to track in how far a consumer is sensitive to non-marketer dominated sources of information. As indicated earlier, these non-marketer dominated sources are hard to track objectively. Hence they are usually introduced into research as attitudinal variables, reflecting the level of confidence a consumer has in certain types of non-marketer dominated stimuli. Personal source confidence was developed by Murray (1991) as a scale to measure this level of confidence.

Extending Zeithaml’s (1981) argument from services versus goods to the service level of products, we can expect customers to rely on a higher number of different cues for products with a high service level. Based on the idea that customers scoring high on personal source confidence perceive a product as high in service level, we expect that score to influence the number of information cues customers will rely on, and thus the impact of marketing efforts to be accordingly high. This would suggest the impact of both promotional and relational direct mail efforts is higher for customers scoring high on personal source confidence.

However, Murray (1991) shows that the confidence in personal and independent sources in the pre-purchase search varies with the level of service attribute of the products. Murray (1991) further distinguishes products on their level of service content, and shows that with increasing service content of products, customers prefer personal over impersonal sources, find personal independent sources more effective, and have more confidence in personal sources. Given the context of a specific study, the role of personal sources will vary.
Midgley (1983) interestingly showed that in the case of buying a suit, consulting references and consulting store personnel systematically show opposite loadings on the customer patterns of information seeking behaviour identified in their study. The confidence in personal references and in-store personnel are closely related, but opposite to each other.

As the personal source confidence scale reflects both reference group and retail related sources, we expect the scale to consist of two subscales, with independent scores for the reference group and retail related sources of information. Therefore, analyzing how the customer's general attitude towards reference group and retail related sources on the impact of the cues delivered by the firm separately should further enhance our understanding of the customer-firm relationship. We investigate the moderating impact of reference group and retail related sources in Chapter IV.

v) Attitudinal versus normative control

Intention differ in the extent to which they are determined by one's evaluation versus social pressure from significant others. Evidence shows that the predictive validity of intentions improves from low to high as scores on attitudinal versus normative control increase (Sheeran and Abraham, 2003; Sheeran, Norman, and Orbell, 1999). This difference is attributed to the distinction between autonomous and controlled motivation (Sheeran and Abraham, 2003). To the best of our knowledge, there is no research explicitly modelling a moderator variable reflecting autonomous versus controlled motivation on the relationship between behavioural intentions and their relationship quality antecedents, although within the theory of planned behaviour research relative contributions of attitudes and subjective norms have been found to differ both between consumers and between behaviours (Ajzen, 2001; Trafimow and Finlay, 2001; Sheeran, Norman, and Orbell, 1999). Due to the indirect character of the variable based on the attitudes, subjective norm and intention scores (for a detailed discussion of the methodological details, we kindly refer the reader to Chapter III, Method and Data Collection, sub iii, d, iii), testing it on the antecedents – intentions part of the model is impossible in the theory of planned behaviour context. In the relationship quality context however, this test is possible. The results of existing research thus refer partially or indirectly to the relationship quality model we wish to enhance with moderating variables, and fuel our expectation that we will find moderating effects of attitudinal versus normative control. In Chapter V, we test the impact of attitudinally versus normatively controlled customers on the relationships between relationship quality antecedents, intentions, and behaviour.

(iii) Purchase: the outcome variable under study

Evidently, if the aim of the research is to understand, predict, or influence the future behaviour of consumers, that future behaviour must be measured too. Existing research most often relies on self-
reported measures of behaviour. Zeithaml (2000) stresses that methodological ease accounts for the fact that the impact of attitudinal antecedents on purchasing intentions is preponderant in the research on the relationship chain from service quality to profitability. She further adds that the relationship between purchase intentions and actual purchase lacks confirmation, and extensively discusses the challenge of combining both survey-based attitudinal information and data base behavioural information. Many researchers acknowledge that by the lack of actual behaviour in their data their conclusions are incomplete, and adding behavioural information to loyalty research is paramount for a correct understanding of the relationships under study (Agustin and Singh, 2005; Bloemer, de Ruyter, and Wetzel, 1998; Dick and Basu, 1994). Zeithaml (2000) considers the relationship between purchasing intentions and actual purchase behaviour to be one of the most difficult to document, because of the link between both information sources that has to be made.

Self-reported behaviour is used when objective measurement of the behaviour is not possible or not available. Zeithaml, Berry, and Parasuraman (1996) study behavioural consequences of service quality without any objective measure of behaviour, but based on self-reported behavioural intentions. The outcome variable is sometimes limited to a dichotomous indicator like switching/staying with a mortgage (Bansal and Taylor, 2002). In other cases the measure is (close to) a continuous variable, like the number of days a week on which respondents studied (Sheeran, Orbell, and Trafimow, 1999), the amount of money customers are willing to pay for a satisfying product (Homburg, Koschate, and Hoyer, 2005).

Often the outcome variable is measured in the same survey as the antecedent variables, which reinforces the common method error. Yi and La (2004), for instance, measure behavioural outcome as repeat purchase intentions and repurchase probability in the family restaurant business. This measurement is closer to the intentions construct discussed within the satisfaction-profit chain and theory of planned behaviour models than it is to real behaviour. Some researchers use alternative techniques that approach objective measurement, such as collection of grocery shopping receipts from the respondents to a survey-study (Burton, Lichtenstein, Netemeyer, and Garretson, 1998).

When using purely objective data based behavioural information, both an aggregate and a single customer level approach have been used. Lewis (2004) models the effects of both a loyalty program and short-term promotions on cumulative annual spending of the customers of an Internet retailer, while Elsner, Krafft, and Huchzermieier (2003) show the effectiveness of their predictive approach at the aggregate level in terms of total sales and number of active customers. In the Swedish Customer Satisfaction Barometer (a cross-industry research that links satisfaction measurement to overall performance data of firms in a wide range of sectors) Anderson, Fornell, and Lehmann (1994) find positive relationships between firm level quality, satisfaction, market share, and profitability. Yeung,
Ging, and Ennew (2002) confirm that, at the aggregate level, satisfaction linearly translates into performance of firms, based on data from the American Customer Satisfaction Barometer.

As we intend to introduce customer heterogeneity into our research, we evidently choose to model the effects at the single customer level.

At this single customer level, both purchase incidence and purchase behaviour can be studied. Bauer (1988) indicates that the outcome variable in a model predicting behaviour can be the actual response or the amount of money spent. Indeed, in direct marketing research, Prinzie and Van den Poel (2005) found eight studies that only model a binary response, thirteen that model only some type of continuous response (e.g. total profit, total net return,…), and three that model both a binary and a continuous response. Thus they implicitly discern a purchase incidence from a purchase behaviour model. Buckinx and Van den Poel (2005) use the (partial) defection of a customer as the outcome variable in a purchase-incidence model predicted based on behavioural data only. Rust et al. (2004) also suggest that when modelling the subsequent behaviour multiple aspects of each customer’s purchase behaviour (e.g. cross-selling) should be considered, not just retention probabilities. Bult, van der Scheer, and Wansbeek (1997) applied these suggestions, and studied both a dichotomous model (probability of response to a health care fund raising mailing) and a continuous behaviour model (amount of money donated).

Verhoef, Spring, Hoekstra, and Leeflang (2002) studied the use of both primary (i.e. an incidence model) and secondary response (i.e. a behavioural model such as purchase amount, number of visits, etc.) as outcome variables among database marketers in the Netherlands. They show that only half as many companies predict secondary response, although secondary response is closely related to the profitability of marketing efforts. Investigating the importance of differentiating between primary and secondary response might therefore result in important managerial implications, next to the academic results it yields.

In all three domains we study, behavioural loyalty is the outcome variable. In each chapter (Chapter IV to Chapter VI), we discuss differences between the purchase incidence and the purchase behaviour models. Thus we enhance our knowledge in the customer-firm relationship research, not only by documenting real behaviour, but also by detailing the effects at different levels of that behaviour.

(iv) Synthesis of the research questions

The findings from existing research are translated into three distinct studies that each address part of the theoretical framework detailed here. We briefly synthesize the main research questions addressed in the studies around the central themes of the theoretical framework (understanding, predicting, and influencing behaviour, and customer heterogeneity), with a reference to the chapter that extensively
discusses each specific aspect. We add the main contribution of our approach to the customer-firm relationship research as identified throughout the theoretical framework.

As far as understanding behaviour is concerned, we study two central questions:

1. Do intentions fully mediate the impact of attitudinal antecedents on real behaviour? (Chapter V and VI). Absence of real behaviour from existing research results in very limited knowledge on this role of intentions that we will further document.

2. Does the relationship quality model outperform the theory of planned behaviour model in predicting behaviour? (Chapter VI) To the best of our knowledge, the effectiveness of the theory of planned behaviour model in a context of repetitive buying has not been confronted with the effectiveness of the relationship quality model so far.

As far as predicting behaviour is concerned, we study two central questions:

1. Do attitudinal models explain future behaviour above and beyond the impact of past behaviour? (Chapter VI) Combining the attitudinal models with behavioural information from the database to assess the unique variance that attitudinal antecedents account for enhances our understanding of what is not grasped in the behaviour based predictive models.

2. Do direct mail efforts influence future behaviour above and beyond the impact of past behaviour? (Chapter IV) Studying the effects of direct mail efforts as measured objectively above and beyond past behaviour also measured objectively adds to our understanding of the effectiveness of direct mail efforts.

As far as influencing behaviour is concerned, we study two central questions:

1. Is the impact of promotional direct mail efforts on future behaviour different from the impact of relational direct mail efforts? (Chapter IV) In the comparison of both tools lies a deeper understanding of the true impact of each one.

2. Are the short and long run impact of direct mail efforts different from one another? (Chapter IV) Findings from existing research are confusing about the long and short run impact of different kinds of marketing tools. Assessing the differential impact of two different direct mail tools that are measured objectively will further the knowledge in this domain.
As far as customer heterogeneity is concerned, we study five (groups of) characteristics and their moderating impact on specific models. Introduction of salient attitudinal and behavioural moderating variables enhances our understanding of the customer-firm relationship, and sheds new light on the importance of taking customer heterogeneity into account.

1. Do price related attitudes impact the direct mail efforts – behaviour relationships? (Chapter IV)

2. Does personal source confidence impact the direct mail efforts – behaviour relationships? (Chapter IV)

3. Does relational strength impact the relationship quality – intentions – behaviour relationships and/or the direct mail efforts – behaviour relationships? (Chapters IV and V)

4. Does non search purchase tendency impact the relationship quality – intentions – behaviour relationships? (Chapter V)

5. Does attitudinal versus normative control impact the relationship quality – intentions – behaviour relationships? (Chapter V)

In order to address these research questions, a specific research design was used, which is detailed in Chapter III.
III Research method and data collection
In order to investigate the research areas discussed above, we have developed a single research design encompassing all the research areas described in the theoretical framework. In this introductory chapter, we give a detailed description of the research method used and all the variables at our disposal. Within each subsequent chapter we kindly refer the reader to the relevant part of research method and data description as discussed in the present chapter.

(i) Research context

The current study builds on a combination of behavioural data and survey data gathered from a sample of customers from a Belgian apparel retailer. This approach offers several advantages.

First, the context of apparel retailing is a non-contractual setting. As Reinartz and Kumar (2000) indicate, studying the customer-firm relationship in a non-contractual setting is of great importance to the research field. In the past, customer-firm relationship research has often favoured contractual settings. Transposing hypotheses and findings to non-contractual settings is a necessary step towards a better understanding of the attitudinal, behavioural and contextual antecedents of purchasing behaviour. In choosing the context of apparel retailing, we study an environment in which impulse buying and levels of pre-purchase search effort are quite different from one customer to another. It offers the opportunity of contrasting our findings with findings from studies in contractual settings where impulse buying is absent and pre-purchase information search affects the relationship much less.

Second, choosing a specific research context enables us to focus on the customer. Cross-industrial research on aggregate data has indicated that the customer firm relationships are typical of the context in which they are situated (Anderson, Fornell, & Lehmann, 1994). In the business-toconsumer context, the most diverse industries have been studied. Both contractual and non-contractual settings have been studied. An often researched industry in contractual settings is banking (Crosby & Stephens, 1987; Ganesh, Arnold, & Reynolds, 2000; Gremler & Gwinner, 2000; Jones, Mothersbaugh, & Beatty, 2000). Frequently researched industries in non-contractual settings are e.g. food retailing (De Wulf, Odekerken-Schröder, & Iacobucci, 2001; Mägi, 2003; Zeithaml, Berry, & Parasuraman, 1996), and automotive (Homburg & Giering, 2001; Mittal & Kamakura, 2001; Mittal, Kumar, & Tsiros, 1999). Moreover, limiting the empirical research to a single apparel store chain excludes possible biases from the analysis (Mulhern, 1997). Store location and the related patronage behaviours are kept constant, as well as pricing strategy, service levels, store image, and brand
strategy. Indeed, all the retailer's stores are situated on the outskirts of small and medium-sized cities in the Dutch speaking part of the country, with a fixed brand, service and pricing strategy for all outlets, and extended parking facilities.

Third, the behavioural data in our study consists of scanned purchase data of the periods anterior and subsequent to the survey, as well as direct mail efforts information of both anterior and simultaneous periods. The timeline in figure III.1 gives an overview of the timing of all types of information present in the study.

**Figure III.1: Timeline of the available data**

<table>
<thead>
<tr>
<th>Past behaviour</th>
<th>Subsequent behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past direct mail efforts</td>
<td>Simultaneous direct mail efforts</td>
</tr>
<tr>
<td>February 2002</td>
<td>February 2004</td>
</tr>
<tr>
<td>January 2004</td>
<td>July 2004</td>
</tr>
</tbody>
</table>

The majority of the existing studies are limited to either database or survey data. Research combining both attitudinal and behavioural data in a customer-firm relationship context is situated in a business-to-business industry (Bennett & Rundle-Thiele, 2002), in the automotive industry (Mittal & Kamakura, 2001), and in the upscale women's apparel and home furnishing contexts (Seiders, Voss, Grewal, and Godfrey, 2005).

The specific research design suggested here enables us:

To better understand the customer-firm relationship through attitudinal antecedents by taking the research one step further, namely from purchasing intentions to purchasing behaviour;

To better predict subsequent behaviour, based on a combination of power of both promotional and relational direct mail efforts, by assessing the impact of those efforts above and beyond the impact of past behaviour;

To assess the impact of individual differences between customers based on either behavioural or attitudinal variables, more specifically the impact of relational strength, personal source confidence, price related attitudes, non search purchase tendency, and attitudinal versus normative control.
These impacts are assessed in a real life context in order to confirm findings from experiments that inherently call for a translation to real life settings.

(ii) Database information

a) Description of the information
The database information provided by the retailer contains data on the relational and promotional direct mail efforts received by the potential respondents to the questionnaire during the season(s) anterior (February 2002 – January 2004) and subsequent to the survey (February 2004 – July 2004), as well as the purchase behaviour of the same respondents (see iii Survey data on p 67 for details on the data-collection procedure). All information is detailed at the single mailing respectively single product level. Thus the variables referring to direct mail efforts and behaviour were based on detailed information that we computed to meaningful variables given the aim of our research. Date of the first loyalty-card based purchase made by each customer, and a dichotomous indicator of buying event during the past ten seasons was delivered too. The starting date of the relationship goes back to 1994 when the retailer launched his loyalty-card strategy.

b) Operationalization of the variables

i) Past behaviour
As discussed in the literature review section, the databased variables to include are: Frequency, recency, and monetary value. Variables were calculated as follows:
Frequency: # season with buying event (February 2002 – January 2004)
Recency: 1/ (# seasons with no buying event +1) (February 2002 – January 2004)
Monetary value: Log (total expenditure (February 2002 – January 2004))^3

ii) Behaviour subsequent to the survey
The outcome variable in our model is the behaviour of the season subsequent to the survey (=subsequent behaviour). As discussed in the theoretical framework, we will evaluate both a purchase incidence and several purchase behaviour models in order to reflect possible differences in effects of the model variables on these outcome variables. In a choice model behaviour is expressed as a dichotomous variable, indicating the purchase decision of the customer. In a response model it is expressed as a continuous variable, reflecting the purchase behaviour of the customer.
Choice model: Purchase decision

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3 In order to correct for the effects of outliers, without cancelling out the cases with extreme monetary values, we use the logarithm of the monetary value indicator (see Cohen et al., p. 224)
Based on the database information we computed a dichotomous variable, indicating whether a customer has purchased at least once during the summer 2004 (February 2004 – July 2004) at the retailer.

Response model: Purchase behaviour

From the database information, we computed three behavioural outcome variables reflecting the purchasing behaviour of the buyers for the reference period under study (February 2004 – July 2004): total expenditure, number of visits with buying event to the retailer’s shop, and number of product types from which the customer purchased. All indicators reflect the total purchases of the customers during the summer season 2004 (February 2004 – July 2004). Indeed, while the most commonly used indicator for purchase behaviour in customer-firm relationship research is undoubtedly the amount of money spent by the customer, other indicators can result in different conclusions. Some customers may purchase on a high number of occasions for small amounts of money, while others purchase once but for a big amount of money. Purchasing often for a high amount can occur too, as purchasing rarely for a small amount. Thus we expect the correlation between amount of money spent at the store and number of visits to leave some room for differential impact. The number of product categories from which the customer purchases is indicative of the share of wallet of that customer with the retailer, and will therefore be even more different from amount of money and number of visits. Correlations between the three outcome variables are given in Table III.1. The correlations between outcome variables prove that the unique variance within each measure for behaviour subsequent to the survey is large enough to yield different results when treated in separate models. Given the fairly high correlation between total expenditure and number of visits, we expect these two models to behave most similarly. However, as they both differ highly from the number of product types model, we choose to keep all three outcome variables and discuss both their similarities and differences.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total expenditure</th>
<th>Number of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visits</td>
<td>.85**</td>
<td></td>
</tr>
<tr>
<td>Number of product</td>
<td>.35**</td>
<td>.51**</td>
</tr>
<tr>
<td>types</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
iii) Direct mail efforts variables

The direct mail efforts data provided by the retailer consisted of 517 different types of mailings. We studied the characteristics of these mailing types and discerned promotional from relational direct mails. In order to reflect the three crucial dimensions of marketing efforts identified in our theoretical framework, we calculated the number of promotional and relational mailings received by each customer in our dataset, for each both a past and simultaneous direct mail efforts indicator. Thus the type of marketing effort (promotional versus relational), the timing of the effort (past versus current) and the frequency of the marketing effort (number of mailings) are all three reflected in our model.

The promotional direct mail efforts in our research meet the requirements detailed by Volle (2001) to be considered a store-level promotion: they feature true price reductions for a portfolio of products communicated through an external medium, in casu a personalized direct mail. As these promotional mailings highlight rebate periods, a shop anniversary or similar events, their core objective is to generate traffic, not lower prices. The relational efforts in our research are more experiential in nature. They consist of magazines sent to the customers, with a presentation of the collection and background articles. They do not include price reductions or other types of call to action. In Appendix 3 and 4 we show an example of each type of marketing tool.¹

The reference period for simultaneous direct mail efforts is evidently February 2004 – July 2004. We calculated the number of promotional and relational direct mailings received by each customer in our dataset. The number of promotional direct mails received prior to the survey is the indicator for past promotional direct mail efforts, the number of relational direct mails received prior to the survey is the indicator for past relational direct mail efforts, the number of promotional direct mails received during the summer of 2004 (February 2004 – July 2004) is the indicator for simultaneous promotional direct mail efforts, and the number of relational direct mails received during the summer of 2004 (February 2004 – July 2004) is the indicator for simultaneous relational direct mail efforts. Given the different aim of relational and promotional direct mail efforts, we choose to model the past indicators of these tools differently, according to the behaviour to predict.

In general, the strategic aim of relational direct mail efforts is an effect over a longer period of time, while the strategic aim of promotional efforts is to generate effects over a shorter period of time. As far as the purchase incidence model is concerned, we choose to model the past year of relational

¹ The promotional direct mails do have characteristics of the relational ones, such as product information. However, we are confident that their explicit call to action discerns them sufficiently from the purely relational direct mails.
efforts and the past winter season of promotional efforts. As far as the purchase behaviour models are concerned, we choose to model the effects of relational efforts over the whole reference period in the past (two years, four seasons), while modelling the past winter season of promotional direct mails for the total expenditure model, past year for the number of visits model and past four seasons for the number of product types model. Indeed, given the flexibility of the subsequent behaviour under study that is higher for total expenditure than for number of visits and again than for number of product types, we expect that promotional efforts will need a longer time lag to influence number of product types than number of visits and total expenditure. Thus depending on the model under study, the reference period for which each past marketing efforts indicator was calculated varies.

iv) Relational strength

The relational strength variable discussed in the theoretical framework was based on the behavioural data available. The customers’ length of relationship with the retailer was multiplied by the regularity of their relationship, expressed as the number of seasons with buying event over the number of seasons since the start of the relationship plus one, with a maximum history of 10 seasons. By the nature of its operationalization, this variable is quite close to the past behaviour indicator for recency. However, the reference period for recency is shorter than the reference period factor in the relational strength operationalization. They thus measure different concepts, although they are certainly closely related.

(iii) Survey data

The data-collection through the questionnaire consisted of two major steps. First, an exploratory study was conducted aimed at generating questionnaire items. Second, a questionnaire was administered to a sample of customers of the apparel retailer.

a) Exploratory study

In the first phase, an in-depth study of the literature on customer-firm relationship research and on the theory of planned behaviour resulted in a selection of survey scales. The general insights gained from this literature review have been discussed in the theoretical framework (Chapter II). Based on the literature review, two questions emerged. First, as the context of a study is of great influence on the phrasing of certain scales, more specifically the theory of planned behaviour scales, a thorough understanding of the apparel buying experience was necessary to yield reliable specific scales for our research context. Second, an important number of customer characteristics have been studied and used in the past to better understand the buying and/or retail experience of consumers. From this long list, we wished to identify the most salient characteristics given the aim of our research. These
two questions were addressed through expert interviews as well as focus group interviews with consumers.

Two expert interviews were conducted. Industry experts were a marketing professional and a database professional from the retail context under study. Their insights led to the identification of a meaningful reference period for the buying of apparel, namely a season, defined as a winter or a summer season, each comprising six months (August – January and February – July). Furthermore, the relevance of the customer characteristics identified from the literature review was confronted with their professional opinion. In general terms they identified four types of characteristics they would expect to influence the models under study: attitudes of consumers towards marketing tools, attitudes of consumers regarding the opinion of meaningful others on apparel in general and on specific retail outlets, attitudes of consumers towards shopping for apparel, and the relationship the consumer might have built up with the focal company in the past.

Four focus group discussions with apparel buyers were conducted. These focus group discussions had two central aims. First, we identified three elements necessary to the phrasing of the theory of planned behaviour constructs: the time frame as suggested by the experts (a season: winter or summer) and frequency (once per season) of the behaviour under study, and a series of semantic differentials (twelve couples of words) describing realistic attitudes towards that behaviour. Second, we discussed the shopping and buying experience of the consumer in depth as well as the attitudes towards marketing efforts and meaningful others, in order to further identify the most salient customer characteristics generated from the literature review and confirmed by the industry experts for the context of our study. From these focus group discussions, the main conclusions were:

- Some consumers are highly influenced by family and/or friends in their apparel purchases.
- Some consumers like to shop for apparel, while others seek to organize the buying of apparel efficiently; this aspect being closely related to the time available to make the shopping trip.  
- Some consumers rely more on the commercial information on apparel generated by the retailer, while others rely more on the personal information generated by friends or store personnel.
- Some consumers differentiate between product information and promotional offers from the retailer, while others do not.
- Some consumers value their relationship with a retailer, while others prefer to shop around.

\[5\] In order to check whether the perceived time pressure resulted in significant moderating effects, we incorporated it in the survey along with the selected shopping attitude, non search purchase tendency. It appeared, however, that perceived time pressure did not moderate the relationships in our models. Details of the analyses are available from the author.

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Given the context of our research, and given the combination of information on direct mail efforts with past behaviour and survey data, the exploratory research resulted in the identification of the following customer characteristics to be studied: personal source confidence, price-related attitudes, attitudinal versus normative control, non-search purchase tendency, and relational strength.

Personal source confidence and non-search purchase tendency were measured using scales from Murray (1991). Price consciousness and the price-quality schema scale were measured using scales from Lichtenstein, Ridgway, and Netemeyer (1993). Attitudinal versus normative control is a computed variable based on two constructs of the theory of planned behaviour: attitude towards the behaviour and subjective norm (Ajzen, 2001; Sheeran and Abraham, 2003). Relational strength was based on the behavioural information available.

A full questionnaire containing all scales used to measure relationship quality, theory of planned behaviour and customer characteristics along with behavioural intentions was presented to ten marketing research professionals. Based on their questions and remarks we rephrased some items. Basically we eliminated reversed coded items after thoroughly assessing arguments in favour and against the approach.

The questionnaire was then mailed to 200 randomly selected inhabitants of a mid-sized Belgian town, along with a prepaid response envelope. 46 questionnaires were returned, of which 40 were fully completed. Given the low number of pre-test questionnaires, we limited analyses on the pre-test to exploratory techniques in order to check if major problems occurred with the scales used. As the reliability of the scales largely confirmed the details given by the authors of the scales, except for the price consciousness scale and the perceived behavioural control scale, we did not further adapt the survey before distributing the questionnaire to the target population of the study.

The low alpha of the price consciousness scale suggests that the inverse phrasing of some items as compared to others might disturb scale reliability. However, leaving out one of the items does not seem to result in a dramatic improvement of the scale’s alpha. The major improvement we can achieve is from .475 to .489. Given the limited sample these results are based on, we choose to keep the scale’s items unchanged, and check in the full sample whether the problem persists. The low alpha of the perceived behavioural control scale can be sensibly raised (from .496 to .945) by leaving out one of the items, that measures self-efficacy rather than control. Apparently, in our research, self-efficacy and control are too different to compose a single perceived behavioural control scale.

However, as this would result in a two-item scale, we prefer to keep the possibly disturbing item in the questionnaire, and retest the scale on a broader sample to see if the low reliability of combining self-efficacy and control persists.
Chapter III

The scale alpha’s of the core attitudinal constructs except perceived behavioural control (relationship quality, attitude towards the behaviour, and subjective norm) have good reliability indicators, as do the other customer characteristics (price-quality schema, reference group related sources, retail related sources, and non search purchase tendency).

Overall, the pre-test tentatively indicates that the measurement tool will yield usable scales, although some adjustments might still be necessary. An overview of the Cronbach’s alphas resulting from the pre-test questionnaires is summarized in table III.2

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price consciousness</td>
<td>.475</td>
</tr>
<tr>
<td>Price-quality schema</td>
<td>.821</td>
</tr>
<tr>
<td>Reference group related sources</td>
<td>.758</td>
</tr>
<tr>
<td>Retail related sources</td>
<td>.922</td>
</tr>
<tr>
<td>Non search purchase tendency</td>
<td>.712</td>
</tr>
<tr>
<td>Relationship quality</td>
<td>.861</td>
</tr>
<tr>
<td>Attitude towards the behaviour</td>
<td>.935</td>
</tr>
<tr>
<td>Subjective norm</td>
<td>.915</td>
</tr>
<tr>
<td>Perceived behavioural control</td>
<td>.496</td>
</tr>
</tbody>
</table>

An in depth analysis of measurement characteristics was conducted on the sample generated from the target population of the study, using confirmatory analysis techniques and overall confirming the reliability of the scales used. We further discuss this with the quantitative study (iii, b).

b) Quantitative study

The target population of the study consisted of the customers of a Belgian apparel retailer. During a 4-day period in February 2004 (beginning of the summer season) the survey (see Appendix 5 for the survey items in Dutch) was distributed personally to consumers visiting 12 of the 71 stores of this retailer. The stores were equally distributed over the Flemish speaking part of the country, and selected by the top management of the retailer as a representative sample of the total range of shops. Both shops nearby city centres and on the country side were in the sample, big and smaller shops in
terms of turnover, so that the population of shops was well spread over the total population of shops of the chain. During the 4-day period of recruitment 1753 consumers bought something at one of the 12 shops. 2306 questionnaires were distributed, which suggests that fairly every consumer visiting the shop was approached to participate in the research, and took the questionnaire home. Along with the questionnaire, potential respondents received a letter stressing the academic character of the study and a prepaid response envelop. 960 consumers returned a completed questionnaire (response rate: 42%).

As this recruitment method could have resulted in an overrepresentation of frequent customers of the retailer, we made a selection of an additional 2500 customers, classified by the retailer as 'cold customers'. These had spent an amount ranging from 0 euro to 50 euro at the retailer in the past winter season (August 2003-January 2004), with a majority of customers who had spent 0 euro during the specified time frame. The mailing contained exactly the same questionnaire as was distributed in the shops, a letter with comparable content, and a prepaid response envelop. 266 customers returned a completed questionnaire (response rate: 11%). Each respondent was given a unique respondent number. Based on information given by the customers on the questionnaire (customer number, name, address), we were able to uniquely link 634 of the 1226 respondents (960 from the recruitment in the shops + 266 from the mailed questionnaire) to their buying behaviour information provided by the retailer.

c) Description of the respondents sample

As we dispose of a complex data structure, we can give a detailed insight into the reliability of our sample. First, we give a general overview of all respondents (Table III.3 to Table III.9) that were taken into account in our studies. Indeed, only those respondents that we could also uniquely link to the database were studied.

<table>
<thead>
<tr>
<th>Table III.3: Gender in % of valid N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>629</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table III.4: Age in % of valid N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>630</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table III.5: Involved in own apparel purchases in % of valid N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involved in own apparel purchases</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>629</td>
</tr>
</tbody>
</table>
The profile of the respondents corresponds with the findings from the qualitative research. Most apparel customers of the retailer under study are female, or at least all purchases involve a female family member (mother, partner). Therefore, the high number of female respondents reflects the situation correctly. The customer base of the retailer is best represented among the consumers aged 30 and older, as is the case in our sample. Given the high number of female respondents, number of respondents involved in the own apparel purchases and apparel purchases for partners and children correspond to the image given by the experts and confirmed during the focus group discussions. Family composition is also in line with the expectations yielded during the exploratory research.

As the total sample frame was uniquely identified given the recruitment method, we can compare the sample of respondents to non respondents. We reflect significant differences between both groups in terms of behaviour, direct mails received, and strength of relationship in Table III.10.
Table III.10: Comparison on significant behavioural and direct mail efforts variables of respondents and non-respondents to the survey (mean centred indicators); all differences significant at the <.001-level.

<table>
<thead>
<tr>
<th></th>
<th>Respondent (N=634)</th>
<th>Non-respondent (N=3505)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>0.25</td>
<td>-0.04</td>
</tr>
<tr>
<td>Recency</td>
<td>-22.27</td>
<td>4.03</td>
</tr>
<tr>
<td>Monetary Value</td>
<td>0.22</td>
<td>-0.04</td>
</tr>
<tr>
<td>Relational strength</td>
<td>0.07</td>
<td>-0.01</td>
</tr>
<tr>
<td>Promotional efforts</td>
<td>0.25</td>
<td>-0.05</td>
</tr>
<tr>
<td>past 4 seasons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational efforts past</td>
<td>1.12</td>
<td>-0.20</td>
</tr>
<tr>
<td>4 seasons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational efforts past year</td>
<td>0.44</td>
<td>-0.08</td>
</tr>
<tr>
<td>Simultaneous relational</td>
<td>0.38</td>
<td>-0.07</td>
</tr>
<tr>
<td>efforts</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the comparison of respondents with non-respondents in terms of their behaviour, we can conclude that the respondents to our survey shopped more frequently at the retailer in the past, spent more money, and visited the retailer more recently. They also have a stronger relationship with the focal retailer. As far as the mail pressure is concerned, we can conclude that the respondents to our survey received more promotional offers and more frequently received the catalogue than non-respondents. These results are in line with research on non-responds, that indicates non-respond is generally linked to the involvement of the potential respondent. Given the fact that the retailer bases his mailing policy purely on recency indicators, with a slight correction for monetary value, it is no surprise that the significant differences found with behaviour are confirmed here.

These findings caution us to interpret the results of our studies based purely on the respondents to our survey with care. Indeed, the findings we will report do not necessarily apply in the same way and with the same strength to non-respondents, as they are significantly different from the respondents in terms of behaviour, direct mail pressure, and relational strength.

Finally, we compare the group of respondents uniquely linkable to database information to the group of respondents that were not, in terms of the profile given in the questionnaire in Table III.11.
Table III.11: Comparison on significant survey variables between linkable and non-linkable respondents to the survey (mean of indicators); ****=differences significant at the <.001-level; **=differences significant at the .01-level; *=differences significant at the .05-level; gender and involvement in apparel purchases have been tested using cross-tabs, we report the percentage of the major category, age and number of children have been tested using t-test, we report the means.

<table>
<thead>
<tr>
<th></th>
<th>Linkable</th>
<th>Non-linkable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender*</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>625</td>
<td>590</td>
</tr>
<tr>
<td>female</td>
<td>90,1%</td>
<td>85,4%</td>
</tr>
<tr>
<td>Age*</td>
<td>630</td>
<td>590</td>
</tr>
<tr>
<td></td>
<td>6,36</td>
<td>6,00</td>
</tr>
<tr>
<td>Involved apparel</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>purchases partner**</td>
<td>621</td>
<td>590</td>
</tr>
<tr>
<td>involved</td>
<td>81%</td>
<td>70%</td>
</tr>
<tr>
<td>Involved apparel</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>purchases children***</td>
<td>620</td>
<td>589</td>
</tr>
<tr>
<td>involved</td>
<td>62,4%</td>
<td>45,5%</td>
</tr>
<tr>
<td>Number of children**</td>
<td>613</td>
<td>575</td>
</tr>
<tr>
<td></td>
<td>1,03</td>
<td>0,85</td>
</tr>
</tbody>
</table>

From the comparison of the respondents with and without unique link to the database, we learn that the respondents we were able to link to our database are more often involved in buying clothes for their partner and/or children, that they have more children and are likely to be slightly older and more likely to be female. These significant differences suggest that we received more accurate information from customers who are probably more closely involved with apparel shopping because of the number of people they buy clothes for or with, and because they are female (a generally accepted pattern that also emerged from the exploratory focus group discussions). The age variable could be a mere effect of the other variables, as for instance number of children is closely linked to age. Of course, we cannot provide hard evidence of this suggested explanation.

The findings from the comparison of respondents with non-respondents and from linkable with non-linkable respondents urge us to bear in mind that when describing the effects we find in our studies, we are in fact referring to a subgroup of customers that is more involved with and that more closely relates to the retailer than the average customers. However, given the aim of our studies, we choose to restrain ourselves to this specific group, for the sake of consistency between the models that we report. When discussing our results, we will try and identify the impact these sample characteristics could have on our findings.

We further note that the spread of the respondents over the quadrants suggested by Dick and Basu (1994) shows all kinds of customers are in the research in terms of their loyalty type (Table III.12).

---

6 Note that the numbers for age are not the mean age of the respondents, but the mean drawn from the categorical answers of the respondents to age categories. In the Appendix the reader will find the questionnaire and the corresponding categories.
From a comparison with recent research results in the airline business (Table III.13), we can conclude that this spread is normal given the non-contractual setting we work in.\(^7\)

**Table III.12: Loyalty quadrants of the sample of respondents, based on a tabulation of Relationship quality and total expenditure (high versus low).**

<table>
<thead>
<tr>
<th></th>
<th>High behaviour</th>
<th>Low behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>High attitude</td>
<td>38.7%</td>
<td>21.5%</td>
</tr>
<tr>
<td>Low attitude</td>
<td>18.1%</td>
<td>21.8%</td>
</tr>
</tbody>
</table>

**Table III.13: Loyalty quadrants of a sample of respondents in the airline business, based on a tabulation of relationship quality and behaviour (high versus low).**

<table>
<thead>
<tr>
<th></th>
<th>High behaviour</th>
<th>Low behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>High attitude</td>
<td>35%</td>
<td>28%</td>
</tr>
<tr>
<td>Low attitude</td>
<td>24%</td>
<td>13%</td>
</tr>
</tbody>
</table>

d) **Operationalization of the constructs**

The relationship quality construct

In order to confirm the validity of approaching the relationship quality construct as a single construct, we compare confirmatory factor analysis results on the single construct with confirmatory factor analysis results on a three construct approach (distinguishing commitment, trust, and satisfaction). We performed confirmatory factor analysis using LISREL 8.5. Based on loadings, information on standardized residual covariances, and modification indices (Bagozzi and Baumgartner, 1994; Steenkamp and van Trijp, 1991), disturbing items were revised. 1 commitment item was left out of the further analyses. Table III.14 shows the remaining items for the single relationship quality construct.

\(^7\) Data on the airline business was kindly provided by Ina Dhaene, senior researcher at the Vlerick Leuven Gent Management School.
Table III.14: The relationship quality construct and items

<table>
<thead>
<tr>
<th>Construct: Relationship quality</th>
<th>Coefficient (Item-construct correlation) / R² (average variance extracted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have confidence in the retailer (trust)</td>
<td>.79 / .63</td>
</tr>
<tr>
<td>I'm willing to go the extra mile to buy apparel at the retailer (commitment)</td>
<td>.73 / .54</td>
</tr>
<tr>
<td>I certainly like the retailer (satisfaction)</td>
<td>.87 / .54</td>
</tr>
<tr>
<td>I have the feeling that the retailer is trustworthy (trust)</td>
<td>.81 / .76</td>
</tr>
<tr>
<td>I'm very satisfied with the retailer (satisfaction)</td>
<td>.85 / .73</td>
</tr>
<tr>
<td>I have a favourable opinion on the retailer (satisfaction)</td>
<td>.92 / .84</td>
</tr>
<tr>
<td>The retailer gives me a feeling of confidence (trust)</td>
<td>.92 / .84</td>
</tr>
<tr>
<td>I have a clear commitment towards the retailer (commitment)</td>
<td>.77 / .59</td>
</tr>
</tbody>
</table>

The correlation matrix of the three construct approach shows correlations as high as .92 and .98 between the trust, commitment, and satisfaction constructs (Table III.15).

Table III.15: Correlation matrix of the relationship quality constructs based on LISREL output (**= significant at the .01-level; *= significant at the .05-level)

<table>
<thead>
<tr>
<th></th>
<th>Trust</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment</td>
<td>.91*</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>.98**</td>
<td>.91**</td>
</tr>
</tbody>
</table>

As also the model fit indices reflected the single construct model outperformed the three construct approach (Δχ²=58.04 < 2.353; Δdf=3), we report the indicators for the single construct model, and add the three construct model indicators between brackets for the sake of comparison. 8 Path diagrams of the models discussed here are given in Figure III.2 and Figure III.3. 9

8 Note that these indicators are also a severe contra-indication to studying the separate effects of trust, commitment, and satisfaction on intentions and behaviour.

9 Appendix 2 reports the LISREL-output of three confirmatory factor analyses: the CFA for the three constructs model, the CFA for the single construct model, and the CFA for the single model construct after taking error covariances as suggested by the LISREL output in consideration.
Figure III.2: Path diagram of the single construct relationship quality model
Chi-square over degrees of freedom was 6.952 (22.28), which is above the desired ratio of between 2 and 3 (Bollen and Stine, 1993). The root mean square error of approximation (RMSEA) was smaller than .09 (.15), which is above the desired value of 0.06 recommended by Hu and Bentler (1999). Comparative fit index (CFI=1.00; .96) and non-normed fit index (NNFI of TLI=.98; .93) were above the cut-off value of .95 recommended by Hu and Bentler (1999). These measures tend to indicate unidimensionality.

The significant factor-regression coefficients, along with the fact that all item-construct correlations were higher than the recommended value of .50 (Hildebrandt, 1987), support the assumptions for convergent validity (Steenkamp and van Trijp, 1991). Average variance extracted was .68, which exceeds the .50 recommended by Steenkamp and van Trijp (1991). Composite reliability was .94. The construct's measure is thus reliable. As we opted for the single construct approach, discriminant validity need not be checked.
i) The theory of planned behaviour constructs

In order to test for the unidimensionality of the theory of planned behaviour constructs, we performed confirmatory factor analysis using LISREL 8.5. Based on loadings, information on standardized residual covariances, and modification indices (Bagozzi and Baumgartner, 1994; Steenkamp and van Trijp, 1991), disturbing items were revised. Three of the 12 couples of words measuring attitude towards the behaviour were left out, as well as one item measuring perceived behavioural control. Two subjective norm items were left out too, while the remaining items are both descriptive and injunctive in nature. Table III.14 shows the remaining items and constructs.
<table>
<thead>
<tr>
<th>Construct</th>
<th>Coefficient (Item-construct correlation)/R² (average variance extracted)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude towards the behaviour</strong></td>
<td></td>
</tr>
<tr>
<td>Boring/exciting</td>
<td>.87/.76</td>
</tr>
<tr>
<td>(Un)important</td>
<td>.83/.69</td>
</tr>
<tr>
<td>(Not) handy</td>
<td>.85/.72</td>
</tr>
<tr>
<td>(Un)pleasant</td>
<td>.92/.85</td>
</tr>
<tr>
<td>(Not) worth the effort</td>
<td>.93/.87</td>
</tr>
<tr>
<td>A good/bad idea</td>
<td>.89/.79</td>
</tr>
<tr>
<td>Good/bad for me</td>
<td>.87/.76</td>
</tr>
<tr>
<td>(No) waste of time</td>
<td>.83/.68</td>
</tr>
<tr>
<td>(Not) enjoyable</td>
<td>.79/.63</td>
</tr>
<tr>
<td><strong>Subjective norm</strong></td>
<td></td>
</tr>
<tr>
<td>My family considers it a good idea if I purchase apparel at least once at the retailer during the upcoming summer season</td>
<td>.82/.67</td>
</tr>
<tr>
<td>Friends who influence my behaviour consider it a good idea if I purchase apparel at least once at the retailer during the upcoming summer season</td>
<td>.81/.67</td>
</tr>
<tr>
<td>Friends who influence my behaviour will purchase apparel at least once at the retailer during the upcoming summer season</td>
<td>.74/.55</td>
</tr>
<tr>
<td>My friends approve that I purchase apparel at least once at the retailer during the upcoming summer season</td>
<td>.91/.83</td>
</tr>
<tr>
<td>Family members who influence my behaviour will purchase apparel at least once at the retailer during the upcoming summer season</td>
<td>.75/.56</td>
</tr>
<tr>
<td>Family members who influence my behaviour approve that I purchase apparel at least once at the retailer during the upcoming summer season</td>
<td>.84/.70</td>
</tr>
<tr>
<td><strong>Perceived behavioural control</strong></td>
<td></td>
</tr>
<tr>
<td>It does not/fully depend on me whether or not I will purchase apparel at the retailer at least once during the upcoming summer season</td>
<td>.90/.80</td>
</tr>
<tr>
<td>I do not/fully control the fact that I buy apparel at the retailer at least once during the upcoming summer season</td>
<td>.92/.85</td>
</tr>
</tbody>
</table>
Correlations between the constructs are given in Table III.17.

Table III.17: Correlation matrix of the theory of planned behaviour constructs based on LISREL output (* = significant at the .05-level)

<table>
<thead>
<tr>
<th></th>
<th>Subjective norm</th>
<th>Perceived behavioural control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived behavioural control</td>
<td>.48*</td>
<td></td>
</tr>
<tr>
<td>Attitude towards the behaviour</td>
<td>.54*</td>
<td>.69*</td>
</tr>
</tbody>
</table>

The model fit indices reflected an acceptable fit. Figure III.5 reports the path diagram for the theory of planned behaviour model.10

---

10 Appendix 3 reports the LISREL-output of two confirmatory factor analyses: the CFA for the model, and the CFA for the model after taking error covariances as suggested by the LISREL output in consideration.
Chi-square over degrees of freedom was 3.507, which is slightly above the desired ratio of between 2 and 3 (Bollen and Stine, 1993). The root mean square error of approximation (RMSEA) was .049, which is below the desired value of .06 recommended by Hu and Bentler (1999). Comparative fit index (CFI=.98) and non-normed fit index (NNFI of TLI=.98) were above the cut-off value of 0.95 recommended by Hu and Bentler (1999). These measures indicate unidimensionality.

The significant factor-regression coefficients, along with the fact that all item-construct correlations were higher than the recommended value of .50 (Hildebrandt, 1987), support the assumptions for convergent validity (Steenkamp and van Trijp, 1991). Average variance extracted was .71, which exceeds the .50 recommended by Steenkamp and van Trijp (1991). Composite reliability was .98. The
constructs’ measures are thus reliable. Discriminant validity was checked by an inspection of the correlation matrix of the latent variables. The highest correlation (.69) was between attitude towards the behaviour and perceived behavioural control, which is a high value. Moreover, none of the percentile-corrected correlation intervals included (minus) one. Both assessments indicate discriminant validity.

ii) Intentions

Intentions were measured using a single semantic differential capturing only the intention to buy at least once at the retailer during the upcoming summer season (February 2004 – July 2004). As we dispose of an objective behaviour measure consisting of purchasing behaviour, using a multi-item approach capturing other behavioural intentions (word-of-mouth, switching, willingness to pay more) as suggested and successfully implemented by Zeithaml, Berry, and Parasuraman (1996) was beyond the scope of our study. During the qualitative research on the questionnaire the extreme similarity of the items caused irritation among respondents. Therefore, we decided to concentrate on a single intentions semantic differential, as was already successfully used in a customer-firm relationship context, e.g. by Cronin and Taylor (1992). Moreover, Rossiter (2002) also supports the single item approach.

iii) Survey based customer characteristics

In order to assess the reliability of the scales taken from the literature and used in our research, we perform reliability analyses on each of the moderator scales in our research. Cronbach’s alpha can be improved for two scales by elimination of one of the items. For the price consciousness scale, the item measuring the pay off in savings of a search for low prices is dropped. These results are in line with the results of the exploratory research. For the non search purchase tendency scale, the item measuring the likelihood of buying the first alternative encountered is dropped, although in the exploratory research the scale seemed to be reliable with all three items. Overall, we can conclude that the scales suggested by the literature are stable in our research context (for details on the means of each construct after computation, as well as standard deviation and Cronbach’s alpha of each scale, we refer to Table III.16).

We further assessed whether the underlying items of each construct tend to load on the correct number of constructs and group correctly in the expected components. Exploratory factor analysis confirms the expected structure. For the matrix structure of the exploratory factor analysis (maximum likelihood, oblique rotation) we refer to tables III.17 and III.18. Note that in table III.17 we report the factor structure including the items dropped based on Cronbach’s alpha statistics, while table III.18 reports the factor structure without these items. Note the relatively high cross-loadings between the price consciousness and the non search purchase tendency scale. However, as we intend
to use the moderators in separate analyses and different models, this will not disturb the results. From the combination of exploratory factor analysis and Cronbach’s alpha’s, we conclude that using the moderator scales as suggested by the literature and with the adaptations made based on the reliability analysis is reliable enough, given the fact that we do not intend to combine the described moderators into a single model. Rather, the moderators will be entered into the models under study separately.

**Table III.18: Survey based moderating variables: means, standard deviations and Cronbach’s alphas**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>SD</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price consciousness</td>
<td>4.27</td>
<td>0.74</td>
<td>.818</td>
</tr>
<tr>
<td>Price-quality schema</td>
<td>4.54</td>
<td>1.15</td>
<td>.830</td>
</tr>
<tr>
<td>Reference group related sources</td>
<td>5.18</td>
<td>0.96</td>
<td>.857</td>
</tr>
<tr>
<td>Retail related sources</td>
<td>4.37</td>
<td>1.20</td>
<td>.913</td>
</tr>
<tr>
<td>Non search purchase tendency</td>
<td>3.80</td>
<td>1.40</td>
<td>.757</td>
</tr>
<tr>
<td>Item</td>
<td>Factor 1</td>
<td>Factor 2</td>
<td>Factor 3</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Personal source 1</td>
<td></td>
<td>.605</td>
<td></td>
</tr>
<tr>
<td>Personal source 2</td>
<td></td>
<td>.808</td>
<td></td>
</tr>
<tr>
<td>Personal source 3</td>
<td></td>
<td></td>
<td>.777</td>
</tr>
<tr>
<td>Personal source 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal source 5</td>
<td>.764</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal source 6</td>
<td>.984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal source 7</td>
<td>.857</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price 4</td>
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<tr>
<td>Price 5</td>
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<tr>
<td>Non search purchase tendency 1</td>
<td></td>
<td>.375</td>
<td></td>
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<tr>
<td>Non search purchase tendency 2</td>
<td></td>
<td>.920</td>
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</tr>
<tr>
<td>Non search purchase tendency 3</td>
<td></td>
<td>.621</td>
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<tr>
<td>Price-quality schema 1</td>
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<td>Price-quality schema 2</td>
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<td>Price-quality schema 3</td>
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<tr>
<td>Price-quality schema 4</td>
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Table III.20: Exploratory factor analysis, structure matrix of survey based moderating variables, reduced number of items (loadings above .55 on the focal factor and cross-loadings above .25 on other factors)

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
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</thead>
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<tr>
<td>Personal source 6</td>
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<tr>
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<td>-.647</td>
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</table>

Attitudinal versus normative control

The attitudinal versus normative control construct reflects a computation based on three of the theory of planned behaviour constructs: Attitude towards the behaviour, subjective norm, and intentions.

Computation of the construct was conducted can be conducted in two ways. Based on the mean centered score for intentions substracted from the mean centered score for attitudes and subjective
norm respectively, a dichotomous indicator can be computed that represents a group of attitudinally controlled respondents versus normatively controlled respondents. The magnitude of the discrepancy between intentions and attitudes on the one hand, and intentions and subjective norm on the other hand are compared, and translated into a dichotomous variable. Unlike Sheeran and Abraham (2003), who used this dichotomous approach, we choose to model attitudinal versus normative control as a continuous variable. This approach results in a score that indicates whether the discrepancy between attitude and intentions is larger than the discrepancy between subjective norm and intentions, based on the difference between the absolute values of the subtraction of the mean centred score of each variable in the equation. The formula is thus:

\[ |(mc\ attitudes - mc\ intentions)| - |(mc\ subjective\ norm - mc\ intentions)| \]

The more positive the score, the more the respondent is under normative control (because intentions differ more from attitudes than from subjective norm), the more negative the score, the more the respondent is under attitudinal control (because intentions differ more from subjective norm than from attitudes).
IV Relational versus promotional direct mail impact on apparel buying behaviour: The moderating impact of relational strength, price related attitudes and personal source confidence

Abstract

This study investigates the long term and short term impact of two types of direct mail, relational and promotional direct mailings, on registered purchase behaviour of apparel. Past purchase and specific customer characteristics were taken into account as well. The results show that relational direct mail efforts outperform promotional direct mail efforts in the short run. Furthermore, we show that the delayed effect of relational efforts can be traced both in a purchase incidence model and in purchase behaviour models, while the stockpiling like negative impact of promotions in the long run only appears to affect the purchase incidence model. Customers react differently to direct mail efforts according to their level of relational strength, and to their level of price consciousness. Price quality schema and personal source confidence do not seem to alter the impact of direct mail efforts on behaviour.
(i) Introduction

It is widely accepted that effectively steering a customer’s behaviour positively contributes to the firm’s bottom line. Indeed, Gupta, Lehmann and Stuart (2004) calculated that a 1% improvement in retention improves firm value by 5%, while a 1% improvement in margin or acquisition cost will only result in a 1% raise of firm value. A vast body of research investigates how direct mail efforts impact the retention of customers. However, some areas remain underresearched.

First, past behaviour is often recognized as the best predictor of subsequent behaviour. Indeed, through habit formation in a repeat purchase situation, even when considering a non-contractual setting, consumers can build a decision concerning future behaviour on their past purchasing experiences. It has often been argued that they largely do. If marketing efforts have to prove their impact, they should thus have an impact above and beyond the influence of the customer’s past behaviour. In other words: Marketing efforts can only deliver hard evidence of their effectiveness if they prove to alter the decision customers are likely to make based on their past behaviour. However, studies combining both marketing efforts and past behaviour are scarce.

Second, research on the dynamics of marketing efforts has often concentrated on the thorough understanding of a specific type of marketing communication, or specific aspects of communication tools. Findings from this line of research enable us to combine different marketing tools into one research, and to investigate their differential impact. Indeed, based on the understanding of each separate tool, a methodologically sound integrative approach is possible.

Third, for each type of marketing effort both immediate and delayed effects can be investigated. Most studies concentrate on immediate effects (Lewis, 2004; Volle, 2001), while some addressed delayed effects only (Bell, Chong, and Padmanabhan, 1999; Pauwels, Hanssens, and Siddarth, 2002). Studies addressing the question of comparing immediate and delayed effects are rare (Jedidi, Mela, and Gupta, 1999).

Fourth, research in the past has led to unexpected results that were often attributed to the heterogeneity among consumers. Indeed, when research failed to support theoretically sound hypotheses, one of the suggested explanations for this phenomenon was the idea that the hypotheses might hold differently for subgroups of customers. Wedel, Kamakura, and Böckenholt (2000) suggest accounting for customer heterogeneity in a cross-sectional setting by introducing the marketing efforts on behalf of the retailer and/or general and/or purchase-related attitudes of customers into the customer-firm relationship research. Preliminary insights into the moderating impact of some customer characteristics call for more research.

Finally, research has been concentrating on the impact of marketing efforts on attitudes in relationships, both in a business-to-consumer and in a business-to-business context, be it at brand
Relational versus promotional direct mail impact on behaviour in the apparel retailing context: Unravelling the moderating impact of customer characteristics

level or at retailer level, both in product and in services contexts (e.g. De Wulf, Odekerken-Schröder, and Iacobucci, 2001; Gummeson, 1999; Hakansson, 1982; Kumar, 1999; Reinartz and Kumar, 2002). However, these studies have documented marketing actions as perceived by the customer. As Rust et al. (2004) indicate, as far as customer impact of marketing efforts is concerned, the vast body of knowledge already gathered at the attitudinal and intentional level does not leave much room for groundbreaking research. Instead, they suggest the most fertile area for research on customer impact pertains to how customer behaviour responds to changes in marketing actions. Although some researchers have addressed this question successfully, results seem to be contradictory. Therefore, we suggest modelling the effects described above using both behavioural and self-reported data.

As the present customer-firm relationship research shows a growing need for integrated frameworks (Leeflang and Wittink, 2000; Wedel, Kamakura, and Böckkenholt, 2000), we use a combination of behavioural and self-reported data from a Belgian apparel retailer to address the following research questions:

Do marketing efforts influence behaviour above and beyond the effects of past behaviour?
Do different types of marketing efforts have a differential impact on behaviour?
Do marketing efforts have different immediate and delayed effects on behaviour?
Do relational strength, price related attitudes, and personal source confidence moderate the impact of marketing efforts on behaviour?

More specifically, we empirically investigate the differential impact of promotional versus relational direct mail efforts on behalf of the apparel retailer on the behaviour of its customers. Promotional direct mail efforts include a specific call to action, a rebate, or a special offer, while relational direct mail efforts merely inform the customers on the products, without overtly inviting for a promotional action or occasion. Both past and simultaneous direct mail efforts are introduced into the model, to investigate the timing of the effects. Past behaviour is introduced to investigate whether or not direct mail efforts impact behaviour above and beyond the impact of past behaviour. Both database and self-reported information on the customers are introduced as customer characteristics, in order to assess their moderating impact.

In the remainder of this article we detail insights from past research in the theoretical framework that lead to a series of hypotheses. The empirical research and the particularities of our approach are described in the methodology section. The outcomes of the analyses are discussed in the results section. We close our article with conclusions, implications and suggestions for further research.
(ii) Theoretical framework

The main research objectives identified for the present study (past behaviour, marketing efforts, and customer heterogeneity) fit well in the consumer decision model described by Blackwell, Miniard, and Engel (2001). Apart from a detailed description of the internal processes the consumer experiences when planning, making and evaluating a purchase, the model also offers an integrated approach of the cross-sectional, measurable context of that purchase: Stimuli and individual differences. We reflect and discuss the consumer decision process model with special attention for these external elements as they are at the core of our interest.

Based on existing literature, we elaborate the elements in our model and suggest a series of hypotheses.

First, we review insights on the importance of past behaviour in determining the type of purchase event, and discuss the pertinence of accounting for past behaviour along with effective approaches to introduce the concept into the model.

Second, we detail the concept of stimuli, and elaborate on an approach of two types of marketer driven stimuli: promotional versus relational direct mail. The apparel retailer provided us with database information on all direct mail actions towards its customers, which enables us to link these direct mail actions directly to the customer. Moreover, in concentrating on the direct mail as marketing stimuli, we keep the communication channel constant. Any variability that might result from a combination of communication channels is thus excluded. Finally, the direct mail communication of the retailer is the cornerstone of its communication strategy. Therefore, the possible impact of other communication tools is kept at the lowest possible level.

Third, we introduce customer heterogeneity in the form of individual differences. We explore the concepts of personal source confidence and price related attitudes with opposite valence to account for individual differences. Indeed, Reinartz and Kumar (2000), along with Mulhern (1997), suspect that a qualitatively differential treatment of customers affects their lifetime behaviours. Krishna, Currim, and Shoemaker (1991) found that information on prices provided by retailers can only influence the buying patterns of some of the shoppers, and the effectiveness of a campaign has been proven to build primarily on the capacity of the provider to reach the proper target (Bult & Wansbeek, 1995). In general terms, we find indications in existing research that some heterogeneity exists among customers regarding their reactions to promotional efforts (Bucklin & Gupta, 1992; Moreau, Krishna, and Harlam, 2001; Papatla & Krishnamurti, 1996). In other words, the individual differences of the purchase decision model introduce customer heterogeneity. By choosing personal source confidence and price related attitudes we measure customer attitudes towards the two main characteristics of direct mail. First, it is a source of information, and we therefore expect the customers’ attitudes towards other sources of information to influence its impact. Second, it is a tool
to communicate price in the case of promotional direct mail, and the price-quality relationship in the case of relational direct mail. Hence we expect each of the price related attitudes to moderate the impact of the type of direct mail they most closely relate to by their nature.

a) Past behaviour

Conventional wisdom suggests that the best predictor for future behaviour is past behaviour (Kumar, Bohling, and Ladda, 2003). Therefore, it seems logical to integrate past behaviour into a model predicting behaviour. The predictive power conventionally acknowledged to past behaviour has been approached explicitly in two ways within the customer behaviour literature. First, past behaviour has been approached as a measure for the gravitational attraction of the store and a customer’s preference by Volle (2001). This store location effect on the customer-firm relationship was also indicated by Mulhern (1997) as a crucial element. Hence incorporating past behaviour into our model is a way of controlling for the gravitational and preferential variables we do not model explicitly. Second, past behaviour was found to influence future behaviour through multiple processes, as it reflects a customer’s habit (Ouellette & Wood, 1998). When customers had ample opportunity to perform a given behaviour frequently in the past, it can be performed automatically. Blackwell, Miniard, and Engel (2001, p. 86) acknowledge this effect too, when they distinguish types of decisions within the decision process continuum. These insights from different viewpoints suggest the frequency of past behaviour will have a clear impact on future behaviour.

As the use of past behaviour variables such as recency, frequency, and monetary value indicators are well supported in studies on response problems (Van den Poel, 2003), we will incorporate recency and monetary value indicators in our study next to the frequency. Thus, we use the RFM-approach (recency, frequency, and monetary value) suggested also by Bauer (1988) and Magidson (1988). Göñül and Shi (1998), for instance, find that a model combining several past behaviour indicators outperforms a model with one single past behaviour indicator. Although research has been reported using one or two of the three indicators (e.g. monetary value: Bult and Wittink, 1996 ; Heiler, Kaefer, and Ramenofsky, 2003; Reinartz and Kumar, 2000; e.g. recency and frequency: Göñül and Shi, 1998; Van den Poel and Leunis, 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), it is also clear that in the absence of existing findings on the specific context under study, the combination of all three past behaviour indicators is the safest approach. Indeed, context and industry effects influence the relative importance of each indicator.
b) Marketer dominated stimuli

Within the consumer decision process (Blackwell, Miniard, and Engel, 2001) marketing communications are identified as one of the elements that impact the consumer’s purchase process. The authors distinguish marketer dominated and non marketer dominated stimuli. Marketer dominated stimuli are considered to be anything the supplier does for purposes of information and persuasion, be it through impersonal or personal channels (Blackwell, Engel, and Miniard, 2001). Research agrees that all relevant marketing activities impact behaviour, and are, therefore, critical elements in building long term relationships with customers (Leeflang & Wittink, 2000). Marketing activities such as mailings, coupons, and other print offers have been extensively studied, next to television, radio, and internet advertising. The impact of marketing actions as perceived by the customer on attitudes in customer-firm relationships has been proved (e.g. De Wulf, Odekerken-Schröder, and Iacobucci, 2001; Gummesson, 1999; Hakansson, 1982; Kumar, 1999; Reinartz and Kumar, 2002). However, these studies rely on single measurement instruments, and their results are therefore questionable. Indeed, most studies combine survey based antecedents with survey based outcomes, often measured in a cross-sectional approach. Findings from research based on behavioural data are available too. Here again the immediate impact of marketing efforts is generally found to be positive. In the retail environment, for instance, Volle (2001) proved that direct mailings do influence customer share development. Lewis (2004) found a positive impact of e-coupons, in that they increase demand of the customer with the e-tailer in the current period. Findings on long term effects seem to be contradictory. In the food market, Pauwels, Hanssens, and Siddarth (2002) found no long-term effects of promotional efforts. Bell, Chiang, and Padmanabhan (1999) showed that promotions result in stockpiling like buying behaviour for storable products, which translates into a negative impact of promotions in the past on the current purchase occasion. Mulhern (1997) indicates that the more a retailer relies on price promotions, the more effective they tend to be.

Mela, Gupta and Lehmann (1997) study the differential impact of advertising and promotions, distinguishing between price and non-price promotions. The results of their empirical research on a packaged non food product strongly indicate there is a difference in impact of each marketing tool on price sensitivity in a brand context. In the long run, price promotions enhance the sensitivity of customers to price promotions, while advertising enhances their sensitivity to non-price promotions. These findings apply to the non-loyal segment of customers only, however.

Göniül and Shi (1998) show that marketing efforts impact behaviour above and beyond the effect of past behaviour. From a statistical point of view, combining past behaviour with direct mail efforts in a single study enables us to account for the effects of direct mail efforts above and beyond the documented effects of past behaviour on behaviour (Bolton & Lemon, 1999; Cohen & Cohen, 2003).
Thus, the literature implicitly identifies at least two important dimensions in the study of the impact of marketing efforts: the nature of the marketing effort (promotional versus non-promotional), the timing of the marketing effort (long versus short run), and the frequency of the used marketing tool. The importance of all three dimensions has been repeatedly stressed. Leeflang and Wittink (2000) call for research exploring how reward programs and other events influence current purchases. Despite the importance of understanding the differential impact of promotional versus relational marketing efforts on behavioural outcome variables, these specific effects have not been studied thoroughly yet (Mela, Gupta, and Lehmann, 1997; Mulhern and Leone, 1994). Therefore, we incorporate both promotional and relational efforts in nature, and assess the impact of both kinds of efforts in the short and in the long run. In the context of our study, promotional efforts refer to direct mailings with a rebate offer and an explicit call to action, whereas relational efforts refer to direct mail magazines without any rebate or promotion. By their nature, they solely foster the relationship between the company and the customer. Relational direct mails, thus, are more experiential in nature, and their lasting effects can therefore be expected to generate steadfast loyalty (Kumar and Shah, 2004). Moreover, relational direct mail efforts support the image of the retailer rather than price-driven choice, and are therefore, again, expected to have a lasting impact on behaviour (Mulhern, 1997).

As we indicated earlier, the effects of marketing efforts on behaviour should be found above and beyond the effects of past behaviour as expressed through recency, frequency, and monetary value, if we wish to confirm the true effectiveness of marketing efforts.

Hence we hypothesize that:

H1 Promotional direct mail efforts have an immediate positive and a delayed negative impact on purchase behaviour above and beyond the effects of past behaviour

H2 Relational direct mail efforts have both an immediate and delayed positive impact on purchase behaviour above and beyond the effects of past behaviour

As promotional direct mail efforts are designed to incite consumers to react immediately, whereas relational direct mail efforts have the aim of generating a more steadfast loyalty and do not ‘call to act’ explicitly, we expect the impact of promotional efforts to outperform the effects of relational efforts in the short run in terms of the magnitude of the effect. In the long run, we expect to find the opposite effect. Therefore, we further hypothesize that:

H3 The positive immediate impact of promotional direct mail efforts on purchase behaviour is more important in magnitude than the positive immediate impact of relational direct mail efforts.

H4 The positive delayed impact of relational direct mail efforts on purchase behaviour is more important in magnitude than the negative delayed impact of promotional direct mail efforts.
c) Customer heterogeneity

*Personal source confidence*

In their thorough analysis of customer profitability as related to customer lifetime duration, Reinartz and Kumar (2000) suggest that level of information is one of the key customer characteristics to investigate in order to deepen our understanding of the customer-firm relationship. Information attitudes of different kinds have been studied in the past in relationship with both marketing efforts and store choice. Empirical research that compares well to the study suggested here can be found in Volle’s (2001) study of the impact of search for promotional information. Based on its moderating effect in a brand choice context, Volle (2001) introduced search for promotional information into his store choice model for grocery shopping. No moderating effects were found. However, we believe methodological constraints rather than the absence of the effect account for the results. Indeed, the time elapsed between measurement of the behavioural variables and measurement of the psychographic characteristics might have hidden the already hard to find moderating effects. It is commonly acknowledged that finding moderating effects in a non-experimental setting is hazardous, due to the natural dispersion of the moderating variables under study (whereas in an experimental setting moderating variables are manipulated to take more extreme high versus low values). On top of this inherent lack of sensitivity of the empirical setting for identification of moderating effects, the moderating variable in Volle’s (2001) study has been measured a year after the behaviour under study. During this time frame information search attitudes might have changed.

Non-marketer dominated sources of information have been introduced into research models on repeat and initial purchase occasions. The perspectives of sender and receiver have both been researched. As far as the sender perspective is concerned, the origins of word-of-mouth behaviour are the best documented area. As far as the receiver perspective is concerned, scales have been developed to track to what extent a consumer is sensitive to non-marketer dominated sources of information. As indicated earlier, these non-marketer dominated sources are hard to track objectively. Hence they are usually introduced into research as attitudinal variables, reflecting the level of confidence a consumer has in certain types of non-marketer dominated stimuli. Personal source confidence was developed by Murray (1991) as a scale to measure this level of confidence. We follow this approach in the present study.

Extending Zeithaml’s (1981) argument from services versus goods to the service level of products, we can expect customers to rely on a higher number of different cues for products with a high service level. Based on the idea that customers scoring high on personal source confidence perceive a product as high in service level, we expect that score to influence the number of information cues customers will rely on, and thus the impact of marketing efforts to be accordingly high. This would
suggest the impact of both promotional and relational direct mail efforts is higher for customers scoring high on personal source confidence.

However, Murray (1991) shows that the confidence in personal and independent sources in the pre-purchase search varies with the level of service attribute of the products. Murray (1991) further distinguishes products on their level of service content, and shows that with increasing service content of products, customers prefer personal over impersonal sources, find personal independent sources more effective, and have more confidence in personal sources. Given the context of a specific study, the role of personal sources will vary.

Midgley (1983) interestingly showed that in the case of buying a suit, consulting references and consulting store personnel systematically show opposite loadings on the customer patterns of information seeking behaviour identified in their study. The confidence in personal references and in-store personnel are closely related, but opposite to each other.

As the personal source confidence scale reflects both reference group and retail related sources, we expect the scale to consist of two subscales, with independent scores for the reference group and retail related sources of information. Therefore, analyzing how the customer’s general attitude towards reference group on the one hand and retail related sources on the other hand on the impact of the cues delivered by the firm should further enhance our understanding of the customer-firm relationship. As the confidence in retail related sources denotes a propensity to rely on external information sources, for customers relying heavily on retail related sources we expect to find direct mail efforts to be more effective. For customers who rely heavily on reference group related sources of information we expect to find direct mail efforts to be less effective. Thus, we hypothesize that:

H5 Direct mail efforts will have a reduced impact on the purchase behaviour of customers relying heavily on reference group related sources as compared to their effect on the purchase behaviour of customers relying less on reference group related sources.

H6 Direct mail efforts will have an increased impact on the purchase behaviour of customers relying heavily on retail related sources as compared to their effect on the purchase behaviour of customers relying less on retail group related sources.

Price related attitudes: Price consciousness and price quality schema

In their thorough analysis of customer profitability as related to customer lifetime duration, Reinartz and Kumar (2000) suggest price consciousness and the price-quality schema being two of the key customer characteristics to investigate in order to enhance our understanding of the customer-firm relationship. This is in line with Lichtenstein, Ridgway, and Netemeyer (1993), who suggest that research incorporating customer price perceptions in both the negative and positive valence with
marketplace behaviour is likely to yield interesting results. We follow the definitions of both concepts as suggested by Lichtenstein, Ridgway, and Netemeyer (1993). They consider price consciousness to be "the degree to which the consumer focuses exclusively on paying low prices" and price quality schema to be "generalized belief [...] that the level of the price cue is related positively to the quality level of the product". As Leeftang and Wittink (2000) point out, every customer may want to consider quality and price but the dimensions of quality will vary across customers as will the manner in which these two aspects are combined. The fact that price has proven to have both a positive (as a cue for quality) and a negative role (as representing the amount of money to be paid for a product or service) urges us to consider the possible moderating effects of the attitudes of customers towards price in itself, and the price quality relationship (Lichtenstein, Ridgway, and Netemeyer, 1993). Researchers in other settings have proven that price consciousness and price quality schema are different in nature. For example, price consciousness impacts the purchase of Private Label Brands positively, while price-quality perceptions impact it negatively (Sinha & Batra, 1999), and price consciousness influences both coupon and sale proneness positively, while price-quality perceptions influence both negatively (Garretson & Burton, 2003).

Lichtenstein, Ridgway, and Netemeyer (1993) empirically proved that the price-quality schema is quite sensitive to contextual cues that reinforce the perceived validity of using price to infer quality. Relational direct mail efforts have the aim of highlighting the quality of the products offered and do not refer to price advantages. Furthermore, relational efforts act upon the image of the retailer, and image reaches customers differently according to their level of price quality schema (Mul Hern, 1997). Hence the level of price quality schema of the customers will positively influence the impact of relational direct mail efforts.

Burton, Lichtenstein and Netemeyer (1999) prove that price conscious customers are more likely to read promotional communication. This finding was confirmed by Krishna, Currin, and Shoemaker (1991), who prove that a price oriented segment processes price promotions differently from less price oriented segments. Processing promotional communication is an inevitable step from receiving it to positively reacting to it. Therefore, we expect that the reading behaviour implicitly understood in the measurement of reacting to promotional efforts will influence the direct mail efforts – behaviour relationship in our model. More specifically, we expect that highly price conscious customers will react most to promotional direct mail efforts.

Although price quality schema is a price related construct with positive valence, and price consciousness is a price related construct with negative valence, we do not expect the constructs will yield effects that are each others' perfect opposites. Indeed, we do not expect the price quality schema to moderate the influence of promotional direct mail efforts on behaviour, as this effect will be captured by the price consciousness concept. And as the relational direct mail efforts do not act upon
price related attitudes or behaviours, we do not expect to find a significant moderating effect of price consciousness on the relational direct mail efforts – behaviour relationship. Relying on the fact that research has indeed proven that price quality schema and price consciousness measure different underlying dimensions of the broad array of significances of ‘price’, we rather posit that each of the attitudes will have a specific moderating impact. We therefore hypothesize that:

H7 Relational direct mail efforts will impact purchase behaviour more for customers scoring higher on the price quality schema as opposed to customers scoring lower on price quality schema.

H8 Promotional direct mail efforts will impact purchase behaviour more for customers scoring higher on price consciousness as opposed to customers scoring lower on price consciousness.

Relational strength

Modelling the past relationship between the customer and the company in some way has shown to add to our understanding of the predictive power of past behaviour (e.g. Bolton, 1998; Grayson and Ambler, 1999; Kumar, Bohling, and Ladda, 2003; Jap and Ganesan, 2000; Mittal and Karichis, 2000; Verhoef, Franses and Hoekstra, 2002; Vlaene et al., 2001; Weiss and Kurland, 1997). In existing research, that past relationship has usually been operationalized as the length of that relationship. Studies that incorporate length of relationship as a moderator variable argue that with the age of the relationship the effects of most (attitudinal) antecedents to purchase intentions or real buying behaviour increase, due to the learning process reflected by the length of the relationship (e.g. Verhoef, Franses, and Hoekstra, 2002). This approach of length of relationship is highly comparable to the knowledge characteristic as described by Blackwell, Miniard, and Engel (2001). However, the length of a relationship does not inherently reflect comparable frequencies of purchases between customers. Customers can differ in the regularity of their relationship to the retailer. We suggest that considering the length of the relationship along with the regularity of that relationship more truthfully reflects the learning process and intimacy of the relationship, and hence the knowledge as intended by Blackwell, Miniard, and Engel (2001). Customers who have been buying occasionally for a long time have less opportunities of building intimacy and of learning from the relationship than customers who have been buying more, regardless of the length of the relationship. We suggest to model strength of relationship as a variable that reflects both the length of the relationship and the regularity of the relationship.

Findings from existing research often refer to mere length of relationship. Although they do not incorporate the concept of regularity of the relationship, they offer the best possible basis for our hypotheses.
Bult, van der Scheer, and Wansbeek (1997) have shown that the length of the relationship of a household with a health care fund raiser strongly influences the behaviour in the future. Interestingly, this variable significantly interacts with all mailing characteristics discussed in their study. Mela, Gupta and Lehmann (1997) study the differential impact of advertising and promotions, distinguishing between price and non-price promotions. The results of their empirical research on a packaged non-food product strongly indicate that there is a difference in impact of each marketing tool according to the level of loyalty of the customer. Thus, we can conclude that the relationship characteristic of the customer interacts with mailing characteristics in predicting behaviour.

Volle (2001) proves strength of relationship to be a U-shaped moderator of the promotional efforts on store choice probabilities. Promotional efforts have the highest impact on shoppers with an intermediate level of loyalty. This suggests the learning theory does not apply to the moderation of marketing efforts as it does to attitudes. However, Volle's (2001) study only considered promotional efforts. As relational direct mail efforts are more experiential in nature, we do not expect to find the U-shaped impact on these efforts that Volle (2001) found in the case of promotions. Indeed, experiential direct mail efforts have the proposed objective of influencing general attitudes of the customer towards the retailer, whereas promotional efforts are directed towards generating immediate action. Therefore, we expect the learning process to act upon the relational direct mail efforts moderators. As a consequence, and partially in line with the findings of Volle (2001), we expect to find a U-shaped moderating effect of relationship strength on the impact of promotional direct mail efforts, but a positive linear moderating effect of relationship strength on the impact of relational direct mail efforts.

In line with conclusions from past research, we posit that

H9   Relational direct mail efforts will impact purchase behaviour most for customers with a higher level of relationship strength as opposed to customers with lower levels of relational strength.
H10  Promotional direct mail efforts will impact purchase behaviour most for customers with an intermediate level of relationship strength as opposed to customers with extreme levels of relational strength, be it high or low.

d) Purchase: the outcome variable under study

At the single customer level, both purchase incidence and purchase behaviour can be studied. Bauer (1988) indicates that the outcome variable in a model predicting behaviour can be the actual response or the amount of money spent. Indeed, in direct marketing research, Prinzie and Van den Poel (2005) found eight studies that only model a binary response, thirteen that model only some type of continuous response (e.g. total profit, total net return,...), and three that model both a binary and a continuous response. Thus they implicitly discern a purchase incidence from a purchase behaviour
model. Buckinx and Van den Poel (2005) use the (partial) defection of a customer as the outcome variable in a purchase-incidence model predicted based on behavioural data only. Rust et al. (2004) also suggest that when modelling the future behaviour multiple aspects of each customer’s purchase behaviour (e.g. cross-selling) should be considered, not just retention probabilities. Bult, van der Scheer, and Wansbeek (1997) applied these suggestions, and studied both a dichotomous model (probability of response to a health care fund raising mailing) and a continuous behaviour model (amount of money donated).

Verhoef, Spring, Hoekstra, and Leeftang (2002) studied the use of both primary (i.e. an incidence model) and secondary response (i.e. a behavioural model such as purchase amount, number of visits, etc.) as outcome variables among database marketers in the Netherlands. They show that only half as many companies predict secondary response, although secondary response is closely related to the profitability of marketing efforts. Investigating the importance of differentiating between primary and secondary response might therefore result in important managerial implications, next to the academic results it yields. Accordingly, we test the impact of the direct mail efforts described above, as well as the moderated models, both on a purchase incidence and on three distinct purchase behaviour models. In figure IV.1, we summarize the suggested hypotheses.

**Figure IV.1 Theoretical framework of the direct mail efforts model**

- Price consciousness H8
- Price-quaity schema H7
- Confidence in retail related sources H6
- Confidence in reference group related sources H5
- Relational strength H9, H10

Promotional direct mail
H1, H3, H4

Relational direct mail
H2, H3, H4

Past behaviour
H1, H2, H3, H4

Future behaviour
(iii) Research method and data collection

For a detailed description of the research method and data collection, we kindly refer the reader to Chapter III, pages 61 to 86.

(iv) Results

We performed a series of logistic and linear regressions to test the hypotheses detailed in the theoretical framework section. Logistic regressions are used for testing the hypotheses on the purchase-incidence model, and linear regressions for testing the hypotheses on the response models. Coefficients of the results are made comparable by introducing the mean centered variable of each indicator into the analyses. We first discuss the non-moderated purchase-incidence and response models, and continue with a discussion of the interaction effects.

a) Purchase-incidence and response models

Model indicators of the logistic respectively linear regressions indicate that the models are significant and direct mail efforts variables as well as past behaviour indicators have significant coefficients. However, correlations between direct mail efforts variables and both recency and frequency indicators are close to and in some cases higher than .5. Recency and frequency indicators are the basis on which the apparel retailer selects customers into mailings, which explains the fairly high correlation levels. In order to correctly assess the direction and importance of the separate marketing efforts coefficients we have to rule out multicollinearity effects. Making the model more parsimonious is a sound approach to lower multicollinearity effects in analyses. Therefore, we estimate the impact of direct mail efforts variables with a single past behaviour indicator, monetary value. Significance and relative magnitude of the direct mail efforts variables appear not to be altered. Hence we conclude that discussing significance and magnitude for the direct mail efforts variables based on either the full model as suggested in our theoretical framework or the reduced model using only monetary value as an indicator for past behaviour will not alter our conclusions on the direct mail efforts variables. As indicated in the discussion of our theoretical framework, we do not intend to discuss the relative importance of past behaviour indicators per se, or suggest that monetary value as a sole indicator would be appropriate in a model based on past behaviour. This discussion goes beyond the scope of our hypotheses. We choose to discuss the models with the monetary value indicator because the probability of multicollinearity effects is most strongly reduced, and thus our understanding of the specific effects of the direct mail efforts variables is the most reliable.

With a Nagelkerke $R^2$ of .8230, we can conclude that the antecedents introduced in the logistic regression for the purchase-incidence model account for an important part of the variance in the dependent variable. Coefficients of the indicators and significance levels are reported in Table IV.1.
Relational versus promotional direct mail impact on behaviour in the apparel retailing context: Unravelling the moderating impact of customer characteristics

Standardized estimates indicate that the impact of the current relational marketing efforts is positive and yields the highest β̂, followed by a positive impact of current promotional efforts, past behaviour (monetary value), a positive delayed effect of relational direct mail efforts and finally a negative delayed impact of promotional direct mail efforts. As far as the purchase-incidence model is concerned, hypothesis 1 and 2 are thus supported: Marketing efforts do impact behaviour significantly when combined with the effects of monetary value, and the direction of the effects confirms our expectations too. All direct mail efforts have a positive impact, except for the past promotional efforts, which have a negative impact, confirming the expectation of a stockpiling like effect. Hypothesis 3, however, is not supported, as the immediate effects of relational direct mail efforts are more important in magnitude than the immediate effects of promotional direct mail efforts. Hypothesis 4 is supported, as the magnitude of the delayed effects of past promotional direct mail efforts is smaller than the magnitude of the delayed effects of past relational direct mail efforts. Furthermore, the negative sign of the past promotional direct mail efforts confirms the stockpiling like reaction of customers to past promotions within the purchase-incidence model.

R² and coefficients for the linear regression models are reported in Table IV.2. Model-level results of the linear regressions indicate that marketing efforts combined with past behaviour do predict the customer’s buying behaviour. They predict total expenditure and number of visits much better than they predict number of product types purchased. Separate indicator coefficients show that past behaviour consistently outperforms both relational and promotional marketing efforts in influencing the outcome variables. Both relational and promotional marketing efforts have a fairly comparable direct impact on total expenditure as an outcome variable. The delayed effect of promotional efforts is non-significant, and the delayed effect of relational efforts is significant and positive. In the number of visits and number of product types models, however, past behaviour is closely followed by the direct effects of promotional marketing efforts, while relational marketing efforts have a comparatively low impact on the outcome variables. On the number of visits and number of product types models, no delayed effects of either promotional or relational efforts were found. Overall we can state that Hypothesis 1 is partially supported in the purchase behaviour models, as the impact of past promotional efforts is non-existent, but all other three indicators impact behaviour in the expected direction. Hypothesis 2 is supported in the total expenditure model, and partially supported in the other models, as the impact of past relational direct mail efforts was only found in the total expenditure model, while the impact of current relational direct mail efforts was found in all three purchase behaviour models. Hypothesis 3 is fully supported, as current relational direct mail efforts have an impact with a magnitude bigger than the magnitude of the impact of current promotional

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11 In the analysis with all three past behaviour indicators, both relative magnitude and sign of the standardized coefficients of the direct mail efforts variables show the same trend as in the analysis with monetary value as unique past behaviour indicator.
efforts. Hypothesis 4 must be rejected in the number of visits model and in the number of product types model, while it is confirmed for the total expenditure model. Indeed, in this specific model past relational direct mail efforts outperform past promotional direct mail efforts. Overall, the purchase-incidence model and the response models partially confirm our expectations. Moreover, the differential results of the three response models confirm the importance of approaching the outcome variables in separate models.

**Table IV.1: Standardized coefficients from logistic regressions concerning the purchase-incidence model (**=significant at the .001 level; *=significant at the .01 level; *=significant at the .05 level**)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Standardized coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past promotional efforts</td>
<td>-.2526*</td>
</tr>
<tr>
<td>Past relational efforts</td>
<td>.2921*</td>
</tr>
<tr>
<td>Current promotional efforts</td>
<td>3.1738***</td>
</tr>
<tr>
<td>Current relational efforts</td>
<td>3.7960***</td>
</tr>
<tr>
<td>Monetary value</td>
<td>.3099*</td>
</tr>
<tr>
<td>Nagelkerke R²</td>
<td>.823***</td>
</tr>
</tbody>
</table>

**Table IV.2: Standardized coefficients from linear regressions concerning the purchase behaviour models (**=significant at the .001 level; *=significant at the .01 level; *=significant at the .05 level**)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Total expenditure</th>
<th>Number of visits</th>
<th>Number of product types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotional efforts past</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Relational efforts past</td>
<td>.160**</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Promotional efforts current</td>
<td>.243***</td>
<td>.316***</td>
<td>.230***</td>
</tr>
<tr>
<td>Relational efforts current</td>
<td>.230***</td>
<td>.193***</td>
<td>.147*</td>
</tr>
<tr>
<td>Monetary value</td>
<td>.275***</td>
<td>.340***</td>
<td>.279***</td>
</tr>
<tr>
<td>R² Adj.</td>
<td>.379***</td>
<td>.393***</td>
<td>.193***</td>
</tr>
<tr>
<td>F</td>
<td>47,103</td>
<td>49,566</td>
<td>19,090</td>
</tr>
</tbody>
</table>
b) Interaction effects

The results of the logistic and linear regressions suggest some of the moderators do impact the models (price consciousness and relational strength), while others do not (price quality schema and personal source confidence). Both in the logistic and linear moderated regressions, we do not find more than one (marginally) significant moderator coefficient in the price quality schema model, and in both personal source confidence models (reference group related sources and retail related sources). As we tested five possible interactions per model (interaction of the moderator with each of the antecedent variables, namely past and simultaneous promotional and relational direct mail efforts plus monetary value), the number of significant effects does not exceed the level of incidental interactions that one would expect given a 5% significance level. These effects do not reveal a trend in the moderating impact of the variables. Therefore, we do not discuss them in detail here. As a consequence, hypotheses 5, 6, and 7 cannot be supported by our data.

As far as price consciousness is concerned the improvement in Nagelkerke $R^2$ (0.8555 as compared to 0.8227 for the model without interaction) confirms that the introduction of price consciousness as a moderator variable adds to our understanding of the marketing efforts model. This improvement is entirely due to the (marginally) significant interaction terms of price consciousness with current relational efforts and with past promotional efforts on the outcome variable (Table IV.3). The interaction term with current relational efforts is negative, which indicates that the more customers are price conscious, the less relational marketing efforts impact their decision to buy at the retailer in the short run. The interaction term with past promotional efforts is positive, which indicates that price conscious customers are more positively affected by past promotions than are less price conscious customers. These findings partially confirm Hypothesis 7. As we did not expect price consciousness to interact with relational efforts, this finding has not been hypothesized. However, intuitively, it corresponds to the expectation that price conscious customers are less sensitive to relational marketing efforts. It is further confirmed by the positive interaction of past promotional marketing efforts with price consciousness.
Table IV.3: Standardized coefficients from logistic regression concerning the purchase-incidence model with price consciousness as a moderator (***/=significant at the .001 level; *=significant at the .05 level; ^=significant at the .10 level)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Standardized coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past promotional efforts</td>
<td>-0.6046***</td>
</tr>
<tr>
<td>Past relational efforts</td>
<td>n.s.</td>
</tr>
<tr>
<td>Current promotional efforts</td>
<td>4.0413*</td>
</tr>
<tr>
<td>Current relational efforts</td>
<td>4.5901***</td>
</tr>
<tr>
<td>Monetary value</td>
<td>.4471*</td>
</tr>
<tr>
<td>Price Consciousness (PC)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Past promotional efforts * PC</td>
<td>.3578^</td>
</tr>
<tr>
<td>Past relational efforts * PC</td>
<td>n.s.</td>
</tr>
<tr>
<td>Current promotional efforts * PC</td>
<td>n.s.</td>
</tr>
<tr>
<td>Current relational efforts * PC</td>
<td>-0.9663*</td>
</tr>
<tr>
<td>Monetary value * PC</td>
<td>n.s.</td>
</tr>
<tr>
<td>Nagelkerke R²</td>
<td>.856***</td>
</tr>
</tbody>
</table>
Table IV.4: Standardized coefficients from linear regressions concerning the purchase behaviour models with price consciousness as a moderator (***=significant at the .001 level; **=significant at the .01 level; *=significant at the .05 level; °=significant at the .10 level)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Total expenditure</th>
<th>Number of visits</th>
<th>Number of product types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotional efforts past</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Relational efforts past</td>
<td>.129°</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Promotional efforts current</td>
<td>.324***</td>
<td>.376***</td>
<td>.269***</td>
</tr>
<tr>
<td>Relational efforts current</td>
<td>.191**</td>
<td>.152*</td>
<td>.152*</td>
</tr>
<tr>
<td>Monetary value</td>
<td>.333***</td>
<td>.370***</td>
<td>.222**</td>
</tr>
<tr>
<td>Price Consciousness (PC)</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Promotional efforts past * PC</td>
<td>n.s.</td>
<td>.272*</td>
<td>n.s.</td>
</tr>
<tr>
<td>Relational efforts past * PC</td>
<td>n.s.</td>
<td>-.341*</td>
<td>n.s.</td>
</tr>
<tr>
<td>Promotional efforts current *</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>PC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational efforts current * PC</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Monetary value * PC</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>R² Adj.</td>
<td>.418***</td>
<td>.413***</td>
<td>.195***</td>
</tr>
<tr>
<td>F</td>
<td>17.878</td>
<td>17.488</td>
<td>6.708</td>
</tr>
</tbody>
</table>

R² adj and coefficients for the linear regressions models are reported in Table IV.4. R² adj seems to indicate that both the total expenditure model (.418 as compared to .379) and the number of visits model (.413 as compared to .393) are improved by adding the interaction terms. However, single indicator coefficients indicate that price consciousness only moderates the number of visits model. The significant negative interaction of price consciousness with past relational marketing efforts suggests that the more customers are price conscious, the less they react positively to relational marketing efforts in the long run, more specifically in terms of the number of visits at the retailer. The significant positive interaction of price consciousness with past promotional marketing efforts suggests that the more customers are price conscious, the more they react positively to promotional marketing efforts in the long run, more specifically in terms of the number of visits at the retailer. Overall, we thus find some support for hypothesis 7. In fact, contrary to our expectations, the price
consciousness indicator seems to affect both relational and promotional marketing efforts effectiveness in an intuitively correct direction. Moreover, the findings are consistent across the purchase-incidence and the response model, as far as the number of visits model is concerned.

As far as relational strength is concerned, we first ran analyses accounting for a possible inverted U-shaped effect of the moderator. However, the interaction of marketing efforts with the quadratic term of relationship strength did not yield significant results. Thus we have to reject hypothesis 10. We further report in detail analyses without the quadratic term. The Nagelkerke $R^2$ of .8387 (as compared to .8227) confirms that relational strength of customers impacts the effects of marketing efforts on their subsequent behaviour, although the improvement in Nagelkerke $R^2$ is not spectacular. The improvement is due to the significant interaction term of relational strength with past and current promotional efforts on the outcome variable (Table IV.5). The interaction term is positive for the interaction with past promotional efforts, which indicates that the more intimate customers become, the more promotional marketing efforts positively impact their decision to buy at the retailer in the long run. The coefficient is negative for the interaction with current promotional efforts, which indicates that the more intimate customers become, the less promotional marketing efforts positively impact their decision to buy at the retailer in the short run. In other words, the promotional marketing efforts of the retailer do pay off with intimate customers in the long run only, when the purchase-incidence model is considered.
Table IV.5: Standardized coefficients from logistic regressions concerning the purchase-incidence model with relational strength as a moderator (***=significant at the .001 level; **=significant at the .01 level; *=significant at the .05 level; °=significant at the .10 level)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Standardized coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past promotional efforts</td>
<td>-.2136°</td>
</tr>
<tr>
<td>Past relational efforts</td>
<td>n.s.</td>
</tr>
<tr>
<td>Current promotional efforts</td>
<td>4.2500**</td>
</tr>
<tr>
<td>Current relational efforts</td>
<td>3.6791***</td>
</tr>
<tr>
<td>Monetary value</td>
<td>.03078*</td>
</tr>
<tr>
<td>Relational strength (RS)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Past promotional efforts * RS</td>
<td>0.5490*</td>
</tr>
<tr>
<td>Past relational efforts * RS</td>
<td>n.s.</td>
</tr>
<tr>
<td>Current promotional efforts * RS</td>
<td>-2.5674**</td>
</tr>
<tr>
<td>Monetary value * RS</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

R² adj and coefficients for the linear regression models (Table IV.6) seem to indicate the total expenditure model and the number of visits model are improved by adding the interaction term. However, single indicator coefficients show that relational strength only moderates the total expenditure model, and there is a marginally significant and negative direct impact of the moderator. The marginally significant negative interaction of relational strength with current relational marketing efforts suggests the more intimate customers are, the less they react positively to relational marketing efforts in the short run, more specifically in terms of their total expenditure at the retailer. The significant positive interaction of relational strength with current promotional marketing efforts suggests the more intimate customers are, the more they react positively to promotional marketing efforts in the short run, more specifically in terms of their total expenditure at the retailer. Thus the expenditure of intimate customers buying at the retailer is slightly negatively affected by the relational efforts in the short run, and positively affected by promotional efforts in the short run. Overall, we
thus have to reject hypotheses 9 and 10. Effects of intimacy are far more complicated than one might expect based on previous findings.

Table IV.6: Standardized coefficients from linear regressions concerning purchase behaviour models with relational strength as a moderator (** = significant at the .001 level; * = significant at the .01 level; * = significant at the .05 level; o = significant at the .10 level)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Total expenditure</th>
<th>Number of visits</th>
<th>Number of product types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past promotional efforts</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Past relational efforts</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Current promotional efforts</td>
<td>.245***</td>
<td>.312***</td>
<td>.234***</td>
</tr>
<tr>
<td>Current relational efforts</td>
<td>.136*</td>
<td>.126*</td>
<td>.115°</td>
</tr>
<tr>
<td>Monetary value</td>
<td>.410***</td>
<td>.313***</td>
<td>.219**</td>
</tr>
<tr>
<td>Relational strength (RS)</td>
<td>-.245°</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Past promotional efforts * RS</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Past relational efforts * RS</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Current promotional efforts * RS</td>
<td>.300**</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Current relational efforts * RS</td>
<td>-.191°</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Monetary value * RS</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>R² Adj.</td>
<td>.431***</td>
<td>.406***</td>
<td>.201***</td>
</tr>
<tr>
<td>F</td>
<td>26.971</td>
<td>24.327</td>
<td>9.613</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Confirmation?</th>
<th>Purchase incidence model</th>
<th>Purchase behaviour model</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Promotional direct mail efforts have an immediate positive and a delayed negative impact on behaviour above and beyond the effects of past behaviour</td>
<td>Yes</td>
<td>Partially</td>
<td></td>
</tr>
<tr>
<td>H2 Relational direct mail efforts have both an immediate and delayed positive impact on behaviour above and beyond the effects of past behaviour</td>
<td>Yes</td>
<td>Partially</td>
<td></td>
</tr>
<tr>
<td>H3 The positive immediate impact of promotional direct mail efforts on behaviour is more important in magnitude than the positive immediate impact of relational direct mail efforts.</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>H4 The positive delayed impact of relational direct mail efforts on behaviour is more important in magnitude than the negative delayed impact of promotional direct mail efforts.</td>
<td>Yes</td>
<td>Partially</td>
<td></td>
</tr>
<tr>
<td>H5 Direct mail efforts will have a reduced impact on the behaviour of customers relying heavily on reference group sources</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H6 Direct mail efforts will have an increased impact on the behaviour of customers relying heavily on retail related sources</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H7 Promotional direct mail efforts will impact behaviour most for customers scoring highest on price consciousness.</td>
<td>Partially</td>
<td>Partially</td>
<td></td>
</tr>
<tr>
<td>H8 Relational direct mail efforts will impact behaviour most for customers scoring highest on the price quality schema.</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H9 Relational direct mail efforts will impact behaviour most for customers with the highest level of relationship strength.</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H10 Promotional direct mail efforts will impact the behaviour most for customers with an intermediate level of relationship strength.</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
(v) Discussion

Overall the results detailed above confirm the idea that marketing efforts do pay off, even when their effect is measured taking past behaviour into account, and that introducing customer heterogeneity in models predicting behaviour based on marketing efforts slightly enhances our understanding of the effects under study.

In general terms, we are able to confirm that in influencing the customer’s decision to buy direct mail efforts clearly alter a customer’s behaviour. Contrary to conventional wisdom, past behaviour is not the best predictor in the purchase-incidence model under study in our context (Kumar, Bohling, and Ladda, 2003). The results of our analyses thus confirm the finding of Gönil and Shi (1998) that stimuli as measured through the objective count of marketing efforts do influence behaviour above and beyond the effects of past behaviour.

However, it is important to differentiate between the impact of direct mail efforts on the decision and the behaviour of buyers by modelling both a purchase-incidence and a response model, as was already indicated by Bult, van der Scheer, and Wansbeek (1997). Indeed, the impact of marketing efforts on buying decision in the purchase-incidence model reflects a positive immediate effect of both promotional and relational efforts, as well as the expected delayed positive effect of relational efforts and the negative, stockpiling like effect of past promotional efforts. In general terms, this extends the existing findings on positive immediate impact of promotional marketing efforts (Jedidi, Mela, and Gupta, 1999; Lewis, 1994; Volle, 2001), on both immediate and delayed effects of relational marketing efforts (Jedidi, Mela, and Gupta, 1999), and on negative delayed impact of promotional marketing efforts (Bell, Chiang, and Padmanabhan, 1999; Jedidi, Mela, and Gupta, 1999; Pauwels, Hanssens and Siddarth, 2002) to a new context.

The relative magnitude of the effects is different from earlier reported results (Jedidi, Mela, and Gupta, 1999). The image-supporting relational efforts impact the purchase-incidence model most (Mulhern, 1997). We strongly believe both the specific context and the marketing strategy of the retailer under study account for this difference. As the retailer in our study has been relying heavily on the effects of relational direct mail efforts for the past ten years, replicating our study in the context of a retailer relying heavily on promotional actions might yield different results. Indeed, the retailer in our study might just have attracted a high number of customers who positively appreciate this strategy.

Beyond the buying decision, marketing efforts play a different role in the behaviour of the buyers. Indeed, as results from the response models described above, whatever the buying behaviour under study is, the magnitude of the effect of the past behaviour of the customer is the most important, more or less closely followed by promotional efforts. Contrary to the finding in the purchase-
incidence model, this finding in the response models is consistent with Kumar, Bohling, and Ladda (2003). Thus marketing efforts face a far bigger challenge if the main objective is to alter customers' behaviour in terms of the amount of money they spend, number of visits they pay to the store, or number of product types they buy from the retailer. The best results will be obtained here through promotional efforts. In terms of money spent, relational efforts achieve a comparable immediate result, and do pay off positively in the long run too. In terms of number of visits and number of product categories, the immediate effects of relational efforts are notably smaller, and delayed effects are nonexistent. The number of product types is the hardest to influence. Clearly, factors beyond the scope of our study impact this outcome variable the most. Thus, in the response models, the image-supporting relational efforts are of less importance, and their place is taken by promotional efforts (Mulhern, 1997). The stockpiling like effect of past promotional efforts is not found here, which indicates that it only affects the purchase-incidence model, and not the response model.

As far as customer heterogeneity is concerned, the results show that individual differences do indeed influence the impact of stimuli on a consumer's purchasing process. The positively valenced price related attitude in our model, price quality schema, does not interact with relational marketing efforts as was expected based on existing literature. The negatively valenced price related attitude, price consciousness, interacts both with promotional and relational marketing efforts. The results confirm the expectation that among price conscious customers, promotional efforts have a greater positive impact. This effect was traced both in terms of the buying decision and the number of visits customers paid to the retailer as a long term result of promotions. Thus, promotions build an attractive image among price conscious customers in the long run. The negative interaction of price consciousness with current relational efforts in terms of buying decision as well as with past relational efforts in terms of the number of visits paid to the retailer underlines the unexpected finding that price conscious customers react negatively to relational efforts, both in the short and in the long run.

Although we expected these effects to be better captured by the price quality scheme, the results intuitively confirm the negative impact of a negatively valenced price perception on the impact of relational marketing efforts. Hence the direction of the effects of price consciousness we found does not contradict the expectations suggested in the literature by Lichtenstein, Ridgway, and Netemeyer (1993). However, the absence of a significant impact of the price quality schema suggests the opposite effects both constructs yield in certain contexts (Garretson and Burton, 2003; Lichtenstein, Ridgway, and Netemeyer, 1993; Sinha and Batra, 1999) do not necessarily occur when translated to a different situation. In short we have shown that promotions better attract price conscious customers to the shops and attract buyers to visit the shops more often, without necessarily influencing the amount of money or the share of wallet spent at a specific retailer. Thus, the traffic building aim of promotions is attained best among price conscious customers.
Chapter IV

The expected interaction of relational and promotional efforts with the customer's relational strength could not be confirmed. The inverted U-shaped interaction described by Volle (2001) was not significant in our context. In terms of the buying decision, promotional direct mail efforts have a greater positive impact in the long run among the most intimate customers, while they have a more negative impact in the short run.

Relational direct mail efforts do not interact with relational strength in the purchase-incidence model. As far as the response models are concerned, the total amount spent by the most intimate customers at the retailer is more positively influenced by promotional efforts and less by relational efforts. These findings underline that approaching the past relationship of customers with the retailer as more than just length of relationship reveals a more complex effect of this relationship on the effectiveness of marketing tools than one expects based on findings that discuss mere length of relationship. In short, we have shown that promotions have a stronger long run positive effect on intimate customers, and also better achieve to raise the amount of money they spent at the retailer.

The different interaction effects found between purchase-incidence and response models, and between the distinct response models, further underline the importance of tracing direct mail efforts' impact at different levels of outcome variables, which was already highlighted based on the models without interactions (Bult, Van der Scheer, and Wansbeek, 1997).

The model explains an important portion of variance in the dichotomous outcome variable, and in the continuous behavioural variables. The variance not captured by the model could be explained by attitudes, discussed later in this dissertation (Chapters V and VI), of by life events that shape the customers' behaviour. Furthermore, the majority of consumers have a given mindset of shops from which they shop for a specific product. The choice between those shops has been shown to be nearly random (Brewis-Levie and Harris, 2000; Ehrenberg, Uncles, and Goodhardt, 2004). The unexplained variance in the models can partially be attributed to this randomized choice.

From an academic point of view, we can conclude that the combination of survey based information with behavioural and marketing information from databases significantly improves our understanding of the dynamics of the behaviour of the consumer. Furthermore, we show that the choice of outcome variable has an important impact on the types of effects the researcher can expect to find. Finally, our results confirm that introducing customer heterogeneity into the discussed models can enhance our understanding of the dynamics at stake. From a managerial point of view, we can conclude that targeting relational and promotional efforts to subgroups of customers can yield improved results of the direct marketing investments. The impact of these investments is largely confirmed by the significance of the direct mail impact above and beyond the effects of past behaviour.
Conclusions, implications and suggestions for further research

Three major findings are presented in our study. First, direct mail efforts succeed in influencing behaviour above and beyond the impact of past behaviour, as far as the buying decision is concerned. Their impact on buying behaviour is much smaller. Second, all direct mail efforts have a positive impact on the buying decision, except for the delayed effect of promotions, which is negative. In the context of apparel retailing discussed here, relational efforts outperform promotional efforts in influencing the buying decision of the customers. The buying behaviour in terms of amount of money spent, number of visits and number of product types purchased is influenced more by promotional efforts. Delayed effects of direct mail efforts are quasi non-existing in the response models. Thus, each marketing tool has a different impact on buying decision and buying behaviour. Third, adding specific customer characteristics to the models enhances our understanding of the impact of marketing efforts on behaviour.

Our results indicate that in order to correctly assess the impact of marketing efforts on behaviour, the study of these effects above and beyond past behaviour in a comprehensive model yields additional insights that could not have been gathered from a more parsimonious approach concentrating on a single marketing effort type. The specific, direct marketing based approach of the retailer under study enabled us to introduce almost all marketing efforts into one comprehensive framework, at the single customer level. Our approach has the advantage of excluding any doubt on the causal relationship between variables. Some authors suggest inferring causality to significant relationships in a model asks for a longitudinal approach (e.g. Morgan and Hunt, 1994). Indeed, measuring hypothesized antecedent and outcome variables at subsequent moments and proving they influence each other significantly confirms the antecedent role of the first and outcome role of the latter, whereas in a purely cross-sectional design the relationship can be attested, but causality is less evident to prove.

As we chose to concentrate on a single context, applying this comprehensive approach to a different context, more specifically to a context where the marketing strategy involves non targeted communication, is a challenge for future research. Yet collecting such data for an empirical investigation at the customer level will most likely require an approach based on questionable measurement of the true impact of the non targeted communication on the customer. If feasible, such a study would yield additional insights into the mechanisms of targeted versus non targeted communication at the single customer level. The targeted character of below the line communication might enhance the power of the medium in altering a customer’s behaviour, while the untargeted character of above the line communication might result in a weaker effect above and beyond past behaviour. As this is often used as an argument for investing in below the line communication, such a research would yield insights into marketing efforts’ mechanisms that have not been addressed yet.
The relative impact of the direct mail tools under study seems to contradict the hypothesis of the benefit congruency framework (Chandon, Wansink, and Laurent, 2000). Indeed, according to the benefit congruency framework, and considering the fact that the retailer in our study has a low-equity brand for a hedonic product, we would expect that our context results in a small advantage of promotional direct mail efforts (that stress utilitarian benefits) over relational direct mail efforts (that stress hedonic benefits). The differentiation in impact should be almost negligible. Indeed, results show that the differentiation in immediate impact of both types of direct mail efforts is small.

However, the relational efforts slightly outperform promotional efforts. This is in contradiction with the proposed effect by Chandon, Wansink, and Laurent (2000). Two explanations are theoretically possible: the effect is measured on a high equity brand, or the effect described by Chandon, Wansink, and Laurent (2000) cannot be generalized to apparel without further investigation. As the differentiation on price of the retailer in our study is undisputable, we suspect further investigation into the benefit congruency framework with utilitarian and hedonic products outside the grocery retailing basket would be useful. Effects can play a role at the customer level (e.g. apparel is hedonic in nature for some customers, but clearly utilitarian for others), and within the industry under study (e.g. specific apparel retailers might convey a more utilitarian image of the product and thus attract customers looking for the most utilitarian aspects of apparel, while others rely more on the hedonic aspects of the product).

The results presented here are obviously context specific. As the majority of our results confirm results from several previous studies, we expect that replicating our research in a different context will yield comparable major findings. However, on the relative impact of specific marketing tools, results will be both context and marketing strategy specific. Moreover, further replicating studies combining marketing efforts with past behaviour are necessary to confirm our findings that past behaviour is not necessarily the best predictor of future behaviour. The specific context of apparel retailing might well be significant in this respect. This also applies to the effects of individual characteristics on the models. Indeed, we are confident that interaction effects with the type of customer characteristics used in our study will be found in any context. However, the direction and magnitude of the effects will be context specific. Thus replicating our study in a cross-industrial setting will certainly yield additional insights as to the importance of customer characteristics in each specific context.

Among the respondents to our survey, we measured the scores of both the retailer in our research and a competitor, generally considered to offer high end products in the apparel industry, on three dimensions: offering low prices, offering quality clothing, offering fashionable clothing. The retailer in our research clearly outperformed his competitor on the low price dimension, while the competitor scored slightly better on both the quality and the fashion dimension. Therefore, we can confirm the idea suggested also in the exploratory interviews with groups of consumers that the retailer in our research has a low equity brand.
Relational versus promotional direct mail impact on behaviour in the apparel retailing context: Unravelling the moderating impact of customer characteristics

The number of interaction effects we found was limited as compared to the expected ones. However, ascertaining potential interaction effects in field studies is acknowledged to be difficult (Evans, 1993; McClelland and Judd, 1993). Although we have used a large enough sample, our results further confirm the difficulty of finding interaction terms in a field study. As the variance in the customer characteristics under study is not controlled, but merely measured, dispersion of these variables often results in hard to find interactions. Designing a study where the sample selection is based on variability within one or more possible moderators might reveal that interactions are indeed present, but could not be traced in the setting of the random sample used in our study.

Further experimenting with the mailing strategy might also result in new insights. Indeed, as the mailing strategy of the retailer under study is based on past behaviour, we had to limit ourselves to a single past behaviour indicator on which the retailer does not rely for purposes of target selection. Moreover, the typical strategy of the retailer in our research on direct mail, targeted based on behaviour (recency) might have positively influenced the congruency between direct mail variables and outcome purchase in our model. It could thus be overestimated. In a setting where the researcher controls the mailing dispersion among the customers in his/her research sample, we achieve a better situation of non correlated past behaviour and direct mail efforts variables, that enables us to model past behaviour through the suggested RFM indicators.

Krishnamurthi and Papatla (2003) have shown that loyalty affects price sensitivity. Therefore, we might expect to find three-way interactions of relationship strength, price consciousness, and direct mail efforts antecedents. However, as the impact of loyalty on price sensitivity is customer specific in its shape and size, there is little chance of finding significant three-way interactions in the setting we work in.

Approaching the questions addressed here in a longitudinal approach could enhance our results in two ways. As we concentrated on the period of purchase immediately following the survey, we cannot study the impact of a qualitatively differential treatment, past behaviour and general customer attitudes on the lifetime duration of a customer. Moreover, a more complex approach of the delayed effects of direct mail efforts where both promotional and relational efforts cumulative effects could be tracked over a longer period of time, combined with customer characteristics, might yield insights into the stepwise effects of the marketing tools used.
V The moderating impact of relational strength, non search purchase tendency and attitudinal versus normative control on the relationship between relationship quality and purchasing behaviour

Abstract
We clarify the relationship between relationship quality, intentions and database behaviour, and investigate the moderating impact of relational strength, non search purchase tendency, and attitudinal versus normative control. Relationship quality impacts database behaviour above and beyond the impact of past behaviour. This impact is fully mediated through intentions. However, the low impact of intentions on behaviour should discourage from approaching self-reported intentions as a proxy for real behaviour. Relational strength impacts the attitudes-intentions as well as the intentions-behaviour relationship. The opposite signs of the effects yield a possible explanation for disappointing results when relationship quality is used to boost behavioural loyalty. As far as attitudinal versus normative control is concerned, our findings contradict previous ones, showing that in the context of buying apparel customers under normative control are more likely to behave accordingly to their intentions than are customers under attitudinal control. Non search purchase tendency does not moderate the relationships under study.
(i) Introduction

In an effort to uncover the dynamics behind the customer's behaviour, academics have suggested and proven that studying the building blocks of the customer-firm relationship yields interesting insights. This research is fuelled by the firm belief in the impact of relationship quality concepts such as trust (e.g., Morgan and Hunt, 1994), commitment (e.g., Pritchard, Harvitz, and Howard, 1999) and satisfaction (e.g., Zeithaml, Berry, and Parasuraman, 1996) on the customer's subsequent behaviour (Reichheld, 1993). Many researchers have confirmed the idea, while some have doubted it, or even contradicted it (e.g., Ebner, Hu, Levitt, and McCrory, 2002, Reichheld, 1996). However, some scholars indicate that the contradictory findings do not take the edge off the relationship quality argument per sé (Dick and Basu, 1994; Fournier and Mick, 1999; Oliver, 1999; Zeithaml, 2000), but rather suggest these findings should exhort us to refine our understanding of the dynamics.

Oliver (1999), Zeithaml (2000), Reinartz & Kumar (2002), and Anderson & Mittal (2000) identify the lack of understanding of the customer himself as an important avenue for further research in relationship marketing contexts. Recognizing the inherent differences between customers as influential in the relationships between antecedents and subsequent behaviour, and accordingly introducing the appropriate customer characteristics into the research, should result in a far better understanding of the relationship quality model.

Based on existing research on specific customer characteristics, we have identified three characteristics that by their nature could further enhance our understanding of the relationship between relationship quality as an antecedent, behavioural intentions as a mediating variable and real behaviour as an outcome variable. First, we discuss the potential impact of the widely documented past relationship of the customer with the focal firm. Indeed, both in data mining and survey based research, modelling the past customer-firm relationship has shown to enhance the validity of models explaining future behaviour. We introduce the relational strength variable to account for these effects. Second, we discuss the non search purchase tendency construct, based on the idea that depending on the specific context of the customer-firm relationship (in casu a non-contractual setting with high potential of impulse buying in a mature industry) customers' propensity to search for alternatives will alter the impact of their perceived relationship quality both on their intentions and on their behaviour. Third, we discuss the attitudinal versus normative control concept, based on the idea that normatively controlled customers might hold positive relationship quality attitudes towards the focal firm without translating them into intentions and/or behaviour.
The moderating impact of selected customer characteristics on the relationship between the relationship quality antecedent, behavioural intentions, and purchase behaviour

Based on a combination of survey information and behavioural data in the apparel retailing context, we introduce these three customer characteristics as moderators of the relationship quality – intentions – behaviour model.

First, we briefly review past research. Next, we explain the research method, and describe and discuss the outcomes of the analyses performed. Finally, we present our conclusions and outline suggestions for further research.

(ii) Theoretical framework

a) Relationship quality

The most commonly used approach to predict customer behaviour in repeat buying contexts based on attitudinal antecedents has been synthesized by Anderson and Mittal (1994) 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 behaviour. Dick and Basu (1994) have given a useful synthesis and delineation of all concepts by suggesting 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 behaviour. Thus according to Dick and Basu (1994), repeat patronage intentions mediate the relationship between relationship quality and behaviour. The mediating role of intentions is generally left out of empirical investigations, because the data available do not provide the necessary behavioural data to test this assumption. However, it is implicitly accepted. In our empirical research, we follow this approach (see Figure V.1).

Figure V.1: The relationship quality model

![Diagram](attachment:relationship_quality_model.png)

Dick and Basu (1994) immediately acknowledged that the impact of the attitudinal antecedents on real behaviour is not to be considered as linear. Indeed, they identify four types of loyalty: true loyalty, disloyalty, spurious loyalty and latent loyalty. Only in the case of true loyalty and disloyalty high (low) levels of attitudinal loyalty translate into high (low) levels of behavioural loyalty. Spuriously loyal customers are those who display high repeat patronage, but hold relatively low levels of attitudinal loyalty. Latently loyal customers are those who display low levels of behavioural loyalty, but hold

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13 For a discussion of the reason why and limitation of approaching relationship quality as a higher order construct, we kindly refer the reader to the Theoretical Framework (Chapter II), and the Research method and data collection (Chapter III)
relatively high levels of attitudinal loyalty. Identifying salient customer characteristics that account for the differences in levels of loyalty has been often identified as a key to understand how and why customers display one of these four levels of loyalty (Anderson & Mittal, 2000; Oliver, 1999; Reinartz & Kumar, 2002; Zeithaml, 2000).

Recent research has concentrated on improving the predictive power of models predicting behaviour through the introduction of moderating variables (Homburg and Giering, 2001; Mittal and Kamakura, 2001; Sheeran and Abraham, 2003; Sheeran and Orbell, 2000; Sheeran, Orbell, and Trafimow, 1999; Seiders, Voss, Grewal, and Godfrey, 2005). In the customer-firm relationship context, demographics and shopping related variables are most often used. First results do confirm the expectation that accounting for heterogeneity among respondents through specific characteristics enhances our understanding of the forces at stake in the relationship quality model (Bell and Lal, 2002; Krishna, Currim, and Shoemaker, 1991; Lichtenstein, Ridgway, and Netemeyer, 1993; Volle, 2001; Reinartz and Kumar, 2000).

b) Customer heterogeneity

Wedel, Kamakura, and Böckenholt (2000) consider that customer heterogeneity is a result of shifting contexts in which purchase decisions are made. This heterogeneity can be tested in two ways: by studying attitudinal or behavioural responses of the same consumers in different contexts, or of different consumers in the same context. The first approach can be achieved by accounting (in a field study) or controlling (in an experiment) for the differences in contexts. This approach calls for a longitudinal or experimental study. The second approach can be achieved by a research model that accounts for the heterogeneity of contexts between customers in a cross-sectional design, in that it measures accountable and salient elements of that heterogeneity at the customer level. We follow the second approach, and thus study the impact of salient customer heterogeneity through the introduction of moderating variables.

In order to identify salient customer characteristics, we refer to the framework of the consumer decision process model of Blackwell, Miniard, and Engel (2001). Apart from a detailed description of the internal processes the consumer experiences when planning, making and evaluating a purchase, it also offers an integrated approach of the cross-sectional, measurable context of that purchase: Stimuli and individual differences. Stimuli synthesize both the marketer and non-marketer driven sources of information about the product. As such, they fall out of the scope of the present paper. We wish to reflect individual differences salient to the apparel retailing context. In the survey, we incorporate a measure for attitudinal versus normative control and for non search purchase tendency. As our research design further incorporates database information on the customers’ behaviour, we add a
third individual difference variable based on the behavioural information, namely relational strength. In the following paragraphs, we detail insights from past research in these customer characteristics, discuss their salience in the present context, and derive their impact on the model under study. The moderated model is depicted in Figure V.2.

**Figure V.2: The relationship quality model with moderators**

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   Relational strength
   Non search purchase tendency
   Attitudinal versus normative control

  RELATIONSHIP QUALITY ──────────── BEHAVIOURAL INTENTIONS ──────── BEHAVIOUR
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i) Relational strength

Several authors indicate that modelling the past relationship between the customer and the company in some way adds to our understanding of the predictive power of the model in research predicting behaviour (e.g. Bolton, 1998; Grayson and Ambler, 1999; Jap and Ganesan, 2000; Mittal and Katrichis, 2000; Verhoef, Franses and Hoekstra, 2002; Vlaene et al., 2001; Weiss and Kurland, 1997). Generally speaking, exchange characteristics have proven to moderate relationships in models predicting behaviour (Kumar, Bohling, and Ladda, 2003). In the majority of the research reported, length of relationship is the variable under study. Length of patronage was used by Rust and Zahorik (1993) to study the satisfaction—intention relationship, while Garbarino and Johnson (1999) showed that trust and commitment affect intentions for loyal customers while satisfaction affects intentions for non-loyals. Yi and La (2004) found that loyals use satisfaction directly in building repurchase intentions in the family restaurant market. These effects have been attributed to levels of direct experience (Smith and Swinyard, 1983) and to the learning process (Verhoef, Franses, and Hoekstra, 2002) reflected by the length of the relationship.

However, the length of the relationship is a biased indicator of direct experience and learning process, because it does not inherently reflect comparable frequencies of purchases between customers. Indeed, customers can also differ in the regularity of their relationship to the retailer. We suggest that
considering the age of the relationship along with the regularity of that relationship more truthfully reflects the learning process and direct experience of the customers with the provider under study. Customers who have been buying occasionally for a long time have less opportunities of building intimacy and of learning from the relationship than customers who have been buying more, regardless of the length of the relationship. Thus we suggest to model relational strength as a variable that reflects both the length of the relationship and the regularity of relationship.

As customers who have a strong relationship with the focal firm thus base both their relationship quality perception and intentions on an enhanced learning process and more direct experience, we expect that the cohesion of these indicators will be stronger for them than it is for customers who have a weaker relationship with the focal firm and these intentions will more consistently lead to behaviour. Therefore, we hypothesize:

H1 Relational strength positively moderates both the impact of relationship quality on intentions and the impact of intentions on subsequent behaviour.

ii) Non search purchase tendency

We define non search purchase tendency as the disposition of the customer not to search for alternatives. In their description of the consumer decision process Blackwell, Miniard and Engel (2001) emphasize the importance of the level of pre-purchase search effort made by the consumer to understand the subsequent buying behaviour. This pre-purchase search effort can be influenced by the purchase circumstances (e.g. first purchase or repeat purchase), and Blackwell, Miniard and Engel (2001) explicitly approach it that way. However, pre-purchase search effort can also be influenced by the customer’s disposition to search activity in the specific industry under study. Pre-purchase search effort can indeed be influenced by the customer's disposition to search in the specific industry under study. In the catalogue context, McDonald (1993) proved the decision making style to be the most distinguishing characteristic among customers in terms of their loyalty, stronger than demographics and relationship strength variables. Customers who reduce their search are expected to develop stronger relationships between attitudinal antecedents and intentions and behaviour (Mägi, 2003).

Sheeran and Orbell (2003) along with Greve (2001) defend the idea that stable intentions are better predictors of subsequent behaviour than are unstable intentions. Sheeran and Orbell (2003) show that in the context of exercise behaviour, the stability of intentions is indeed a moderator of the intentions-behaviour relationship. Non search purchase tendency reflects the potential stability of these intentions. Indeed, when customers do not have the tendency to look for alternatives, but would rather stick to the provider for a given product, the contextual influence on their intentions is lower than when they explicitly state that they are likely to look for alternatives.

Based on the results of existing research, we hypothesize that:
The moderating impact of selected customer characteristics on the relationship between the relationship quality antecedent, behavioural intentions, and purchase behaviour

H2 Non search purchase tendency positively moderates both the impact of relationship quality on intentions and the impact of intentions on behaviour subsequent to the survey.

iii) Attitudinal versus normative control

Intentions differ in the extent to which they are determined by one’s own evaluation versus social pressure from significant others. Previous studies show that the predictive validity of intentions improves from low to high as scores on attitudinal versus normative control increase (Sheeran and Abraham, 2003; Sheeran, Norman, and Orbell, 1999). This difference is attributed to the distinction between autonomous and controlled motivation (Sheeran and Abraham, 2003). To the best of our knowledge, there is no research explicitly modelling a moderator variable reflecting autonomous versus controlled motivation on the relationship between behavioural intentions and their antecedents, although relative contributions of attitudes and subjective norms have been found to differ both between consumers and between behaviours (Ajzen, 2001). Based on the results of existing research, we hypothesize that:

H3 Attitudes will better predict intentions and intentions will better predict behaviour for customers under attitudinal control than for customers under normative control.

(iii) Research method and data collection

For a detailed description of the research method and data collection, we kindly refer the reader to Chapter III, pages 61 to 86.

(iv) Results

We test the hypotheses in our model via logistic and linear regressions. First, we discuss the moderating impact of the customer characteristics on the relationship between relationship quality and intentions through linear regressions. Then, we detail the results of the moderated regressions on the choice and response models, where intentions are the independent variable and purchase incidence and purchase behaviour are the outcome variables.

a) Linear moderated regressions relationship quality – intentions

The moderating impact of the customer characteristics on the relationship between relationship quality and intentions is summarized in Table V.1. Adj. R² and coefficients of the non moderated model are reported for the sake of comparison. To perform the analyses of the moderated models, we used the mean centered term of each antecedent, and the product of the mean centered
moderator with relationship quality, in order to avoid non essential multicollinearity (Baron and Kenny, 1986; Cohen et al., 2003).

Table V.1: Standardized coefficients from linear regressions of moderating effect of relational strength, non search purchase tendency and attitudinal versus normative control on the relationship quality – intentions model (**=significant at the .01-level, *=significant at the .05-level)

<table>
<thead>
<tr>
<th>Intentions</th>
<th>Adj R²</th>
<th>RQ</th>
<th>Moderator</th>
<th>RQ*moderator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non moderated model</td>
<td>.368**</td>
<td>.607**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relational strength</td>
<td>.434**</td>
<td>.552**</td>
<td>.271**</td>
<td>-.193**</td>
</tr>
<tr>
<td>Non search purchase tendency</td>
<td>.391**</td>
<td>.627**</td>
<td>.074*</td>
<td>n.s.</td>
</tr>
<tr>
<td>Attitudinal versus normative control</td>
<td>.407**</td>
<td>.574**</td>
<td>-.201**</td>
<td>.112**</td>
</tr>
</tbody>
</table>

The interaction term does in some cases add to our understanding of the relationship between the relationship quality construct and intentions. Adding relational strength\textsuperscript{14} to the model improves the adjusted $R^2$ measure as compared to the non moderated model. As the antecedents have a direct effect too, the effect is not fully captured by the interaction term (Cohen et al., 2003). The direct positive effect indicates that the more customers are intimate, the more likely they are to form positive intentions towards the retailer. The sign of the interaction term indicates that the impact of the antecedent decreases with increasing strength of relationship. Hypothesis1 is not supported as far as impact of relationship quality on intentions is concerned. Indeed, we expected to find the opposite sign. Thus relationship quality better predicts intentions among low intimacy customers than among high intimacy customers.

Non search purchase tendency does not moderate the relationship quality – intentions relationship. It only has a positive direct impact on intentions. Hypothesis2 is not supported as far as the impact of relationship quality on intentions is concerned. Indeed, we expected to find a positive moderating impact of non search purchase tendency.

\textsuperscript{14} The relationship quality and relational strength construct have a significant Pearson’s correlation of .297.
The moderating impact of selected customer characteristics on the relationship between the relationship quality antecedent, behavioural intentions, and purchase behaviour

Attitudinal versus normative control has both a negative direct impact and a positive moderating impact on the relationship between relationship quality and intentions\textsuperscript{15}. This indicates that attitudinally controlled people tend to form more positive intentions towards buying at the retailer in our study, while the impact of their relationship quality perception on their intentions is reduced as compared to more normatively controlled customers. The positive sign of the interaction is in contradiction with the expectation in Hypothesis 3 as far as the impact of relationship quality on intentions is concerned.

b) Logistic and linear moderated regressions intentions – behaviour

When accounting for moderating effects on the relationship between intentions and subsequent behaviour, none of the interaction terms yielded significant results on the purchase incidence model. Therefore, we do not report results of logistic regressions in detail here. In all three purchase behaviour models (total expenditure, number of visits, and number of product types; Table V.2) the regression results are improved by the interaction of relational strength with intentions, the moderating effect of attitudinal versus normative control is only found in the total expenditure model, and the effects of non search purchase tendency are non significant in all three purchase behaviour model.

\textsuperscript{15} Customers who have a negative score on the variable are under attitudinal control, customers who have a positive score on the variable are under normative control; see p. 72 (Method and data collection)).
Tabel V.2: Standardized coefficients from linear regressions of moderating effect of relational strength, and non search purchase tendency, and attitudinal versus normative control on the intentions – behaviour model (**=significant at the .01-level; *=significant at the .05-level; o=significant at the .10-level)

<table>
<thead>
<tr>
<th></th>
<th>Adj R²</th>
<th>Intentions</th>
<th>Moderator</th>
<th>Intentions*moderator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total expenditure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non moderated model</td>
<td>.057**</td>
<td>.244**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relational strength</td>
<td>.149**</td>
<td>.126*</td>
<td>.254**</td>
<td>.118*</td>
</tr>
<tr>
<td>Non search purchase tendency</td>
<td>.064**</td>
<td>.248**</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Attitudinal versus normative control</td>
<td>.059**</td>
<td>.213**</td>
<td>n.s.</td>
<td>.100 o</td>
</tr>
<tr>
<td><strong>Number of visits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non moderated model</td>
<td>.081**</td>
<td>.289**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relational strength</td>
<td>.240**</td>
<td>.135**</td>
<td>.300**</td>
<td>.187**</td>
</tr>
<tr>
<td>Non search purchase tendency</td>
<td>.057**</td>
<td>.253**</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Attitudinal versus normative control</td>
<td>.078**</td>
<td>.270**</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td><strong>Number of product types</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non moderated model</td>
<td>.028**</td>
<td>.176**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relational strength</td>
<td>.091**</td>
<td>n.s.</td>
<td>.204**</td>
<td>.109*</td>
</tr>
<tr>
<td>Non search purchase tendency</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Attitudinal versus normative control</td>
<td>.029*</td>
<td>.146**</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
</tbody>
</table>
Relational strength has a consistently positive direct impact on subsequent behaviour. Furthermore, the interaction of relational strength with the antecedent is consistently positive. This indicates that the stronger the relation of customers with the retailer is, the stronger the predictive power of their intentions becomes. The weaker the relation of customers with the retailer, the weaker the predictive power of intentions becomes.

Attitudinal versus normative control has no direct impact on total expenditure, but it does moderate the impact of intentions on total expenditure (with a marginally significant interaction term). The moderating impact is has the same sign as in the regression of relationship quality on intentions. This confirms that more normatively controlled respondents build intentions that lead more consistently to a certain expenditure level than it does among more attitudinally controlled respondents.

As a conclusion of the logistic and linear regressions, we can state that as far as the impact of intentions on subsequent behaviour is concerned, Hypothesis1 is partially supported (only in the purchase behaviour models, not in the purchase incidence model), while Hypothesis2 and Hypothesis3 have to be rejected. Non search purchase tendency did not yield significant interactions, and the significant interactions of the attitudinal versus normative control variable were in the opposite direction to what was expected.

(v) Discussion

Although customer characteristics are widely expected to reinforce our understanding of the dynamics of the customer-firm relationship, revealing their impact in an empirical setting is far from straightforward. It is known that ascertaining potential interaction effects in field studies is acknowledged to be difficult (Evans, 1993; McClelland and Judd, 1993). Although we have used a large enough sample, our results confirm the difficulty of finding interaction terms in a field study.

The results in our models show that the moderating impact of customer characteristics differs depending on the outcome variable under study. While both relational strength and attitudinal versus normative control do indeed moderate the relationship between relationship quality and intentions in the models predicting purchase behaviour, non search purchase tendency has no significant interaction effects at either stage of the model under study. Furthermore, all interaction terms fail to improve the impact of intentions in the purchase incidence model. These findings only partially confirm the expected impact of customer characteristics on models predicting behaviour.

Our findings on the moderating role of non search purchase tendency are contrary to our expectations. Contrary to the findings of McDonald (1993) and Mági (2003), who both show that a reduced propensity to search for alternatives raises the loyalty of the customer to the focal firm, we
cannot confirm this effect in our research context. We do find a positive direct impact of non search purchase tendency on intentions, which suggests that among the customers in our sample, the fact that they do not intend to search for an alternative, also means they intend to buy at the focal retailer. This is in line with the findings of McDonald (1993) and Mägi (2003). The expected moderating impact is not present, nor is the direct impact confirmed on behavioural loyalty. This means that the respondents who have higher intentions also search less for alternatives, and conversely indicates that the respondents who search for alternatives, build lower intentions towards the focal retailer. Two explanations are possible. If we can find this effect in samples of customers from other retailers, than it means that the propensity to search for alternatives lowers the intentions towards any focal retailer. If we cannot find this effect in samples of customers from other retailers, than it means that the focal retailer in our research manages to build more positive intentions specifically among customers who do not intend to search for alternatives. So, to answer this question, further research is called for.

Our findings on the moderating role of relational strength confirm the expectation of Reinartz and Kumar (2000) and Garbarino and Johnson (1999) that relationship quality antecedents play a more crucial role in predicting behaviour(al intentions) among weakly relational customers. This suggests levels of direct experience (Smith and Swinyard, 1983) and learning (Verhoef, Franses, and Hoekstra, 2002) reflected by the strength of the relationship do not positively moderate the relationship between relationship quality and intentions. Indeed, the most intimate customers’ intentions relate less to relationship quality antecedents than do the less intimate customers’ intentions. At the level of the relationship between intentions and behaviour, the effects suggested based on direct experience and learning theory are confirmed. The inversion of the sign of the relationship strength interaction terms between the relationship quality - intentions and the intentions-behaviour relationships is a striking effect of our study. Indeed, the stronger the past relation of customers to the firm as measured through behaviour, the weaker the impact of their relationship quality on their intentions. However, the stronger the impact of their intentions on their subsequent response behaviour, in terms of total expenditure as well as number of visits and number of product types purchased. Recall the example in the automotive industry, where hard numbers are given by Reichheld (1996).

Although 90% of the customers are satisfied, only 40% will repurchase a car from the same brand. Based on our findings, we know that the number of satisfied customers does not translate directly into repurchase. Two crucial elements are unknown in the example by Reichheld (1996): what are the customers’ intentions, and how intimate are these customers with their actual car brand? The relationships in the customer-firm relationship do indeed call for an in-depth approach, if researchers intend to predict behaviour based on a relationship quality model. Disregard relationship strength within the models, and omitting the mediating role of intentions, results in a wrongful estimation of the dynamics leading to specific findings in a real world setting.
The moderating impact of selected customer characteristics on the relationship between the relationship quality antecedent, behavioural intentions, and purchase behaviour

Influencing the intentions of customers based on their appreciation of the relationship to the retailer (relationship quality) is more effective among customers with low relational strength. For the intimate customers, the pay off is much less. This suggests that efforts directed at improving relationship quality influence the intentions of disloyal customers most. However, taking relational strength into account when considering the impact of intentions on subsequent behaviour does enhance our understanding too, but the interaction works in the opposite direction. Among high relational strength customers, higher scores on intentions are indeed associated with higher purchase behaviour, while the relationship is weak among customers scoring low on relationship strength. Thus, although the efforts directed at low relational strength customers to improve their perception of the company and the behaviour at stake may result in higher intentions, these do not immediately translate into higher subsequent behaviour. Raising the intentions of high relational customers is far more effective, but the impact of raising relationship quality is lower here.

Our findings on the moderating role of attitudinal versus normative control on the intentions – behaviour relationship in our model contradict the findings of Sheeran and Abraham (2003). They show that the impact of intentions on subsequent behaviour is higher among attitudinally controlled respondents than among normatively controlled respondents. In our study, the impact of relationship quality on intentions is higher for normatively controlled customers than it is for attitudinally controlled customers. Thus, raising the relationship quality perception of a normatively controlled customer yields increased effects as compared to raising them for an attitudinally controlled customer. Moreover, the same effect is found in the relationship between intentions and behaviour, albeit only in terms of total expenditure of the subsequent purchases. Of course, the findings from Sheeran and Abraham (2003) are based on a totally different context, and this might explain the different effects we find. Indeed, existing research on the effect of attitudinally controlled people or behaviours versus normatively controlled people or behaviours are all based on research tracing the effects in the context of behaviours that can be easily linked to goal theory. The rationale behind attitudinally controlled people performing the behaviour more strongly based on their attitudes and intentions boils down to the idea that if the goal is internally supported by a strong feeling of connection between attitudes, intentions and behaviour, the respondent has an internal drive to perform that behaviour and more likely will do so. However, in the context of buying apparel, this reasoning might not hold. Our results even suggest the reasoning could be reversed. In our specific context of buying apparel, the attitudinal control of the respondent might result in the freedom to alter the intentions and behaviour, while the normative control translates into a more steadfast realization of the intentions. When moral or health considerations do not enter into the frame of the behaviour under study, being under normative control might result in this steadfast behaviour.
(vi) Conclusions, implications and suggestions for further research

Two major findings are presented in our study. First, some customer characteristics are indeed important moderators of the relationships in the customer-firm relationship models presented here, with relationship strength as the most important and intriguing characteristic, and attitudinal versus normative control as a counter-intuitive moderator. Second, finding statistically significant moderating influences of customer characteristic is hard in an empirical context, even based on theoretical insights from previous research.

Treating all customers in the same way blurs the effectiveness of the marketing approach. Marketing practitioners should approach high relational strength customers differently from low relational strength customers. On the one hand, raising high relational strength customers' intentions will indeed boost expenditures, number of visits and number of product types purchased, but raising their level of relationship quality might not be the most effective approach to achieve increased intentions. On the other hand, raising low relational strength customers' intentions can be achieved through improvement programs aimed at increasing scores on relationship quality. It will, however, not impact their purchase behaviour at the same time. Raising attitudinal scores among these customers is less effective in terms of the impact on purchase behaviour.

These insights call for great precautions to be taken by marketers who do not dispose of database information on their customers. Indeed, basing marketing strategies or evaluations and predictions of customer response behaviour on intentions and their predictors alone is erroneous, as the general trends among the customer base hides opposite trends specific for high and low relational customers. For companies who do not wish to invest in a detailed tracking system of the customer's behaviour, tracking the length and the regularity of the customer's relationship to the firm makes it possible to use relationship quality along with intention indicators in a far more effective way, namely by introducing relational strength as a moderator.

As we did not differentiate between the effects of trust, commitment, and satisfaction, further research should be conducted to analyze these effects. However, the correlations between these variables in our data make this impossible. New data collection should therefore be conducted, and correlations between the three constructs should be lower, before an analysis of differentiated effects can be carried out. However, existing findings show that these correlations are usually fairly high, and thus make the differentiation of effects a difficult task. Differentiating between the effects of the three subconstructs of relationship quality could also lead to different conclusions regarding the fully mediating role of intentions.

Furthermore, taking attitudinal versus normative control into account improves the understanding of the relationship between relationship quality and intentions and between intentions and total
The moderating impact of selected customer characteristics on the relationship between the relationship quality antecedent, behavioural intentions, and purchase behaviour

expenditure. Thus introducing the impact of meaningful others into the relationship quality model is a sensible option for future research. Distinguishing attitudinally controlled customers from normatively controlled customers in the database can offer the retailer the opportunity to better understand to what extent attitudes translate into intentions and subsequently into behaviour. As was already indicated by Sheeran and Abraham (2003), the impact of this type of variable on attitudinal models predicting behaviour through intentions is most likely a measure for the stability of the intentions measured. In our context, we might suspect respondents who are under normative control to hold more stable attitudes and intentions and translate them into behaviour more consistently than do respondents who are under attitudinal control. As the subjective norm respondents perceive is less flexible in nature than are their attitudes towards the focal retailer, building rather on subjective norm than on attitudes more easily translates into steadfast intentions and behaviour. Communication efforts can be designed that reinforce the subjective norm, in order to create more stable intentions through the impact of significant others on the intentions and behaviour of the customers.

The results of our study are of course drawn from 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 our study in another research context or a large scale cross-industrial study is necessary, and we hope the results detailed here will encourage both academics and practitioners to engage in such a research. It might also further clarify why we could not find the expected effect of attitudinal versus normative control, and of non search purchase tendency.

Our main conclusion on the opposite moderating effects of relational strength on the relationships between relationship quality – intentions – behaviour is based on a cross sectional research. When approaching the model in a longitudinal research, the long term effect of improving relationship quality scores among low relationship strength customers could clarify whether the findings in our research are mainly attributable to the cross-sectional character of the study. It is indeed possible that the effect of improving the scores on the antecedents and thus on intentions among low relational strength customers does pay off in the long run. Within the context of such a longitudinal study, the stability of intentions could be taken into account, and effects of moderators on stability of intentions on the one hand, effects of stability of intentions on behaviour on the other hand could translate into different results.

As the attitudinal versus normative control variable introduced in our study indicates this characteristic is indeed important in shaping the purchase process, we suggest studying the moderating impact of environmental variables based on objective data. In our research context, these variables were not available. A suggestion for a customer-level environmental variable based on
objective data could be the number of mailings received by each customer from all possible apparel retailers during the period of behaviour under study. Moreover, our findings suggest that the type of behaviour under study in a customer-firm relationship context yields different results with the attitudinal versus normative control variable than in the case of goal oriented behaviour. Further research should be conducted to enhance our understanding of the impact of attitudinal and normative control in commercial buying behaviour.

Although the detail of our findings cannot be translated to other contexts without further investigation, we strongly believe our findings will motivate further research to take several customer characteristics into account as moderating variables of the relationship quality model.
The moderating impact of selected customer characteristics on the relationship between the relationship quality antecedent, behavioural intentions, and purchase behaviour
VI Comparing the predictive power of relationship quality and theory of planned behaviour antecedents on behavioural intentions and purchasing behaviour

Abstract
The present study reports a through comparison of the relationship quality model with the theory of planned behaviour model in the context of customer-firm relationships, applied to the purchasing of apparel. It shows that the more generalist approach of the theory of planned behaviour is a sound alternative to modelling relationship quality. Both models clearly behave in the same way regarding impact on intentions and behaviour as well as regarding impact of the attitudinal antecedents above and beyond past behaviour effects. However, the measurement characteristics of the theory of planned behaviour model seem to indicate the approach is more reliable than the relationship quality model approach. We suggest attitudinal ambivalence is higher in the relationship quality model, and this partially accounts for a less reliable indication of intentions. Our results further confirm the fully mediating role of intentions between the attitudinal antecedents and behaviour, be it in a purchase incidence or in several purchase behaviour models.
(i) Introduction

Generally speaking, research does confirm the intuitive impact of attitudinal antecedents of the relationship quality type on behavioural intentions. Detailed analysis of the impact of relationship quality concepts such as trust (e.g. Morgan and Hunt, 1994), commitment (e.g. Pritchard, Harvitz, and Howard, 1999) and satisfaction (e.g. Zeithaml, Berry, and Parasuraman, 1996) on the customer’s subsequent behaviour resides in the idea that high levels of relationship quality result in accordingly high levels of purchasing behaviour (Reichheld, 1996). Many researchers have confirmed the idea, while some have doubted it, or even contradicted it (e.g. Ebner, Hu, Levitt, and McCrory, 2002). As the findings generally confirm the impact of the relationship quality antecedents on behavioural intentions, but do not evidently translate in objectively measured behaviour and profitability, the usefulness of the satisfaction-profit chain as a model to predict real behaviour has been questioned. In the US automobile sector, for instance, 90% of the customers indicate to be satisfied, yet only 40% repurchase the same brand of car (Reichheld, 1996). However, some scholars indicate that the contradictory findings do not take the edge off the relationship quality argument per se (Dick and Basu, 1994; Fournier and Mick, 1999; Oliver, 1999; Zeithaml, 2000).

Another widely accepted model used to predict behaviour is the theory of planned behaviour (Ajzen, 1991; Ajzen, 2002; Armitage and Conner, 2001; Ouelette and Wood, 1998). It builds on the rationale that attitude towards the behaviour along with the impact of relevant reference people (referred to as subjective norm) and the perceived control a customer has over the behaviour under study (referred to as perceived behavioural control), results in the formation of a certain intention, which in turn results in a given behaviour (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 behaviour in a customer-firm relationship context are scarce.

Interestingly, the consistency and applicability of the theory of planned behaviour are confronted with the same problem encountered by the relationship quality approach of predicting behaviour. Most reported research lacks objective measures of real behaviour to prove that the theory stands the test of reality, and that behavioural intentions fully mediate the impact of the attitudinal antecedents under study.

As a vast body of research situated in the data mining context suggests past behaviour is the best predictor of future behaviour (Bauer, 1988; Kaslow, 1997; Magidson, 1988; Reinartz and Kumar, 2000; etc.), the usefulness of survey-based attitudinal antecedents in the presence of behavioural information might be questioned. Although we lack extensive research as of today, first insights
Comparing the predictive power of relationship quality and theory of planned behaviour antecedents on behavioural intentions and purchasing behaviour

indicate that attitudinal antecedents do play a separate role even when combined with past behaviour (Thogersen, 2002).

This paper studies the effectiveness of the relationship quality model versus the theory of planned behaviour model in predicting real behaviour in a customer-firm relationship context, through the mediating role of intentions, above and beyond the effects of past behaviour, based on a combination of behavioural and self-reported measures in the context of apparel retailing.

First, we briefly review past research. Next, we explain the research method, and describe and discuss the outcomes of the analyses performed. Finally, we present our conclusions and outline suggestions for further research.

(ii) Theoretical framework

a) Relationship quality

The most commonly used approach to predict customer behaviour in customer-firm relationship contexts has been synthesized by Anderson and Mittal (1994) 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 behaviour. The chain ends at the profit concept, for it is the final aim of understanding the building blocks of the chain to achieve higher firm profits, based on the loyalty effect as posited by Reichheld (1996). Although researchers tend to agree on the concept of the satisfaction-profit chain, operationalizations of the building blocks of the chain are often confusing. The term ‘loyalty’, for example, has been operationalized by concepts as diverse as:

- (re)purchase intentions (Chiou, Droge, and Harvanich, 2002; Cronin and Taylor, 1992; Crosby and Stephens, 1987; Doney and Cannon, 1997; Garbarino and Johnson, 1999; Gremler and Gwinner, 2000; Hennig-Thurau, Gwinner, and Gremler, 2002; Jones, Mothersbaugh, and Beatty, 2000; Sirdesmukh, Singh, and Sabol, 2002; Zeithaml, Parasuraman, and Berry, 1996),
- word-of-mouth intentions or advocacy (Chiou, Droge, and Harvanich, 2002; Fullerton and Taylor, 2002; Gremler and Gwinner, 2000; Harrison-Walker, 2001; Hennig-Thurau, Gwinner, and Gremler, 2002; Mittal, Kumar, and Tsiros, 1999; Sirdesmukh, Singh, and Sabol, 2002),
- self reported loyal behaviour (De Wulf, Odekerken-Schröder, and Iacobucci, 2001),
- current behaviour (Doney and Cannon, 1997),
- switching intentions (Fullerton and Taylor, 2002),
willingness to pay more (Fullerton and Taylor, 2002),

commitment (Shankar, Smith, and Rangaswamy, 2003),

a combination of attitude and self-reported behaviour (Ganesh, Arnold, and Reynolds, 2000; Homburg and Giering, 2001),

self-reported share-of-purchase and share-of-visit (Mägi, 2003),

and share-of-wallet (Sirdesmukh, Singh, and Sabol, 2002).

Dick and Basu (1994) have given a useful synthesis and delineation of all concepts by suggesting 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 behaviour. In this paper we follow this approach.

Within the marketing context, research has indicated that these relationships still leave considerable room for improvement of our understanding. Indeed, past research has primarily focussed on:

trust (e.g. Doney & Cannon, 1997; Morgan & Hunt, 1994; Ganesan, 1994),

commitment (e.g. Harrison-Walker, 2001; Moorman, Zaltman, & Deshpandé, 1992; Pritchard, Havitz, & Howard, 1999),

and/or satisfaction (e.g. Homburg & Giering, 2001; Fullerton & Taylor, 2002; Zeithaml, Berry, & Parasuraman, 1996)

as predictors of behavioural intentions. Recently, some scholars have indicated and empirically proven that the best understanding of the influence of these three central concepts lies in the approach of their combined effects (De Wulf, Odekerken-Schröder, & Iacobucci, 2001; Garbarino & Johnson, 1999; Hennig-Thurau, Gwinner & Gremler, 2002), because limiting loyalty relationship investigations to one of these constructs yields results dependent on the level of relationalism of the respondents. Garbarino and Johnson (1999), for instance, show that commitment, satisfaction and trust play a different role for customers who occasionally buy theatre tickets than they do for customers who own a season card. In order to study the combined effects of trust, commitment, and satisfaction it is therefore preferable to model the three antecedents as a higher order construct, ‘relationship quality’. It has been defined as the overall assessment by the respondent of the strength of his relationship to the provider (De Wulf, Odekerken-Schröder, & Iacobucci, 2001; Garbarino & Johnson, 1999). Moreover, the combined approach of all three relationship quality constructs as a higher order construct circumvents the conceptual confusion that seems to exist in the respondent’s mind regarding trust versus commitment versus satisfaction (De Wulf, Odekerken-Schröder, and Iacobucci, 2001).
Within the loyalty framework of Dick and Basu (1994), repeat patronage intentions mediate the relationship between relationship quality and behaviour. However, this mediating role is generally left out of empirical investigations, as the data available do not provide the necessary behavioural data to test this assumption. The vast majority of academics researching the models had to content themselves with intentions to purchase, which was repeatedly indicated as a possible source of error in the conclusions of academic research (Anderzon and Mittal, 2000; Reinartz and Kumar, 2002; Zeithaml, 2000). Indeed, when taking the step towards real behaviour, confirming the hypothesis of high relationship quality leading to high purchasing behaviour results to be unexpectedly hard (Ebner, Hu, Levitt, and McCrory, 2002; Reichheld, 1996).

b) The theory of planned behaviour

An alternative approach to predicting intentions and behaviour that is widely spread in consumer behaviour research is the theory of planned behaviour (Ajzen, 1991; Ajzen, 2002). It postulates three conceptually independent determinants of intention: attitude towards the behaviour, subjective norm, and perceived behavioural control (Ajzen, 1991; Ajzen, 2002). Meta-analyses of existing research confirm that next to attitude towards the behaviour, perceived behavioural control and subjective norm are essential antecedent constructs of behavioural intentions (Armitage and Conner, 2001; Ouellette and Wood, 1998). The relative importance of each antecedent is expected to vary across behaviours and situations. Furthermore, both research and theoretical insights suggest intentions are the immediate antecedent of behaviour (Ajzen, 2002), and intentions fully mediate the impact on behaviour of attitude towards the behaviour and subjective norm, while partially mediating perceived behavioural control (Ajzen, 1991).

A large part of the theory of planned behaviour research is situated in the explanation of a newly introduced behaviour, often health and exercise contexts (Armitage and Conner, 2001; Ouellette and Wood, 1998). Some studies indicate that in a marketing context too, the theory of planned behaviour approach yields interesting results, and acknowledge that it has the potential of providing marketers with an actionable framework for influencing behaviour. Bansal and Taylor (1999) used the theory of planned behaviour in a service provider context to describe switching behaviour. Fortin (2000) applied it to clipping coupons in cyberspace. Liao, Shao, Wang, and Shen (1999) predicted adoption of virtual banking based on the model. Chiou (2000) applied it to the probability of purchasing a computer printer in a student setting, whereas Shin, Eastlick, Lotz, and Warrington (2001) used it in an effort to uncover the dynamics of prepurchase intentions. The theory of planned behaviour constructs have also proven to be useful in predicting purchase intentions of genetically modified food (Cook, Kerr, and Moore, 2002), as well as in studying the purchase of organically produced food in an experimental context (Bamber, 2002), and in understanding travel mode choice (Klöckner & Matthies, 2004). The contexts of these studies are, however, fundamentally different from the
customer-firm relationship context, insofar as they model and study the impact of intentions to shift from a habit to a newly introduced behaviour. Within the customer-firm relationship framework of our study, we model how attitudes, subjective norm, perceived behavioural control, and intentions predict the extent to which existing behaviour will be repeated or reinforced in the future. The study by Chiou (2000) in the family restaurant business ascertains that the theory of planned behaviour constructs can be effective predictors in such a repeat patronage context. However, as Ajzen (2001) explicitly indicates the context-specific mechanisms of the theory of planned behaviour, it is uncertain how well the model works in other repeat patronage contexts. Therefore, applying the theory of planned behaviour to a customer-firm relationship in a different setting (in casual apparel buying behaviour) will add to our understanding of the effectiveness of the theory.

Specific studies have compared the predictive power of the theory of planned behaviour model with models designed for application in specific domains (e.g. health belief, integrated waste management,...; Ajzen, 2002). The alternative models were found to perform not much better, and sometimes worse, than the general, content-free theory of planned behaviour. We will compare the predictive power of the theory of planned behaviour with the relationship quality model. They are comparable in that they both follow a path from antecedents over intentions towards behaviour. Their usage so far is different, in that the focus of the first has usually been newly introduced behaviour, while the focus of the latter has usually been repetitive buying. Formulating a dominant hypothesis concerning the outcome of this comparison would be hazardous. Indeed, findings from previous comparisons of models with the theory of planned behaviour do not consistently conclude in favour of or against the specific model, although the underlying genesis and the specificity of these models would intuitively suggest a conclusion in favour of the specific model. Therefore, we approach the comparison of both models in an explorative way.

c) Past behaviour

Both in the context of initial and repeat behaviour the consumer’s behaviour anterior to the purchase is believed to shape the subsequent purchase at least partially (Blackwell, Miniard, and Engel, 2001). Conventional wisdom even suggests that the best predictor for future behaviour is past behaviour (Ajzen, 1991; Kumar, Bohling, and Ladda, 2003; Sheeran and Abraham, 2003; Triandis, 1977). On the other hand, as past behaviour and behaviour future usually measured in the same format, the strong effects from past to future behaviour reported in a number of studies can be partially due to an instrument effect, be it the survey or the database (Thogersen, 2002).

The predictive power acknowledged to past behaviour has been approached explicitly as the impact of habit on behaviour through multiple processes (Ouellette & Wood, 1998). When customers had
ample opportunity to perform a given behaviour frequently in the past, it can be performed automatically. In the context of retail related research, past behaviour has further been approached as a measure for the gravitational attraction of the store and a customer’s preference by Volle (2001). This store location effect on the customer-firm relationship was also indicated by Mulhern (1997) as a crucial element. Hence incorporating past behaviour into customer-firm relationship research is a way of accounting for gravitational and preferential variables not explicitly modelled when the context of the research is a non-contractual retail environment.

Whether resulting from habit, unaccounted antecedents or gravitational attraction, the predictive role of past behaviour is widely confirmed in existing research.

Research incorporating past behaviour variables in a customer-firm relationship model is mostly situated in the database or data mining line of research, often in the context of direct marketing applications. Some authors have used a single predictor (e.g. monetary value: Bult and Wittink, 1996; Heiler, Kaefer, and Ramenofsky, 2003; Reinartz and Kumar, 2000), others have combined two indicators (e.g. recency and frequency: Gönül and Shi, 1998; Van den Poel and Leunis, 2003; recency and monetary value: Bult, Van der Scheer, and Wansbeck, 1997; Morwitz and Schmittlein, 1998; Zahavi and Levin, 1997; frequency and monetary value: Piersma and Jonker, 2004), or even three (evidently, a combination of recency, frequency, and monetary value: Bitran and Mondschein, 1996; Kaslow, 1997; Levin and Maglioizzi, 1989; Suh, Noh, and Suh 1999; Van den Poel, 2003; Zahavi, 1998). It appears from research combining all three indicators that depending on the context, industry, and outcome variable to predict, the relative importance of each indicator may vary.

Bauer (1988) discusses the application of a model including recency, frequency and monetary value to predict the probability of customers purchasing from the next direct mailing. She defines recency as time since the last purchase, frequency as how often the customer makes a mail order purchase within a specified time period, and monetary value as the dollar sales value of past purchases. This recency, frequency, monetary value approach has been applied extensively to operationalize past behaviour and is known as the RFM-approach. We will follow this approach.

The effects of past behaviour per se have been widely documented in the past. First steps have also been taken towards understanding the impact of past behaviour in combination with attitudinal antecedents. In the context of purchasing organic red wine, Thogersen (2002) shows that accounting for past behaviour in a theory of planned behaviour model increases the understanding of the subsequent behaviour under study substantially. Sheeran, Orbell, and Trafimow (1999) also introduce past behaviour into the theory of planned behaviour, and show it has a significant impact. However, we lack understanding of these effects in combination with attitudinal antecedents such as relationship quality or theory of planned behaviour predictors in a customer-firm relationship
context. We suggest to investigate how a model behaves that combines both types of indicators, in an effort to refine our understanding of the true impact of both types of indicators.

Figure VI.1a: The relationship quality model

![Diagram of relationship quality model]

Figure VI.1b: The theory of planned behaviour model

![Diagram of theory of planned behaviour model]

Considering the above, we identify three research questions that are graphically represented in Figure VI.1a and VI.1b. First, we can conclude that widespread research suggests the use of either the relationship quality or the theory of planned behaviour model to predict customer behaviour. Apart from the genesis behind each model, there is little inherent evidence to suggest which one of the two will better predict behaviour in the context of a customer-firm relationship. Second, both research lines depend heavily on the assumption that intentions are a proxy for real behaviour. Unravelling the dynamics of intentions in both models will add to the reliability of research results building on intentions, real behaviour or both. Third, we investigate the impact on behaviour of both the relationship quality and the theory of planned behaviour model when combined with behavioural antecedents.
Comparing the predictive power of relationship quality and theory of planned behaviour antecedents on behavioural intentions and purchasing behaviour

Using a combination of behavioural data and survey information from a Belgian apparel retailer, we address these three explorative research questions in our study:

1. Does relationship quality outperform the theory of planned behaviour constructs in predicting purchasing behaviour, or is it the other way around?
2. Do intentions effectively predict real behaviour, and do they act as full mediator of both the relationship quality and the theory of planned behaviour constructs?
3. Do the attitudinal models affect behaviour even when combined with past behaviour?

(iii) Research method and data collection

For a detailed description of the research method and data collection, we kindly refer the reader to Chapter III, pages 61 to 86.

(iv) Results

In order to test and compare the predictive power of the relationship quality model and the theory of planned behaviour model, we performed a series of regressions. Choice models were tested using logistic regression (Table VI.2), and response models using linear regression (Table VI.1 and Table VI.3 to Table VI.5). In order to assess the mediating role of intentions within both models, we run four regressions (Baron and Kenny, 1984):

1. Step1: relationship quality/theory of planned behaviour → intentions (Table VI.1)
2. Step2: intentions → behaviour (Table VI.2 to VI.5)
3. Step3: relationship quality/theory of planned behaviour → behaviour (Table VI.2 to VI.5)
4. Step4: relationship quality/theory of planned behaviour + intentions → behaviour (Table VI.2 to VI.5)

Step1 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 under study share variance with intentions. Step2 to Step4 will be evaluated through logistic regressions in the models assessing purchase incidence, and through linear regressions in the models assessing purchase behaviour. Step2 has the same purpose for the relationship intentions – behaviour. The combination of Step3 and Step4 indicates whether or not intentions fully mediate the impact of the attitudinal antecedents on behaviour. Two effects have to be shown to confirm it: the attitudes must impact the outcome variable directly when intentions are not taken into account, and this impact must disappear from the
regressions when intentions are introduced as an extra antecedent variable. We discuss the results of the analyses in the order of the steps described.

Step1: relationship quality/theory of planned behaviour → intentions (see Table VI.1)
Linear regressions show that relationship quality respectively theory of planned behaviour constructs predict intentions quite well. The theory of planned behaviour outperforms the relationship quality approach, with an adjusted $R^2$ of .523 as compared to .368. Half of the variance in intentions is thus captured by the theory of planned behaviour antecedents, while relationship quality only captures one third of it.

Table VI.1: Step1 – Standardized estimates from linear regressions of relationship quality/theory of planned behaviour constructs on intentions (**=significant at the .01-level; *=significant at the .05-level)

<table>
<thead>
<tr>
<th></th>
<th>Relationship quality model</th>
<th>Theory of planned behaviour model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dependent: Intentions</td>
<td>Dependent: Intentions</td>
</tr>
<tr>
<td></td>
<td>Adj $R^2$</td>
<td>Rq</td>
</tr>
<tr>
<td></td>
<td>.368**</td>
<td>.607**</td>
</tr>
<tr>
<td></td>
<td>Ajd $R^2$</td>
<td></td>
</tr>
<tr>
<td>Step1</td>
<td>.523**</td>
<td>.650**</td>
</tr>
<tr>
<td></td>
<td>AttB</td>
<td>SN</td>
</tr>
<tr>
<td></td>
<td>.096**</td>
<td>.064*</td>
</tr>
<tr>
<td></td>
<td>PBC</td>
<td></td>
</tr>
</tbody>
</table>

Step2: intentions → behaviour (Table VI.2 to VI.5)
Overall, behavioural intentions are a weak predictor of behaviour. Be it in the purchase incidence model or in the purchase behaviour models, they achieve a maximum $R^2$ of .19, which is relatively low.

Step3: relationship quality/theory of planned behaviour → behaviour (Table VI.2 to VI.5)
Both the logistic and the linear regression models indicate that the attitudinal antecedents of the relationship quality as well as of the theory of planned behaviour model impact behaviour.
Nagelkerke $R^2$ is about .12 for both models in the logistic regressions. Adjusted $R^2$ is the lowest on the number of product type models both for relationship quality (.012) and theory of planned behaviour antecedents (.024), highest on the number of visits model for the theory of planned behaviour antecedents (.048) and on the total expenditure model for the relationship quality antecedents (.034).

Step4: relationship quality/theory of planned behaviour + intentions → behaviour (Table VI.2 to VI.5)
Comparing the predictive power of relationship quality and theory of planned behaviour antecedents on behavioural intentions and purchasing behaviour.

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 at step 1 we were able to show the impact of attitudinal antecedents on intentions, and that at step 2 we were able to show the impact of intentions on behaviour, this last step confirms that intentions fully mediate the impact of both the relationship quality and the theory of planned behaviour antecedents.

Table VI.2: Step 2 to Step 4 – Standardized coefficients from hierarchical logistic regressions of the relationship quality versus the theory of planned behaviour model (\(*\ast\) = significant at the .01-level; \(*\) = significant at the .10-level)

<table>
<thead>
<tr>
<th>Relationship quality model (Dependent: buy/no buy)</th>
<th>Theory of planned behaviour model (Dependent: buy/no buy)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nag R²</strong></td>
<td>Int</td>
</tr>
<tr>
<td>Step 2</td>
<td>.193</td>
</tr>
<tr>
<td>Step 3</td>
<td>.124</td>
</tr>
<tr>
<td>Step 4</td>
<td>.219</td>
</tr>
</tbody>
</table>

Table VI.3: Step 2 to Step 4 – Standardized coefficient from hierarchical linear regressions of the relationship quality versus the theory of planned behaviour on total expenditure model (\(*\ast\) = significant at the .01-level; * = significant at the .05-level)

<table>
<thead>
<tr>
<th>Dependent Variable: Total expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship quality model (Dependent)</td>
</tr>
<tr>
<td><strong>Adj R²</strong></td>
</tr>
<tr>
<td>Step 2</td>
</tr>
<tr>
<td>Step 3</td>
</tr>
<tr>
<td>Step 4</td>
</tr>
</tbody>
</table>
### Table VI.4: Step2 to Step4 – Standardized coefficients from hierarchical linear regressions of the relationship quality versus the theory of planned behaviour on number of visits model (*** = significant at the .01-level; * = significant at the .05-level; ° = significant at the .10-level)

<table>
<thead>
<tr>
<th>Dependent Variable: Number of visits</th>
<th>Relationship quality model</th>
<th>Theory of planned behaviour model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adj R²</td>
<td>Int</td>
</tr>
<tr>
<td>Step2</td>
<td>.081**</td>
<td>.289**</td>
</tr>
<tr>
<td>Step3</td>
<td>.033**</td>
<td>-</td>
</tr>
<tr>
<td>Step4</td>
<td>.080**</td>
<td>.272**</td>
</tr>
</tbody>
</table>

### Table VI.5: Step2 to Step4 – Standardized coefficients from hierarchical linear regressions of the relationship quality versus the theory of planned behaviour on number of product types model (*** = significant at the .01-level; * = significant at the .05-level)

<table>
<thead>
<tr>
<th>Dependent Variable: Number of product types</th>
<th>Relationship quality model</th>
<th>Theory of planned behaviour model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adj R²</td>
<td>Int</td>
</tr>
<tr>
<td>Step2</td>
<td>.028**</td>
<td>.176**</td>
</tr>
<tr>
<td>Step3</td>
<td>.012*</td>
<td>-</td>
</tr>
<tr>
<td>Step4</td>
<td>.027**</td>
<td>.169*</td>
</tr>
</tbody>
</table>

From the combined analyses we can positively answer to the second research question, and conclude that both relationship quality and theory of planned behaviour can predict purchase incidence as well as purchase behaviour, and their effect is consistently and fully mediated through intentions.

As far as the logistic regressions are concerned, the classification percentages indicate that modelling only the model antecedents yields the weakest model (65.7% for the relationship quality model, 66% for the theory of planned behaviour model), while the mediated models yield the best classification percentages (71.5% for the relationship quality model, and 71.9% for the theory of planned behaviour model). Improvement as compared to a model with intentions only as an antecedent to behaviour (70.7%) is negligible, which further confirms the fully mediating role of intentions. Both models...
behave in exactly the same way, proving they are interchangeable in a customer-firm relationship context. As the indicators of the linear regressions on intentions are better for the theory of planned behaviour constructs than they are for the relationship quality constructs, we can conclude that theory of planned behaviour outperforms relationship quality in predicting subsequent behaviour in terms of a choice model.

As far as the linear regressions are concerned, the model disregarding intentions is consistently performing the worst\textsuperscript{16}, both with relationship quality and theory of planned behaviour antecedents. The models testing for the impact of the relationship quality and theory of planned behaviour constructs directly on behaviour all show the theory of planned behaviour slightly outperforms relationship quality in predicting behaviour. All six models incorporating both intentions and relationship quality respectively theory of planned behaviour constructs show that intentions fully mediate the impact of the antecedent constructs on behaviour. The impact of intentions in particular, and consistently for all models, is the weakest on number of product types, and the strongest on number of visits. Thus we can answer the first research question by stating that the theory of planned behaviour is certainly a sound alternative to the relationship quality approach in predicting behaviour. Although these results strongly indicate that attitudinal antecedents do predict behaviour, we wish to further investigate how both the relationship quality and the theory of planned behaviour model behave when used in combination with behavioural data on past purchases. In order to investigate this impact, we perform again a series of both logistic and linear regressions in four steps as described above, but taking past behaviour into account using the RFM-approach described in the theoretical framework. The results of these regressions indicate that as far as the purchase behaviour models are concerned, attitudinal antecedents and intentions fail to predict behaviour when combined with past behaviour. We do not report these analyses in detail here. However, as far as the purchase incidence model is concerned, intentions and attitudinal antecedents capture part of the variance in the dichotomous outcome variable. We discuss the analyses using the same stepwise approach used before. As far as the theory of planned behaviour model is concerned, previous analyses showed that the attitude towards the behaviour is clearly the most important, often the only significant indicator. For the sake of parsimony, we limit the analyses combining attitudinal antecedents and past behaviour to attitude towards the behaviour, and thus discard subjective norm and perceived behavioural control.

\textsuperscript{16} To compare the performance of the linear regression models, we have compared the Adjusted R\textsuperscript{2} values. As this value is corrected for the number of independent variables introduced, comparing R\textsuperscript{2} gives a reliable measure of their relative performance.
Step 1: relationship quality/theory of planned behaviour + past behaviour → intentions (see Table VI.6)

Linear regressions show that relationship quality respectively theory of planned behaviour constructs do predict intentions, even in combination with past behaviour. The theory of planned behaviour outperforms the relationship quality approach.

Table VI.6: Step 1 – Standardized coefficients from linear regressions of relationship quality/theory of planned behaviour constructs on intentions (**=significant at the .01-level; *=significant at the .05-level)

<table>
<thead>
<tr>
<th></th>
<th>Relationship quality model</th>
<th>Theory of planned behaviour model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adj R²</td>
<td>Rq</td>
</tr>
<tr>
<td>Step 1</td>
<td>.423**</td>
<td>.505**</td>
</tr>
</tbody>
</table>

Step 2: intentions + past behaviour → behaviour (Table VI.7)

Intentions are a significant predictor of behaviour, even when combined with past behaviour.

Step 3: relationship quality/theory of planned behaviour → behaviour (Table VI.7)

The logistic regression models indicate that the attitudinal antecedents of the relationship quality as well as of the theory of planned behaviour model impact behaviour above and beyond the impact of past behaviour. Nagelkerke R² is about .61 for both models in the logistic regressions.

Step 4: relationship quality/theory of planned behaviour + intentions → behaviour (Table VI.7)

In both models, intentions are significant, while the significant effects of the attitudinal antecedents found in step 3 disappear. Along with the fact that at step 1 we were able to show the impact of attitudinal antecedents on intentions, and that at step 2 we were able to show the impact of intentions on behaviour, this last step confirms that intentions fully mediate the impact of both the relationship quality and the theory of planned behaviour antecedents, while keeping an independent role in predicting behaviour next to the effects of past behaviour.
Comparing the predictive power of relationship quality and theory of planned behaviour antecedents on behavioural intentions and purchasing behaviour

Table VI.7: Step2 to Step4 – Standardized coefficients from hierarchical logistic regressions of the relationship quality versus the theory of planned behaviour model combined with past behaviour (**= significant at the .01-level; *=significant at the .05-level; %=significant at the .10-level)

<table>
<thead>
<tr>
<th></th>
<th>Relationship quality model</th>
<th>Theory of planned behaviour model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dependent: buy/no buy</td>
<td>Dependent: buy/no buy</td>
</tr>
<tr>
<td>Nag R²</td>
<td>Int</td>
<td>Nag R²</td>
</tr>
<tr>
<td>Step2</td>
<td>.619</td>
<td>.619</td>
</tr>
<tr>
<td></td>
<td>0.188**</td>
<td>0.188**</td>
</tr>
<tr>
<td></td>
<td>1.30**</td>
<td>1.30**</td>
</tr>
<tr>
<td></td>
<td>-.01**</td>
<td>-.01**</td>
</tr>
<tr>
<td></td>
<td>.201</td>
<td>.201</td>
</tr>
<tr>
<td>Step3</td>
<td>.618</td>
<td>.609</td>
</tr>
<tr>
<td></td>
<td>-.28**</td>
<td>.24°</td>
</tr>
<tr>
<td></td>
<td>1.13**</td>
<td>.209*</td>
</tr>
<tr>
<td></td>
<td>-.01**</td>
<td>1.27**</td>
</tr>
<tr>
<td></td>
<td>.214</td>
<td>.192</td>
</tr>
<tr>
<td>Step4</td>
<td>.629</td>
<td>.614</td>
</tr>
<tr>
<td></td>
<td>.166*</td>
<td>.154</td>
</tr>
<tr>
<td></td>
<td>1.32**</td>
<td>.153°</td>
</tr>
<tr>
<td></td>
<td>-.01**</td>
<td>.086</td>
</tr>
<tr>
<td></td>
<td>.214</td>
<td>1.27**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-.01**</td>
</tr>
</tbody>
</table>

From the combined analyses we can partially answer positively to the third research question, as we can conclude that the effects found in the hierarchical regressions of the attitudinal models without past behaviour as an antecedent are confirmed for the purchase incidence model, but not for the purchase behaviour models. This seems to indicate that intentions and attitudinal antecedents capture unique variance in the purchase decision that is not captured by past behaviour, while they do not capture unique variance in the purchase behaviour.

(v) Discussion

The first issue we intended to address in the analyses was whether relationship quality outperforms the theory of planned behaviour constructs in predicting purchase behaviour. In the customer-firm relationship the specific model (relationship quality) is not outperforming the theory of planned behaviour model. These findings confirm previous researchers’ conclusions in different fields that the general model of the theory of planned behaviour is a worthy alternative for a more context specific model (Ajzen, 2002). Indeed, the results suggest at several levels that the theory of planned behaviour is a better predictor of intentions. The unidimensionality and convergent validity of the theory of planned behaviour indicate that the constructs of this model better reflect what they intend to measure than does the relationship quality construct. From the comparable behaviour of model antecedents in all choice and response models we can conclude that relationship quality and theory of planned behaviour are interchangeable models to uncover the dynamics of the customer-firm relationship. As the specific indices show the theory of planned behaviour constructs outperform relationship quality in predicting intentions, the reliability of the first approach seems to be higher than that of the latter.
As far as the higher explained variance between theory of planned behaviour construct and intentions than between relationship quality and intentions is concerned, we suspect the linguistic consistency between the items partially account for this effect. Indeed, the intentions item was phrased as were the theory of planned behaviour items, using the time frame of a season and the behaviour narrowly defined, as buying at least once at the retailer. This linguistic consistency might partially account for the higher variance explained, as could the order of the questions in the questionnaire (see Appendices for a copy of the questionnaire).

Another possible explanation for the stronger relationship between attitude towards the behaviour and behavioural intentions than between relationship quality and behaviour intentions lies in the underlying ambivalence of the attitude towards the behaviour respectively relationship quality attitude. Previous research (Olsen, Wilcox, and Olsson, 2005) has shown that ambivalence does indeed negatively impact both satisfaction and loyalty. If we find a higher level of ambivalence in the measure of relationship quality than in the measure of attitude towards the behaviour, this might partially explain that the latter outperforms the former in predicting behavioural intentions. Existing research suggests two approaches to measure ambivalence: a subjective and an objective measure. The subjective measure consists of direct questions asked to the respondents of the study. As we do not dispose of that type of direct questions in our questionnaire, we have to rely on objective indicators of ambivalence. Low attitude ambivalence or strong attitudes have four characteristics (Krosnick and Petty, 1995): they remain stable over time, they impact behaviour, they influence information processing, and they resist persuasion. A direct analysis of the stability of relationship quality and attitude towards the behaviour is possible in our research, as we dispose of a second measurement of all research constructs at a later time (June 2004). Correlations between the T1 and T2 items underlying the relationship quality and attitude towards the behaviour constructs are given in Table VI.8a and Table VI.8b.

Table VI.8a: Correlation of each of the eight relationship quality items (RQ1 to RQ8, see Table III.12, p63 in the Method section for the items) at time T1 with the same item at time T2. All coefficient are significant at the >.001-level (**).

<table>
<thead>
<tr>
<th>Variable</th>
<th>RQ1</th>
<th>RQ2</th>
<th>RQ3</th>
<th>RQ4</th>
<th>RQ5</th>
<th>RQ6</th>
<th>RQ7</th>
<th>RQ8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation</td>
<td>.504**</td>
<td>.529**</td>
<td>.528**</td>
<td>.302**</td>
<td>.378**</td>
<td>.418**</td>
<td>.440**</td>
<td>.549**</td>
</tr>
</tbody>
</table>
Table VI.8b: Correlation of each of the nine attitude towards the behaviour items (AttB1 to AttB9, see Table III.14, p67 the Method section for the items) at time T1 with the same item at time T2. All coefficient are significant at the >.001-level (**).

<table>
<thead>
<tr>
<th>Variable</th>
<th>AttB1</th>
<th>AttB2</th>
<th>AttB3</th>
<th>AttB4</th>
<th>AttB5</th>
<th>AttB6</th>
<th>AttB7</th>
<th>AttB8</th>
<th>AttB9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation</td>
<td>.564**</td>
<td>.587**</td>
<td>.487**</td>
<td>.491**</td>
<td>.530**</td>
<td>.532**</td>
<td>.463**</td>
<td>.508**</td>
<td>.500**</td>
</tr>
</tbody>
</table>

These correlations average to .465 for the relationship quality items and to .496 for the attitude towards the behaviour items. Moreover, the correlations of relationship quality items range from .302 to .549, while they range from .396 to .587 for the attitude towards the behaviour items. This seems to indicate ambivalence is slightly higher within the relationship quality measurement than within the attitude towards the behaviour measurement. As far as the impact on behaviour is concerned, results of analyses indicate that attitude towards the behaviour has a greater impact than relationship quality on behavioural outcome variables such as total expenditure, number of visits, and number of product types. Only the purchase incidence model does not separate relationship quality from attitude towards the behaviour in terms of predictive power.

In order to test for the information processing and persuasion resistance we perform regressions including the interaction term of relationship quality respectively attitude towards the behaviour with promotional and relational marketing efforts received during summer 2004. A stronger positive interaction effect between attitude towards the behaviour and marketing efforts would indicate that information processing interacts more closely with attitude towards the behaviour than it does with relationship quality, which has been indicated as a characteristic of a stronger attitude. In terms of information processing, we should thus find stronger positive interaction effects of relational marketing efforts with attitude towards the behaviour than with relationship quality. This cannot be confirmed in the purchase incidence model, but in all three behavioural models (total expenditure, number of visits and number of product types) it is positively confirmed, both through the comparison of Adj. R² and through the single interaction coefficients (see Table VI.9). In terms of persuasion resistance, we should find stronger interactions of promotional marketing efforts with relationship quality than with attitude towards the behaviour. If the interaction of relationship quality with promotional efforts is stronger than it is with attitude towards the behaviour, this would indicate that the interplay of promotions with attitudes is stronger with the relationship quality model, and thus resistance to promotions is steadier when attitude towards the behaviour is taken into account. This is only the case in the total expenditure model. Thus we can confirm that information processing is interacts more closely with attitude towards the behaviour while we cannot confirm that
promotions interact more closely with relationship quality. On this part of the explanation for ambivalence, the confirmation from our data is thus only partial.

Overall we can conclude that these findings largely support the idea that attitude towards the behaviour as a scale is less ambivalent than relationship quality, and that this can explain the stronger impact it seems to have on both behavioural intentions and subsequent behaviour.

Table VI.9: Standardized coefficients from linear regressions of marketing efforts interaction effects with relationship quality respectively theory of planned behaviour on the purchase behaviour variables for the summer season subsequent to the survey (**=significant at the .01-level; *=significant at the .05-level; °=significant at the .10-level).

<table>
<thead>
<tr>
<th></th>
<th>Total expenditure</th>
<th>Number of visits</th>
<th>Number of product types</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RQ</td>
<td>AttB</td>
<td>RQ</td>
</tr>
<tr>
<td>Promotional efforts (PE)</td>
<td>-.085</td>
<td>-.155</td>
<td>.178</td>
</tr>
<tr>
<td>Relational effort (RE)</td>
<td>.455**</td>
<td>.331**</td>
<td>.396**</td>
</tr>
<tr>
<td>Relationship quality (RQ)</td>
<td>.019</td>
<td>-</td>
<td>.025</td>
</tr>
<tr>
<td>Attitude towards the behaviour (AttB)</td>
<td>-</td>
<td>.043</td>
<td>-</td>
</tr>
<tr>
<td>PE*RQ/AttB</td>
<td>.158**</td>
<td>.209**</td>
<td>.116*</td>
</tr>
<tr>
<td>RE*RQ/AttB</td>
<td>.378**</td>
<td>.403°</td>
<td>.203</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.320**</td>
<td>.334**</td>
<td>.328**</td>
</tr>
</tbody>
</table>

Furthermore, the results of the hierarchical regression analyses show that taking all three theory of planned behaviour constructs into account is indeed the best approach, as all three contribute to the explanatory power of the model, albeit with small beta's for the subjective norm and perceived behavioural control constructs. Leaving these constructs out of the model will thus lead to
Comparing the predictive power of relationship quality and theory of planned behaviour antecedents on behavioural intentions and purchasing behaviour

incomplete conclusions, even in the context of customer-firm relationships. The relative importance of the constructs, as discussed in the theoretical framework, is context specific. The second issue we wished to address was the role of intentions in attitudinal models predicting behaviour. The results of our analyses show that intentions effectively predict real behaviour, even when this behaviour is based on data base information. Although variance explained is low, it is clearly significant. Classification percentages of the logistic regressions seem to suggest the logistic regression models yield stronger results than prediction in the response models, although this cannot be statistically confirmed. However, as the phrasing of the behavioural intention item tests for a quasi dichotomous outcome, it would be premature to confirm this impression based on our findings. This is further confirmed by the fact that the linear regressions on the response variables all show intentions do indeed predict behaviour, but the adjusted R² is the strongest for the number of visits model. When predicting total expenditure or number of product types, intentions (phrased as the odds of purchasing) show a slightly reduced effectiveness. Given the specific methodology we used, these results are not surprising. Perkins-Munn, Aksoy, Keinnamon, and Estrin (2005) report an R² of .65 between behavioural intentions and actual repurchase in the pharmaceutical industry. However, the purchase behaviour under study is a self-reported measure, and both purchase and intentions are reported as dichotomous variables. This clearly inflates the R². In the truck industry, the same authors find an R² 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 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 behaviour. Unfortunately, in their study, they do not introduce intentions as a mediating variable between attitudinal antecedents and behaviour. It is not surprising that in the context of a non-contractual mature and fashion sensitive product, the relationship between intentions and real behaviour is found to be weak. As both the choice and the response models incorporating intentions together with the relationship quality or theory of planned behaviour antecedents show only intentions have a significant impact on behaviour, the mediating role of intentions between the antecedents and the subsequent behaviour is confirmed beyond any doubt. The third issue addressed in our analyses, is the impact of the attitudinal models on behaviour subsequent to the survey even when combined with past behaviour. The results show that behavioural intentions do indeed predict behaviour, even when combined with objectively measured past behaviour, 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 behaviour, while they do not capture unique variance in the purchase behaviour. This might be due, of course, to the phrasing of the intentions construct that in our case referred to the probability
of the customer visiting the retailer at least once in the next summer season. Generally speaking, we can confirm the finding of Thogersen (2002) that attitudinal antecedents do indeed play a role apart from past behaviour.

Finally, we wish to stress that the causality of the effects described is largely embedded in the timing of the measurements for all relationships in the model except for the direct impact of attitudinal antecedents on behavioural intentions. Some authors suggest inferring causality to significant relationships in a model asks for a longitudinal approach (e.g. Morgan and Hunt, 1994). Indeed, measuring hypothesized antecedent and outcome variables at subsequent moments and proving they influence each other significantly confirms the antecedent role of the first and outcome role of the latter, whereas in a purely cross-sectional design the relationship can be attested, but causality is less evident to prove. Furthermore, effects of attitudinal antecedents are sometimes expected to need a time lag to come to their full effect, as is the case, for instance, with the impact of firm level quality, satisfaction, market share and profitability (Anderson, Fornell, and Lehmann, 1994). By the nature of our data, both the subsequent measurement attesting causality and the time gap between attitudinal antecedents and behavioural outcomes has been respected.

(vi) Conclusions, implications and suggestions for further research

Three major findings are presented in our study. First, given their superior reliability and higher impact on intentions, the theory of planned behaviour constructs are a sound alternative to the relationship quality approach for predicting intentions and subsequent behaviour in a customer-firm relationship context. Second, intentions fully mediate both the relationship quality and the theory of planned behaviour constructs. Third, in the purchase incidence model, intentions fully mediate the impact of attitudinal antecedents on behaviour, above and beyond the effects of past behaviour. All of these effects are not only significant, the specific methodology used leaves no doubt as to the underlying causality.

Nevertheless, some important remarks can be made based on our results. The predictive power of intentions on real behaviour can be called low, which clearly leaves much room for improvement of the research model. We see two main explanations for the small impact of intentions on behaviour in our study. First, the time elapsed between the measurement of intentions and the scanning of the behaviour is 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 alter the predictive power of intentions on behaviour. Indeed, in the context of the theory of planned behaviour for instance, it has been repeatedly stressed that keeping the time gap between measuring intentions and measuring behaviour as small as possible reinforces the predictive power of intentions on behaviour (Ajzen, 1991). Second, as was suggested previously, heterogeneity among customers 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.

But, intentions capture unique variance in explaining behaviour subsequent to the survey that is not explained by past behaviour. This indicates that both academics and practitioners will benefit from an approach integrating both database and survey information, as was done for this study. A more accurate prediction and understanding of behaviour will result.

As intentions are more closely related to the theory of planned behaviour constructs than they are to the relationship quality constructs, capturing intentions of customers is more reliably based on attitude towards the behaviour than it is based on relationship quality. Results from hierarchical and interaction regressions have shown that both models behave quite similarly, thus using theory of planned behaviour items is a sound approach for marketers wishing to gain insights into the intentions of the customers in the context of a customer-firm relationship. Based on these findings, we advise the use of theory of planned behaviour items whenever possible, i.e. when the satisfaction, commitment and trust measurements are not needed as a managerial tool per se.

The results of our study are of course drawn from the apparel retailing environment, which is a specific context. Different relationships between the variables under study might emerge in different contexts. The consistency of the results found in our specific context suggests comparable results are likely to be found in other contexts too. However, 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 our study in another research context or a large scale cross-industrial study is necessary. We hope the results detailed here will encourage both academics and practitioners to engage in such a research.
VII  General conclusions
(i) Introduction

With the present research, we pursued a fourfold goal: To enhance our understanding of purchase behaviour through attitudinal antecedents, to assess the power of attitudinal and direct mail antecedents above and beyond the power of predictive, behavioural antecedents, to enhance our understanding of the immediate and delayed influence of direct mail efforts on behaviour, and to take individual differences between customers into account.

In terms of understanding behaviour, we have compared the reliability of the customer-firm relationship specific model based on relationship quality antecedents with the reliability of the general, consumer behaviour centred model suggested by the theory of planned behaviour (Chapter VI). We have shown that the general approach of the latter certainly is a good alternative for the specific approach of the first.

In terms of predicting behaviour, we have investigated the effects of both attitudinal antecedents (Chapter VI) and marketing efforts (Chapter IV) above and beyond the effects of past behaviour. Both attitudinal antecedents and marketing efforts have been shown to influence subsequent behaviour, thus confirming that although past behaviour is a strong indicator of what the customer will do in the future, an approach integrating attitudinal antecedents or marketing efforts with past behaviour enhances our understanding of the subsequent behaviour.

In terms of influencing behaviour, we have shown that the short and long term effects of marketing efforts that are promotional respectively relational in nature not only influence behaviour above and beyond the effects of the customer's past behaviour, but that their comparative approach yields additional insights into the effects of marketing efforts (Chapter IV).

Finally, we have taken our research one step further by introducing customer heterogeneity into our research models. Although the empirical setting we worked with does not guarantee to find moderating effects as clearly as would an experimental setting, we showed that relational strength of the customer with the focal firm (Chapter IV and Chapter V), price consciousness (Chapter IV), personal source confidence (Chapter IV), and attitudinal versus normative control (Chapter V) are all elements of customer heterogeneity that influence the relationship between antecedents and behaviour(al intentions).

In these general conclusions, we review our findings around the four central themes introduced in the theoretical framework (Chapter II): Understanding behaviour, predicting behaviour, influencing behaviour, and customer heterogeneity. This recapitulation is followed by a paragraph synthesizing
the major conclusions, and introducing some suggestions for further research. A series of managerial implications based on our findings closes the dissertation.

(ii) Recapitulation and contributions

a) Understanding behaviour

From the thorough comparison of the relationship quality model with the theory of planned behaviour model (Chapter VI), we conclude that in the customer-firm relationship the specific model (relationship quality) is not outperforming the theory of planned behaviour model. These findings confirm previous researchers’ conclusion in different fields that the general model of the theory of planned behaviour is a worthy alternative for a more context specific model (Ajzen, 2002). Indeed, the results suggest at several levels that the theory of planned behaviour is a better predictor of intentions. The unidimensionality and convergent validity of the theory of planned behaviour indicate that the constructs of this model better reflect what they intend to measure than does the relationship quality construct. From the comparable behaviour of model antecedents in all choice and purchase behaviour models we can conclude that relationship quality and theory of planned behaviour are interchangeable models to uncover the dynamics of the customer-firm relationship. As the specific indices show the theory of planned behaviour constructs outperform relationship quality in predicting intentions, the reliability of the first approach is higher than that of the latter.

A possible explanation for the stronger relationship between attitude towards the behaviour and behavioural intentions than between relationship quality and behaviour intentions lies in the underlying ambivalence of the attitude. Previous research (Olsen, Wilcoxon, and Olsson, 2005) has shown that ambivalence does indeed negatively impact both satisfaction and loyalty. From a detailed analysis based on objective data from the survey and the database information at our disposal (see Chapter VI, (v) Discussion) we can conclude that analyses support the idea that attitude towards the behaviour is a less ambivalent scale, and that this can explain the stronger impact it has on both behavioural intentions and subsequent behaviour.

Next to the general conclusion regarding the applicability of the theory of planned behaviour model in a repeat buying context, we also confirm the fully mediating role of intentions between attitudinal antecedents and behaviour subsequent to the survey. The results of our analyses show that intentions effectively predict real behaviour, even when this behaviour is based on database information.

Although variance explained is low, it is clearly significant. As both the purchase incidence and the purchase behaviour models incorporating intentions together with the relationship quality or theory of planned behaviour antecedents show only intentions have a significant impact on behaviour, the mediating role of intentions between the antecedents and the subsequent behaviour is confirmed beyond any doubt.
The causality of these effects is largely embedded in the timing of the measurements for all relationships in the model except for the direct impact of attitudinal antecedents on behavioural intentions. Some authors suggest inferring causality to significant relationships in a model asks for a longitudinal approach (e.g. Morgan and Hunt, 1994). Indeed, measuring hypothesized antecedent and outcome variables at subsequent moments and proving they influence each other significantly confirms the antecedent role of the first and outcome role of the latter, whereas in a purely cross-sectional design the relationship can be attested, but causality is less evident to prove. Furthermore, effects of attitudinal antecedents are sometimes expected to be differed in time, as is the case, for instance, with the impact of firm level quality, satisfaction, market share and profitability (Anderson, Fornell, and Lehmann, 1994). By the nature of our data, both the subsequent measurement attesting causality and the time gap between attitudinal antecedents and behavioural outcomes has been respected.

b) Predicting behaviour

Two main issues regarding the predictive impact of past behaviour on future behaviour were addressed in our research: Whether attitudinal antecedents have a significant impact on behaviour above and beyond the effects of past behaviour, and whether marketing efforts achieved the same. The impact of the attitudinal models on subsequent behaviour even when combined with past behaviour was revealed in Chapter VI, although this was only the case in the purchase incidence model, and not in the purchase behaviour model. The results show that behavioural intentions do indeed predict behaviour, even when combined with objectively measured past behaviour. This seems to indicate that intentions and attitudinal antecedents capture unique variance in the purchase decision that is not captured by past behaviour. Thus, we can confirm the finding of Thogersen (2002) that attitudinal antecedents do indeed play a role apart from past behaviour.

The impact of marketing efforts on behaviour subsequent to the survey even when combined with past behaviour was revealed in Chapter IV. In general terms, we are able to confirm that in influencing the customer’s decision to buy direct mail efforts clearly alter a customer’s behaviour. Contrary to conventional wisdom, past behaviour is not the best predictor in the purchase-incidence model under study in our context (Kumar, Bohling, and Ladda, 2003). The results of our analyses thus confirm the finding of Gönül and Shi (1998) that stimuli as measured through the objective count of marketing efforts do influence behaviour above and beyond the effects of past behaviour.

c) Influencing behaviour

Overall the results of our analyses concerning the effects of marketing efforts (detailed in Chapter IV) confirm the idea that marketing efforts do explain behaviour, even when past behaviour is taken into account. However, it is important to differentiate between the impact of direct mail efforts on the
decision and the behaviour of buyers by modelling both a purchase-incidence and a purchase behaviour model, as was already indicated by Bult, van der Scheer, and Wansbeck (1997). Indeed, the impact of marketing efforts on buying decision in the purchase-incidence model reflects a positive immediate effect of both promotional and relational efforts, as well as the expected delayed positive effect of relational efforts and the negative, stockpiling like effect of past promotional efforts. In general terms, this extends the existing findings on positive immediate impact of promotional marketing efforts (Jedidi, Mela, and Gupta, 1999; Lewis, 1994; Volle, 2001), on both immediate and delayed effects of relational marketing efforts (Jedidi, Mela, and Gupta, 1999), and on negative delayed impact of promotional marketing efforts (Bell, Chiang, and Padmanabhan, 1999; Jedidi, Mela, and Gupta, 1999; Pauwels, Hanssens and Siddarth, 2002) to a new context.

The relative magnitude of the effects is different from earlier reported results (Jedidi, Mela, and Gupta, 1999). The image-supporting relational efforts impact the purchase-incidence model most (Mulhern, 1997).

Beyond the buying decision, marketing efforts play a different role in the behaviour of the buyers. Indeed, whatever the buying behaviour under study is, the magnitude of the customer’s past behaviour is the most important, more or less closely followed by promotional efforts. Contrary to the finding in the purchase-incidence model, this finding in the purchase behaviour models is consistent with Kumar, Bohling, and Ladda (2003). Thus marketing efforts face a far bigger challenge if the main objective is to alter customers’ behaviour in terms of the amount of money they spend, number of visits they pay to the store, or number of product types they buy from the retailer. The best results will be obtained here through promotional efforts. In terms of money spent, relational efforts achieve a comparable immediate result, and do pay off positively in the long run too. In terms of number of visits and number of product categories, the immediate effects of relational efforts are notably smaller, and delayed effects are inexistent. The number of product types is the hardest to influence. Clearly, factors beyond the scope of our study impact this outcome variable the most. Thus, in the purchase behaviour models, the image-supporting relational efforts are of less importance, and their place is taken by promotional efforts (Mulhern, 1997). The stockpiling like effect of past promotional efforts is not found here, which indicates that it only affects the purchase-incidence model, and not the purchase behaviour model.

d) Customer heterogeneity

Although customer characteristics are widely expected to reinforce our understanding of the dynamics of the customer-firm relationship, revealing their impact in an empirical setting is far from straightforward. It is known that ascertaining potential interaction effects in field studies is difficult (Evans, 1993; McClelland and Judd, 1993). Using an empirical setting, we were able to identify a number of moderating effects of the relational strength variable, and specific interaction effects of
price consciousness on marketing effort variables on the one hand, and of attitudinal versus normative control on the relationship quality – intentions link on the other hand.

i) Relational strength

Our findings on the moderating role of relational strength in the relationship quality model – intentions – behaviour model (Chapter V) confirm the expectation of Reinartz and Kumar (2000) and Garbarino and Johnson (1999) that relationship quality antecedents play a more crucial role in predicting behaviour(al intentions) among weakly relational customers. This suggests levels of direct experience (Smith and Swinyard, 1983) and learning (Verhoef, Franses, and Hekstra, 2002) reflected by the strength of the relationship do not positively moderate the relationship between relationship quality and intentions. Indeed, the most intimate customers’ intentions relate less to relationship quality antecedents than do the less intimate customers’ intentions. At the level of the relationship between intentions and behaviour subsequent to the survey, the effects suggested based on direct experience and learning theory are confirmed. The inversion of the sign of the relationship strength interaction terms between the relationship quality - intentions and the intentions-behaviour relationships is a striking effect of our study. Indeed, the stronger the past relation of customers to the firm as measured through behaviour, the weaker the impact of their relationship quality on their intentions. However, the stronger the impact of their intentions on their subsequent response behaviour, in terms of total expenditure as well as number of visits and number of product types purchased. Disregard relationship strength within the models, and omitting the mediating role of intentions, results in a wrongful estimation of the dynamics leading to specific findings in a real world setting. Although the efforts directed at low relational strength customers to improve their perception of the company and the behaviour at stake may result in higher intentions, these do not immediately translate into higher subsequent behaviour. Raising the intentions of high relational customers is far more effective, but the impact of raising relationship quality is lower here.

As far as the impact of relational strength on the marketing efforts under study is concerned (Chapter IV), a clear distinction must be made between the purchase-incidence and the purchase behaviour model, as well as between the promotional and relation marketing efforts under study.

In terms of the buying decision, promotional direct mail efforts have a bigger positive impact in the long run among the most intimate customers, while they have a more negative impact in the short run.

Relational direct mail efforts do not interact with relational strength in the purchase-incidence model. As far as the purchase behaviour models are concerned, the total amount spent by the most intimate customers at the retailers is more positively influenced by promotional efforts and less by relational
efforts. In short, we have shown that promotions have a stronger long run positive effect on intimate customers, and also better achieve to raise the amount of money they spent at the retailer.

ii) Price consciousness

The negatively valenced price related attitude, price consciousness, interacts both with promotional and relational marketing efforts (Chapter IV). The results confirm the expectation that among price conscious customers, promotional efforts have a bigger positive impact. This effect was traced both in terms of the buying decision and the number of visits customers paid to the retailer as a long term result of promotions. Thus, promotions build an attractive image among price conscious customers in the long run. The negative interaction of price consciousness with current relational efforts in terms of buying decision as well as with past relational efforts in terms of the number of visits paid to the retailer underlines that price conscious customers react negatively to relational efforts, both in the short and in the long run. The direction of the effects of price consciousness we found confirms the expectations suggested in the literature by Lichtenstein, Ridgway, and Netemeyer (1993). In short, we have shown that promotions better attract price conscious customers to the shops and attract buyers to visit the shops more often, without necessarily influencing the amount of money or the share of wallet spent at a specific retailer. Thus the traffic building aim of promotions is attained best among price conscious customers.

iii) Attitudinal versus normative control

Our findings on the moderating role of attitudinal versus normative control on the intentions – behaviour link in our model contradict the findings of Sheeran and Abraham (2003) (Chapter V). We found that the impact of relationship quality on intentions is higher for normatively controlled customers than it is for attitudinally controlled customers, while there is only a partial moderating effect on the intentions – behaviour link. Thus, raising the relationship quality score of a normatively controlled customer yields better effects as compared to raising them for an attitudinally controlled customer. Additionally, raising the impact of significant others on the purchase behaviour of customers will result in a more steadfast translation of attitudes into intentions.

Finally, we note that modelling different outcome variables yielded different results in all three studies discussed. Based on ideas from Bauer (1988), Prinzie and Van den Poel (2005), and Rust et al. (2004) who suggest that when modelling the behaviour of customers multiple aspects of each customer’s purchase behaviour should be considered, we studied the effects of all models in our empirical research on a purchase incidence and on three purchase behaviour models.

Findings from our analyses confirm that purchase incidence and purchase behaviour models behave differently. The difference was traced in the impact of marketing efforts on subsequent behaviour
(iii) Conclusions and suggestions for further research

Six major conclusions are presented here:

1. The theory of planned behaviour constructs are a sound alternative for the relationship quality measures in predicting intentions and behaviour;

2. Intentions fully mediate the impact of attitudinal antecedents on behaviour;

3. Relationship quality antecedents, theory of planned behaviour antecedents, and marketing efforts all impact behaviour above and beyond the effects of past behaviour;

4. Differentiating short and long term effects as well as promotional and relational types of marketing efforts enhances our understanding of specific effects on behaviour;

5. Introducing customer heterogeneity into a research model enhances our understanding of its specific dynamics; especially the introduction of relational strength contributes to both attitudinal and direct mail efforts models, while price consciousness influences the direct mail efforts model and attitudinal versus normative control influences the attitudinal model specifically;

6. Differentiating the outcome variable in purchase incidence and various purchase behaviour models yields additional insights in the dynamics of the models, whatever the antecedent under study is.

Nevertheless, some important remarks can be made based on our results. Although both the relationship quality model and the theory of planned behaviour model do indeed predict real behaviour, and intentions are found to fully mediate the effects, the predictive power of intentions on real behaviour is low, which clearly leaves much room for improvement of the research model. We have shown that past behaviour captures part of the variance that remains unexplained when using only intentions as an independent variable, and we have improved the variance explained by introducing customer heterogeneity into the models. With respect to the latter, further research might identify other customer characteristics than the ones used in our study, and thus improve the models’ explained variance. Furthermore, introducing elements into the research extraneous from the relationship between the customer and the focal firm is also an avenue for further research.

Environmental influences such as competitive strategies within the industry could further clarify why customers tend to form positive intentions that they do not translate into behaviour.
Specific marketing tools (direct marketing) were studied here. Enhancing the marketing efforts' model with other marketing tools is a necessary step towards fully understanding the impact of the whole marketing strategy of a firm on its customers. In our empirical research, the marketing tools described encompass more than 90% of the focal firm's marketing efforts, but in other settings mass media tools might be part of the firms approach. Introducing these marketing efforts into the study is a challenge for researchers who wish to enhance our understanding of marketing strategy impact on real behaviour of the firm's customers. Further experimenting with the mailing strategy might also result in new insights. Indeed, the mailing strategy of the retailer under study is based on past behaviour, which could clearly influence our findings regarding the relative impact of marketing efforts and past behaviour. In a setting where the researcher controls the mailing dispersion among the customers in his/her research sample, we achieve a better situation of non-correlated past behaviour and direct mail efforts variables.

The number of interaction effects with individual differences we found was limited as compared to the expected ones. However, ascertaining potential interaction effects in field studies is acknowledged to be difficult (Evans, 1993; McClelland and Judd, 1993). Although we have used a large enough sample, our results further confirm the difficulty of finding interaction terms in a field study. When studying interaction effects in an empirical setting the potential moderating variables take the dispersion and values present in the population in the form of continuous variables. As the variance in the customer characteristics under study is not controlled, but merely measured, dispersion of these variables often results in hard to find interactions. Designing a study where the sample selection is based on variability within one or more possible moderators might reveal that interactions are indeed present, but could not be traced in the setting of the random sample used in our study. For these reasons, the empirical setting is known to have a limited power to reveal interaction effects. Nevertheless, the variance in the variables in our study that lead to moderation is not notably the highest as compared to the variance of the variables that do not result in moderating effects. Hence we are confident that the general lines of our conclusions are based on true effects within the sample.

Methodologically, we identify five next steps to take in order to further validate our findings:

1. Replicating our study in a different setting or a multi-industry approach;
2. Using an experimental or longitudinal approach to deepen our understanding of the effects found;
3. Study in depth the differential impact of trust, commitment, and satisfaction, if data can be gathered where the correlations between these building blocks of relationship quality is less high than in our sample;
4. Further integrate variables thus evolving towards a model encompassing all possible antecedents. However, as detailed in Chapter IV, any model how well designed will always leave a portion of variance unexplained as purchases of consumers within a product category follow a nearly randomized choice within a set of preferred shops;

5. Conduct an extensive study on consumer profiles in terms of their retail shopping behaviour in an effort to generate a theoretically sound framework of individual characteristics that should moderate shopping behaviour models, based on both sociological and psychological research.

Replicating the study is important, because our results are drawn from the apparel retailing environment, which is a specific context. Moreover, the specific strategy of the retailer in our research might have enhanced the strength of the effects found. Thus identifying other retailers with a different marketing strategy, and study the effects of marketing efforts in these contexts, is paramount. Different relationships between the variables under study might emerge in different contexts. To better understand the impact of past behaviour besides direct marketing, new research is needed to confirm our findings along with Gönül and Shi (1998). The consistency of the results found in our specific context suggests comparable results are likely to be found in other contexts too. However, 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 our study in another research context or a large scale cross-industrial study is necessary.

Using a different methodology might further enrich our understanding of the dynamics of both attitudinal and marketing efforts models. Indeed, approaching the questions addressed here in a longitudinal approach could enhance our results. A more complex approach of the delayed effects of marketing efforts or attitudinal antecedents could be tracked over a longer period of time, which might yield insights into the stepwise effects of the marketing tools used or the attitudes customers build over time. An experimental setting could not only yield additional insights into the effects of marketing efforts, as indicated already, it could also enable us to better trace interaction effects, or even trace three-way interactions. Krishnamurthi and Papatla (2003), for instance, have shown that loyalty affects price sensitivity. Therefore, we might expect to find three-way interactions of relationship strength, price consciousness, and direct mail efforts antecedents.

Next, as we indicated in our introduction, a further step in the direction of integrating all types of variables can be taken. Combining the direct mail variables with attitudes, and finally with past behaviour too, will result in even more insightful understanding of the dynamics of customer behaviour. Furthermore, given the findings on ambivalence regarding the relationship quality versus theory of planned behaviour antecedents, it would be interesting to set up a research to further
investigate in how far ambivalence or the lack thereof impacts reliability of consumer research. Finally, there could be an effect of the type of shops on the models in our study, even within the range of shops of a single retailer. Analyzing our data in nested models controlling for the preferential shop of the customer could alter the results of the separate models. However, this type of approach was beyond the scope of the present dissertation. As we do dispose of the necessary data to conduct these analyses, we will undertake them in a next research step.

(iv) Managerial implications

Using an effective method to study marketing phenomena and discussing the results yielded through that specific approach demands a translation of the results into practical suggestions for the field of marketing. Without this translation to the practice, results of academic research would miss the business imperative that is there very raison d'etre.

The conclusions detailed here can find a translation to the marketing practice at two levels: a more general level, and the specific level of the retailer whose database we had the opportunity to use.

At the general level, caution must be taken. Indeed, our results are based on a single, specific context. Thus, drawing conclusions about, for instance, the moderating role of any one of the specific customer characteristics in our research and generalize them to the broader field of retail, or the general context of customer-firm relationships would not be wise.

However, the consistency of the findings presented in our dissertation urge practitioners to take three important questions into account when designing their marketing approach:

1. When designing questionnaires aimed at grasping the potential future behaviour of their customers, marketers should be well aware of the severe predictive limitations of the intentions construct. Moreover, relying on the relationship quality antecedents to explain intentions and behaviour is not necessarily the best approach available, as the more general approach of the theory of planned behaviour yields additional insights into the perceived behavioural control and the subjective norm acting upon the intentions and behaviour of the customers in each specific context.

2. When studying the impact of direct mail efforts marketers should bear in mind that direct mail efforts have both a short and a long term effect. Additionally, the type of direct mail or the strategic aim of a communications tool also shapes the impact of that tool both in the short and in the long run.

3. Marketers who dispose of database information on their customers' behaviour and on marketing efforts can quite easily combine these sources of information and study
relationships at the general level. However, our research has extensively shown that a customer base contains a wide range of customers. Taking the heterogeneity of these customers into account enhances the understanding the marketer can gain of the customers’ behaviour. In the absence of attitudinal characteristics generated through surveys, there is always a very important variable present in the database: the strength of the customers’ relationship to the focal firm.

4. Marketers who wish to assess the impact of attitudinal or marketing efforts models on their customers’ behaviour should always track these effects both on a purchase incidence model and on purchase behaviour models salient in their specific context. Indeed, our results show that the impact of attitudes and direct mail efforts are different depending on the outcome variable chosen.

5. Marketers who do not dispose of detailed database information on their customers’ purchasing behaviour, and do not intend to gather this type of information, will benefit from tracking the length and the regularity of the relationship of their customers. Without tracking the detail of the types of products purchased and the amounts spent, simply keeping track of the first purchase date and the number of visits the customer pays to the retailer enables the retailer to better target its customers. Indeed, together these variables build the relational strength variable we suggest to use. As this customer characteristic disturbs the relationships between attitudes, intentions, and behaviour, adding it to models calculating the impact of attitudes on behaviour through intentions clearly enhances the marketer’s understanding of the dynamics in his customer base. Moreover, it can help to better target both promotional and relational direct mail efforts according to the customers’ relational strength.

At the specific level of the retailer in our research, the practical implications of our results as detailed at the general level are of course as important as for any other retailer. We can, however, add some specific managerial suggestions for the retailer we worked with.

1. Tracking the impact of the differential marketing tools the retailer uses both in the short and in the long run, and taking relational strength as suggested in our research into account, will enhance the retailer’s understanding of the impact of its marketing efforts. As this approach does not imply any survey based measures, it can be done on a constant sample of the customers, or even on the whole database, in order to track the effects longitudinally. The importance of the relational direct mail efforts both in the short and in the long run, and the delayed negative impact of promotions could thus be traced more in detail than we were able to do based on our sample. Our results suggest this tracking will result in important insights
in the effectiveness of the marketing strategy, and possibly suggest a new approach of the targeting of the customers, that is based today on purely behavioural variables. Indeed, the relational strength variable interacts significantly with promotional efforts. In the short run, this interaction is negative, while in the long run it is positive. As the long run impact of promotional efforts is negative, showing a stockpiling like reaction, it might be wise to reduce the use of promotional efforts with the most intimate customers.

2. If the retailer tracks customer characteristics through surveys, we suggest tracking price consciousness, as this variable yielded the most interesting interaction effects in the present context. Both the customers purchase incidence and their number of visits to the retailer generated through direct mail efforts interacts with the price consciousness of the customers. Taking that characteristic into account yields the possibility of better targeting the direct mail efforts. Our results suggest that using relational direct mail efforts among price conscious customers might not be the most effective approach.

3. When assessing the impact of attitudes and intentions on future behaviour, the retailer will benefit from two important considerations. First, in survey research we suggest using the theory of planned behaviour antecedents along with the relationship quality construct to try and predict behaviour. The consistency in the theory of planned behaviour model and the explanatory power of its antecedents on intentions suggests the constructs in this model slightly outperform the relationship quality approach. Using the theory of planned behaviour constructs also enables the retailer to track the attitudinally and normatively controlled customers in the database. Indeed, our results show that this customer characteristic enhances our understanding of the impact of relationship quality attitudes on intentions as well as the impact of intentions on purchase behaviour. Second, the attitudinal models will benefit from the introduction of the relational strength variable, revealing partially why attitudes do not consistently translate into behaviour. As we have seen, the most intimate customers build intentions that translate into behaviour, while their attitudes translate less into intentions. On the other hand, the less intimate customers build their intentions more strongly on their attitudes, whereas their intentions lead with less consistency to purchase behaviour.

4. Based on the finding that intimate and non-intimate customers build their behaviour differently on intentions and attitudes, the retailer should identify the elements shaping the intentions of the intimate customers, as well as the elements reinforcing the behaviour of the less intimate customers. For the first subgroup, identifying the elements shaping intentions can result in a specific marketing approach that reinforces intentions, and hence influence behaviour. For the second group, as intentions are a worse predictor of behaviour a better
(set of) predictors should be identified, in order to design an appropriate marketing strategy. The findings at the marketing efforts level suggest that promotions could be a good marketing tool for this group.

5. Based on the finding that several customer characteristics moderate the relationships studied in the present dissertation, while others do not, we suggest the retailer further investigates possibly moderating customer characteristics by using the approach detailed here. Concentrating exploratory research on intimate or disloyal customers could yield additional insights that were beyond the scope of our research.

Synthesizing these suggestions, we propose that the retailer take relational strength into account, track the effects of the direct mail efforts both in the short and in the long run and differentiating between relational and promotional efforts in nature, and survey the customers to identify their relationship quality attitudes, their scores on theory of planned behaviour constructs, and their level of price consciousness. Suggestions are listed here in the order of ease of implementation and effectiveness. Indeed, the first two suggestions can be realized using directly available data from the database, while the survey approach demands adaptation of the survey tools used today.

As a final, general suggestion, we urge all practitioners to combine as much as possible information from the most diverse sources as well as analyses on different outcome variables, in order to keep an open mind towards the effects found or not found when trying to better grasp the customers they serve. We further wish to stress that the possibilities of analyses and research embedded in the dataset we dispose of have not been exhausted yet. Obviously, we will continue to study customer behaviour, and gladly welcome suggestions for new approaches to our data.
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Appendix I: LISREL output of the relationship quality models

The three construct model (Commitment, trust, satisfaction)

DATE: 12/12/2005  
TIME: 14:38

L I S R E L 8.50

BY

Karl G. Jöreskog & Dag Sörbom

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The following lines were read from file C:\AA_Marie\Doctoraat\Eigenwerk\Article3\CFA rq3.Spl:

CFA on TPB
System file from file confirmatorische_tpb_en_rq.dsf
latent variables TRUST COMMIT SATIS
Relationships
V92.1 V96.1 V102.1=TRUST
V93.1 V103.1=COMMIT
V98.1 V94.1 V101.1=SATIS
Path diagram
End of problem

Sample Size = 979

CFA on TPB
Covariance Matrix

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Covariance Matrix
Appendices

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CFA on TPB

Number of Iterations = 7

LISREL Estimates (Maximum Likelihood)

Measurement Equations

\[ V92.1 = 0.79*\text{TRUST}, \text{Errorvar.} = 0.37, R^2 = 0.63 \]
\[ (0.027) \quad (0.019) \quad 29.43 \quad 19.81 \]

\[ V93.1 = 0.77*\text{COMMIT}, \text{Errorvar.} = 0.40, R^2 = 0.60 \]
\[ (0.029) \quad (0.024) \quad 26.98 \quad 16.75 \]

\[ V94.1 = 0.87*\text{SATIS}, \text{Errorvar.} = 0.24, R^2 = 0.76 \]
\[ (0.026) \quad (0.013) \quad 33.98 \quad 18.37 \]

\[ V96.1 = 0.83*\text{TRUST}, \text{Errorvar.} = 0.30, R^2 = 0.70 \]
\[ (0.026) \quad (0.016) \quad 31.76 \quad 18.94 \]

\[ V98.1 = 0.89*\text{SATIS}, \text{Errorvar.} = 0.21, R^2 = 0.79 \]
\[ (0.025) \quad (0.012) \quad 35.24 \quad 17.52 \]

\[ V101.1 = 0.91*\text{SATIS}, \text{Errorvar.} = 0.17, R^2 = 0.83 \]
\[ (0.025) \quad (0.011) \quad 36.83 \quad 15.96 \]

\[ V102.1 = 0.91*\text{TRUST}, \text{Errorvar.} = 0.18, R^2 = 0.82 \]
\[ (0.025) \quad (0.012) \quad 36.33 \quad 14.99 \]

\[ V103.1 = 0.81*\text{COMMIT}, \text{Errorvar.} = 0.35, R^2 = 0.65 \]
\[ (0.028) \quad (0.023) \quad 28.49 \quad 14.99 \]

Correlation Matrix of Independent Variables

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190
Goodness of Fit Statistics

Degrees of Freedom = 17
Minimum Fit Function Chi-Square = 370.68 (P = 0.0)
Normal Theory Weighted Least Squares Chi-Square = 380.74 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 363.74
90 Percent Confidence Interval for NCP = (303.94 ; 430.97)

Minimum Fit Function Value = 0.38
Population Discrepancy Function Value (F0) = 0.37
90 Percent Confidence Interval for F0 = (0.31 ; 0.44)
Root Mean Square Error of Approximation (RMSEA) = 0.15
90 Percent Confidence Interval for RMSEA = (0.14 ; 0.16)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 0.43
90 Percent Confidence Interval for ECVI = (0.37 ; 0.50)
ECVI for Saturated Model = 0.074
ECVI for Independence Model = 7.25

Chi-Square for Independence Model with 28 Degrees of Freedom = 7070.89

Independence AIC = 7086.89
  Model AIC = 418.74
  Saturated AIC = 72.00
Independence CAIC = 7133.98
  Model CAIC = 530.59
  Saturated CAIC = 283.92

Normed Fit Index (NFI) = 0.95
Non-Normed Fit Index (NNFI) = 0.92
Parsimony Normed Fit Index (PNFI) = 0.58
Comparative Fit Index (CFI) = 0.95
Incremental Fit Index (IFI) = 0.95
Relative Fit Index (RFI) = 0.91

Critical N (CN) = 89.15

Root Mean Square Residual (RMR) = 0.034
Standardized RMR = 0.034
Goodness of Fit Index (GFI) = 0.91
Adjusted Goodness of Fit Index (AGFI) = 0.81
Parsimony Goodness of Fit Index (PGFI) = 0.43

The Modification Indices Suggest to Add the

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<th>New Estimate</th>
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<td><strong>and</strong></td>
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Time used: 0.030 Seconds
The single construct model (relationship quality) without error covariances

DATE: 12/12/2005
TIME: 14:41

LISREL 8.50

BY

Karl G. Jöreskog & Dag Sörbom

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The following lines were read from file C:\AA_Marie\Doctoraat\Eigen\werk\Article3\CFA rq.Sp1:

CFA on TPB
System file from file confirmatorische_tpb_en_rq.dsf
latent variables RQ
Relationships
V92.1 V96.1 V102.1 V93.1 V103.1 V98.1 V94.1 V101.1=RQ
Path diagram
End of problem

Sample Size = 979

CFA on TPB

Covariance Matrix

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<th>V93.1</th>
<th>V94.1</th>
<th>V96.1</th>
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<td>0.80</td>
<td>1.00</td>
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Covariance Matrix

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CFA on TPB

Number of Iterations = 8

LISREL Estimates (Maximum Likelihood)

**Measurement Equations**

\[
\begin{align*}
V92.1 &= 0.79 \times RQ, \quad \text{Errorvar.} = 0.38, \quad R^2 = 0.62 \\
&= (0.027) \quad (0.019) \\
&= 29.31 \quad 20.39 \\
V93.1 &= 0.72 \times RQ, \quad \text{Errorvar.} = 0.49, \quad R^2 = 0.51 \\
&= (0.028) \quad (0.023) \\
&= 25.53 \quad 21.02 \\
V94.1 &= 0.86 \times RQ, \quad \text{Errorvar.} = 0.25, \quad R^2 = 0.75 \\
&= (0.026) \quad (0.013) \\
&= 33.69 \quad 19.04 \\
V96.1 &= 0.82 \times RQ, \quad \text{Errorvar.} = 0.32, \quad R^2 = 0.68 \\
&= (0.026) \quad (0.016) \\
&= 31.32 \quad 19.90 \\
V98.1 &= 0.88 \times RQ, \quad \text{Errorvar.} = 0.22, \quad R^2 = 0.78 \\
&= (0.025) \quad (0.012) \\
&= 34.93 \quad 18.41 \\
V101.1 &= 0.91 \times RQ, \quad \text{Errorvar.} = 0.17, \quad R^2 = 0.83 \\
&= (0.025) \quad (0.010) \\
&= 36.68 \quad 17.15 \\
V102.1 &= 0.90 \times RQ, \quad \text{Errorvar.} = 0.19, \quad R^2 = 0.81 \\
&= (0.025) \quad (0.011) \\
&= 35.95 \quad 17.74 \\
V103.1 &= 0.74 \times RQ, \quad \text{Errorvar.} = 0.45, \quad R^2 = 0.55 \\
&= (0.028) \quad (0.021) \\
&= 26.95 \quad 20.82
\end{align*}
\]

**Correlation Matrix of Independent Variables**

\[
\begin{align*}
RQ & & & \overset{0.91}{\cdots} \\
&\overset{0.91}{\cdots} & & 1.00
\end{align*}
\]

**Goodness of Fit Statistics**

- Degrees of Freedom = 20
- Minimum Fit Function Chi-Square = 428.72 (P = 0.0)
- Normal Theory Weighted Least Squares Chi-Square = 412.17 (P = 0.0)
- Estimated Non-centrality Parameter (NCP) = 392.17

194
90 Percent Confidence Interval for NCP = (329.87; 461.90)

Minimum Fit Function Value = 0.44
Population Discrepancy Function Value (FO) = 0.40
90 Percent Confidence Interval for FO = (0.34; 0.47)
Root Mean Square Error of Approximation (RMSEA) = 0.14
90 Percent Confidence Interval for RMSEA = (0.13; 0.15)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 0.45
90 Percent Confidence Interval for ECVI = (0.39; 0.53)
ECVI for Saturated Model = 0.074
ECVI for Independence Model = 7.25

Chi-Square for Independence Model with 28 Degrees of Freedom = 7070.89

| Independence AIC = 7086.89 |
| Model AIC = 444.17 |
| Saturated AIC = 72.00 |
| Independence CAIC = 7133.98 |
| Model CAIC = 538.36 |
| Saturated CAIC = 283.92 |

Normed Fit Index (NFI) = 0.94
Non-Normed Fit Index (NNFI) = 0.92
 Parsimony Normed Fit Index (PNFI) = 0.67
Comparative Fit Index (CFI) = 0.94
Incremental Fit Index (IFI) = 0.94
Relative Fit Index (RFI) = 0.92

Critical N (CN) = 86.70

Root Mean Square Residual (RMR) = 0.038
Standardized RMR = 0.038
Goodness of Fit Index (GFI) = 0.90
Adjusted Goodness of Fit Index (AGFI) = 0.83
Parsimony Goodness of Fit Index (PGFI) = 0.50

The Modification Indices Suggest to Add an Error Covariance Between and Decrease in Chi-Square New Estimate

| V93.1  | V92.1  | 93.4  | 0.14 |
| V94.1  | V93.1  | 14.9  | 0.05 |
| V96.1  | V92.1  | 10.0  | 0.04 |
| V96.1  | V93.1  | 30.1  | -0.08 |
| V98.1  | V93.1  | 22.5  | -0.06 |
| V98.1  | V94.1  | 39.2  | 0.06 |
| V98.1  | V96.1  | 27.9  | 0.05 |
| V101.1 | V92.1  | 33.4  | -0.06 |
| V102.1 | V93.1  | 17.3  | -0.05 |
| V102.1 | V94.1  | 57.9  | -0.07 |
| V102.1 | V96.1  | 12.4  | 0.03 |
| V102.1 | V101.1 | 34.2  | 0.05 |
| V103.1 | V93.1  | 41.9  | 0.10 |
| V103.1 | V96.1  | 42.0  | -0.09 |
| V103.1 | V102.1 | 31.6  | 0.06 |
The single construct model (relationship quality) with error covariances

Time used: 0.020 Seconds
DATE: 12/12/2005
TIME: 14:34

LISREL 8.50

BY
Karl G. Jöreskog & Dag Sörbom

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The following lines were read from file C:\AA_Marie\Doctoraat\Eigenwerk\Article3\CFA rq2.Spl:

CFA on TPB
System file from file confirmatorische_tpb_en_rq.dsf
latent variables RQ
Relationships
V92.1 V96.1 V102.1 V93.1 V103.1 V98.1 V94.1 V101.1=RQ
Let the error of V93.1 and V92.1 correlate
Let the error of V94.1 and V93.1 correlate
Let the error of V96.1 and V92.1 correlate
Let the error of V96.1 and V93.1 correlate
Let the error of V98.1 and V93.1 correlate
Let the error of V98.1 and V94.1 correlate
Let the error of V98.1 and V96.1 correlate
Let the error of V101.1 and V92.1 correlate
Let the error of V102.1 and V93.1 correlate
Let the error of V102.1 and V94.1 correlate
Let the error of V102.1 and V96.1 correlate
Let the error of V102.1 and V101.1 correlate
Let the error of V103.1 and V93.1 correlate
Let the error of V103.1 and V96.1 correlate
Let the error of V103.1 and V102.1 correlate
Path diagram
End of problem

Sample Size = 979

CFA on TPB

Covariance Matrix

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Covariance Matrix

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CFA on TPB

Number of Iterations = 9

LISREL Estimates (Maximum Likelihood)

Measurement Equations

\[
V92.1 = 0.79\times RQ, \text{ Errorvar.}= 0.37, \ R^2 = 0.63
\]

\[
\begin{align*}
(0.027) & \\
28.95 & \\
18.68 & 
\end{align*}
\]

\[
V93.1 = 0.70\times RQ, \text{ Errorvar.}= 0.52, \ R^2 = 0.48
\]

\[
\begin{align*}
(0.030) & \\
23.49 & \\
19.27 & 
\end{align*}
\]

\[
V94.1 = 0.86\times RQ, \text{ Errorvar.}= 0.26, \ R^2 = 0.74
\]

\[
\begin{align*}
(0.026) & \\
33.17 & \\
16.85 & 
\end{align*}
\]

\[
V96.1 = 0.80\times RQ, \text{ Errorvar.}= 0.36, \ R^2 = 0.64
\]

\[
\begin{align*}
(0.027) & \\
29.39 & \\
18.15 & 
\end{align*}
\]

\[
V98.1 = 0.86\times RQ, \text{ Errorvar.}= 0.25, \ R^2 = 0.75
\]

\[
\begin{align*}
(0.026) & \\
33.36 & \\
17.28 & 
\end{align*}
\]

\[
V101.1 = 0.92\times RQ, \text{ Errorvar.}= 0.15, \ R^2 = 0.85
\]

\[
\begin{align*}
(0.025) & \\
36.83 & \\
11.36 & 
\end{align*}
\]

\[
V102.1 = 0.90\times RQ, \text{ Errorvar.}= 0.19, \ R^2 = 0.81
\]

\[
\begin{align*}
(0.026) & \\
34.82 & \\
11.80 & 
\end{align*}
\]

\[
V103.1 = 0.73\times RQ, \text{ Errorvar.}= 0.46, \ R^2 = 0.54
\]

\[
\begin{align*}
(0.028) & \\
26.16 & \\
20.28 & 
\end{align*}
\]
Appendices

Error Covariance for V93.1 and V92.1 = 0.14
    (0.018)
    7.79

Error Covariance for V94.1 and V93.1 = 0.054
    (0.014)
    3.78

Error Covariance for V96.1 and V92.1 = 0.049
    (0.014)
    3.55

Error Covariance for V96.1 and V93.1 = -0.03
    (0.016)
    -1.94

Error Covariance for V98.1 and V93.1 = -0.01
    (0.014)
    -0.76

Error Covariance for V98.1 and V94.1 = 0.055
    (0.011)
    5.01

Error Covariance for V98.1 and V96.1 = 0.072
    (0.012)
    6.23

Error Covariance for V101.1 and V92.1 = -0.05
    (0.011)
    -4.80

Error Covariance for V102.1 and V93.1 = -0.02
    (0.014)
    -1.10

Error Covariance for V102.1 and V94.1 = -0.04
    (0.0093)
    -4.43

Error Covariance for V102.1 and V96.1 = 0.043
    (0.011)
    3.96

Error Covariance for V102.1 and V101.1 = 0.0082
    (0.011)
    0.72

Error Covariance for V103.1 and V93.1 = 0.12
    (0.017)
    7.14

Error Covariance for V103.1 and V96.1 = -0.05
    (0.014)
    -3.25

Error Covariance for V103.1 and V102.1 = 0.051
    (0.013)
    3.96

198
Correlation Matrix of Independent Variables

RQ
--------
1.00

Goodness of Fit Statistics

Degrees of Freedom = 5
Minimum Fit Function Chi-Square = 11.15 (P = 0.048)
Normal Theory Weighted Least Squares Chi-Square = 11.43 (P = 0.044)
Estimated Non-centrality Parameter (NCP) = 6.43
90 Percent Confidence Interval for NCP = (0.16 ; 20.32)

Minimum Fit Function Value = 0.011
Population Discrepancy Function Value (F0) = 0.0066
90 Percent Confidence Interval for F0 = (0.00017 ; 0.021)
Root Mean Square Error of Approximation (RMSEA) = 0.036
90 Percent Confidence Interval for RMSEA = (0.0057 ; 0.064)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.76

Expected Cross-Validation Index (ECVI) = 0.075
90 Percent Confidence Interval for ECVI = (0.069 ; 0.089)
ECVI for Saturated Model = 0.074
ECVI for Independence Model = 7.25

Chi-Square for Independence Model with 28 Degrees of Freedom = 7070.89

Independence AIC = 7086.89
Model AIC = 73.43
Saturated AIC = 72.00
Independence CAIC = 7133.98
Model CAIC = 255.91
Saturated CAIC = 283.92

Normed Fit Index (NFI) = 1.00
Non-Normed Fit Index (NNFI) = 1.00
Parsimony Normed Fit Index (PNFI) = 0.18
Comparative Fit Index (CFI) = 1.00
Incremental Fit Index (IFI) = 1.00
Relative Fit Index (RFI) = 0.99

Critical N (CN) = 1324.23

Root Mean Square Residual (RMR) = 0.0063
Standardized RMR = 0.0063
Goodness of Fit Index (GFI) = 1.00
Adjusted Goodness of Fit Index (AGFI) = 0.98
Parsimony Goodness of Fit Index (PGFI) = 0.14

Time used: 0.030 Seconds
Appendix 2: LISREL output of the theory of planned behaviour models

The theory of planned behaviour model without error covariances

DATE: 12/12/2005  
TIME: 14:42

L I S R E L 8.50  

BY  
Karl G. Jöreskog & Dag Sörbom

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Scientific Software International, Inc.  
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Phone: (800)247-6113, (847)675-0720, Fax: (847)675-2140  
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The following lines were read from file C:\AA_Marie\Doctoraat\Eigenwerk\Article3\CFA TPB ZONDER ERRORCOV.Spl:

CFA on TPB  
System file from file confirmatorische_tpb_en_rq.dsf  
latent variables SN PBC AttB  
Relationships  
V124.1 V126.1 V128.1 V131.1 V133.1 V134.1=SN  
V120.1 V122.1=PBC  
V104.1 V105.1 V106.1 V107.1 V108.1 V110.1 V111.1 V113.1 V115.1=AttB  
Path diagram  
End of problem  
Sample Size = 979  
CFA on TPB

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<tr>
<th></th>
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<th>V106.1</th>
<th>V107.1</th>
<th>V108.1</th>
<th>V110.1</th>
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<td>0.74</td>
<td>0.81</td>
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<td>0.82</td>
<td>0.87</td>
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<td>0.52</td>
<td>0.57</td>
<td>0.61</td>
<td>0.60</td>
<td>0.63</td>
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</tbody>
</table>
Covariance Matrix

\[
\begin{array}{cccccc}
V_{111.1} & V_{113.1} & V_{115.1} & V_{120.1} & V_{122.1} & V_{124.1} \\
V_{111.1} & 1.00 & & & & \\
V_{113.1} & 0.80 & 1.00 & & & \\
V_{115.1} & 0.76 & 0.77 & 1.00 & & \\
V_{120.1} & 0.60 & 0.60 & 0.54 & 1.00 & \\
V_{122.1} & 0.40 & 0.37 & 0.34 & 0.59 & 1.00 \\
V_{124.1} & 0.48 & 0.47 & 0.46 & 0.47 & 0.27 & 1.00 \\
V_{126.1} & 0.37 & 0.41 & 0.37 & 0.33 & 0.16 & 0.67 \\
V_{128.1} & 0.30 & 0.32 & 0.33 & 0.30 & 0.13 & 0.60 \\
V_{131.1} & 0.39 & 0.38 & 0.36 & 0.39 & 0.22 & 0.65 \\
V_{133.1} & 0.29 & 0.29 & 0.31 & 0.31 & 0.16 & 0.59 \\
V_{134.1} & 0.35 & 0.32 & 0.33 & 0.39 & 0.21 & 0.66 \\
\end{array}
\]

Covariance Matrix

\[
\begin{array}{cccc}
V_{126.1} & V_{128.1} & V_{131.1} & V_{133.1} \\
V_{126.1} & 1.00 & & & \\
V_{128.1} & 0.73 & 1.00 & & \\
V_{131.1} & 0.75 & 0.67 & 1.00 & \\
V_{133.1} & 0.60 & 0.69 & 0.66 & 1.00 \\
V_{134.1} & 0.67 & 0.64 & 0.79 & 0.77 & 1.00 \\
\end{array}
\]

CFA on TPB

Number of Iterations = 8

LISREL Estimates (Maximum Likelihood)

Measurement Equations

\[
V_{104.1} = 0.87^{*}\text{AttB}, \text{ Errorvar.} = 0.23, R^2 = 0.77 \\
(0.025) \hspace{1cm} (0.012) \hspace{1cm} 34.59 \hspace{1cm} 19.98 \\
\]

\[
V_{105.1} = 0.82^{*}\text{AttB}, \text{ Errorvar.} = 0.33, R^2 = 0.67 \\
(0.026) \hspace{1cm} (0.016) \hspace{1cm} 31.21 \hspace{1cm} 20.77 \\
\]

\[
V_{106.1} = 0.85^{*}\text{AttB}, \text{ Errorvar.} = 0.28, R^2 = 0.72 \\
(0.026) \hspace{1cm} (0.014) \hspace{1cm} 33.07 \hspace{1cm} 20.40 \\
\]

\[
V_{107.1} = 0.92^{*}\text{AttB}, \text{ Errorvar.} = 0.16, R^2 = 0.84 \\
(0.024) \hspace{1cm} (0.0084) \hspace{1cm} 37.58 \hspace{1cm} 18.56 \\
\]

201
V108.1 = 0.93*AttB, Errorvar. = 0.13 , R^2 = 0.87
(0.024) (0.0075)
38.44 17.87

V110.1 = 0.90*AttB, Errorvar. = 0.18 , R^2 = 0.82
(0.025) (0.0096)
36.50 19.20

V111.1 = 0.89*AttB, Errorvar. = 0.20 , R^2 = 0.80
(0.025) (0.010)
35.83 19.51

V113.1 = 0.85*AttB, Errorvar. = 0.28 , R^2 = 0.72
(0.026) (0.014)
32.96 20.42

V115.1 = 0.83*AttB, Errorvar. = 0.31 , R^2 = 0.69
(0.026) (0.015)
31.81 20.66

V120.1 = 0.98*PBC, Errorvar. = 0.044 , R^2 = 0.96
(0.032) (0.044)
30.32 1.00

V122.1 = 0.60*PBC, Errorvar. = 0.64 , R^2 = 0.36
(0.032) (0.033)
18.81 19.11

V124.1 = 0.77*SN, Errorvar. = 0.41 , R^2 = 0.59
(0.027) (0.021)
28.05 19.75

V126.1 = 0.83*SN, Errorvar. = 0.31 , R^2 = 0.69
(0.026) (0.017)
31.27 18.55

V128.1 = 0.80*SN, Errorvar. = 0.37 , R^2 = 0.63
(0.027) (0.019)
29.41 19.31

V131.1 = 0.87*SN, Errorvar. = 0.24 , R^2 = 0.76
(0.026) (0.014)
34.08 16.80

V133.1 = 0.80*SN, Errorvar. = 0.36 , R^2 = 0.64
(0.027) (0.019)
29.50 19.28

V134.1 = 0.87*SN, Errorvar. = 0.24 , R^2 = 0.76
(0.026) (0.014)
33.76 17.04

Correlation Matrix of Independent Variables

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<td>Attrib</td>
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<td>(0.03)</td>
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<td>19.81</td>
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<td>(0.02)</td>
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Goodness of Fit Statistics

Degrees of Freedom = 116
Minimum Fit Function Chi-Square = 1246.86 (P = 0.0)
Normal Theory Weighted Least Squares Chi-Square = 1248.23 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 1132.23
90 Percent Confidence Interval for NCP = (1022.40; 1249.47)

Minimum Fit Function Value = 1.27
Population Discrepancy Function Value (F0) = 1.16
90 Percent Confidence Interval for F0 = (1.05; 1.28)
Root Mean Square Error of Approximation (RMSEA) = 0.100
90 Percent Confidence Interval for RMSEA = (0.095; 0.10)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECCI) = 1.35
90 Percent Confidence Interval for ECCI = (1.24; 1.47)
ECCI for Saturated Model = 0.31
ECCI for Independence Model = 16.79

Chi-Square for Independence Model with 136 Degrees of Freedom = 16385.71

- Independence AIC = 16419.71
- Model AIC = 1322.23
- Saturated AIC = 306.00
- Independence CAIC = 16519.78
- Model CAIC = 1540.03
- Saturated CAIC = 1206.64

- Normed Fit Index (NFI) = 0.92
- Non-Normed Fit Index (NNFI) = 0.92
- Parsimony Normed Fit Index (PNFI) = 0.79
- Comparative Fit Index (CFI) = 0.93
- Incremental Fit Index (IFI) = 0.93
- Relative Fit Index (RFI) = 0.91

- Critical N (CN) = 122.06

- Root Mean Square Residual (RMR) = 0.050
- Standardized RMR = 0.050
- Goodness of Fit Index (GFI) = 0.87
- Adjusted Goodness of Fit Index (AGFI) = 0.83
- Parsimony Goodness of Fit Index (PGFI) = 0.66

The Modification Indices Suggest to Add the
### Appendices

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The Modification Indices Suggest to Add an Error Covariance

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The theory of planned behaviour model with error covariances

DATE: 12/12/2005
TIME: 14:27

L I S R E L 8.50

BY

Karl G. Jöreskog & Dag Sörbom

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The following lines were read from file C:\AA_Marie\Doctoraat\Eigenwerk\Article3\CFA TPB en rq.Spl:

CFA on TPB
System file from file confirmatorische_tpb_en_rq.dsf
latent variables SN PBC AttB
Relationships
V124.1 V126.1 V128.1 V131.1 V133.1 V134.1=SN
V120.1 V122.1=PBC
V104.1 V105.1 V106.1 V107.1 V108.1 V110.1 V111.1 V113.1 V115.1=AttB
Let the error of V110.1 and V111.1 correlate
Let the error of V134.1 and V133.1 correlate
Let the error of V135.1 and V128.1 correlate
Let the error of V115.1 and V113.1 correlate
Let the error of V128.1 and V126.1 correlate
Let the error of V131.1 and V124.1 correlate
Let the error of V113.1 and V107.1 correlate
Let the error of V107.1 and V105.1 correlate
Let the error of V107.1 and V106.1 correlate
Let the error of V106.1 and V105.1 correlate
Let the error of V108.1 and V105.1 correlate
Let the error of V110.1 and V105.1 correlate
Let the error of V113.1 and V104.1 correlate
Let the error of V113.1 and V105.1 correlate
Let the error of V113.1 and V111.1 correlate
Let the error of V115.1 and V107.1 correlate
Let the error of V115.1 and V111.1 correlate
Let the error of V134.1 and V124.1 correlate
Let the error of V134.1 and V128.1 correlate
Let the error of V134.1 and V131.1 correlate
Let the error of V126.1 and V105.1 correlate
Let the error of V126.1 and V110.1 correlate

205
Let the error of V126.1 and V111.1 correlate
Let the error of V128.1 and V105.1 correlate
Path diagram
End of problem

Sample Size = 979

CFA on TPB

### Covariance Matrix

<table>
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<tr>
<th></th>
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<th>V105.1</th>
<th>V106.1</th>
<th>V107.1</th>
<th>V108.1</th>
<th>V110.1</th>
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### Covariance Matrix

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### Covariance Matrix

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CFA on TPB
Number of Iterations = 10

LISREL Estimates (Maximum Likelihood)

Measurement Equations

\[
V104.1 = 0.88*Attb, \quad \text{Errorvar.} = 0.22, \quad R^2 = 0.78 \\
\quad (0.025) \quad \quad \quad \quad (0.011) \\
\quad 35.15 \quad \quad \quad \quad 18.96
\]

\[
V105.1 = 0.83*Attb, \quad \text{Errorvar.} = 0.31, \quad R^2 = 0.69 \\
\quad (0.026) \quad \quad \quad \quad (0.017) \\
\quad 31.44 \quad \quad \quad \quad 17.96
\]

\[
V106.1 = 0.85*Attb, \quad \text{Errorvar.} = 0.29, \quad R^2 = 0.71 \\
\quad (0.026) \quad \quad \quad \quad (0.015) \\
\quad 32.56 \quad \quad \quad \quad 19.57
\]

\[
V107.1 = 0.93*Attb, \quad \text{Errorvar.} = 0.14, \quad R^2 = 0.86 \\
\quad (0.024) \quad \quad \quad \quad (0.0089) \\
\quad 37.96 \quad \quad \quad \quad 15.96
\]

\[
V108.1 = 0.93*Attb, \quad \text{Errorvar.} = 0.14, \quad R^2 = 0.86 \\
\quad (0.024) \quad \quad \quad \quad (0.0081) \\
\quad 38.30 \quad \quad \quad \quad 16.70
\]

\[
V110.1 = 0.89*Attb, \quad \text{Errorvar.} = 0.20, \quad R^2 = 0.79 \\
\quad (0.025) \quad \quad \quad \quad (0.011) \\
\quad 35.67 \quad \quad \quad \quad 18.93
\]

\[
V111.1 = 0.87*Attb, \quad \text{Errorvar.} = 0.24, \quad R^2 = 0.76 \\
\quad (0.025) \quad \quad \quad \quad (0.012) \\
\quad 34.24 \quad \quad \quad \quad 19.71
\]

\[
V113.1 = 0.85*Attb, \quad \text{Errorvar.} = 0.27, \quad R^2 = 0.73 \\
\quad (0.026) \quad \quad \quad \quad (0.015) \\
\quad 32.95 \quad \quad \quad \quad 18.41
\]

\[
V115.1 = 0.81*Attb, \quad \text{Errorvar.} = 0.34, \quad R^2 = 0.66 \\
\quad (0.027) \quad \quad \quad \quad (0.017) \\
\quad 30.46 \quad \quad \quad \quad 20.15
\]

\[
V120.1 = 0.98*Pbc, \quad \text{Errorvar.} = 0.037, \quad R^2 = 0.96 \\
\quad (0.032) \quad \quad \quad \quad (0.044) \\
\quad 30.47 \quad \quad \quad \quad 0.85
\]

\[
V122.1 = 0.60*Pbc, \quad \text{Errorvar.} = 0.64, \quad R^2 = 0.36 \\
\quad (0.032) \quad \quad \quad \quad (0.033) \\
\quad 18.75 \quad \quad \quad \quad 19.17
\]

\[
V124.1 = 0.84*Sn, \quad \text{Errorvar.} = 0.29, \quad R^2 = 0.71 \\
\quad (0.028) \quad \quad \quad \quad (0.024) \\
\quad 29.87 \quad \quad \quad \quad 12.12
\]

\[
V126.1 = 0.80*Sn, \quad \text{Errorvar.} = 0.34, \quad R^2 = 0.65 \\
\quad (0.027) \quad \quad \quad \quad (0.020) \\
\quad 29.58 \quad \quad \quad \quad 17.14
\]
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<th>Slope ± Error</th>
<th>Intercept ± Error</th>
<th>$R^2$</th>
<th>Slope ± Error</th>
<th>Intercept ± Error</th>
<th>$R^2$</th>
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<td>25.50 ± 0.023</td>
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<td>29.10 ± 0.023</td>
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<td>13.99</td>
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Error Covariance for V106.1 and V105.1 = 0.036 ± 0.011

Error Covariance for V107.1 and V105.1 = -0.03 ± 0.0086

Error Covariance for V107.1 and V106.1 = 0.040 ± 0.0083

Error Covariance for V108.1 and V105.1 = 0.019 ± 0.0092

Error Covariance for V110.1 and V105.1 = -0.02 ± 0.0081

Error Covariance for V111.1 and V110.1 = 0.096 ± 0.0088

Error Covariance for V113.1 and V104.1 = -0.03 ± 0.0087

Error Covariance for V113.1 and V105.1 = -0.04 ± 0.0098

Error Covariance for V113.1 and V107.1 = -0.04 ± 0.0077

Error Covariance for V113.1 and V111.1 = 0.045 ± 0.0087

Error Covariance for V115.1 and V107.1 = 0.034 ± 0.0084
Appendices

4.08

Error Covariance for V115.1 and V111.1 = 0.049  
(0.0088)  
5.55

Error Covariance for V115.1 and V113.1 = 0.079  
(0.012)  
6.59

Error Covariance for V126.1 and V105.1 = 0.073  
(0.011)  
6.43

Error Covariance for V126.1 and V110.1 = 0.026  
(0.0088)  
2.96

Error Covariance for V126.1 and V111.1 = -0.02  
(0.0089)  
-1.84

Error Covariance for V128.1 and V105.1 = 0.057  
(0.012)  
4.84

Error Covariance for V128.1 and V126.1 = 0.13  
(0.015)  
8.81

Error Covariance for V131.1 and V124.1 = -0.12  
(0.017)  
-6.95

Error Covariance for V133.1 and V128.1 = 0.17  
(0.017)  
10.06

Error Covariance for V134.1 and V124.1 = -0.03  
(0.016)  
-1.74

Error Covariance for V134.1 and V128.1 = 0.038  
(0.013)  
2.89

Error Covariance for V134.1 and V131.1 = 0.035  
(0.016)  
2.27

Error Covariance for V134.1 and V133.1 = 0.18  
(0.017)  
11.00

Correlation Matrix of Independent Variables

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Appendices

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Goodness of Fit Statistics

Degrees of Freedom = 92
Minimum Fit Function Chi-Square = 321.67 (P = 0.0)
Normal Theory Weighted Least Squares Chi-Square = 307.83 (P = 0.0)
Estimated Non-centrality Parameter (NCP) = 215.83
90 Percent Confidence Interval for NCP = (166.35 ; 272.91)

Minimum Fit Function Value = 0.33
Population Discrepancy Function Value (F0) = 0.22
90 Percent Confidence Interval for F0 = (0.17 ; 0.28)
Root Mean Square Error of Approximation (RMSEA) = 0.049
90 Percent Confidence Interval for RMSEA = (0.043 ; 0.055)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.60

Expected Cross-Validation Index (ECVI) = 0.44
90 Percent Confidence Interval for ECVI = (0.39 ; 0.50)
ECVI for Saturated Model = 0.31
ECVI for Independence Model = 16.79

Chi-Square for Independence Model with 136 Degrees of Freedom = 16385.71

Independence AIC = 16419.71
Model AIC = 429.83
Saturated AIC = 306.00
Independence CAIC = 16519.78
Model CAIC = 788.91
Saturated CAIC = 1206.64

Normed Fit Index (NFI) = 0.98
Non-Normed Fit Index (NNFI) = 0.98
 Parsimony Normed Fit Index (PNFI) = 0.66
Comparative Fit Index (CFI) = 0.99
Incremental Fit Index (IFI) = 0.99
Relative Fit Index (RFI) = 0.97

Critical N (CN) = 385.50

Root Mean Square Residual (RMR) = 0.035
Standardized RMR = 0.035
Goodness of Fit Index (GFI) = 0.96
Adjusted Goodness of Fit Index (AGFI) = 0.94
Parsimony Goodness of Fit Index (PGFI) = 0.58

The Modification Indices Suggest to Add the
Path to from Decrease in Chi-Square New Estimate
V104.1 PBC 14.9 0.09

210
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>V105.1</td>
<td>SN</td>
<td>10.1</td>
<td>0.07</td>
</tr>
<tr>
<td>V108.1</td>
<td>PBC</td>
<td>9.0</td>
<td>-0.06</td>
</tr>
<tr>
<td>V124.1</td>
<td>PBC</td>
<td>30.9</td>
<td>0.15</td>
</tr>
<tr>
<td>V124.1</td>
<td>AttB</td>
<td>42.9</td>
<td>0.19</td>
</tr>
</tbody>
</table>

The Modification Indices Suggest to Add an Error Covariance Between and: Decrease in Chi-Square, New Estimate:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>V107.1</td>
<td>V104.1</td>
<td>10.3</td>
<td>0.02</td>
</tr>
<tr>
<td>V108.1</td>
<td>V104.1</td>
<td>13.4</td>
<td>-0.03</td>
</tr>
<tr>
<td>V120.1</td>
<td>V104.1</td>
<td>14.6</td>
<td>0.04</td>
</tr>
<tr>
<td>V122.1</td>
<td>V105.1</td>
<td>10.6</td>
<td>-0.05</td>
</tr>
<tr>
<td>V124.1</td>
<td>V105.1</td>
<td>14.4</td>
<td>0.05</td>
</tr>
<tr>
<td>V126.1</td>
<td>V124.1</td>
<td>9.9</td>
<td>-0.05</td>
</tr>
<tr>
<td>V134.1</td>
<td>V120.1</td>
<td>8.2</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Time used: 0.060 Seconds
Appendix 3: Front page of a promotional direct mail

E5-mode
HOLLE VAN MODE EN MENSEN

-10%
OP MANTELS, BLOUSONS,
REGENJASSEN
EN BODYWARMERS,
VOOR DAMES, HEREN EN KIDS
Pag: 14-18

Oxfam-Solidariteit en E5-mode
GROTE INZAMELACTIE
HERBRUIKBARE KLEDING
van 23 september t.e.m. 1 oktober 2005 bij E5-mode
(klik voor meer informatie)
Appendix 4: Front page of a relational direct mail

E5-mode
Houden van mode en mensen
Appendices

Appendix 5: Survey items of the quantitative research (in dutch)

Deel 1: Persoonlijke gegevens

In dit deel vragen we u om persoonlijke gegevens mee te geven. Vanzelfsprekend worden de vragenlijsten met discrete behandeld, en volledig anoniem (zie begeleidende brief voor meer uitleg hierover!).

1 Wat is uw klantnummer bij E5-mode (nummer op uw klantenkaart, enkel indien u over een klantenkaart beschikt)? ............................

2 Voor wie bent u betrokken bij de kleding-aankopen? Onder ‘betrokken bij’ verstaan we dat u meegaat naar de winkel, of zelf voor die persoon naar de winkel gaat, als het aankomt op kleding aankopen. U mag zoveel keuzes aankruisen als er op u van toepassing zijn.

- Voor uzelf
- Voor uw partner
- Voor uw kind(eren)
- Voor andere mensen dan uzelf, uw partner en uw kinderen

3 Duid hieronder aan hoe uw gezin is samengesteld. Onder gezin verstaan we alle mensen die samen onder één dak wonen.

- Volwassenen (+18 jaar)
- Kinderen (<18 jaar)

Let goed op! Gedurende de hele vragenlijst houdt u rekening met alle kleding-aankopen die u doorheen het jaar doet. U moet dus niet alleen denken aan de keren dat u voor uzelf kleding koopt, maar ook aan alle andere gelegenheden waarbij u kleding koopt.

Deel 2: Hoe staat u over het algemeen tegenover kleding kopen bij boetiek(s), bij E5-mode, bij C&A en bij JBC?

In dit deel peilen we naar uw appreciatie voor vier mogelijke winkels (winkelketens) waar u kleding kan kopen. Voor alle duidelijkheid geven we mee wat we onder boetiek(s) verstaan. Boetieks zijn mode-specialisaten. Ze behoren niet tot een keten, maar zijn veelal onafhankelijke winkels in de kledingsector.

Hoe antwoorden op de vragen in dit deel? U geeft punten op 10 (gaande van 0/10 tot 10/10). Stel dat u een bepaalde winkel heel klantvriendelijk vindt, dan geeft u in de kolom van die bepaalde winkel voor het kenmerk ‘klantvriendelijk’ 10. Als u vindt dat die winkel nogal klantvriendelijk is, dan geeft u voor het kenmerk ‘klantvriendelijk’ in de kolom van die winkel vb 6 of 7. Als u vindt dat die winkel echt niet klantvriendelijk is, dan geeft u voor het kenmerk ‘klantvriendelijk’ bij die winkel vb 0 of 1.

<table>
<thead>
<tr>
<th>Optie 1: boetiek(s)</th>
<th>Optie 2: E5-mode</th>
<th>Optie 3: C&amp;A</th>
<th>Optie 4: JBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Goedkoop</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>5 Gemakkelijk te bereiken</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>6 Vriendelijk personeel</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>7 Kwaliteitskleding</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>8 Voldoende personeel</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>9 Ruime keuze</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>10 Aangenaam interieur</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>11 Personeel is niet opdringerig</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>12 Aangename rekken in de winkel</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
<tr>
<td>13 Mooie etalage</td>
<td>.../10</td>
<td>.../10</td>
<td>.../10</td>
</tr>
</tbody>
</table>

214
### Deel 3: Enkele algemene vragen over uw tijdsbesteding

**Tijdsbesteding**

Geef aan in hoeverre u het eens bent met de uitspraken hieronder. Elk cijfer heeft een waarde:

<table>
<thead>
<tr>
<th>Cijfer</th>
<th>Omschrijving</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Helemaal oneens</td>
</tr>
<tr>
<td>2</td>
<td>Oneens</td>
</tr>
<tr>
<td>3</td>
<td>Een beetje oneens</td>
</tr>
<tr>
<td>4</td>
<td>Neutraal</td>
</tr>
<tr>
<td>5</td>
<td>Een beetje eens</td>
</tr>
<tr>
<td>6</td>
<td>Eens</td>
</tr>
<tr>
<td>7</td>
<td>Helemaal eens</td>
</tr>
</tbody>
</table>

1. Ik moet me vaak opjagen om alles gedaan te krijgen.  
2. Gewoonlijk is er zoveel te doen, dat ik graag meer tijd zou hebben.  
3. Ik ben vaak in tijdsnood.

### Deel 4: Kleding kopen

**Enkele algemene vragen over prijsvergelijkend zoeken, uw groepsgevoel, etc...**

**Prijsvergelijkend zoeken.**

Geef aan in hoeverre u het eens bent met elk van de uitspraken hieronder. Bij elke uitspraak omcirkelt u een cijfer. Elk cijfer heeft een waarde:

<table>
<thead>
<tr>
<th>Cijfer</th>
<th>Omschrijving</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Helemaal oneens</td>
</tr>
<tr>
<td>2</td>
<td>Oneens</td>
</tr>
<tr>
<td>3</td>
<td>Een beetje oneens</td>
</tr>
<tr>
<td>4</td>
<td>Neutraal</td>
</tr>
<tr>
<td>5</td>
<td>Een beetje eens</td>
</tr>
<tr>
<td>6</td>
<td>Eens</td>
</tr>
<tr>
<td>7</td>
<td>Helemaal eens</td>
</tr>
</tbody>
</table>

1. Ik ben bereid om een extra inspanning te doen om lage prijzen te vinden.  
2. Ik zal bij verschillende winkels inkopen om mijn voordeel te doen met lage prijzen.
48 Het geld dat je spaart door lage prijzen te vinden voor producten weegt gewoonlijk niet op tegen de inspanning die je ervoor moet leveren.  

49 Ik zou nooit naar verschillende winkels gaan louter omwille van de laagste prijs.  

50 De tijd die je spendeert om lage prijzen te vinden loont zelden.  

Deel 5: Hoe kiest u de kledingzaak waar u kleding koopt?  
Geef aan in hoeverre de uitspraken hieronder op u van toepassing. Bij elke uitspraak omcirkelt u een cijfer. Elk cijfer heeft een waarde:  

1 = zeker niet  
2 = gewoonlijk niet  
3 = Eerder niet  
4 = Misschien  
5 = Eerder wel  
6 = Gewoonlijk wel  
7 = Zeker wel  

Als ik overweeg om kleding te kopen, dan zou ik...  

75 ...het eerste het beste alternatief kiezen.  

76 ... klaar zijn om een keuze te maken zonder mij te bekommernen om verschillende alternatieven tegen elkaar af te wegen.  

77 ... er gewoon voor gaan en een keuze maken zonder nog verder alternatieven te vergelijken en mijn keuze in overweging te nemen.  

Enkele algemene vragen over prijs versus kwaliteit  

Hoe verhouden prijs en kwaliteit zich over het algemeen voor u?  
Geef aan in hoeverre u het eens bent met de uitspraken hieronder. Elk cijfer heeft een waarde:  

1 = Hellemal een eens  
2 = Oneens  
3 = Een beetje oneens  
4 = Neutraal  
5 = Een beetje eens  
6 = Eens  
7 = Hellemal eens  

51 Over het algemeen kun je zeggen: hoe hoger de prijs, hoe beter de kwaliteit.  

52 De uitspraak "je krijgt waar voor je geld" is zeker juist.  

53 De prijs van een product is een goede aanwijzing voor de kwaliteit ervan.  

54 Je moet altijd wel iets meer betalen voor de beste kwaliteit.  

Hoe kiest u de winkel waar u kleding koopt?  
Als u overweegt om in bepaalde winkel kleding te kopen, in hoeverre vertrouwt u dan op de informatie die volgende mensen u hierover kunnen geven?  

De cijfers hebben de volgende waarden:  

1 = Wantrouw ik zeker  
2 = Wantrouw ik nogal  
3 = Wantrouw ik een beetje  
4 = Sta ik neutraal tegenover  
5 = Vertrouw ik een beetje  
6 = Vertrouw ik nogal  
7 = Vertrouw ik zeker  

78 Informatie van andere klanten  

79 Informatie van een vriend of buur
### Deel 6: E5-mode

<table>
<thead>
<tr>
<th>101 Ik sta heel ongunstig tegenover E5-mode</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Ik sta heel gunstig tegenover E5-mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>102 E5-mode geeft mij geen gevoel van vertrouwen</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>E5-mode geeft mij een gevoel van vertrouwen</td>
</tr>
<tr>
<td>103 Ik heb zeker geen engagement ten opzichte van E5-mode</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Ik heb zeker wel een engagement ten opzichte van E5-mode</td>
</tr>
<tr>
<td>94 E5-mode bevalt mij zeker niet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>E5-mode bevalt mij zeker wel</td>
</tr>
<tr>
<td>95 Ik ben niet tevreden met de inspanningen die E5-mode doet voor regelmatige klanten</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Ik ben tevreden met de inspanningen die E5-mode doet voor regelmatige klanten</td>
</tr>
<tr>
<td>96 Ik heb het gevoel dat E5-mode onbetrouwbaar is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Ik heb het gevoel dat E5-mode betrouwbaar is</td>
</tr>
<tr>
<td>97 Ik vind dat E5-mode onvoldoende inspanningen doet voor zijn regelmatige klanten</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Ik vind dat E5-mode voldoende inspanningen doet voor zijn regelmatige klanten</td>
</tr>
<tr>
<td>98 Ik ben heel ontevreden over E5-mode</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Ik ben heel tevreden over E5-mode</td>
</tr>
<tr>
<td>150 Ik zou E5-mode zeker niet aanbevelen aan een familieled, vriend of kennis.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Ik zou E5-mode zeker wel aanbevelen aan een familieled, vriend of kennis.</td>
</tr>
<tr>
<td>99 Ik ben niet bereid om een extra inspanning te doen om bij E5-mode kleding te kopen.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Ik ben bereid om een extra inspanning te doen om bij E5-mode kleding te kopen.</td>
</tr>
<tr>
<td>100 Ik ben niet tevreden met mijn relatie tot E5-mode</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Ik ben tevreden met mijn relatie tot E5-mode</td>
</tr>
</tbody>
</table>

217
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In de komende maanden van het zomerseizoen (tussen vandaag en het einde van de zomersolden)</strong> minstens één keer bij E5-mode kleding kopen zou voor mij ... zijn:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>104 Saai</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Aantrekkelijk</td>
</tr>
<tr>
<td>105 Onbelangrijk</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Belangrijk</td>
</tr>
<tr>
<td>106 Onpraktisch</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Praktisch</td>
</tr>
<tr>
<td>107 Onaangenaam</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Aangenaam</td>
</tr>
<tr>
<td>108 Niet de moeite waard</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>De moeite waard</td>
</tr>
<tr>
<td>109 Duur</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Goedkoop</td>
</tr>
<tr>
<td>110 Een slecht idee</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Een goed idee</td>
</tr>
<tr>
<td>111 Slecht voor mij</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Goed voor mij</td>
</tr>
<tr>
<td>112 Nadelig</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Voordelig</td>
</tr>
<tr>
<td>113 Tijdverlies</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Goed gebruik van mijn tijd</td>
</tr>
<tr>
<td>114 Niet prijsbewust</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Prijsbewust</td>
</tr>
<tr>
<td>115 Ongezellig</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Gezellig</td>
</tr>
</tbody>
</table>

**Ik ben van plan om in de komende maanden van het zomerseizoen (tussen vandaag en het einde van de zomersolden)** minstens één keer bij E5-mode kleding kopen.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>116 Weinig kans</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Veel kans</td>
</tr>
</tbody>
</table>

**Ik ben helemaal niet zeker van mijn voornemen om al dan niet minstens één keer kleding te kopen bij E5-mode in de komende maanden van het zomerseizoen (tussen vandaag en het einde van de zomersolden):**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>119 Ik ben helemaal niet zeker van mijn voornemen om al dan niet minstens één keer kleding te kopen bij E5-mode in de komende maanden van het zomerseizoen (tussen vandaag en het einde van de zomersolden)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

**Als ik het zou willen, dan zou ik in de komende maanden van het zomerseizoen minstens één keer kleding kunnen kopen bij E5-mode:**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>120 Ook als ik het zou willen, dan zou ik in de komende maanden van het zomerseizoen niet minstens één keer kleding kunnen kopen bij E5-mode</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

**Of ik in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode, ligt niet aan mezelf:**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>121 Of ik in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode, ligt niet aan mezelf</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

**Ik heb de totale controle over het feit dat ik in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode:**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>122 Ik heb geen controle over het feit dat ik in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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</tr>
</tbody>
</table>

218
<table>
<thead>
<tr>
<th>Vraag</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 Mijn belangrijkste vrienden kopen in de komende maanden van het zomerseizoen minstens één keer kleding bij E5-mode</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>124 Mijn familieleden vinden het een goed idee dat ik in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>125 Ik zou achteraf mijn keuze betreuren als ik in het komende seizoen niet minstens één keer kleding zou kopen bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>126 Vrienden die mijn gedrag beïnvloeden, vinden het goed dat ik in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>127 Ik zou achteraf spijt hebben van mijn beslissing als ik in het komende seizoen niet minstens één keer kleding zou kopen bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>128 Vrienden die mijn gedrag beïnvloeden, zullen in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>129 De familieleden waar ik het dichtst bij sta, kopen in de komende maanden van het zomerseizoen minstens één keer kleding bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>130 Ik zou mij er achteraf niet gewoon dan in het komende seizoen niet minstens één keer kleding zou kopen bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>131 Mijn vrienden vinden het goed dat ik in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>132 Ik zou er achteraf spijt van hebben als ik in het komende seizoen niet minstens één keer kleding zou kopen bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>133 Familieleden die mijn gedrag beïnvloeden, zullen in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>134 Familieleden die mijn gedrag beïnvloeden, vinden het goed dat ik in de komende maanden van het zomerseizoen minstens één keer kleding koop bij E5-mode.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

135 Bent u?

- O Man
- O Vrouw

136 Wat is uw leeftijd?

- O 20 of jonger
- O 21 tot 25
- O 26 tot 30
- O 31 tot 35
- O 36 tot 40
- O 41 tot 45
- O 46 tot 50
- O 51 tot 55
- O 56 tot 60
- O 61 tot 65
- O 66 tot 70
- O 71 tot 75
- O 76 tot 80
- O 81 en ouder
### Table II.1: Conceptualization of customer loyalty in recent research

<table>
<thead>
<tr>
<th>Author, Journal, Year</th>
<th>Context</th>
<th>Conceptualization</th>
<th>Operationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson, Fornell and Lehmann; Journal of Marketing; 1994</td>
<td>b-to-c and b-to-b</td>
<td>Increased loyalty of current customers means more customers will repurchase (be retained) in the future</td>
<td>none</td>
</tr>
<tr>
<td>Appiah-Adu, Singh; The Service Industries Journal; 1999</td>
<td>b-to-c</td>
<td>perceived customer retention</td>
<td>none</td>
</tr>
<tr>
<td>Appiah-Adu; The Service Industries Journal; 1999</td>
<td>b-to-c</td>
<td>customer retention relative to those of major direct competitors</td>
<td>a subjective measure of customer retention performance, assessed by the respondents (directors and regional managers of firms)</td>
</tr>
<tr>
<td>Bennett, Rundle-Thiele; Journal of Brand Management; 2002</td>
<td>b-to-b</td>
<td>1. attitudinal loyalty: the consumer’s predisposition towards a brand as a function of psychological processes (from Jacoby and Chestnut, 1978); also attitude towards the act of buying the brand; 2. behavioral loyalty is the observable outcome of attitudinal loyalty (eg market share and sales);</td>
<td>as an individual measure or as a brand-specific measure?; attitude towards the act = 1 measure of commitment in a 5-point semantic differential scale, 7 intention to purchase measures (5-point semantic differential, and a recommendation item 5-point Likert; propensity to be brand loyal = seven personality trait items (5-point Likert), no a reported</td>
</tr>
<tr>
<td>Author, Journal, Year</td>
<td>Context</td>
<td>Conceptualization</td>
<td>Operationalization</td>
</tr>
<tr>
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</tr>
<tr>
<td>Bruhn, Grund; Total Quality Management; 2000</td>
<td>b-to-c</td>
<td>customer loyalty</td>
<td>intention to recommend the product or service; intention to buy again; intention to switch; 11-point Likert</td>
</tr>
<tr>
<td>Casado Díaz, Más Ruiz; International Journal of Service Industry Management; 2002</td>
<td>b-to-c</td>
<td>repurchase intentions</td>
<td>flying with the company again if one had the choice, 5-point</td>
</tr>
<tr>
<td>Chiou, Droge, Hanvanich; Journal of Service Research; 2002</td>
<td>b-to-c</td>
<td>customer loyalty responses: active loyalty behaviors i.e. word of mouth and repurchase intentions</td>
<td>three measures of WOM construct and two measures of repurchase intentions (5-point scales)</td>
</tr>
<tr>
<td>Colgate, Danaher; Academy of Marketing Science, Journal; 2000</td>
<td>b-to-c</td>
<td>loyalty</td>
<td>behavioral intentions: word of mouth intentions (5-point), likelihood to recommend the bank (5-point), likelihood to stay at the bank (4-point)</td>
</tr>
<tr>
<td>Cronin, Taylor; Journal of Marketing; 1992</td>
<td>b-to-c</td>
<td>purchase intentions</td>
<td>7-point semantic differential</td>
</tr>
<tr>
<td>Crosby, Stephens; Journal of Marketing Research; 1987</td>
<td>b-to-c</td>
<td>replacement of policy</td>
<td></td>
</tr>
<tr>
<td>De Wulf, Odekerken-Schröder, Iacobucci; Journal of Marketing; 2001</td>
<td>b-to-c</td>
<td>behavioral loyalty</td>
<td>3 items: percentage of total expenditures at store x, number of times out of ten selecting store x, frequency of buying at store x in comparison to other stores</td>
</tr>
<tr>
<td>Doney, Cannon; Journal of Marketing; 1997</td>
<td>b-to-b</td>
<td>1 current supplier choice and 2 future purchase intentions</td>
<td>1 single item (y/n); 2 two items, 7-points (very little chance-definitely will use)</td>
</tr>
<tr>
<td>Fornell, Johnson, Anderson, Cha, Bryant; Journal of Marketing; 1996</td>
<td>b-to-c</td>
<td>customer loyalty</td>
<td>three measures: repurchase likelihood rating, price tolerance (increase) given repurchase, price tolerance (decrease) to induce repurchase</td>
</tr>
<tr>
<td>Author, Journal, Year</td>
<td>Context</td>
<td>Conceptualization</td>
<td>Operationalization</td>
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</tr>
<tr>
<td>Fullerton, Taylor; Revue Canadiennes des Sciences de l'Administration; 2002</td>
<td>b-to-c</td>
<td>advocacy, switching and willingness to pay more</td>
<td>3 items, 3 items, 2 items</td>
</tr>
<tr>
<td>Ganesh, Arnold and Reynolds; Journal of Marketing; 2000</td>
<td>b-to-c</td>
<td>loyalty: a combination of both commitment to the relationship and other overt loyalty behavior</td>
<td>6 items, meant as one factor, but analysis resulted in two factors: active and passive loyalty, all measured on a 5-point Likert scale (strongly agree-strongly disagree)</td>
</tr>
<tr>
<td>Garbarino, Johnson; Journal of Marketing; 1999</td>
<td>b-to-c</td>
<td>future intentions</td>
<td>3 items on a 5-point Likert scale</td>
</tr>
<tr>
<td>Gremler, Gwinner; Journal of Service Research; 2000</td>
<td>b-to-c</td>
<td>customer loyalty: continuing purchase intent; also word-of-mouth included in the study</td>
<td>3 items adapted from Zeithaml, Berry and Parasuraman's behavioral intentions battery (1996), 7-point Likert-type scale</td>
</tr>
<tr>
<td>Gustafsson, Johnson; Journal of Targeting, Measurement and Analysis; 2002</td>
<td>b-to-c</td>
<td>customer loyalty (a customer's intention or predisposition to buy) and retention (whether the intended behavior actually occurs); when actual retention is not available, loyalty measures are typically used as a proxy for retention</td>
<td>?</td>
</tr>
<tr>
<td>Harrison-Walker; Journal of Service Research; 2001</td>
<td>b-to-c</td>
<td>an individual's predisposition to repurchase a product</td>
<td>?</td>
</tr>
<tr>
<td>Author, Journal, Year</td>
<td>Context</td>
<td>Conceptualization</td>
<td>Operationalization</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
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<td>-----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hennig-Thurau, Gwinner, Gremler; Journal of Service Research; 2002</td>
<td>b-to-c</td>
<td>relationship marketing outcomes: customer loyalty, which focuses on a customer's repeat purchase behavior that is triggered by a marketer's activities, and (positive) customer word-of-mouth communication, defined as all informal communications between a customer and others concerning evaluations of goods or services</td>
<td>items based on the work of Zeithaml, Berry and Parasuraman (1996)</td>
</tr>
<tr>
<td>Homburg, Giering; Psychology and Marketing; 2001</td>
<td>b-to-c</td>
<td>loyalty: a two-dimensional concept with both attitudinal and behavioral components</td>
<td>L1 recommendation of the product 2 items; L2 product repurchase intentions 3 items; L3 distributor repurchase intentions 1 item</td>
</tr>
<tr>
<td>Jones, Mothersbaugh, Beatty; Journal of Retailing; 2000</td>
<td>b-to-c</td>
<td>repurchase intentions</td>
<td>scale taken verbatim from Oliver and Swan 1989</td>
</tr>
<tr>
<td>Krishnamurthi, Papaia; Journal of Retailing; 2003</td>
<td>b-to-c</td>
<td>initialized from the purchase data of the households</td>
<td>repurchase pattern</td>
</tr>
<tr>
<td>Kumar, Journal of Service Research, 2002</td>
<td>b-to-b</td>
<td>repurchase intent</td>
<td>likelihood of buying the focal firm's products and services to meet their future needs</td>
</tr>
<tr>
<td>Mägi; Journal of Retailing; 2003</td>
<td>b-to-c</td>
<td>share-of-purchase and share-of-visits</td>
<td>estimated from diary data</td>
</tr>
<tr>
<td>Mittal, Kumar, Tsiros; Journal of Marketing; 1999</td>
<td>b-to-c</td>
<td>word-of-mouth intention manufacturer</td>
<td>how likely the respondent is to recommend the product (car) to others in the future</td>
</tr>
<tr>
<td>Shankar, Smith, Rangaswamy; International Journal of Research in Marketing; 2003</td>
<td>b-to-c</td>
<td>loyalty: deep commitment to a service provider</td>
<td>1 item, 7-point</td>
</tr>
<tr>
<td>Author, Journal, Year</td>
<td>Context</td>
<td>Conceptualization</td>
<td>Operationalization</td>
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<tr>
<td>Sirdeshmukh, Singh, Sabol; Journal of Marketing; 2002</td>
<td>b-to-c</td>
<td>loyalty, indicated by an intention to perform a diverse set of behaviors that signal a motivation to maintain a relationship with the focal firm, including allocating a higher share of the category wallet, engaging in positive WOM, and repeat purchases</td>
<td>4 items, 10-point</td>
</tr>
<tr>
<td>Zeithaml, Berry, Parasuraman; Journal of Marketing, 1996</td>
<td>b-to-b and b-to-c</td>
<td>behavioral intentions: favorable behavioral intentions and unfavorable behavioral intentions</td>
<td>13 items, measuring loyalty, switch, pay more, external response and internal response intentions, 7-point</td>
</tr>
</tbody>
</table>
## Table II.2: Recent research in satisfaction-profit chain: Antecedents, mediators, moderators and outcome variables discussed

<table>
<thead>
<tr>
<th>Author</th>
<th>Antecedent(s)</th>
<th>Mediator(s)</th>
<th>Moderator(s)</th>
<th>Outcome variable(s)</th>
</tr>
</thead>
</table>
| Agustin and Singh, 2005 | Satisfaction  
Trust | Value  
Trust |  | Loyalty intentions |
| Anderson and Sullivan, 1993 | Ease of evaluating  
Perceived quality  
Disconfirmation | Disconfirmation  
Satisfaction |  | Retention intention |
| Bloemer and de Ruyter, 1998 | Store satisfaction (manifest versus latent)  
Store image | Store satisfaction |  | Store loyalty |
| Bloemer, de Ruyter, and Wetzels, 1998 | Servqual | Service quality | Industry | Word-of-mouth  
Purchase intentions  
Price sensitiveness  
Complaining behaviour |
| Bloemer and Odekerken-Schröder, 2002 | Store satisfaction | Trust |  | Commitment |
| Bolton, 1998 | Cumulative satisfaction |  |  | Duration of relationship |
| Brady and Cronin, 2001 |  |  |  | Behavioural intentions |
| Fullerton and Taylor, 2002 | Quality perception | Satisfaction | Closeness of customer-firm relationship |  |
| Goodman, Fichman, Lerch, and Snyder, 1995 | Satisfaction  
Dissatisfaction |  |  | Behavioural intentions |
| Hennig-Thurauf, Gwinner, and Gremler, 2002 | Confidence benefits  
Social benefits  
Special treatment benefits | Satisfaction  
Commitment |  | Word-of-mouth  
Customer loyalty |
| Homburg, Koschat, and Hoyer, 2005 | Satisfaction |  |  | Willingness to pay a price premium |
| Mittal and Kamakura, 2001 | Satisfaction |  |  | Repurchase intent  
Repurchase behaviour |
| Mittal and Katrichis, 2000 | Satisfaction with specific aspects of product/service |  |  | Overall satisfaction |
| Mittal, Kumar, and Tsiros, 1999 | Attribute satisfaction  
Satisfaction with product  
Satisfaction with service | Satisfaction with product  
Satisfaction with service |  | Behavioural intentions |
| Morgan and Hunt, 1994 | Communication  
Relationship benefits  
Opportunistic behaviour | Commitment  
Trust |  | Propensity to leave  
Uncertainty |
<p>| Olsen, 2002 | Quality performance | Customer satisfaction |  | Repurchase loyalty |</p>
<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>Attribute</th>
<th>Overall satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petersen, 1997</td>
<td></td>
<td>Product</td>
<td>Overall satisfaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>quality</td>
<td></td>
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<td>Expectations</td>
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<td></td>
<td></td>
<td>Attribute importance</td>
<td></td>
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<tr>
<td>Seiders, Voss, Grewal, and Godfrey, 2005</td>
<td>Satisfaction</td>
<td>Involvement</td>
<td>Repurchase intentions</td>
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<td></td>
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<td>Household income</td>
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<td>Relationship age</td>
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<td>Relationship program</td>
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<td>participation</td>
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<td>Competitive intensity</td>
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<td>Convenience of offering</td>
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<td>Shankar, Smith, and Rangaswamy,</td>
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<td>Satisfaction</td>
<td>On- versus off-line</td>
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<td>Singh and Sirdeshmukh, 2000</td>
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<td>Trust</td>
<td>Contextual factors</td>
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<td>Sirdeshmukh, Singh, and Sabol, 2002</td>
<td>Trust</td>
<td>Value (partial mediator)</td>
<td>Behavioural intentions</td>
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<td></td>
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<td>Share of category wallet</td>
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<td>Likelihood of repeat</td>
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<td>Sirohi, McLaughlin, and Wittink, 1998</td>
<td>Perceived value of the store</td>
<td>Attractiveness of competition</td>
<td>Store loyalty</td>
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<td>Perceived value of the competitor</td>
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<td>Perceived relative price</td>
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<tr>
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<td>Value for money</td>
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<tr>
<td>Spreng and Page, 2001</td>
<td></td>
<td>Expectations</td>
<td>Confidence</td>
</tr>
<tr>
<td>Varki and Colgate, 2001</td>
<td></td>
<td>Price</td>
<td>Satisfaction</td>
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<td>perceptions</td>
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<tr>
<td></td>
<td></td>
<td>Value of obtained service for price paid</td>
<td>Overall satisfaction with service</td>
</tr>
<tr>
<td>Verhoef, 2003</td>
<td></td>
<td>Commitment</td>
<td>Retention</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Past behaviour</td>
<td>Changes in customer share</td>
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<tr>
<td></td>
<td></td>
<td>Satisfaction</td>
<td></td>
</tr>
<tr>
<td>Verhoef, Franses, and Hoekstra, 2002</td>
<td>Trust</td>
<td>Customer referrals</td>
<td>Number of services purchased</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Commitment</td>
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<td></td>
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<td>Satisfaction</td>
<td></td>
</tr>
<tr>
<td>Zeithaml, Berry, and Parasuraman, 1996</td>
<td>Relative perceived service quality</td>
<td>Behavioural intentions</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Absolute perceived service quality</td>
<td></td>
</tr>
</tbody>
</table>
Appendices