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THE EVOLVING CONCEPT OF RETAIL ATTRACTIVENESS: WHAT MAKES RETAIL AGGLOMERATIONS ATTRACTIVE WHEN CUSTOMERS SHOP AT THEM?

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ABSTRACT

This paper attempts to contribute to a more thorough understanding of the on-site ('*in vivo*') evaluation of retail agglomerations once shoppers have already made their destination choices. To address this issue, a modification of more conventional concepts of retail attractiveness that considers situational contexts is proposed and empirically tested. The survey comprised more than 2,000 on-site interviews of customers of an inner city shopping street and a competing peripheral shopping mall. The results show that the tenant mix and the atmosphere, unlike parking and accessibility, exert a major impact on distinct dimensions of perceived attractiveness. Furthermore, the empirical findings provide evidence that factors characterizing aspects of the individual shopping situation significantly affect on-site evaluation. Some methodological limitations and future research directions are also discussed.

Key words: retail agglomerations; retail attractiveness; patronage, situational effects

INTRODUCTION

Sets of retail outlets located in a nearby geographical area are referred to as retail agglomerations or retail clusters (Berman and Evans, 2001; Ingene, 1984). Whether or not such sites are established consciously, i.e. planned agglomerations such as shopping centers, or unconsciously, i.e. unplanned agglomerations such as shopping streets, both consumers and retailers can gain benefits and/or realize synergetic effects from this phenomenon (Gosh, 1986). From a consumers' point of view such "bundling or agglomeration effects" deliver additional utilitarian and hedonic shopping values to customers (Oppewal and Holyoaka, 2004; Babin et al., 1994). Such an enrichment of shopping experiences compared to those in single stores is caused by the provision of easy accessibility, parking facilities, orientation systems, a broad variety of shops, atmospheric stimuli or entertainment facilities (Kim, 2002).

From a retail manager's view, such agglomerations have built up so-called "co-opetition" between retailers (Brandenburger and Nalebuff, 1996): On the one hand, they cooperate by using the same infrastructure or environment (e.g., parking facilities or architecture), participate in site-related marketing concepts or simply benefit from the streams of consumers attracted by the whole agglomeration. On the other hand, they compete with each other for the share of wallets and/or time which is dedicated to the agglomeration by its visitors (Gosh, 1986; Miller et al., 1999; Alzubaidi et al., 1997; Mägi, 2003).

The continuing fall of unplanned or evolved agglomerations such as shopping streets or town/city centers caused by the rising number of planned agglomerations and increasing competition among the latter can be regarded as major trends in retailing (Baker, 2006; ICSC, 2005; Wrigley and Lowe, 2002; ICSC, 2002; Wakefield and Baker, 1998; Alzubaidi et al., 1997; Marjanen, 1995). As a consequence, investigations into the nature and antecedents of retail agglomeration attractiveness from a shopper's perspective are (re-)gaining the attention of both retail marketing academics and practitioners (Dennis, 2005; Burns and Warren, 1995).

Insights into the interplay of determinants and moderating factors that affect an agglomeration's attractiveness can support managerial decision-making in several respects. On the one hand, the store location decisions of retail managers are facilitated. On the other hand, managers of malls, streets or cities can be helped in adjusting their marketing strategies to increase the attractiveness or "gravity" of their agglomerations (Reilly, 1931).

Nonetheless, the amount of empirical research focusing on shopping behavior in retail agglomerations, and more specifically in shopping streets or town/city centers, can be considered as rather limited. With a few exceptions like the contributions by Dennis (2005) and Baker (2006), most researchers have undertaken a single store perspective and concentrated on the grocery industry (Ruiz et al., 2003). This article identifies and addresses the following shortcomings in the extant literature: (1) The lack of a more general view of multi-faceted influencing factors of retail agglomeration attractiveness, (2) the negligence of situational effects that are postulated to gain considerable relevance during a specific shopping-trip and (3) the explicit consideration of planned and unplanned agglomerations. The objective of this paper, therefore, is to investigate the impact of crucial factors most frequently mentioned in literature including situational ones on the distinct dimensions of a retail agglomeration's attractiveness.

The remainder of the paper is organized as follows: After a brief review of the existing literature on measuring retail attractiveness we will develop the conceptual framework of the proposed approach, provide an analytical model and derive hypotheses that are empirically tested in a structural equation modeling framework. Following some background information on the particular research approach adopted in our study, we report the empirical findings and discuss implications for retail marketing research. Finally, we address limitations to our approach and some issues that might stimulate future research directions.

LITERATURE REVIEW

In the realm of retail marketing, the vast majority of contributions studying the attractiveness of retail locations can, based on their conceptual background, be classified into the following research streams: (1) Approaches based on spatial interaction theory, (2) models of retail attraction based on random utility theory and (3) multiplicative competitive interaction (MCI) models.

Models of the first type are well known within the marketing community under the pseudonym 'gravity models' (for a review cf. Baker, 2006; Craig et al. 1984; Haynes and Fotheringham, 1984). Most of them have been inspired by the seminal works of Reilly (1931), modifications to Reilly's 'Law of Retail Gravitation' contributed by Converse (1949) and the stochastic model specification introduced by Huff (1963 and 1964). The latter reduces the multitude of variables with potential influence on the attraction of competing retail locations to two factors only, namely store size and distance between stores and consumers' homes. Huff's model has seen numerous extensions, including price and service levels, assortment sizes, opening hours or image features as additional attraction factors of retail outlets (Cadwallader, 1975; Stanley and Sewall, 1976; Jennings, 1978; Nevin and Houston, 1980). In principle, Huff-type approaches are flexible for modifications towards gravity models based on less 'objective' criteria of store attraction measured in terms of consumer perceptions as is frequently called for in the relevant literature (see e.g., Cliquet, 1995). In this respect they exhibit some overlap with the other two types of retail attraction models.

Based on a wide range of literature on brand choice modeling in the tradition of random utility theory, retail attraction models of the second type focus on the impact of a predefined set of attraction variables (which also embed the objective store-specific attributes known from gravity models) on measures of consumers' store choice behavior. This stream of research has led to a multitude of retail applications including the following fields:

- Store choice prediction and choice set formation (Gensch and Recker, 1979; Timmermans, 1982; Arnold et al., 1983; Fotheringham, 1988, Spiggle and Sewall, 1987, Bell and Lattin, 1998)
- Consumer choice of shopping centers (Oppewal et al., 1997; Finn and Louviere, 1996; Arentze et al., 2005)
- Multipurpose shopping trip behavior (Arentze and Timmermans, 2001; Dellaert et al., 1998; Arentze et al., 2005; Baker, 1996)
- Dynamics of shopping destination choice (Arnold et al., 1983; Galata et al., 1999; Severin et al., 2001)

In contrast to the axiomatic framework of individual decision-making underlying choice models, the focus of MCI models is on a more aggregate perspective of market conduct (Cooper and Nakanishi 1988). In particular, MCI models using trade-area specific market share for measuring retail attraction and allowing for nonlinear interactions of potentially influencing parameters, such as customers' perceptions of store characteristics, have been extensively applied to the issues of store location and store assessment analysis (e.g., Ghosh and McLafferty, 1987; Cliquet, 1995; Gonzáles-Benito et al., 2000; Gonzáles-Benito, 2005).

In spite of severe measurement problems and practical limitations against efforts to include all possible factors that might affect retail attractiveness and choice behavior, the above-mentioned research streams have yielded considerable advances in recent years (Rust and Donthu, 1995; Prendergast et al., 1998). However, most of the previous empirical research has exposed respondents to retail or shopping site evaluation tasks in a rather non-biotic or less life-like way (similar to in-home interviews or telephone surveys), which requires strong imaginary skills (particularly with regard to unfamiliar retail sites) and/or the high shopping involvement of respondents. Hence, a considerable amount of previous retail attraction research can be denoted as *in vitro* approaches. In contrast, *in vivo* retail attraction

models entail the evaluation of shopping destinations in a more life-like ambience and thus require the analyst to confront respondents with more realistic shopping tasks or even real shopping situations. The latter would provide deeper insights into the shopper's post-destination-choice or on-site evaluation of an actually visited agglomeration. Although it has been argued in the relevant literature that it significantly affects store choice behavior, surprisingly few contributions have investigated the relative impact of situational variables (Spiggle and Sewall, 1987; Kahn and Schmittlein, 1989; Ridgway et al., 1990; Laaksonen, 1993; Van Kenhove et al., 1999). In the context of shoppers' evaluations of complex retail environments such as shopping centers, shopping occasion or shopping trip involvement are posited to be of particular relevance (cf. Bloch et al., 1994; Van Kenhove et al., 1999).

Consequently, in order to account for such situational and shopping context-specific factors, a more *in vivo* interpretation of the concept of retail attractiveness and a more detailed investigation of the underlying evaluation processes are called for. We therefore follow the notions of Miller and Ginter (1979) "…that explicit consideration of situational contexts may contribute to the understanding of consumer behavior".

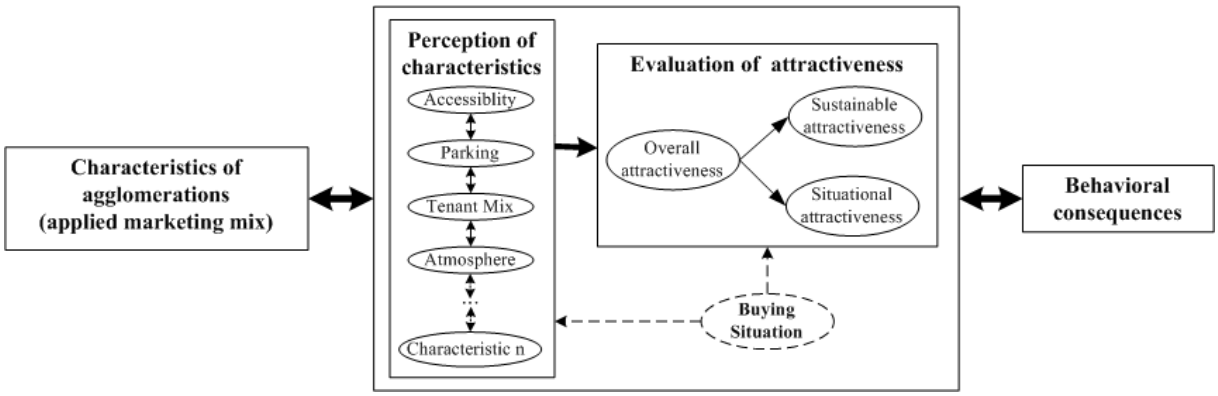
CONCEPTUAL FRAMEWORK

Perception and evaluation of retail agglomerations

Analogous to retail formats or individual stores, retail agglomerations can be characterized by their marketing mix components, which are determined by managerially controllable decision-parameters such as site location, selling style, pricing and merchandise strategy, available parking or entertainment facilities, etc. (Berman and Evans, 2001). This marketing mix is physically manifested in 'objective' retail agglomeration characteristics, which, in turn, are perceived by potential shoppers and are converted into an overall evaluation of the relative attractiveness as depicted in Figure 1 (Finn and Louviere, 1996).

Ultimately, this evaluation process affects the consumers' behavior in terms of site choice, buying and patronage intentions, retention proneness, etc. As a consequence, the economic success of a retail agglomeration on the one hand and a specific store located within this agglomeration on the other hand is determined by this chain of value creation (Dunne and Lusche, 1999; Levy and Weitz, 2004).

Figure 1: Evaluation process of a retail agglomeration's attractiveness



Our attempt to study the relative importance of these mix-factors on a 'supra-store' level starts with the outline of a model for attractiveness formation, which hypothesizes a relationship between perceived marketing mix characteristics and differentiated *in vivo* notions of agglomeration evaluations. Therefore, the concept of retail attractiveness is broadened by taking into consideration any possible moderating effects that arise from the shopping experience and the consumer's involvement in the current shopping trip. This differential view leads to the distinction of situational-driven and sustainable (non-situational) aspects of agglomeration attractiveness with a direct or indirect impact on the consumer's behaviors (see Figure 1).

Based on an extensive literature review, eight multi-item-scaled factors related to marketing-mix variables were extracted. They are posited to influence the retail attraction formation process. Because of the multi-item character of the various exogenous and endogenous factors included in our modeling framework, each construct is measured with at

least two or more indicator variables (see Table 6 in the Appendix for a more detailed description of respective indicator variables). Since the focus of this paper is on retail agglomerations, these factors will be interpreted on a supra-store level only. In contrast to previous studies, the simultaneous consideration of such a broad set of factors, including any situational ones, will enable us to identify their relative importance.

Marketing mix factors and attractiveness dimensions

According to the proposed interrelations within the shopper's system of perceptions and evaluations the associated constructs can be organized as follows:

Site related factors: Consumers who buy their goods at agglomerations have to overcome spatial and temporal distances between their point of origin, e.g. household or working place, and the retailer's premises (Huff, 1963/1964; Ingene, 1984). 'Accessibility' (ξ_1) of a retail site indicates the degree of (in-) convenience regarding this shopping endeavor and therefore represents a major characteristic of a retail agglomeration from a consumer's point of view (Alzubaidi et al., 1997; Bearden, 1977). Due to the rising mobility of western populations the car can be seen as the most important (individual) means of transportation for consumers (Baker, 2002). Thus 'parking' (ξ_2) nearby stores or agglomerations can also be regarded as a major factor enhancing shopping convenience (Alzubaidi et al., 1997; Arentze and Timmermans, 2001; Bearden, 1977; Van der Waerden et al., 1998).

Tenant-related factors: The degree to which consumers are able to satisfy their needs and wants within an agglomeration is represented by the 'mix of retail-tenants' (ξ_3), i.e. stores, and the supplementary 'mix of non-retail tenants' (ξ_5), e.g. gastronomy and entertainment facilities (Bearden, 1977; Wakefield and Baker, 1998; Finn and Louviere, 1996). These two aspects are presumed to be among the major driving factors to visit an agglomeration. In addition, the perceived price-quality ratio of merchandise, i.e. the

'merchandise value' (ξ_4), offered by the stores within an agglomeration is considered (Alzubaidi et al., 1997; Arentze and Timmermans, 2001; Bearden, 1977).

Environment-related factors: Since shopping can be regarded as being more than just an exchange of money for goods/services, several other 'environmental' factors can be identified to ease or enrich the process of procuring goods in stores and/or agglomerations (Babin et al., 1994; Ruiz et al., 2003). These represent 'orientation' (ξ_6) within the agglomeration, 'ambience' (ξ_7) such as sensual stimuli and 'atmosphere' (ξ_8) (Wakefield and Baker, 1998; Arentze and Timmermans, 2001; Bearden, 1977; Bloch et al., 1994; Hoffman and Turley, 2002; Ruiz et al., 2003).

Buying situation-related factors: As already argued, factors related to the context of a specific shopping experience are understood to be possible interventions *in vivo* of the proposed model of retail agglomeration attractiveness. Based on the notions of Van Kenhove et al. (1999) two factors are distinguished here: The perceived 'distance' (ξ_9) between a specific trip's starting point and the agglomeration of choice (Arentze and Timmermans, 2001; Bacon, 1995). Notice that while the spatial distance may remain the same when the point of origin does not differ from trip to trip, the temporal distance may change due to the traffic situation or other obstacles on the way to the agglomeration. Furthermore, the perceived importance of a shopping trip is measured in terms of an individual's 'involvement' (ξ_{10}), i.e. the subjective commitment in the fulfillment of the shopping task (Alzubaidi et al., 1997).

Dimensions of attractiveness: In order to be successful, both retailers and agglomerations need to be attractive, i.e. preferable or favorable, for their customers on every single stage of the buying process. Managers have to persuade consumers to come to their premises, make them stay and spend money as well as convince them to come again. Consequently, attractiveness can be seen as a "… multi-faceted construct representing a

variety of measures…" (Reinartz and Kumar, 1999). In our extended view of the concept of retail attractiveness, the perceived attractiveness of a retail agglomeration varies along the following three dimensions: The satisfaction with an agglomeration is considered to be an operationalized version of '*overall* attractiveness' (η_1), patronage intention measures the tendency towards revisiting the retail site and thus can be interpreted as '*sustainable* attractiveness' (η_3). Finally, retention proneness measures the propensity to stay and to spend time on site and thus covers the notion of '*situational* attractiveness' (η_2). Whereas the distinction between what we call overall and sustainable attractiveness (η_1 and η_3) can be found with several authors the *in vivo* notion of 'situational attractiveness' has widely been neglected, particularly in the context of retail agglomerations (e. g. Bearden, 1977; Bellenger et al., 1977; Baker, 2002; Wakefield and Baker, 1998; Severin et al., 2001; Ruiz et al., 2003; Mägi, 2003; Baker et al., 2002; Tang et al., 2001). In fact, this dimension has been shown to be highly correlated with the probability that consumers spend money in stores (Donavan et al., 1994). Lastly, it has to be mentioned that the re-labeling of the well-known factors 'patronage', 'satisfaction' and 'retention proneness' was thoroughly done to emphasize their strong relation and dependency within the multi-faceted and complex construct of 'attractiveness'.

Hypotheses

To investigate the effects of marketing-mix perceptions on the evaluation of agglomeration attractiveness, a set of hypotheses as summarized in Table 1 can be specified[1].

[1] Notice that the numeration of hypotheses follows the common nomenclature for referencing relationships as known from path diagrams, which starts with the respective index of the endogenous factor and is followed by the index of the exogenous variable.

Consistent with the indications from our literature survey, positive relationships between the perceptions of marketing-mix factors (ξ_1 - ξ_8) and the attractiveness dimensions (η_1 - η_3) can be expected.

Table 1: Synopsis of hypotheses

Hypothesis	**Exogenous Factor**	**[Dependency] coefficient**	**Endogenous Factor**
H_{11}	Accessibility (ξ_1)	[+] γ_{11}	Overall attractiveness (η_1)
H_{21}		[+] γ_{21}	Situational attractiveness (η_2)
H_{31}		[+] γ_{31}	Sustainable attractiveness (η_3)
H_{12}	Parking (ξ_2)	[+] γ_{12}	Overall attractiveness (η_1)
H_{22}		[+] γ_{22}	Situational attractiveness (η_2)
H_{32}		[+] γ_{32}	Sustainable attractiveness (η_3)
H_{13}	Retail tenant mix (ξ_3)	[+] γ_{13}	Overall attractiveness (η_1)
H_{23}		[+] γ_{23}	Situational attractiveness (η_2)
H_{33}		[+] γ_{33}	Sustainable attractiveness (η_3)
H_{14}	Merchandise value (ξ_4)	[+] γ_{14}	Overall attractiveness (η_1)
H_{24}		[+] γ_{24}	Situational attractiveness (η_2)
H_{34}		[+] γ_{34}	Sustainable attractiveness (η_3)
H_{15}	Non-retail tenant mix (ξ_5)	[+] γ_{15}	Overall attractiveness (η_1)
H_{25}		[+] γ_{25}	Situational attractiveness (η_2)
H_{35}		[+] γ_{35}	Sustainable attractiveness (η_3)
H_{16}	Orientation (ξ_6)	[+] γ_{16}	Overall attractiveness (η_1)
H_{26}		[+] γ_{26}	Situational attractiveness (η_2)
H_{36}		[+] γ_{36}	Sustainable attractiveness (η_3)
H_{17}	Ambience (ξ_7)	[+] γ_{17}	Overall attractiveness (η_1)
H_{27}		[+] γ_{27}	Situational attractiveness (η_2)
H_{37}		[+] γ_{37}	Sustainable attractiveness (η_3)
H_{18}	Atmosphere (ξ_8)	[+] γ_{18}	Overall attractiveness (η_1)
H_{28}		[+] γ_{28}	Situational attractiveness (η_2)
H_{38}		[+] γ_{38}	Sustainable attractiveness (η_3)
H_{19}	Distance (ξ_9)	[+] γ_{19}	Overall attractiveness (η_1)
H_{29}		[+] γ_{19}	Situational attractiveness (η_2)
H_{110}	Involvement (ξ_{10})	[+] γ_{110}	Overall attractiveness (η_1)
H_{210}		[+] γ_{210}	Situational attractiveness (η_2)
H_{42}	Overall attractiveness (η_1)	[+] β_{21}	Situational attractiveness (η_2)
H_{43}		[+] β_{31}	Sustainable attractiveness (η_3)

Naturally, as a consequence of the *in vivo* conceptualization of agglomeration attractiveness underlying the subsequent study, the relative strength and significance of the effects can be expected to be moderated for each of the three dimensions of retail attractiveness through differential aspects: Both the effects on the 'overall attractiveness' with the visited agglomeration (η_1) and, in particular, 'situational attractiveness' (η_2) are assumed to be co-affected by the situation-specific factors 'distance' (ξ_9) and 'involvement' (ξ_{10}); for a justification of this presumption and corresponding hypotheses H_{19} to H_{210} see the notion of

Wakefield and Baker (1998). In contrast, the sustainable evaluation of a retail agglomeration (η_3) is assumed to be affected only indirectly by the respondent's *in vivo* experiences, namely via intermediation of η_1 according to hypothesis H_{43}. Furthermore, η_1 is hypothesized to positively affect η_2 as it is already depicted in the above Figure 1 and postulated by hypothesis H_{42} in Table 1.

The overall objective when testing our hypotheses is to get a clearer understanding on which of the various marketing-mix and/or situational factors have major significant impacts (as indicated by respective γ-parameters) on the previously discussed attractiveness dimensions of a retail agglomeration. To allow for simultaneous testing and comparison of the set of hypotheses in two competing retail settings, namely a planned and an unplanned agglomeration, a structural equation model (SEM) with latent variables was developed. For comparability reasons the resulting 'baseline model' was required to be general enough and, at the same time, still adequate for application in both settings.

RESEARCH DESIGN AND DATA COLLECTION

Basic considerations

The attempt to make the above-explained system of hypotheses empirically accessible requires a research design that differs from most of the empirical approaches presented up to now in the literature. We have therefore enlarged on the basic thoughts underlying the approach towards an inclusion of *in vivo* elements in order to study the concept of retail attractiveness and explain the whole research setting in more detail (see Table 2 for a summary overview).

Table 2: Research design

Research objective	Comparative evaluation of factors determining the attractiveness of two retail agglomerations
Research method	Face-to-face interviews
Interview locations	Two comparable and competing retail agglomerations – Shopping Street (SST) and Shopping Mall (MAL)
Research period	Three weeks
Population	All shoppers and visitors of the two retail agglomerations within the research period
Sampling procedure	Synchronized time sampling (random sampling based on time)
Sampling points	Representative entrances or street locations
Sample	n_{SST}=1,066; n_{MAL}=1,073;

In the present context, the common practice of drawing simple random or stratified samples might lead to biased results due to 'role allocations' within households which are dissent with the alleged 'shoppers' participating as respondents of the study (Shet et al., 1999; Granzin et al., 1997). For example, respondents whose major role within a household is that of 'payer' or 'user' might be overrepresented and household members actually responsible for shopping underrepresented. Consequently, an alternative approach both with respect to the respondents' task of retail agglomeration evaluation and sample selection had to be adopted. Similar to the attempt by Bloch et al. (1994), the basic idea was to confront respondents with questions in the context of a real shopping situation within the retail agglomeration they had actually chosen. Thus, our respondents were exposed to a more biotic or *in vivo* interview environment and it was warranted that only those informants were selected, which exhibited a certain minimum degree of knowledge about the visited retail site (Campbell, 1955).

Selected retail sites, scale development and sampling procedure

To empirically illustrate the proposed modeling framework, two different types of retail agglomerations were selected, namely a peripheral shopping center ('Shopping City Süd') and an inner-city shopping street ('Mariahilferstraße') in Vienna, the Capital city of Austria/Europe. Both agglomerations represent the largest retail agglomerations in that retail area and are among the largest in Europe in terms of reported sales figures. They compete for

a comparable supra-regional clientele with a similar tenant mix that comprise the same set of pan-European anchor stores such as *Hennes & Mauritz*, *Mediamarkt/Saturn*, *Mango*, *Zara, Peek & Cloppenburg*. Thus, store heterogeneity can be regarded as being fairly limited with the consequence that the two selected retail agglomerations can be regarded as comparable with respect to their competitive standing in the relevant market. Such competition between dominating planned and evolved agglomerations within urban areas can be considered as typical in many other geographical retail areas. A selection of characterizing facts is provided in Table 3.

Table 3: Characteristics of retail agglomerations under investigation

Agglomeration **Facts**	**Shopping Street (SST)** **(inner district)**	**Shopping Mall (MAL)** **(main building)**
Sales per year	EUR 700 mill.	EUR 580 mill.
Sales floor space	140,000 m^2	160,000 m^2
Retail stores (total # of outlets)	261 (846)	230 (300)
Length	1.7 km	1.6 km

To make the results comparable, survey instruments were synchronized in the two retail agglomerations being studied. Respondents were recruited independently as random samples based on a time sampling procedure. To prevent respondent selection bias, following the arguments of Sudman (1980) three sampling points (entrances to the shopping mall, underground exits and parking lots in the shopping street) were selected in each agglomeration. At each of these points, customers were invited for interviews every quarter of an hour. The number of respondents selected at these defined points of time varied in proportion to the changing number of customers over the course of the day (Sudman, 1980). This procedure resulted in two representative samples of agglomeration customers over a period of three weeks.

Measurement scales for the above-described latent constructs were first derived from the relevant literature (see Table 6 in the Appendix) and modified according to findings from three focus group interviews. According to the notions of Churchill (1979) and Bagozzi et al.

(1991), the measurement validity of the exogenous and endogenous measurement models was tested by calculating Cronbach Alpha coefficients and by conducting confirmatory analyses (CFA) for all constructs containing more than two indicators within each measurement model. Table 6 provides an overview of these validity measures. For almost all constructs shown, a good internal consistency (Cronbach Alpha > 0.7) can be reported. The shared variance among the sets of indicators measuring the different constructs, i.e. composite reliability, also met the requirement to be above 0.6 (Fornell and Larcker, 1981). The average variances extracted (AVE) are also beyond the recommended value of 0.5 (Baggozzi and Yi, 1988). With regard to the constructs' discriminant validity it can be said that the AVE is larger than the highest squared intercorrelation with every other factor in the measurement model (Fornell and Larcker, 1981). Based on these results it can be concluded that the local fit of the measurement models is satisfactory.

Respondent's profiles

Notice that due to the employed sampling procedure the collected samples are representative of the agglomerations' clientele but do not necessarily reflect the demographic structure of the respective trading areas, which in both cases cover the city of Vienna and surrounding areas (Statistik Austria, 2005). Table 4 shows some key characteristics for the two samples. The respondents can be considered as rather young; almost all of them are between 15 and 40 years old. As expected, female shoppers dominate each sample. The educational level is above average for the Vienna region. With regard to professional status, a large share of students and self-employed visitors was observed. Overall, apart from gender, both samples significantly differ with respect to demographic variables. The shopping street (with a considerable share of younger people), quite obviously, appeals to inhabitants living nearby, whereas the mall's clientele originates from the whole city area and surrounding

regions (Statistik Austria, 2005). This observation corresponds with the results of a question regarding the perceived spatial distance between the shopping trip's starting point and the place where they were interviewed. Respondents recruited in the shopping street estimated that the average spatial distance is 16 kilometers, whereas the respondents in the shopping mall stated that they travel, on average, up to 31.01 kilometers to get to their shopping destination.

Table 4: Respondent's profiles

Characterization	**Shopping Street (SST)**			**Shopping Mall (MAL)**			
Demographic Characteristics							
	μ	σ	n	μ	σ	n	Δ
Age (years)	27.31	12.87	1,061	30.66	13.64	1,081	yes[2]
Income Indiv (EUR)	905.06	886.31	1,009	1151.59	1102.34	1,042	yes[2]
Income hh (EUR)	2,489.84	1,995.89	970	2789.92	1896.33	1,042	yes[2]
# of persons in hh	2.64	1.62	1,066	2.82	1.6	1,066	yes[2]
Gender	♀=62.7%	♂=37.3%	1,066	♀=61%	♂=39%	1,073	no[1]
Education Top 3	A-level=45.1% Sec. school=23.6% University=17.1%		1,065	A-level=37.2% Sec. school=29.5% University=11.6%		1,073	yes[3]
Profession Top 3	Student=52.8% White collar worker=24.4% Self employed=7.1%		1,064	White collar worker=41.2% Student=29.5% Self employed=6.7%		1,069	yes[3]
Shopping behavior on sites							
	μ	σ	n	μ	σ	n	Δ
Shopping (visiting) frequency per month	5.05	7.02	1,066	2.68	4.47	1,073	yes[2]
Spending (EUR) per visit	65.09	77.82	1,066	112.45	155.93	1,073	yes[2]
Retention time (min) per visit	140.45	81.35	1,066	164.89	88.61	1,073	yes[2]
Shops visited per trip on average	3.71	3.15	1,066	4.57	3.86	1,073	yes[2]

Caption: μ…mean value; σ…standard deviation; n…sample size; Δ…significant difference; 1…χ2-Test, p=0,449; 2…Mann-Whitney-U-Test; p<0.01; 3… χ2-Test, p<0.001; hh…household; indiv…individual; EUR…Euro; min…minutes; ♀…female; ♂…male

It was noted that there are significant differences in terms of shopping/visiting frequencies, average spending, the number of shops visited per trip, and retention times per visit. It can be concluded that the respondents in the shopping mall shop less frequently but spend more time there, visiting more shops and spending more money. As a result of this

"clientele effect", we are obviously confronted with two quite different and heterogeneous groups of respondents (Reinartz and Kumar, 1999; Dickson and Sawyer, 1990). A certain number of respondents certainly patronize both agglomerations over time. With respect to the objective of the current study, however, this circumstance entails no severe limitation of the results.

RESULTS

Model fit and parameter estimates

The empirical values of some statistical fit indices are compiled in Table 5. Overall, a comparison with critical values as recommended in the relevant SEM literature point out that the empirical data fit the proposed baseline model to a satisfactory degree.

Table 5: Global Fit Measures

Index	Empirical value	Recommended Values*
Absolute fit measures		
χ^2 (df, p)	2636.54 (950; <0.001)	p>.05**
GFI (Goodness of Fit)	.931	>.9
RMSEA (Root mean square error of approximation)	.029	<.05
Incremental fit measures		
NFI (Normed Fit Index)	.927	>.9
TLI (Tucker-Lewis-Index)	.943	>.9
CFI (Comparative Fit Index)	.952	>.9
Parsimony fit measures		
Normed χ^2 (CMIN/df)	2.775	1.0 =perfect up to 1.5 very good up to 2 good up to 3 it depends
AGFI (Adjusted Goodness of Fit)	.914	>.9

*… see Anderson and Gerbing (1988); Arbuckle and Wothke (1999/2003); Diamantopoulos (1994); Loehlin (1998); Steenkamp and van Trijp (1991); Kline (2005); Hair et al. (1995); Baumgartner and Homburg (1996); Byrne, 2001;
**… not relevant since χ2-statistics are sensitive against large sample sizes (Bentler, 1990)

Figures 2 and 3 provide graphical representations of the resulting path structure and corresponding parameter estimates for the shopping street (SST) and shopping mal (MAL) models respectively. In both illustrations, the left side depicts the eight (exogenous) factors comprising 'marketing mix factors' (ξ_1-ξ_8) and the bottom shows 'situational factors' (ξ_9, ξ_{10}).

For the sake of clarity the correlations among the single factors have been omitted. The intercorrelation (φ) values can be seen from the captions. The right side includes the three (endogenous) factors operationalizing the three dimensions of attractiveness (η_1-η_3). Arrows connecting exogenous with endogenous factors symbolize the proposed effects directions. Effects or (standardized) coefficients with significant t-values ($p<.05$) are highlighted by black thick lines, which also indicates whether the proposed hypotheses are being accepted. The effect size or impact represented by the absolute value of the standardized path coefficients (γ/β) is interpreted according to the recommendation by Cohen (1988). Therefore, the impacts of factors are compared with each other. Values of less than .10 indicate low or marginal effects; values around .3 can be regarded as typical or medium effects and values above .5 are considered to be high or substantial.

Tests of hypotheses

Following the path structure depicted in Figures 2 and 3, the results of tests for the hypotheses collected in Table 1 can now be reported. Interestingly, with some notable exceptions, most of the hypotheses are rejected or accepted concurrently in both the shopping street and the shopping mall model.

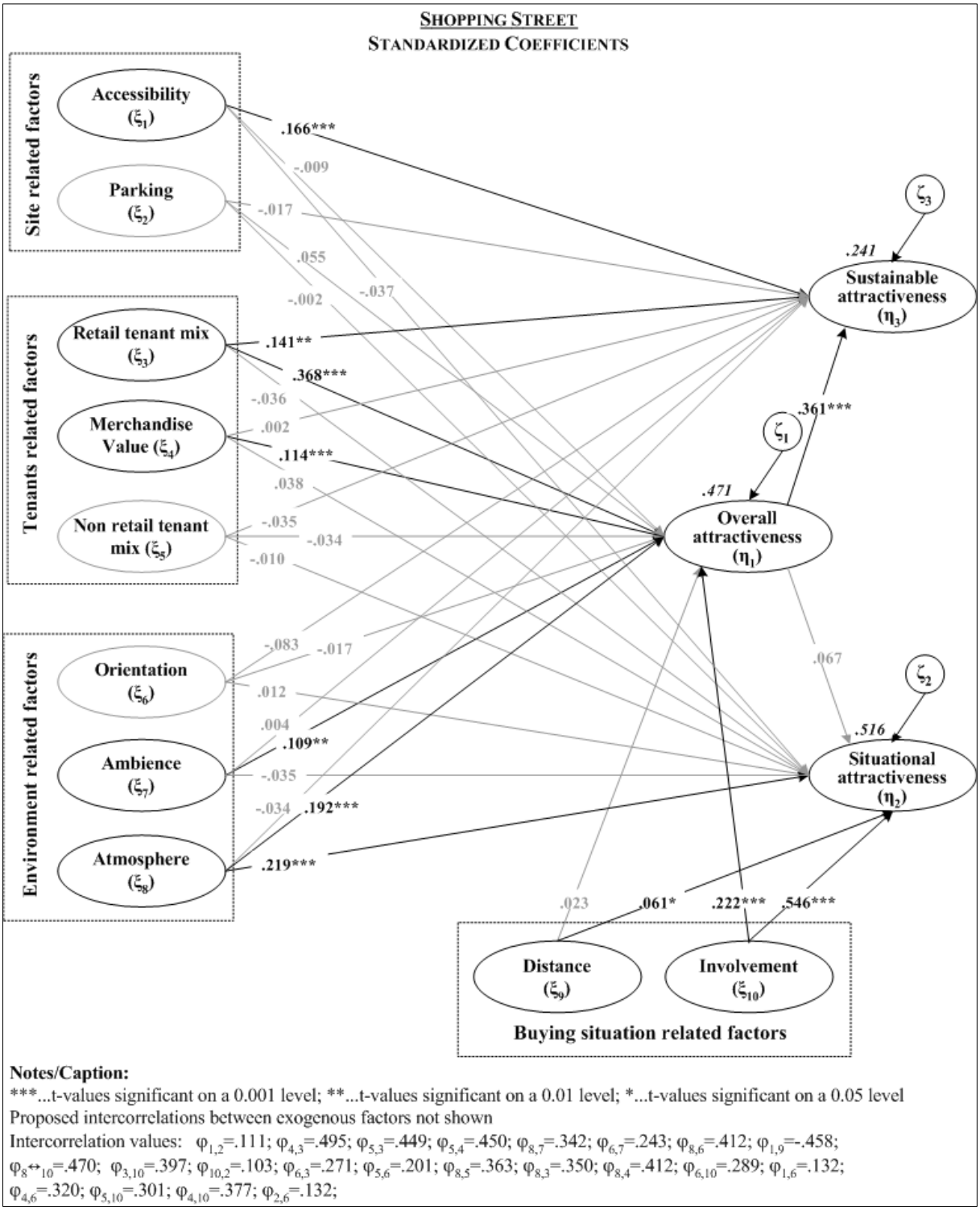


Figure 2: Effects (standardized regression weights) within the shopping street model

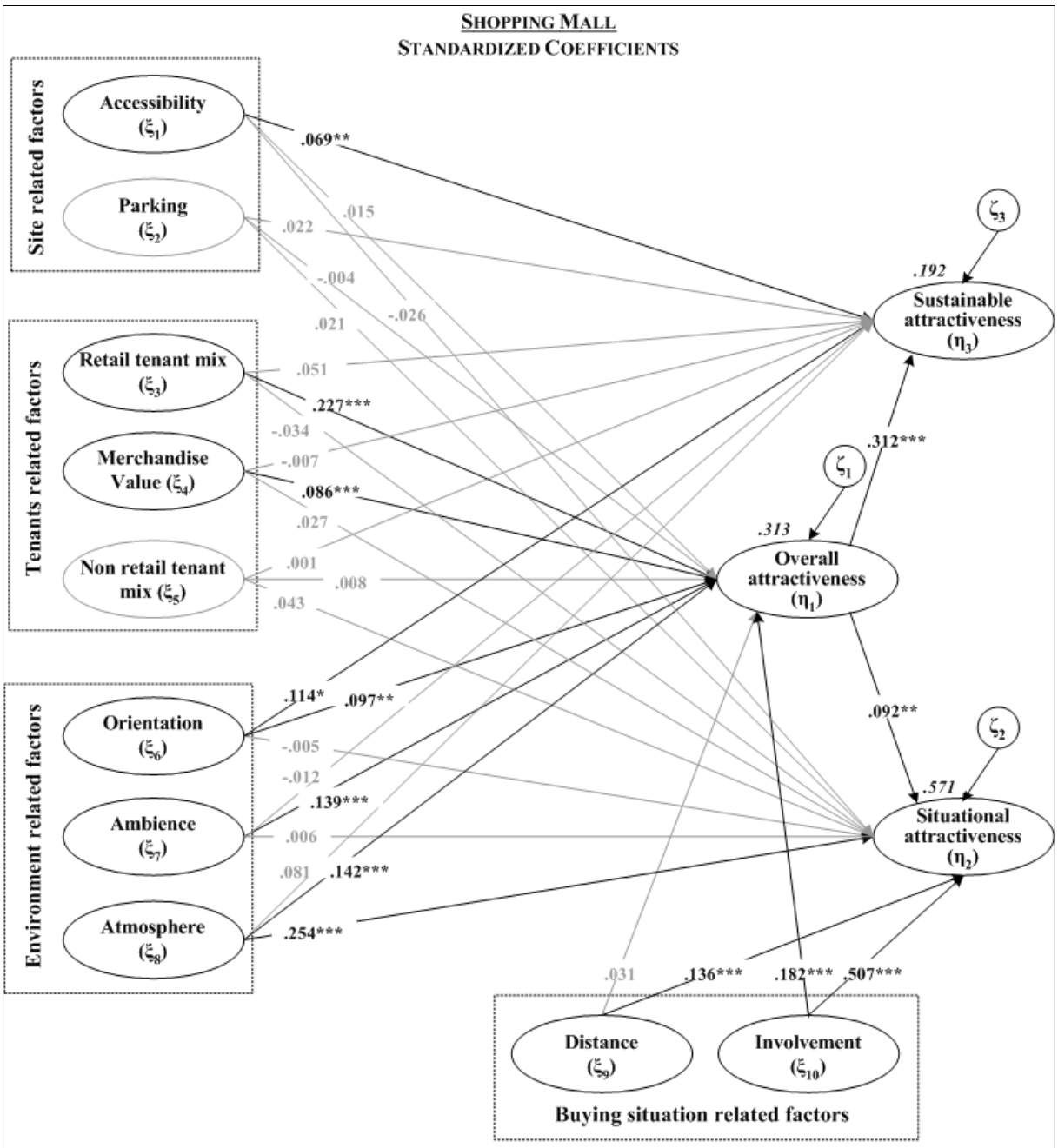


Figure 3: Effects (standardized regression weights) within the shopping mall model

Site-related factors → dimensions of attractiveness (H_1/H_2): 'Accessibility' (ξ_1), which can also be understood as a measure of perceived distance and convenience to overcome this distance, only influences the 'patronage intention' (η_3) regarding the two

agglomerations (SST: γ_{31}=.166***; MAL: γ_{31}=.069**). However, these effects turn out to be rather low. 'Parking' (ξ_2) exerts no significant effect on either dimension of attractiveness. This finding implies the rather unconventional view that – during shopping – customers do not seem to evaluate the attractiveness of the visited agglomeration as a function of parking convenience. Hence, site-related factors (ξ_1; ξ_2) prove to be of no significance or no substantial importance for either dimension of perceived attractiveness (η_1 - η_3).

Tenant-related factors → dimensions of attractiveness (H_3/H_4/H_5): The testing of the next three sets of hypotheses provides results that are more consistent with the prevalent literature. In particular, the 'retail tenant mix' (ξ_3) is the most influencing variable on the 'overall attractiveness' (η_1) of both agglomerations, i.e. the effects are significant and of medium value (SST: γ_{13}=.368***; MAL: γ_{13}=.227***). In addition, the 'merchandise value' (ξ_4) or price/value-perception can be seen as of significance, though only of minor importance (SST: γ_{14}=.114***; MAL: γ_{14}=.086***). More interestingly, a low effect of the 'retail tenant mix' on 'sustainable attractiveness' (η_3) can be identified in the shopping street (SST: γ_{14}=.141**), whereas this factor does not play any role in the mall. Furthermore, the enrichment of the two agglomerations with gastronomy or entertainment facilities, i.e. 'non retail tenant mix' (ξ_5), does not impact on the evaluation of any dimension of attractiveness in either setting. Furthermore, it turned out that none of the tenant-related factors (ξ_3 - ξ_5) are of significant importance regarding 'situational attractiveness' (η_2). Obviously, the perceived 'overall attractiveness' of retail agglomerations proves to be driven to a large extent by retailing issues. Customers seem to associate agglomerations more with the shopping or browsing task than with food consumption or entertainment.

Environment-related factors → dimensions of attractiveness (H_6/H_7/H_8): Environment-related factors (ξ_6 - ξ_8) can also be regarded as influential to attractiveness (η_1-η_3). The most considerable impact on the 'overall attractiveness' (η_1) and the 'situational attractiveness' (η_2) stems from the factor 'atmosphere' (ξ_8). In both retail settings these effects

are significant and medium (SST: γ_{18}=.192***, γ_{28}=.219***; MAL: γ_{18}=.142***, γ_{18}=.254***). It is worth mentioning that out of the eight marketing-mix factors (ξ_1 - ξ_8) 'atmosphere' is the only one that is relevant to 'situational attractiveness'. The perception of sensory stimuli measured by the factor 'ambience' (ξ_7) affects the 'overall attractiveness' to a small degree only (SST: γ_{17}=.109**; MAL: γ_{17}=.139***) and is of no importance for the 'situational' (η_2) and 'sustainable attractiveness' (η_3). Interestingly, 'orientation' only plays a significant role in the mall setting (MAL: γ_{16}=.097**; γ_{36}=.114*). In total these results indicate a comparably low importance of environmental as well as site-related factors. Thus, 'atmosphere' impacts on at least two attractiveness dimensions. The difference in results between the two agglomerations may be due to the nature of planned/artificial and unplanned/evolved retail locations. Summarizing the importance of marketing mix factors (ξ_1-ξ_8) it can be concluded that only a small number of them have a considerable effect on any or more than one dimension of attractiveness (η_1 - η_3).

Buying situation-related factors → dimensions of attractiveness (H_{9}/H_{10}): As one of the major distinguishing features of this research work the effect of situational factors (ξ_9 - ξ_{10}) on 'overall' (η_1) and 'situational attractiveness' (η_2) is tested. Most obvious, the 'involvement' (ξ_{10}) with the visiting or buying task at hand impacts on the 'situational attractiveness' to a significant and substantial degree (SST: γ_{210}=.546***; MAL: γ_{210}=.507***) in both agglomerations. The effect on 'overall attractiveness' is not that considerable but still significant (SST: γ_{110}=.222***; MAL: γ_{110}=.182***). Even the perceived 'distance' (ξ_9) has a positive impact on the 'situational attractiveness' (SST: γ_{29}=.061*; MAL: γ_{29}=.136***) but none on the 'overall attractiveness'. It can be resumed that the moderating effect of the buying situation is considerable.

Overall attractiveness → situational and substantial attractiveness (H_{42}/H_{43}): Finally, the relationship between the three endogenous factors was tested (η_1 - η_3). Just as with the other marketing mix factors (ξ_1-ξ_8) 'overall attractiveness' (η_1) does not substantially affect

the 'situational attractiveness' (η_2) in both settings (SST: β_{21}=.067; MAL: β_{21}=.092**). Contrarily, 'sustainable attractiveness' (η_3) is influenced by that factor (η_1) considerably, i.e. with a significant and medium-sized effect (SST: β_{31}=.361***; MAL: β_{31}=.312***). Furthermore, it needs to be mentioned that although 'sustainable attractiveness' is only directly affected by a few factors, the influences on 'overall attractiveness' are of indirect relevance too. Lastly, it seems to be necessary to focus on the squared multiple correlation values (r^2) which indicate the extent to which the variances of the endogenous factors are explained by the proposed effects. In both agglomeration settings the 'situational attractiveness' (η_2) proves to be explained by the included factors to the highest degree. More than 50% (SST: r^2=.516; MAL: r^2=.571) of variance is accounted for by the influencing factors. However, for the other two dimensions of attractiveness this share is somewhat lower ('overall attractiveness' (η_2): SST: r^2 = 0.471; MAL: r^2= 0.313; 'sustainable attractiveness' (η_3): SST: r^2= 0.241; MAL: r^2= 0.192).

DISCUSSION

Consistent with preliminary findings discussed in the relevant literature, our results show that retail-related factors, i.e. 'tenant mix' and 'merchandise value', exert the most substantial (direct) impact on the 'overall attractiveness' and indirect impact on the 'sustainable attractiveness' of agglomerations compared to other marketing mix factors. The observation of no direct importance of the 'non-retail tenant mix' suggests that marketing activities of retail agglomerations should be refocused towards its ultimate core function: Providing a broad and deep assortment of shops and goods which enrich and ease the shopping endeavors of consumers. Furthermore, the results emphasize the particular relevance of anchor stores within the tenant mix. Environmental factors are also of significant importance. In particular, 'atmosphere' affects the situational dimension of attractiveness,

which is again in accordance with the findings from former studies (see, e.g., Arentze and Timmermans, 2001; Bearden, 1977; Bloch et al., 1994; Hoffman and Turley, 2002; Ruiz et al., 2003). Even though several other marketing mix factors are of no or only minor relevance for the evaluation of attractiveness, considerable (inter-)correlations can be identified among them. This suggests that they might be relevant or influential in an indirect way.

As expected, situational aspects have proven to exert a major impact on the evaluation of attractiveness; both the 'situational' and 'overall attractiveness' are affected substantially. Since the situational factors used in our model, namely 'involvement' with a specific shopping task and perceived distance to the agglomeration, had emerged before or during the actual trip, they can hardly be influenced by the current on-site conditions at the agglomeration directly. Insofar, the results clearly reveal the limited opportunities of affecting consumers' perception and evaluation processes exclusively with marketing mix measures. In fact, the 'normative power of situational influences' on the buying process can be ascertained (cf. Van Kenhove et al. 1999).

To a certain degree the empirical findings might also reflect aspects of the limited rationality of individual decision-making. The respondents were confronted with the evaluation task on site. To reduce or resolve the dissonance that might occur after the agglomeration choice decision, an individual typically attempts to engage in post-decision processing that reinforces the decision that has been made. This phenomenon is well known to the consumer behavior literature under the premises of dissonance theory (Festinger, 1957, 1964). In particular, perceptions of 'accessibility' and 'parking', i.e. factors relevant before entering the agglomerations, are likely to be affected by this desire to obtain cognitive consistency.

This contribution tried to broaden the well-established term 'gravity' of retail agglomerations by allowing for perceived evaluations of 'objective' retail site characteristics along the buying process, which are finally integrated into a multi-dimensional construct of

retail attractiveness. The fact that the various exogenous factors exert different effects on each of the proposed dimensions encourages a differentiated view of the construct 'attractiveness'. Finally, it should be noted that an agglomeration needs to be attractive on each of the stages of a shopping trip, including the situational one.

Limitations

There are several limitations of the proposed approach. First, our results suffer from external validity. Similar to most other empirical studies in the present research area, the results can only be regarded of being representative for the clientele of the two retail agglomerations under study. In the present case this is particularly true for the shopping street. Fostered by the limited accessibility by car, the latter attracts younger and urban consumers who life, work and/or study nearby. However, the findings may be different for other agglomeration types and locations. A representative sample of respondents from respective trading areas would also include people who refuse to shop at one or both agglomerations, which would affect the results as well. In other words, our results are biased towards people who really shop and/or patronize those two specific agglomerations.

A second limitation is related to the employed survey approach, which confronted the respondents with a concrete shopping situation. This *in vivo* notion might be regarded as the main source of deviations of our findings from those reported in the existing literature. In this respect, the authors can refer to a survey (n=461) conducted parallel to the present study. The respondents representing the demographic structure of the trade area of the two agglomerations were interviewed at home – hence, *in vitro* – using a slightly adapted questionnaire. As expected, the results turned out to be significantly different concerning the importance of the site-related factors. In particular, parking and accessibility affected all dimensions of attractiveness to a considerably higher degree. Quite obviously, different interview situations lead to different results. In other words, both *in vitro* and *in vivo*

approaches suffer from some kind of 'situational bias' that affects the way customers evaluate the same agglomeration. The potential advantages and shortcomings of the applied *in vivo* approach for measuring retail attractiveness are summarized in Table 6.

Table 6: Critical review of the applied *in vivo* approach

Advantages	Disadvantages
Possibility to evaluate the *impact of specific shopping situations* on consumers perceptions, attitudes and behavior	*Limited external validity* regarding other shopping situations. The findings account only for a specific situation and shopping environment.
Possibility to *investigate what attracts customers during the shopping process*. This enables managers to develop strategies to influence consumer behavior on site.	The findings are *limited to a certain stage of the buying process*, i.e. might not be relevant for a pre-trip or post-trip view.
Respondents are in a *more biotic interview environment*, i.e. they are confronted with things they do on a certain stage of the shopping process.	More *difficult to motivate respondents* or the shopping situation may cause time pressure. In general the approach is *time and cost extensive* compared to others. Furthermore, answers can be biased by the attempt to *reduce dissonances*, e.g. regarding decisions taken prior to the interview.
Respondents can be regarded as experts and therefore have expertise in what is investigated, i.e. the sample concentrates on shoppers and neglect those who stay away from the Point of Sales.	*Myopia regarding other persons living in a household* who mainly undertake other roles than 'shoppers' but also exert influence on the shopping behavior of the respondent.

Finally, the constructs 'involvement' and 'distance' capture situational aspects of a shopping trip in a very reduced and simplified fashion. Of course, a variety of other factors may provide a different and/or more in-depth characterization of the situational context. These may include emotions, physical and social surroundings, concrete task definitions, etc. (Van Kenhove et al., 1999). An inclusion of more detailed factors could contribute to more refined empirical findings. It is worth mentioning, however, that this would not harm the measured effects of the other exogenous marketing-mix factors on the attractiveness dimensions.

Directions for further research

Although we included planned and unplanned agglomerations in our empirical study, differences in results were not thoroughly investigated. The employed SEM approach would allow a comparative multi-group analysis including tests of the measurement and structural models for significant differences. Similar to the approach introduced by Mägi (2003), the

addition of other endogenous variables such as share of wallet, share of time, or share of visits would also be a natural extension. This would enable a more detailed study of possible discrepancies between perceptions, evaluations and behavioral consequences.

In the empirical application presented here, two dominating agglomerations with unique and characteristics were included in the study. Smaller agglomerations, such as neighborhood centers or town centers, can be regarded as being of similar competitive interest for both practitioners and researchers, since their number is relatively high. The proposed model can be applied in such contexts as well and could be used to benchmark different types of agglomerations against each other. Furthermore, the approach can also be applied to compare more homogenous agglomeration formats to each other.

Although the two respondent groups were significantly different, moderating variables were not considered in this paper. Consideration of customer heterogeneity with respect to demographic or psychographic variables as well as to shopping behavior could contribute to answering the question of whether different consumer segments choose, perceive and evaluate agglomerations distinctively.

The idea underlying the empirical approach demonstrated in this paper is to focus only on agglomerations that are actually visited by the respondents. In doing so, the comparative view towards competing agglomerations was neglected. In practice, one agglomeration typically shares a customer's patronage with another to a substantial degree. By comparing the performance of two or more agglomerations with the same survey instrument over a longitude of time, variety seeking or out shopping behavior could be detected.

Referring to the notions of Van Kenhove (1999) the importance of the buying or visiting situations in evaluation processes of retail sites was confirmed in our study. Further research endeavors could focus on the impact of such situational factors on single stages of the whole buying process from initial task definition to post-purchase evaluations. Finally, the differences between pre-trip and post-trip evaluations are also worth focusing on.

REFERENCES

Alzubaidi, H., Vignali, C., Davies, B. J., Schmidt, R. A., 1997. Town centre versus out-of-town shopping: a consumer perspective. International Journal of Retail and Distribution Management 25 (2), 78-89.

Anderson, J.C., Gerbing, D.W., 1988. Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. Psychological Bulletin 103 (3), 411-423.

Arbuckle, J. L., Wothke, W., 1999. AMOS 4.0. User's Guide. SmallWaters Corporation, Chicago.

Arbuckle, J. L., Wothke, W., 2003. AMOS 5.0. Update to the Amos User's Guide. SmallWaters Corporation, Chicago.

Arentze, T. A., Timmermans, H. J. P., 2001. Deriving performance indicators from models of multipurpose shopping behaviour. Journal of Retailing and Consumer Services 8 (6), 325-334.

Arentze, T.A., Oppewal H., Timmermans, H.J.P., 2005. A Multipurpose Shopping Trip Model to Assess Retail Agglomeration Effects. Journal of Marketing Research 42 (2), 109-115.

Arnold. S.J., Oum T.H., Tigert D.J., 1983. Determinant attributes in retail patronage: Seasonal. temporal and international comparisons. Journal of Marketing Research 20 (2), 149-157.

Babin, B. J., Darden, W. R., Griffin, M., 1994. Work and/or fun: Measuring hedonic and utilitarian shopping. Journal of Consumer Research 20 (4), 644-656.

Bacon, R. W., 1995. Combined trips and the frequency of shopping. Journal of Retailing and Consumer Services 2 (3), 175-183.

Bagozzi, R. P., Yi, Y., 1988. On the Evaluation of Structural Equation Models. Journal of the Academy of Marketing Science 16 (1), 74 -94.

Bagozzi, R. P., Yi, Y., Phillips, L. W., 1991. Assessing Construct Validity in Organizational Research. Administrative Science Quarterly 36 (3), 421-458.

Baker, J., Parasuraman, A., Grewal, D., Voss, G. B., 2002. The Influence of Multiple Store Environment Cues on Perceived Merchandise Value and Patronage Intentions. Journal of Marketing Research 66 (2), 120-141.

Baker, R.G.V., 1996. Multi-purpose shopping behaviour at planned suburban shopping centres: a space-time analysis. Environment and Planning A., 28 (4), 611-630.

Baker, R. G.V., 2002. The impact of the deregulation of retail hours on shopping trip patterns in a mall hierarchy: an application of the RASTT model to the Sydney Project (1980-1998) and the global vacant shop problem. Journal of Retailing and Consumer Services 9 (3), 155-171.

Baker, R. G.V., 2006. Dynamic Trip Modelling. From Shopping Centres to the Internet. Springer, Dordrecht.

Baumgartner, H., Homburg, C., 1996. Applications of structural equation modeling in marketing and consumer research: A review. International Journal of Research in Marketing 13 (2), 139-161.

Bearden, W. O., 1977. Determinant attributes of store patronage - Downtown versus outlying shopping centers. Journal of Retailing 53 (2), 15-22.

Bell, D. R., Ho, T.-H., Tang, C. S., 1998. Determining where to shop: Fixed and variable costs of shopping. Journal of Marketing Research 35 (3), 352-369.

Bell, D. R., Lattin, J. M., 1998. Shopping Behavior and Consumer Preference for Store Price Format: Why 'Large Basket' Shoppers Prefer EDLP. Marketing Science 17 (1), 66-88.

Bellenger, D. N., Robertson, D. H., Greenberg, B. A., 1977. Shopping Center Patronage Motives. Journal of Retailing 53 (2), 29-38.

Bentler, P. M., 1990. Comparative Fit Indexes in Structural Models. Psychological Bulletin 107 (2), 238-246.

Berman, B., Evans, J. R., 2001. Retail Management. A Strategic Approach. Prentice Hall: Upper Saddle River, NJ.

Bhatnagar, A., Ratchford, B. T., 2004. A model of retail format competition for non-durable goods. International Journal of Research in Marketing 21 (1), 39-59.

Bloch, P. H., Ridgway, N. M., Dawson, S. A., 1994. The shopping mall as consumer habitat. Journal of Retailing 70 (1), 23-42.

Boots, B., South, R., 1997. Modeling retail trade areas using higher-order, multiplicatively weighted Voronoi diagrams. Journal of Retailing 73 (4), 519-536.

Brandenburger. A., Nalebuff, B.,1996. Co-opetition. Doubleday, New York.

Burns, D. J., Warren, H. B., 1995. Need for uniqueness: Shopping mall preference and choice activity. International Journal of Retail and Distribution Management 23 (12), 4-12.

Byrne, B. M., 2001. Structural equation modeling with AMOS. Basic concepts, applications, and programming. Lawrence Erlbaum Associates, Mahwah, London.

Cadwallader, M., 1975. A Behavioral Model of Consumer Spatial Decision Making. Economic Geography 51 (4), 339-349.

Campell, D. T., 1955. The Informant in Quantitative Research. American Journal of Sociology 60 (4), 339-342.

Churchill, G. A., 1979. A paradigm for developing better measures of marketing constructs. Journal of Marketing Research 16 (1), 64-73.

Cliquet, G., 1995. Implementing a subjective MCI model: An application to the furniture market. European Journal of Operational Research 84 (2), 279-291.

Cohen, J., 1988. Statistical power analysis for the behavioral sciences. New York: Academic Press.

Converse, P. D., 1949. New Laws of Retail Gravitation. Journal of Marketing 14 (3), 379-390.

Cooper, L.G., Nakanishi, M., 1988. Market-Share Analysis. International Series in Quantitative Marketing. Kluwer Academic Publishers, Dordrecht.

Craig, S., Ghosh, A., McLafferty, S.L., 1984. Models of Retail Location Process: A review. Journal of Retailing 60 (1), 5-36.

Dellaert, B. G. C., Arentze, T. A., Bierlaire, M., Borgers, A. W.J., Timmermans, H. J. P., 1998. Investigating consumers' tendency to combine multiple shopping purposes and destinations. Journal of Marketing Research 35 (2), 177-188.

Dennis, C., 2005. Objects of Desire. Consumer behaviour in Shopping Centre Choices. Palgrave Macmillan, Hampshire/New York.

Diamantopoulos, A., 1994. Modelling with LISREL: A Guide for the Uninitiated, Journal of Marketing Management. 10, 105-136.

Dickson, P. R., Sawyer, A. G., 1990. The Price Knowledge and Search of Supermarket Shoppers. Journal of Marketing, 54 (3), 42-53.

Donovan, R. J., Rossiter, J. R., Marcoolyn, G., Nesdale, A., 1994. Store Atmosphere and Purchasing Behavior. Journal of Retailing 70 (3), 283-294.

Dunne, P., Lusch, R. F., 1999. Retailing. The Dryden Press, Fort Worth.

Festinger, L., 1957. A Theory of Cognitive Dissonance. Peterson, Evanston, IL.

Festinger, L., 1964. Conflict, Decision, and Dissonance. Stanford University Press, Stanford, CA.

Finn, A., Louviere, J. J., 1996. Shopping Center Image, Consideration, and Choice: Anchor Store Contribution. Journal of Business Research 35, 241-251.

Fornell, C., Larcker, D. F., 1981. Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research 18 (1), 39-40.

Fotheringham, A., 1988. Consumer store choice and choice set definition. Marketing Science 7 (3), 299-310.

Galata, G., Bucklin R.E., Hanssens, D.M., 1999. On the Stability of Store Format Choice, Working paper. University of California.

Gensch, D. H., Recker, W. W., 1979: The Multinomial Multiattribute Logit Choice Model. Journal of Marketing Research 16, 124-132.

Ghosh, A., 1986. The Value of a Mall and Other Insights from a Revised Central Place Model. Journal of Retailing 62 (1), 79-97.

Ghosh, A., McLafferty, S.L., 1987. Location Strategies for Retail and Service Firms. Lexington Books, Massachusetts.

Gonzáles-Benito, O., 2005. Spatial competitive interaction of retail store formats: modelin gporopsal and empirical results. Journal of Business Research 58, 457-466.

Gonzáles-Benito, O., Greatorex, M., Munoz-Gallego, P.A., 2000. Assessment of potential retail segmentation variables. An approach based on a subjective MCO resource allocation model. Journal of Retailing and Consumer Services 7, 171-179.

González-Benito, O., 2002. Overcoming data limitations for store choice modeling. Exploiting retail chain choice data by means of aggregate logit models. Journal of Retailing and Consumer Services 9 (5), 259-268.

Granzin, K. L., Painter, J. J., Valentin, E. K., 1997. Consumer logistics as a basis for segmenting retail markets. An exploratory inquiry. Journal of Retailing and Consumer Services 4 (2), 99-107.

Hair, J.F., Anderson, R.E., Tatham R.L., Black, W.C., 1995. Multivariate Data Analysis. Englewood Cliffs, NJ: Prentice-Hall.

Haynes, K.E., Fotheringham, A.S., 1984. Gravity and spatial interaction models. Sage Publications, Beverly Hills (CA).

Hoffman, D. K., Turley, L. W., 2002. Atmospherics, service encounters and consumer decision making: An integrative perspective. Journal of Marketing Theory and Practice 10 (3), 33-48.

Huff, D.L., 1963. A probabilistic analysis of shopping centre trade areas. Land Economics 39, 81-90.

Huff, D.L., 1964. Defining and Estimating a Trade Area. Journal of Marketing 28 (3), 34-38.

ICSC (International Counsil of Shopping Centers), 2002. The development of shopping centres in Europe 2002, www.icsc.org/international/EuropeReviewFINAL.pdf.

ICSC (International Counsil of Shopping Centers), 2005. The development of shopping centres – Scope US 2005, http://www.icsc.org/srch/rsrch/scope/current/index.php.

Ingene, C. A., 1984. Productivity and Functional Shifting in Spatial Retailing: Private and Social Perspectives. Journal of Retailing and Consumer Services 60 (3), 15-26.

Jennings, D., 1978. Shopping Behavior and Income: Comparisons in an Urban Environment. Economic Geography 54, 157-167.

Kahn. B.E., Schmittlein. D.C., 1989. Shopping Trip Behavior: An Empirical Investigation. Marketing Letters, 1 (4), 55-70.

Kim, Y.-K., 2002. Consumer value: An application to mall and Internet shopping. International Journal of Retail & Distribution Management, 30(11/12), 595-602.

Kline, R. B., 2005. Principles and practice of structural equation modeling. The Guilford Press, New York, London.

Laaksonen. M., 1993. Retail patronage dynamics. Learning about daily shopping behaviour in contexts of changing retail structures. Journal of Business Research 28 (1/2), 3-168.

Levy, M., Weitz, B. A., 2004. Retailing Management. Irwin, New York.

Loehlin, J.C., 1998. Latent Variable Models: an introduction to factor, path, and structural analysis. Lawrence Erlbaum Associates, Malwah, NJ.

Mägi, A. W., 2003. Share of wallet in retailing: the effects of customer satisfaction, loyalty cards and shopper characteristics. Journal of Retailing 79 (2), 97-106.

Marjanen, H., 1995. Longitudinal study on consumer spatial shopping behaviour with special reference to out-of-town shopping. Experiences from Turku, Finland. Journal of Retailing and Consumer Services 2 (3), 163-174.

Miller, C. E., Reardon, J., McCorkle, D. E., 1999. The effects of competition on retail structure: An examination of intratype, intertype, and intercategory competition. Journal of Marketing 63 (4), 107-120.

Miller, K. E., Ginter, J. L., 1979. An investigation of situational variation in brand choice behavior and attitude. Journal of Marketing Research 16 (2), 111-123.

Nevin, J.R., Houston, M.J., 1980. Image as a Component of Intra-Urban Shopping Areas. Journal of Retailing 56 (1), 77-93.

Oppewal, H., Holyoake, B., 2004. Bundling and retail agglomeration effects on shopping behaviour. Journal of Retailing and Consumer Services 11 (2), 61-74.

Oppewal, H., Louviere J., Timmermans, H., 1997. Modelling the Effects of Shopping Centre Size and Store Variety on Consumer Choice Behaviour. Environment and Planning 29 (6), 1073-1090.

Prendergast, G., Marr, N., Jarratt, B., 1998. Retailers' views of shopping centres: a comparison of tenants and non-tenants. International Journal of Retail and Distribution Management 26 (4), 162-171.

Reilly, W. J., 1931. The Law of Retail Gravitation. New York.

Reinartz, W. J., Kumar, V., 1999. Store-, Market-, and Consumer-Characteristics: The Drivers of Store Performance. Marketing Letters 10 (1), 5-23.

Rhee, H., Bell, D. R., 2002. The inter-store mobility of supermarket shoppers. Journal of Retailing 78 (4), 225-237.

Ridgway. N.M., Dawson. S.A., Bloch, P.H., 1990. Pleasure and arousal in the marketplace: Interpersonal differences in approach-avoidance responses. Marketing Letters 2 (3). 139-147.

Ruiz, J. P., Chebat, J.-C., Hansen, P., 2003. Another trip to the mall: a segmentation study of customers based on their activities. Journal of Retailing and Consumer Services 11 (1), 1-18.

Rust, R., Donthu, N., 1995. Capturing geographically localized misspecification error in retail store choice models. Journal of Marketing Research 32 (1), 103-110.

Severin, V., Louviere, J. J., Finn, A., 2001. The stability of retail shopping choices over time and across countries. Journal of Retailing 77 (2), 185-202.

Sheth, J. N., Mittal, B., Newman, B. I., 1999. Customer Behavior. Consumer Behavior and Beyond. Dryden Press, Fort Worth et al.

Sinha, A., 2000. Understanding Supermarket Competition Using Choice Maps. Marketing Letters 11 (1), 21-35.

Spiggle. S., Sewall. M.A., 1987. A choice sets model of retail selection. Journal of Marketing 51 (2), 97-111.

Stanley, T.J., Sewall, M.A., 1976. Image Inputs to a Probabilistic Model: Predicting Retail Potential. Journal of Marketing 40, 48-53.

Statistik Austria (2005), Statistisches Jahrbuch Österreichs 2005. Vienna, Verlag Österreich.

Steenkamp, J-B.E.M., van Trijp, H.C.M., 1991. The use of LISREL in validating marketing constructs. International Journal of Research in Marketing, 8, 283-299.

Suárez, A., Del Bosque, I. R., Rodríguez-Poo, J. M., Moral, I., 2004. Accounting for heterogeneity in shopping centre choice models. Journal of Retailing and Consumer Services 11 (2), 119-129.

Sudman, S., 1980. Improving the Quality of Shopping Center Sampling. Journal of Marketing Research 17 (4), 423-431.

Swinyard, W. R., 1998. Shopping mall customer values: the national mall shopper and the list of values. Journal of Retailing and Consumer Services 5 (3), 167-172.

Tang, C. S., Bell D. R., Teck-Hua, H., 2001. Store Choice and Shopping Behavior: How Price Format Works. California Management Review 43 (2), 56-74.

Timmermans, H.J.P., 1982. Consumer Choice of Shopping Centre: An Information Integration Approach. Regional Studies 16, 171 - 182.

Van der Waerden, P., Borgers, A., Timmermans, H.J.P., 1998. The impact of the parking situation in shopping centres on store choice behaviour. GeoJournal 45 (4), 309-315.

Van Kenhove, P., De Wulf, K., Van Waterschoot, W., 1999. The Impact of Task Definition on Store-Attribute Saliences and Store Choice. Journal of Retailing 75 (1), 125-137.

Wakefield, K. L., Baker, J., 1998. Excitement at the mall: Determinants and effects on shopping response. Journal of Retailing 74 (4), 515-539.

Woodside, A. G., Trappey, R. J., 1992. Finding out why customers shop your store and buy your brand: Automatic cognitive processing models of primary choice. Journal of Advertising Research 32 (6), 59-78.

Wrigley, N., Lowe, M., 2002. Reading Retail. A geographical perspective on retailing and consumption spaces. Arnold, London.

APPENDIX

Table 6: Measurement information for individual factors

Measures / **(latent) Factor** Indicator	**Shopping Street (n=1066)**				**Shopping Mall (n=1073)**				Source of factors, scales and indicators
	Measures of central tendency (μ/σ)	Reliability (α/ρ)	Average Variance Extracted	Fornell-Larcker Criterion	Measures of central tendency (μ/σ)	Reliability (α/ρ)	Average Variance Extracted	Fornell-Larcker Criterion	
Exogenous measurement model									
Accessibility (ξ_1)									
You can get to … easily.[a]	5.6/1.9	.91/.91	.78	.26	5.2/2.1	.95/.95	.87	.26	Alzubaidi et al., 1997; Ruiz et al., 2003; Bearden, 1977; Van Kenhove et al., 1999; Woodside and Trappey, 1992; Bellenger et al., 1977; Bhatnagar and Ratchford, 2004;
You can get to … quickly.[a]	5.2/2.1				5/2.1				
You can get to … without problems.[a]	5.7/1.8				5.2/2				
Parking (ξ_2)									
There are always enough free parking lots.[a]	2/1.4	.65/.69	.44	.14	4.2/2	.71/.74	.5	.25	Tang et al., 2001; Sinha, 2000; Bearden, 1977; Bellenger et al.,1977; Ruiz et al., 2003; Arentze and Timmermans 2001; Bhatnagar and Ratchford, 2004;
There are sufficient different parking possibilities.[a]	3/1.7				5.2/1.8				
…is easily and quickly reached from the parking lots.[a]	3.9/1.7				5.8/1.4				
Retail tenent mix (ξ_3)									
…has a large variety of retail stores. [a]	6.2/1.1	.76/.8	.59	.45	6.6/0.8	.79/.81	.59	.3	Arentze and Timmermans 2001; Prendergast et al., 1998; Baker, 2002; Dellaert et al., 1998; Reinartz, Kumar, 1999; Wakefield and Baker, 1998; Bellenger et al., 1977; Dellaert et al., 1998; Boots and South, 1997; Ingene, 1984; Severin et al., 2001;
…has an attractive variety of retail stores. [a]	6/1.2				6.3/1				
…has numerous well known retail stores. [a]	6.3/1				6.5/0.9				
Merchandise value (ξ_4)									
Prices for offered goods are low and you can find lots of bargains at ….[a]	4.3/1.1	.75/.77	.53	.49	4.5/1.1	.8/.81	.59	.3	Alzubaidi et al., 1997; Van Kenhove et al., 1999; Tang et al., 2001; Bhatnagar and Ratchford 2004; Baker et al., 2002; Severin et al., 2001; Bearden, 1977; Bellenger et al.,1977;
Price/performance ratio is good at ….[a]	4.9/1.2				5/1.2				
The quality of offered goods is good at ….[a]	5.1/1.1				5.3/1.1				
Non retail tenent mix (ξ_5)									
You can find lots of gastronomy at ….[a]	5.1/1.5	.71/-	-	-	5.7/1.4	.67/-	-	-	Prendergast et al., 1998; Bellenger et al.,1977; Wakefield and Baker, 1998;
… offers a large variety of entertainment.[a]	4.3/1.4				4.9/1.8				

Orientation (ξ_6)										
You can easily orientate yourselt at ….[a]		5.5/1.6	.74/-	-	-	5.3/1.6	.83/-	-	-	Baker et al., 2002; Van Kenhove et al., 1999;
The shops are clearly arranged at ….[a]		4.9/1.6				5.3/1.6				
Ambience (ξ_7)										
You do not feel that the smell at … is desturbing.[a]		5.2/1.7	.73/.75	.51	.44	5.7/1.7	.82/.83	.63	.41	Ruiz et al., 2003; Wakefield and Baker, 1998; Bloch et al., 1994;
The air at … is pleasant.[a]		4.3/1.7				4.8/1.9				
The temperature at … is pleasant.[a]		4.2/1.7				5/1.8				
Atmosphere (ξ_8)										
There is a good mood at ….[a]		4.5/1.6	.94/-	-	-	4.8/1.5	.95/-	-	-	Baker et al., 2002; Bearden, 1977; Bellenger et al., 1977; Hoffman and Turley 2002; Severin et al., 2001; Tang et al., 2001; Arentze and Timmermans, 2001; Bloch et al., 1994
The atmosphere at … is pleasant.[a]		4.6/1.5				4.9/1.5				
Distance (ξ_9)										
What is the distance in terms of … from your point of arrival to ….	time (minutes)[b]	13.5/29.1	.89/-	-	-	28.3/38.5	.88/-	-	-	Arentze and Timmermans, 2001; Babin et al., 1994; Bacon, 1995, Baker, 2002; Dellaert et al., 1998; González-Benito, 2002; Marjanen, 1995; Rhee and Bell, 2002; Suárez et al., 2004; Ruiz et al., 2003; Swinyard, 1998; Tang et al., 2001; Van Kenhove, et al. 1999; Sinha, 2000; Bell et al., 1998; Ingene, 1984;
	space (kilometer)[b]	23/23.4				29.6/26.4				
Involvement (This shopping trip is … for you.) (ξ_{10})										
Not attractive/attractive[c]		5.3/1.5	.8/.8	.5	.49	5.3/1.5	.82/.82	.54	.53	Wakefield and Baker, 1998;
Boring/interesting[c]		5.4/1.5				5.3/1.5				
Not exciting/exciting[c]		4.7/1.5				4.7/1.6				
Not pleasant/pleasant[c]		5.2/1.5				5.3/1.5				
Endogenous measurement model										
Overall attractiveness (satisfaction) (η_1)										
How satisfied are you with … (very dis-/-satisfied)[c]		5.8/1.1	.8/.8	.58	.45-	5.9/1.1	.81/.81	.58	.3	Severin et al., 2001; Ruiz et al., 2003; Mägi, 2003;
How does … meet your expectations (not at all/totally)[c]		5.8/1.1				6/1				
Think of an ideal SST/SM. Tho what extent does … comes close to that? (not close/very close)[c]		5.2/1.4				5.6/1.4				
Situational attractiveness (retention proneness) (η_2)										
You are willing to stay here … as long as possible.[d]		4/2.7	.78/-	-	-	4.6/3	.8/-	-	-	Baker, 2002; Wakefield and Baker, 1998;
You enjoy spending your time here at ….[d]		5.6/2.8				5.8/2.9				
Sustainable attractiveness (Intended Patronage) (η_3)										
How likley are you to come here again in the future (very unlikely/very likely)[d]		9.4/1.4	.75/-	-	-	9.6/1.2	.76/-	-	-	Baker et al., 2002; Tang, et al., 2001; Wakefield and Baker, 1998; Burns and Warren, 1995;
How likely are you to come here again and buy something (very unlikely/very likely)[d]		8.8/1.8				9.2/1.5				

Caption: μ…mean value; σ…standard deviation; α…Cronbach's Alpha; ρ…composite reliability (reported if more than two items); -…no value reported since no confirmatory analysis could be calculated; a…seven point rating Scale (anchors 0-6; totally disagree – totally agree; recoded to 1-7); b…metric scale; c…seven point rating scale (anchor -3 to+3; recoded to 1-7); d…ten point rating scale (anchor 0 and 9; recoded to 1-10