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Intern. J. of Research in Marketing 14 (1997) 231–243

International Journal of  
**Research in  
Marketing**

# The dynamics of the service delivery process: A value-based approach<sup>1</sup>

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Received 15 October 1995; accepted 25 February 1997

## Abstract

Recent research linking service quality and service satisfaction has raised issues which require conceptual and empirical elaboration. Among these are the formation of satisfaction during the service delivery process and the role of customer value. In this article, the focus is on how different stages in the service delivery process can be profiled in terms of three axiological value dimensions and how each stage relates to an overall satisfaction judgement. The results of a cross-cultural study are reported in which the museum visit was chosen as the service delivery process. Our findings suggest that the museum visit can be broken down into a number of distinct stages and that the influence of the individual stages on overall satisfaction depends on the combinations of stages that are encountered by museum visitors. © 1997 Elsevier Science B.V.

*Keywords:* Service quality; Value; Service delivery process

## 1. Introduction

The concept of perceived service quality still features prominently within the field of services marketing (Rust and Oliver, 1994). In recent years, both academics and practitioners have been involved in establishing conceptual and empirical refinements with regard to this phenomenon (Grönroos, 1993; Patterson and Johnson, 1993; Taylor and Baker, 1994). Various models have been advanced to account for customer evaluative judgements of service

experiences (Iacobucci et al., 1996). While these models differ in detail, two basic focal constructs emerge consistently: service quality and satisfaction. Recently, however, it has been suggested that in the final analysis customers are looking for value in services (Holbrook, 1994). The current conceptualisation of value treats it as the ratio between sacrifices (in terms of price, time or distance) and returns (in terms of quality) (Garvin, 1987; Zeithaml, 1988). This conceptualisation, however, has been criticised in the services marketing literature by proponents of a more comprehensive approach to value (Danaher and Mattsson, 1994; Holbrook, 1994). Holbrook (1994, p. 27) suggests that value can be regarded as an 'interactive relativistic consumption preference experience'. In the context of services, such a perspective directs our attention to value as being re-

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<sup>1</sup> We thank John Saunders, the editor, and two anonymous reviewers for their valuable comments on two earlier versions of this paper.

lated to the experience of the service delivery process rather than the acquisition of a certain object or outcome. In the services marketing literature it has been argued that the service process may be a more important antecedent of customer evaluations than the service outcome (Lehtinen and Lehtinen, 1982; Brown and Swartz, 1989). In relation to the service delivery process it has been suggested that there are several components that service customers use as reference points for their evaluations (Singh, 1991; Danaher and Mattsson, 1994). However, the nature of the dynamics of this evaluation formation process has not been extensively studied previously.

In the non-profit sector and in particular in non-profit services, the quality of the service delivery process plays an important role. Especially when emotional as well as aesthetic experiences are present, like in art museums, a value based approach seems to be worthwhile (Holbrook and Zirlin, 1985). In the museum context, administrators still seem to reflect the orientation often found in operations managers. They are highly concerned with the quality of the product, the piece of art itself, instead of paying attention to the service delivery process from a customers point of view (Alexander, 1979; Hyde and Lovelock, 1980).

In this article, we will focus on the measurement of service satisfaction in relation to the concept of customer value in art museums. More specifically, we address the dynamics of the service delivery process. The article is structured as follows. To begin with, we will discuss the interrelationship between the concepts of service quality, satisfaction and value. Secondly, we will present empirical evidence on the basis of a study in which we focused on the art museum visit as a service delivery process. In conclusion, we will address the theoretical as well as the managerial implications of our findings.

## **2. Service quality, satisfaction and value**

In most models of customer evaluations of services the focus is on a comparative judgement of expectations versus perceived performance resulting in service quality and/or service satisfaction. Customers form expectations prior to their encounter with a service provider, they develop perceptions

during the service delivery process and subsequently they compare their perceptions to their expectations (Iacobucci et al., 1996). There is a growing consensus on the sequential order of quality and satisfaction. The latter is increasingly regarded as the superordinate construct based on conceptual work by Oliver (1993) and Rust and Oliver (1994) and empirical evidence provided by Cronin and Taylor (1992) and De Ruyter et al. (1997). Zeithaml et al. (1996) view satisfaction as an evaluative judgement consisting of affective and cognitive components. However, it has been indicated that exclusion of sacrificial factors, such as price, is a major shortcoming of the existing models of customer evaluations, since many customers pay attention to monetary and other types of sacrifices in purchase decisions (Iacobucci et al., 1994). Incorporating customer sacrifice as a building block in the satisfaction formation process has instigated some researchers to advance value as an additional customer judgement.

Value has frequently been defined as the trade-off between sacrifice and quality. It has been suggested that customers will favour service providers that maximise the utility from quality minus the disutility from price (Zeithaml, 1988). For example, if the price of a service is perceived to be too high, regardless of the fact that it may be of good quality, it may still be viewed as being of poor value (Liljander and Strandvik, 1994). The use of the price/quality ratio is characteristic of the value-for-money approach to value. In essence, value-for-money can be seen as a cognitive assessment. However, as affect is also viewed as a basic element in customer judgements (Wirtz and Bateson, 1992; Oliver, 1994), we cannot neglect the role of emotions in our conceptualisation of value. Moreover, according to Holbrook and Corfman (1985), the concept of quality should be explicitly related to context, as it is just one among different types of customer value. Especially in the service delivery process of art museums, this affective component including aesthetic experience and aesthetic judgement ability seems to be of high importance (Bamossy, 1985). Furthermore, Holbrook and Zirlin (1985) conclude that what matters in art consumption is both aesthetic and non-aesthetic experiences and in the case of art museums, with for instance paintings like in our sample, the aesthetic experience will be relatively important and any analysis of this

consumption process requires an understanding of its aesthetic components.

In a model of value developed by Hartman (1967; Hartman, 1973) both the cognitive and affective aspects of value are taken into account. Hartman suggests that value consists of three dimensions on the basis of the generally acknowledged distinction between extrinsic and intrinsic value in axiology (i.e. the science of value). Hartman supplements the extrinsic–intrinsic framework with a third dimension, systemic value. In terms of the service delivery process, extrinsic value pertains to the utilitarian aspects of a service episode i.e. a service episode as a useful means to a certain end. Extrinsic value is practical in nature. Intrinsic value, on the other hand, represents the affective appreciation of the process of a service episode, regardless of the actual outcome. It pertains to the emotional side of a service delivery process. Systemic value concerns the inherent relation between concepts in their systematic interaction e.g. the relationship between sacrifices and returns. It concentrates on rational or logical aspects of a service episode.

Mattsson (1991) adapted the framework developed by Hartman's formal model into three generic value dimensions, emotional ( $E$ ), practical ( $P$ ) and logical ( $L$ ), with  $E > P > L$ . In an empirical study of the service delivery process in hotels Danaher and Mattsson (1994) demonstrated that the three value dimensions could be used as antecedents to satisfaction. In their study emotional items reflected the 'gestalt' experience of the service episode, or in other words, the feelings of the respondent during the experience of service delivery. Practical items pertained to the functional objects of the encounter such as good and easy-to-order-meals. Finally, the logical items focused on the rational components of the hotel service episode. Service quality together with price constitutes the logical dimension. This is largely similar to the value-for-money approach introduced above. In this study the three value dimensions were considered as determinants of satisfaction. Thus, satisfaction is viewed as a synthesis of cognitive and affective reaction to the value of a service. The conceptual framework of our value-based approach to the service delivery process is rendered in Fig. 1.

In Section 3 we will discuss how value can be

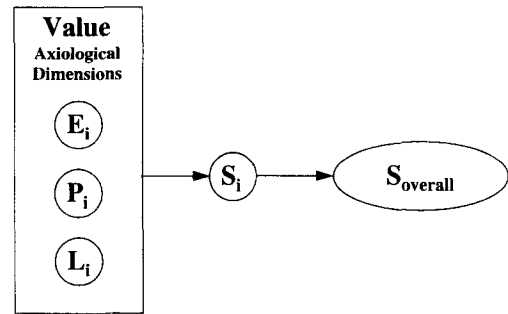


Fig. 1. A conceptual framework.

used to analyse the dynamics of the service delivery process.

### 3. Modelling the dynamics of service delivery

Armstrong (1992) proposes to model the service delivery process as a system that can be broken down into a number of distinct stages. For instance, when entering a museum there is usually a form of personal interaction (e.g. checking in at the entrance). On the other hand, there are also a number of subject–object interactions (e.g. viewing the exhibit). Moreover, visitors to a museum go through a number of stages during their visit. The museum service delivery process would begin by buying a ticket and end with getting personal belongings from the wardrobe. In between the customer will evaluate exhibitions, the restaurant, museum shop, etc. Each specific stage in the service delivery process can be profiled in terms of the three value dimensions (emotional, practical and logical). The level of satisfaction at the  $i$ th stage ( $S_i$ ) indicates satisfaction with the service delivery up to the point of measurement in that stage.  $S_i$  is thus determined by the joint value dimensions  $E_i$ ,  $P_i$  and  $L_i$ .

As a result of measuring how satisfaction is affected by the various stages in the service delivery process, we can obtain a detailed insight into the dynamics of the formation of satisfaction. Hence, we have to break down the service delivery process into a number of distinct episodes based on context-specific attributes rather than pre-determined service quality dimensions. If we obtain an insight into the influence of each individual stage in the satisfaction

formation process than we can determine which stage contributes significantly to the formation of overall satisfaction during the service delivery process, or rather, which stage 'speeds up' or 'slows down' the dynamics of the service delivery. Finally, it can be hypothesised that various combinations of stages in the service delivery process may result in a higher overall satisfaction than others. In this way the use of certain routes (e.g. in relation to amusement parks) may be promoted. In Section 4 we will report on a study designed to demonstrate our value-based approach to the service delivery process.

## 4. An empirical study

### 4.1. Research setting

We tested our approach in the service delivery process that takes place in the context of museums. It has become evident world-wide that cultural institutions are increasingly facing marketing challenges as a result of cut downs in state funding (Costa and Bamossy, 1995). In addition to obtaining non-state provided funding, museums are launching initiatives aimed at turning a museum visit into a customer-friendly service experience and increasing the frequency of visits from members of multiple market segments. With regards to exhibits this means for instance an emphasis on special themes in the permanent collection, introducing the possibility of interactive exhibiting through the use of multimedia and offering extensive educational facilities in the exhibit environment. However, customer judgements of the museum service delivery process are not solely based on the core services of the permanent and temporary exhibitions, but also by a number of facilitating services that lie beyond the exhibit context. These include facilities such as the museum shop, the restaurant and the wardrobe. For instance, by offering a wide selection of art merchandise in a gift shop and an attractive restaurant, the revenue obtained from 'customers of culture' might be increased. Therefore, museums are becoming increasingly focused on the wants and needs of the retail customer (Ames, 1992).

Research has shown that museums respond differently to the newly faced marketing challenges. For

instance, Costa and Bamossy (1995) found that within two internationally renowned Dutch museums, a services marketing orientation has remained underdeveloped in terms of retail facilities and training and attitude of personnel as compared to museums from the United States and France. In order to test our value-based approach to museum service delivery process and to obtain an indication of its generalisability across national contexts, we selected four museums in The Netherlands and in Sweden.

### 4.2. Questionnaire design and sampling

The service delivery process in the two Dutch and two Swedish museums was partitioned into, respectively, six and five distinct service stages: (1) the entrance, (2) the permanent collection, (3) the temporary collection, (4) the museum restaurant (only available in the Dutch museums), (5) the museum shop and (6) the wardrobe. The order in which these stages take place varies: each visitor follows his/her own preferred route. It is possible that a visitor skips one or more service stages e.g. the museum shop. Accordingly, the questionnaire that was designed for this study consisted of a booklet containing different parts, each of which measured value in one stage in the museum service delivery process. Each part was printed on a separate slip of paper in a different colour to distinguish them from each other. Each part contained four items. Visitors to the museum were asked to fill in each part immediately after they experienced the corresponding stage.

The first three items on each part of the questionnaire comprised the three generic value dimensions as defined by Hartman (1967, 1973)). The first dimension concerned an emotional aspect ( $E_i$ ) focusing on the feelings a visitor could get from experiencing a stage. The second item corresponded to the practical dimension ( $P_i$ ) concerning the physical and functional aspects of the service stage. The third item reflected the logical aspect ( $L_i$ ) of the service centring on the rational and abstract characteristics of the stage, i.e. right or wrong, correct or incorrect, etc. The fourth item on each part of the questionnaire asks how satisfied the visitor is with the stage he/she just passed ( $S_i$ ). Hence, this satisfaction score is determined jointly by the components of the most recently experienced stage. The items were formu-

lated as short as possible to obtain clear and easy-to-read questions, as the questionnaire had to be filled out 'en route'. For the purpose of clarification and illustration part of the questionnaire has been included as Table 1. In Table 1, the letters  $E_i$ ,  $P_i$ ,  $L_i$  and  $S_i$  refer to the emotional, practical and logical value dimension and the satisfaction score of the  $i$ th service stage.

In addition to the satisfaction scores relating to the individual stages, each respondent is asked his/her overall satisfaction with the museum at the end of the visit ( $S_{\text{overall}}$ ). Two descriptive items (age and gender) were included as well.

For the purpose of collecting data from foreign visitors, double back translation was used for translating the questionnaire into English (Brislin, 1980). Finally, during the data collection it appeared that it was necessary to adapt the questionnaire as a result of context-specific circumstances. This resulted in a number of differences between the Swedish and

Dutch questionnaires. These differences concern (1) the stages included in the questionnaire and (2) the rating scale. In the Swedish museums no restaurant facility was available, therefore this stage was omitted from the questionnaire. Secondly, in the Dutch questionnaire a 9-point Likert scale was used. On the basis of the Dutch experience from which we learned that a number of respondents had difficulty in using this type of scale, we decided to use a different scale for the data collection in Sweden. An 11-point scale, with three faces (smiling = 11, angry = 0 and neutral = 5) anchoring the scale's middle part and ends, was used. Afterwards, both scales were transformed to a 10-point scale for the purpose of comparative analysis.

Data collection took place on weekdays as well as weekends. A random sample of each third visitor was used. Completed questionnaires were collected at the end of the visit to the museum. The data collection resulted in 480 usable responses: 193 respondents in The Netherlands and 287 respondents in Sweden.

In order to interpret and cross-validate the findings of our quantitative study and to get a more accurate grasp on the consequences of our value-based approach for the museum research setting, a qualitative, follow-up study was conducted. Twenty in-depth interviews were held with visitors at the four museums in which we had tested our value-based approach. In the interviews, which lasted approximately two hours, we were able to zoom in on each of the stages that we discerned in our questionnaire. The information gathered from the interviews is used to facilitate our interpretation of the results of our survey (see Sections 5 and 6).

Table 1  
The questionnaire (parts concerning the distinct service stages)

Service stage	Items
Entrance	nice treatment? ( $E_1$ ) short waiting time? ( $P_1$ ) correct payment? ( $L_1$ ) how satisfied are you? ( $S_1$ )
Temporary collection	fine atmosphere? ( $E_2$ ) well composed collection? ( $P_2$ ) satisfactory information? ( $L_2$ ) how satisfied are you? ( $S_2$ )
Permanent collection	fine atmosphere? ( $E_3$ ) well composed collection? ( $P_3$ ) satisfactory information? ( $L_3$ ) how satisfied are you? ( $S_3$ )
Restaurant	fine atmosphere? ( $E_4$ ) food and drink? ( $P_4$ ) value for money? ( $L_4$ ) how satisfied are you? ( $S_4$ )
Museum shop	fine atmosphere? ( $E_5$ ) diversity in assortment? ( $P_5$ ) value for money? ( $L_5$ ) how satisfied are you? ( $S_5$ )
Wardrobe	nice treatment? ( $E_6$ ) short waiting time? ( $P_6$ ) correct handling of the properties? ( $L_6$ ) how satisfied are you? ( $S_6$ )

## 5. Results

### 5.1. Descriptive analysis

In the Swedish sample, 55% of the respondents were female, 30% of the respondents were between 18 and 29 years old, 48% were between 30 and 54 years and 22% were over 55. The Dutch sample can be characterised as follows: 53% of the respondents were female, 34% of the respondents were between

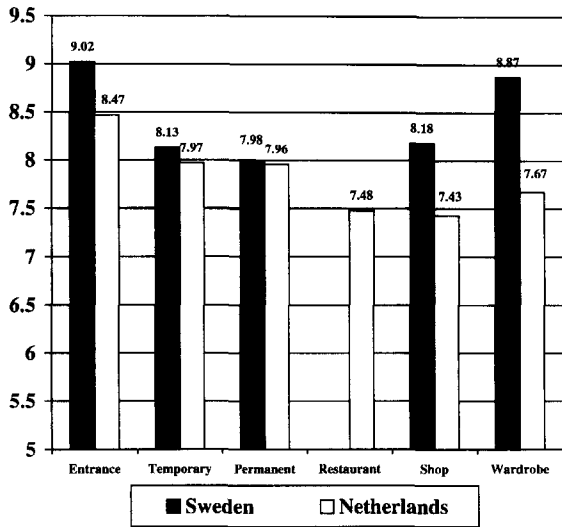


Fig. 2. Mean satisfaction scores per stage.

18 and 29 years old, 38% were between 30 and 54 years and 28% were over 55. Fig. 2 gives the mean satisfaction scores for each of the stages of the museum visit per country.

A U-shaped curve can be discerned on the basis of the mean satisfaction scores in Fig. 2. the entrance resulted on average in the highest satisfaction scores, the temporary and permanent collections had somewhat lower scores, the restaurant (in case of the Dutch museums) received the lowest satisfaction scores and the average satisfaction scores given after the visit of the museum shop and the wardrobe are up again.

5.2. Factor analysis and reliability analysis

Factor analyses and reliability analyses were conducted to check the dimensionality of the service delivery process. Within the Dutch sample only a limited number of respondents rated the wardrobe stage (this was a consequence of the fact that the data collection took place in the middle of summer) which resulted in an insufficient number of observations for factor analysis. Therefore, this stage was not included. As a result, five stages of the museum visit could be identified for both samples. We hypothesised a five-factor solution. Both Bartlett’s test of sphericity (427.88;  $p < 0.001$  for the Swedish sample and 291.43;  $p < 0.001$  for the Dutch sample)

and the Kaiser–Meyer–Olkin measure of sampling adequacy (0.76 for the Swedish sample and 0.58 for the Dutch sample) suggest a multidimensional nature of the service delivery process. The result of principle axis factoring with oblique rotation as well as the reliability of the measures using coefficient alpha for the two countries are rendered in Tables 2 and 3.

For the Swedish sample the five-factor solution explains 58.6% of the total variance, while for the Dutch sample 52.1% of the total variance can be explained. The results of the factor analyses clearly support our value based approach to the service delivery process of the museum visit as consisting of a number of separate stages; all stages load highly and collectively on one factor respectively. The results of reliability analysis indicate that all coefficients are sufficiently high (i.e.  $> 0.6$ ), with one exception (the entrance stage in the Dutch sample) which has a coefficient alpha of 0.51. The reliability of the value dimensions, i.e. all *E*, *L* and *P* questions, is generally lower: 0.48 ( $E_1 - E_5$ ), 0.61 ( $L_1 - L_5$ ) and 0.60 ( $P_1 - P_5$ ). Despite the fact that factor and reliability analysis for the consecutive stages yields better results than the analysis for the value dimensions, we profiled each stage in terms of the three value dimensions that were used to obtain an in-depth insight of the role of value for each stage. This will be discussed in Section 5.3.

5.3. Regression analysis

The objective of our research was to measure how (overall) satisfaction with a service is formed during the service delivery process and to examine how the different stages in the service delivery process can be profiled in terms of customer value. Therefore, we first examined the influence of the *i*th service stage’s value dimensions ( $E_i$ ,  $P_i$  and  $L_i$ ) on the satisfaction level ( $S_i$ ) per stage. Five regressions were conducted for each sample in order to assess the impact of value dimensions ( $E_i$ ,  $P_i$  and  $L_i$ ) of each service stage on the satisfaction score of that particular service stage ( $S_i$ ). The results are rendered in Table 4t.

On a general level, the results show that the (adjusted)  $R^2$  is relatively high for both samples and differs significantly from zero for all stages of the service delivery process. On a more specific level,

the results of regression analysis can be used to profile each stage, pointing to parts of the process that contribute significantly to the formation of satisfaction and elements with respect to which there is room for improvement of quality. In our analyses we used standardised regression coefficients (beta coefficients) to compare the impact of the value dimensions on stage satisfaction. However, if multicollinearity is present, standardised regression coefficients might not adequately reflect the relative importance of the value dimensions. In order to assess the severity of multicollinearity the variance inflation factor (VIF) was calculated for the independent variables. Generally, a VIF value that exceeds 10 is an indication of severe multicollinearity (Neter et al., 1990). In our analyses all VIF values remained well below this cut-off value.

With respect to the entrance stage the results for both samples suggest that the emotional value dimension (i.e. treatment by museum personnel) has the relatively largest impact on customer satisfaction in comparison to the logical and practical dimen-

sions. Apparently, museum visitors consider the way in which they are approached by museum personnel more important than waiting time at the entrance. From the interview data it appeared that respondents view this stage not merely as an access function but rather as a guidance function. In the interaction with museum personnel the need for customised information (e.g. about routing or exhibitions) can be satisfied. Furthermore, visitors indicated that they liked to be treated as guests and made to feel at ease ('as the museum visit should be a fun experience, I want to be welcomed by the people when I come in'). A comparable profile emerges for the wardrobe stage of the Swedish museums; the way in which museum personnel approach the customer is the most important determinant of wardrobe satisfaction. Again, it is not only the functional handling of visitors personal belongings that is considered important, but also an emphatic and attentive attitude and a pro-active approach to providing visitors with information (the lady at the wardrobe pointed out a very nice restaurant for our evening dinner). Museum personnel are

Table 2  
Factor analysis <sup>a</sup> of value items (Sweden)

Stage	Value dimensions	Factor pattern <sup>b</sup>				
		factor 1	factor 2	factor 3	factor 4	factor 5
Entrance	$E_1$	-0.66				
	$P_1$	-0.81				
	$L_1$	-0.60				
Temporary collection	$E_2$		0.71			
	$P_2$		0.52			
	$L_2$		0.96			
Permanent collection	$E_3$			0.76		
	$P_3$			0.57		
	$L_3$			0.98		
Museum shop	$E_4$				0.74	
	$P_4$				0.86	
	$L_4$				0.71	
Wardrobe	$E_5$					0.63
	$P_5$					0.87
	$L_5$					0.69
Eigen value (explained variance)		0.84 (5.6%)	0.86 (5.8%)	4.21 (28.1%)	1.63 (10.9%)	1.24 (8.2%)
Total explained variance	58.6%					
Coefficient alpha		0.73	0.76	0.82	0.81	0.86

<sup>a</sup> Principal axis factoring with oblique rotation. <sup>b</sup> Factor pattern elements < 0.4 omitted.

expected to perform the roles of hosts and hostesses and the entrance and wardrobe stages clearly have a guidance function in the service delivery process.

In contrast, we find that with respect to the museum shop, no significant relationship between the emotional value dimension and satisfaction exists in both samples. The logical value dimension (value for money) seems to be the strongest determinant of satisfaction with respect to this stage. From the interviews it appeared that the museum shop performs an essential function in both authenticating and replicating the museum experience (Costa and Bamossy, 1995). As one of our respondents in the follow-up qualitative study confirmed; ‘I want to show the folks at home that I was there’. In addition a large proportion indicated that the pricing of the objects for sale is important. One respondent had even conducted comparison shopping in which she compared the prices for postcards in various art outlets. Similarly, with regards to the restaurant stage (in the Dutch sample) only the logical value dimension (value for money) has a significant effect on

satisfaction. This may be due to the fact that this stage is designed as a self-service experience. Hence, there will be relatively limited interaction between personnel and customers and, therefore, the logical dimension may dominate this stage. Most respondents in the qualitative study feel that food and drinks are reasonably priced in the museum restaurants. This may be indicative of the fact that these are the stages where the sense of commerce in the museum context is most noticeable. Profiles of the permanent collection stage differ considerably. In Sweden the emotional value dimension is the most important determinant of satisfaction, while in the Netherlands the logical dimension has the strongest effect on stage satisfaction. There is, however, a plausible explanation for this difference in value profiles. In one museum the paintings of the permanent collection were organised around the theme of life and death, while in the second museum the larger part of the permanent collection consists of paintings depicting (prehistoric) animals. In both museums, the permanent collection does appear to have

Table 3  
Factor analysis <sup>a</sup> of value items (The Netherlands)

Stage	Value dimensions	Factor pattern <sup>b</sup>				
		factor 1	factor 2	factor 3	factor 4	factor 5
Entrance	$E_1$	0.41				
	$P_1$	0.52				
	$L_1$	–				
Temporary collection	$E_2$		–0.74			
	$P_2$		–0.70			
	$L_2$		–0.61			
Permanent collection	$E_3$			0.50		
	$P_3$			0.69		
	$L_3$			0.76		
Restaurant	$E_4$				0.77	
	$P_4$				0.85	
	$L_4$				0.89	
Museum shop	$E_5$					0.51
	$P_5$					0.95
	$L_5$					0.56
Eigen value (explained variance)	0.74 (5.0%)	1.38 (9.2%)	1.54 (10.2%)	2.95 (19.6%)	1.22 (8.1%)	
Total explained variance			52.1%			
Coefficient alpha	0.51	0.68	0.65	0.89	0.67	

<sup>a</sup> Principal axis factoring with oblique rotation. <sup>b</sup> Factor pattern elements < 0.4 omitted.



Table 4  
Regression analysis of value dimensions on  $S_i$

Stage	Value dimensions	Sweden			Netherlands		
		coefficient beta	F-test	Adj $R^2$	coefficient beta	F-test	Adj $R^2$
Entrance	$E_1$	0.41 **	98.20 **	0.51	0.51 **	91.64 **	0.59
	$P_1$	0.15 **			0.29 **		
	$L_1$	0.32 **			0.25 **		
Temporary collection	$E_2$	0.32 **	203.07 **	0.69	0.28 **	99.63 **	0.64
	$P_2$	0.34 **			0.30 **		
	$L_2$	0.34 **			0.42 **		
Permanent collection	$E_3$	0.44 **	192.52 **	0.69	0.14 *	61.21 **	0.53
	$P_3$	0.26 **			n.s.		
	$L_3$	0.26 **			0.64 **		
Restaurant	$E_4$				n.s.	42.33 **	0.56
	$P_4$				n.s.		
	$L_4$				0.66 **		
Museum shop	$E_5$	n.s.	55.61 **	0.52	n.s.	45.04 **	0.56
	$P_5$	0.36 **			0.33 **		
	$L_5$	0.39 **			0.48 **		
Wardrobe	$E_6$	0.43 **	67.4 **	0.63			
	$P_6$	0.25 **					
	$L_6$	0.27 **					

n.s. not significant at  $\alpha = 0.05$ . \*  $p < 0.05$ . \*\*  $p < 0.01$ .

a strong emotional appeal. For the Dutch museums the provision of information about the permanent collection appears to be the most important driver of satisfaction with respect to this stage.

A second objective was to evaluate the influence of the consecutive stages ( $S_i$ ) on overall satisfaction ( $S_{\text{overall}}$ ) and to see whether certain combinations of stages differ in this respect. Visitors to a museum do not necessarily encounter all of the service stages. Some may visit the museum just for the purpose of visiting a new temporary collection, while others may pay a more extended visit including both collections, the restaurant, the shop and the wardrobe. An analysis of the formation of satisfaction during the service delivery process should take the various combinations of service stages, or service 'paths', into account. In total, as many as 28 combinations were used by the respondents who participated in our study. We selected five combinations. These service paths account for 273 respondents i.e. 56% of the total number of respondents. We used an analysis of partial variance where appropriate to adjust for country effects as proposed by Cohen and Cohen (1983).

However, only in the case of path 2 ( $E \rightarrow T \rightarrow P \rightarrow S$ ) could a significant country effect be discerned. This difference is most likely attributable to the diverse nature of the permanent exhibitions as explained above, rather than to cross-cultural differences. The assumption of regression homogeneity was tested using setwise hierarchical regression analysis and results were found to be consistent with this assumption. For path 2 we reported the multiple squared partial correlation ( $pR^2$ ) instead of the coefficient of determination ( $R^2$ ). Furthermore, multicollinearity is not a serious threat to the validity of our analyses, as the VIF value remains well below the recommended cut-off value of 10. The results of analyses of these selected paths are rendered in Table 5.

The (adjusted)  $R^2$  is relatively high for both samples and differs significantly from zero. This means that there is a high degree of explanatory power of the service stage satisfaction scores on overall satisfaction. The first path consisting of the entrance, temporary collection and permanent stages was followed by 94 respondents. The results show that the entrance stage does not have a significant

Table 5

Regression analysis of stage-combination on  $S_{(overall)}$ 

Path	N	Stages included <sup>a</sup>	Beta coefficient $S_i$						F-test	$R^2$	$pR^2$
			entrance ( $S_1$ )	temporary collection ( $S_2$ )	permanent collection ( $S_3$ )	restaurant ( $S_4$ )	museum shop ( $S_5$ )	wardrobe ( $S_6$ )			
1	94	E → T → P	n.s.	0.43 **	0.53 **				68.59 **	0.70	—
2	95	E → T → P → S	n.s.	n.s.	0.43 **			0.23 *	11.60 **	—	0.37
3	35	E → T → P → W <sup>b</sup>	n.s.	0.38 *	n.s.				10.01 **	0.52	—
4	30	E → T → P → R → S <sup>c</sup>	n.s.	0.66 **	n.s.	n.s.		0.63 **	8.22 **	0.55	—
5	19	E → T → S	n.s.	0.59 *				n.s.	4.32 *	0.46	—

<sup>a</sup> E = entrance, T = temporary collection, P = permanent collection, R = restaurant, S = museum shop, W = wardrobe.

<sup>b</sup> Swedish sample only. <sup>c</sup> Dutch sample only. n.s. not significant at  $\alpha = 0.05$ . \*  $p < 0.05$ . \*\*  $p < 0.01$ .

effect on overall satisfaction with the service delivery process. Of the two types of collections, we see that the permanent collection has a relatively stronger effect on overall satisfaction than the temporary collection. Path three consists of the following stages: entrance, temporary and permanent collections and wardrobe. From Table 5 it appears that the temporary collection as well as the wardrobe are significant determinants of overall satisfaction. Path four which was followed by 30 respondents consisted of all five stages included in this sample: the entrance, the temporary and permanent collections, the restaurant and the museum shop. For this group of respondents it appears that only the temporary collection and the museum shop are significant determinants of overall satisfaction. Finally, we included the path consisting of entrance, temporary collection and the museum shop. This path was followed by 19 respondents. Only the temporary collection has a significant effect on satisfaction with the museum visit.

A number of interesting differences between the various paths can be observed. Path 1 where both types of exhibitions are significant, is taken by visitors who are primarily interested in the museum's core service. As one of the respondents indicated during the interviews; "we are here to look at paintings, not postcards". Respondents who have taken path 2 apparently came to the museum for the purpose of visiting the permanent exhibition. When comparing paths 2 and 4, it can be observed that in both cases the museum store contributes significantly to overall satisfaction. As a result, one might conclude that museums stocking their store with the appropriate items (i.e. those items specific to the

permanent and temporary exhibitions) is important in achieving customer satisfaction. A number of respondents indicated that they desired to take tangible evidence of their museum experience home to their friends and relatives ("I liked the paintings so much that I want to take them home with me"). At the same time it appears, however, that the museum store does not have a significant effect in combination with entrance and temporary collection (path 5). One explanation is that the group of visitors who go to the temporary exhibition visit the museum on a more regular basis and hence know what is in the store or are less interested in the items for sale in the store. A typical comment of one of our respondents of the follow-up study illustrates this explanation; "I live here, so every time they put up a new exhibition I pop in to check it out. I am a so-called friend of the museum". The visitors who take paths 3 and 4 are primarily interested in the temporary collection. The significance of the wardrobe might be explained as a recency effect. When asked to respond to the question 'How satisfied are you?' the impression of the last stage is likely to dominate the respondents short term memory of the service delivery process (Glanzer and Cunitz, 1966). However, the information gathered during the interviews also pointed in the direction of another explanation. The respondent who had taken path 3 indicated that as a result of her frequent visits to the museum she would be recognised by wardrobe personnel and that she would frequently engage in a friendly chat. This also underlines the importance of the emotional value dimension of this stage of the museum visit. Finally, the restaurant does not appear to contribute significantly to overall

satisfaction. Two explanations can be offered. First of all, this might be the result of the fact that this is the stage that visitors are least satisfied with. Secondly, it may be that this stage, which is essentially a supporting service (Grönroos, 1990), in the service delivery process is 'too remote' from the museum's core service of exhibiting works of art, as opposed to, for instance, the museum shop. Indeed, in the follow-up interviews respondents hardly mentioned the restaurant in their unaided description of the museum delivery process.

## 6. Discussion

The results of our study provide evidence for the fact that the museum service delivery process can be broken down into distinct stages. The results of factor analysis show a close relationship between the emotional, practical and logical value dimensions of the consecutive service stages. Since the three value dimensions explain a large part of the variance per service stage, we have found additional evidence for the support of the axiological perspective on customer value. The relative importance of the individual value dimensions in determining stage satisfaction appears to be related to a number of specific stage characteristics. With respect to the entrance and wardrobe stages the emphasis is on personal interaction between museum employees and visitors. Museum employees are clearly viewed as hosts and are expected to provide help and information. It was shown that in these stages of the service delivery process the emotional value dimension is a major determinant of stage satisfaction. While personal interaction certainly plays a role in the restaurant and shop stages, it seems, nevertheless, that due to the commercial nature of these stages the logical value dimension (operationalised as 'value for money') is more important in determining customer satisfaction with these stages.

Rather than the value dimensions across the stages, the stages in the process are more distinct. This could be explained as follows. As respondents were requested to indicate how satisfied they were directly following their experience with that stage it is very likely that this would result in high correlations among the items pertaining to the stages. Furthermore, it could be argued that some of the questions

are not completely representative of their underlying value factor. For instance, the items on the emotional value dimension show a relatively low internal consistency ( $\alpha = 0.48$ ). A similar problem occurs in relation to the measurement of service quality using the SERVQUAL instrument. In addition to issues associated with contextuality, especially services with extended delivery processes show a more ambiguous dimensionality (Paulin and Perrien, 1996). Future research should investigate whether the use of multiple items for the value dimensions per stage can solve this problem.

Our profile of the total museum service delivery process on the basis of the mean satisfaction scores per service stage reveals a U-shaped pattern (cf. Danaher and Mattsson, 1994; Lemmink et al., 1997). Entrance resulted in high satisfaction, then satisfaction drops for the intermediate stages and rises again at the final stage. However, not every visitor follows a fixed sequence of stages. In fact every visitor is free to choose a combination of service stages in a particular order. This 'freedom' has led to no less than 28 different combinations. Furthermore, the results of regression analysis suggest that the choice of a particular path determines the relative impact of the consecutive service stages on overall satisfaction with the service delivery process. This implies that aggregation of satisfaction scores by calculating means may be inappropriate as the combination of individual service stages has an impact on the effect on overall satisfaction; the ratings on the entrance as a service stage have no significant impact on overall satisfaction for all analysed paths despite the fact that this stage receives the highest satisfaction scores. Clear differences emerge from comparison between the five combinations of service stages. It depends on the path followed and implicitly on the intentions and motivations people have to visit the museum. This is consistent with recent findings (Iacobucci et al., 1994) that 'satisfying' perceptions of the core service is only a minimum requirement for satisfaction per se, the degree of satisfaction may be influenced by the presence of so-called peripheral service elements or extra's (such as the museum shop). For instance, the overall satisfaction of those respondents who only visited the temporary and permanent collections is 7.4, while the average satisfaction rating for visiting the collections and the shop is 7.8.

## 7. Managerial implications

Of managerial value is, first of all, the practicality of our approach to measuring satisfaction during an actual service delivery process. As the measurement takes place 'en route', it should be possible to record ratings quickly and spontaneously subsequent to each stage in the service delivery process. The three value dimension explained a large part of the variation of stage satisfaction, providing a succinct summary of the stage experience by means of a simple, easy-to-administer questionnaire. An analysis of the profile patterns then yields directions for guiding quality improvement efforts per stage and across the entire service episode. For instance, the shops in the Dutch museums received the lowest mean satisfaction scores of all the stages (see also Fig. 2). At the same time we see that the logical value dimension or 'value for money' is the most influential factor in determining visitors satisfaction with this stage. Improving this factor will most likely increase satisfaction with this stage of the service delivery process. In this way detailed indications can be obtained of how to improve quality during the delivery process and within the service stages.

A second managerial implication pertains to the various stage combinations or the paths that visitors follow during their visit to the museum. As was mentioned above, the museum store is not only a significant determinant in combination with the permanent collection (path 2 in Table 5), but also in combination with the temporary collection (path 4 in Table 5). This would indicate the relevance of offering items that are specific to both types of collection. At the same time, there appears to be a group of visitors for whom the museum shop in combination with the temporary exhibition does not seem to be an influential factor in determining overall satisfaction. A further examination of this group might suggest the need to stock items other than souvenirs for instance. The recognition of different groups of museum visitors with different intentions regarding the visit can yield further suggestions for improvement of the service. On the whole, future research should add a number of descriptive variables (e.g. tourist versus resident, frequency of visits, museum membership) to the analyses of paths chosen by museum

visitors to investigate further whether stage combinations can be explained in terms of visitor segments.

Finally, from our analysis of the paths that museum visitors followed it appeared that the wardrobe stage can also be an important contributor to overall satisfaction with the museum delivery process. Indeed, in path 3 ( $E \rightarrow T \rightarrow P \rightarrow W$ ) the relative impact of the wardrobe almost equals that of the temporary collection. As this final stage will have the most recent impact on the formation of overall satisfaction, (it can be seen as the last chance to make a favourable impression), it seems important to pay attention to providing quality excellence in this stage too. As our results reveal that the emotional dimension ('nice treatment') is of particular consequence, customer orientation by wardrobe personnel (in particular empathy) may be emphasised in personnel training.

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