



**VISITORS' EXPERIENCE IN A MODERN ART MUSEUM:  
A STRUCTURAL EQUATION MODEL**

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**WORKING PAPERS**

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2010/26

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Titolo: VISITORS' EXPERIENCE IN A MODERN ART MUSEUM: A STRUCTURAL EQUATION MODEL

ISBN: 978 88 84 67 637 5

Prima Edizione: Novembre 2010

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09123 Cagliari  
Tel./Fax 070 291201  
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# Visitors' experience in a modern art museum: a structural equation model

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## Abstract

This study aims to provide a better understanding on the museum experience by studying visitors' motivation, satisfaction and likelihood to return to the Museum for Modern and Contemporary Art (MART) of Rovereto (Italy). The empirical data were obtained from a survey undertaken from September to November 2009. A theoretical model to analyze the attractiveness factors of the museum based on two exogenous variables (push and pull motivation) and two endogenous variables (satisfaction and loyalty) is used and a structural equation model is estimated as a confirmatory tool of the hypothetical model. The findings reveal that tourists visiting the MART are mainly motivated by push factors, as relaxation, looking for a new experience and learn new things. Loyalty also positively influences the probability to return to the MART and recommend to friends and family. However, visit the city or the region of Trentino has no impact on satisfaction and loyalty to the MART. Besides, loyalty to MART does not imply the probability to recommend a visit to Rovereto.

**Keywords:** museum; customer's motivation; satisfaction; loyalty; probability to return and recommend; SEM.

**JEL Codes:** C19; D12 ; L83

**Acknowledgements:** Our research was supported by the Autonomous Province of Bolzano, project "Tourism, growth, development and sustainability. The case of the South Tyrolean region" and by the Free University of Bolzano, project "L'impatto del turismo di crociere. Analisi empirico per il caso del Caraibi Colombiano". The researchers deeply appreciate the time and effort that Beatrice Festini spent collecting and entering data, and her research assistance in designing the questionnaire and collecting information about the MART.

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## 1. Introduction

The notion of culture is very broad and the channels through which culture affects economics are so vague unless a set of testable hypotheses are drawn (Guiso et al., 2006). Nowadays, thanks to more sophisticated econometric approaches it is possible to analyse individuals' preferences, motivation and satisfaction that also helps understanding in what measure cultural activity influences economic development.

Cultural activity is regarded as a form of tourism. However, during most of the past century, these two activities were considered as separate aspects. Cultural resources were in fact related to education and cultural heritage, whereas tourism was regarded as pure leisure. OECD (2009) highlights that since the 80's cultural tourism has become viewed as a part of tourism. For example, as Silberberg (1995) reports, the profile of Canadian and the United States (U.S.) "frequent" tourists has encountered a remarkable change between the '80s and '90s, from escapism to enrichment. Culture has in fact shown an outstanding increased importance as one of the main travel motivators (Ritchie, 2003; Funk and Bruun, 2007). Overall, cultural tourism can be viewed as an important lever mechanism for economic development, since is characterized by the similar push and pull forces of tourism activity (Brida and Pulina, 2010).

As Wavell et al. (2002) point out, museums play a relevant role for education, personal development, social cohesion and security. Besides, they also represent an important generator of economic benefits, such as employment and income, thanks also to the multiplier effects that they may activate, since cultural consumers generally have a higher spending propensity than other consumers' segments (Europa Inform, 2004).

From an economic, management and marketing perspective it seems of interest to investigate consumers' motivation, satisfaction and loyalty to a destination. Familiar and satisfied consumers with the destination and its cultural attractions provide a constant income source that can be used to further enhance the business and increase the welfare of the local community (see also Oppermann, 2000). Satisfaction is indeed one of the main factors that drives consumers to return to the same destination, as several studies empirically support (Kozak, 2001; Lau & McKercher, 2004; Yoon & Uysal, 2005; Alegre & Cladera, 2006, 2009; Campos-Martínez et al. 2010).

The main purpose of this study is to analyze the preferences, motivation, satisfaction and likelihood of return of visitors to the Museum for Modern and Contemporary Art (MART) of Rovereto

(Italy). This objective is pursued via the use of a structural equation model (SEM) that allows one to analyse the different factors affecting culture tourists' preferences, satisfaction and loyalty. The empirical analysis is based on survey data collected during September-November 2009. The representative sample consists of 350 visitors to the MART (Museum for Modern and Contemporary Art) of Rovereto, in the North of Italy. The empirical findings provided in this paper give destination managers, local government and policy makers valuable information to formulate private and public development and marketing strategies for repeat visits, not only at the MART but to Rovereto as a whole destination. As a matter of fact, as Litvin (2007) points out, there is still scarce attention in incorporating the variable "repeat visitation" in the quantitative investigation for museum demand.

The paper is organized as follows. In the following section, an updated literature review on museums economic impact and visitors' satisfaction and loyalty is provided. In Section 3, the case study of MART is presented. Section 4 provides a description of the methodology and survey run. In Section 5, an account of the cultural activities contribution to the local economy is provided. Section 6 presents the empirical findings emerging from the present investigation. Discussion and concluding remarks are provided in the last section.

## **2. An updated literature review on economic impact, customers' satisfaction and repeat visitation**

Literature on the impact that museums have on the local community, society and economy is vast. Some studies analyse the impacts of one single museum on the whole country, other studies, focus on the impact of several museums in a city, region or state (Frey and Meier, 2006; Luksetich and Partridge, 1997; Maddison, 2004; Maddison and Foster, 2003; Plaza, 2000; Stynes and Vander Stoep, 2004; Scott, 2006; Plaza, 2008; Plaza and Haarich, 2009; Kinghorn, and Willis, 2007 and 2008). Dunlop (2004), via an input-output analysis, provides evidence on effects for museums and galleries into the Scottish economy. Overall, independent arts museums and galleries scored the highest income multiplier (2.36) and an employment multiplier of 1.81. Plaza (2006) analyses the impact of the Guggenheim Museum of Bilbao (GMB) on tourism demand, by employing an autoregressive moving average (ARIMA) econometric analysis. The results suggest that GMB contributed to a rise of 740,904 tourism overnight stays per year and the

generation of 907 new full-time jobs as a result of its opening. However, the author advises that some caution needs to be paid in reading this outcome. The case of GMB museum can not in fact be generalised as many factors tend to influence the success of a museum that requires a continuous innovation and new activities that can keep public interest alive. Scott (2006) carries out a Delphi analysis in Australia to capture perceptions of impact and values from both professionals working with museums and the general public. Together with the intangible value produced by museums (e.g. unique type of learning experience, contribution to community, culture, identity and pride) both interviewed groups emphasised the economic value in terms of employment, attracting tourists, purchasing services and generating income.

Expanding the previous studies, Plaza (2008) analyses the economic impact of the GMB, in the Basque economy. The GMB of modern art was firstly inaugurated in 1997 and by then attracts on average 800,000 non-Basque visitors per year. The hotel and restaurant sector has also experienced a remarkable growth in employment, more than 4,000 new jobs in one decade, enhancing positive externalities to the whole Basque economy, that used to experience a very high unemployment rate (more than 25%). The success of the GMB is due to several factors: first, the acquired prestige thanks to the link between GMB and the Solomon Guggenheim Foundation New York, that also attracts U.S. visitors; second, the diffusion of Frank Gehry's masterpiece image, through printed and audiovisuals means of communication, that makes the museum fashionable for visitors; third, the offer of a variety of special exhibitions, such as such as "China 5,000 years" that attracted 424,883 visitors only from July to September 1998. Çela et al. (2009), via a qualitative approach, analyse visitor spending and the economic impact of heritage sites at the Silos and Smokestacks National Heritage Area, in Iowa. The empirical findings show that total spending per person on shopping is the highest amongst visitors to farms, museums, parks and gardens. Non-residents have a total contribution to the rural Northeast Iowa of 103 million US\$ and created 1,981 jobs that encourage institutions and managers to preserve and enhance their heritage. Choi et al. (2010) employ a choice modelling analysis to evaluate the economic value of the Old Parliament House in Australia, currently operating a museum of social and political history. They find that some of the attributes are positively valued by respondents: extending the period of temporary exhibitions, hosting various events as well as restoration facilities. Moreover, they calculate that temporary exhibitions and events

contribute to nationwide welfare with AU\$17.0 million and AU\$21.8 million annually.

As previously stated, satisfaction with the offered product plays a key role in providing a constant income source that can be used to further enhance the business and increase the welfare of the local community. On this basis, several studies have also been devoted to explore museum visitors' preferences, motivation, satisfaction and their probability to return and recommend. Thyne (2000) analyses visitors' motivation at the Otago Museum in Dunedin (New Zealand) by using a laddering techniques. The findings highlight that individuals have different values that influence their motivation to visit the museum. Together with education and learning objectives, as found in other previous studies, socially oriented values, such as fun, entertainment and warm relationships with other visitors play a relevant role. Paswan and Troy (2004) examine the membership motivation in art museums in the U.S., via an ordinal logit modelling. The findings reveal that motivation is a multidimensional construct, nevertheless, there are also some heterogeneous results. Philanthropy and social recognition significantly differs across membership levels with high-end members having the highest scores; children's' benefits and tangible membership benefits are the most important motivation for low-end members; preservation of art and hedonic dimension do not differ across membership levels. This empirical outcomes have important implications for organisations whose aim is to increase membership funding. Harrison and Shaw (2004), via a SEM, investigate consumer satisfaction and post-purchase intentions in a small metropolitan museum in Australia. Their findings show that there is a weak, and negative, link between satisfaction and probability to return; this outcome possibly depends on the characteristics of the product that tend not to change much in the short run. Moreover, the empirical analysis shows that there is a weak, but positive, correlation between satisfaction with experience and probability to recommend. Lampi and Orth (2009) investigates changes in visitor composition of a museum associated with an introduction of an entrance fee to The Museum of World Culture in Sweden. They show that charging for entrance does affect who visits the museum. Jeong and Lee (2006) investigate visitor's satisfaction at the National Museum of Korea and the National Folk Museum, by employing a factor and path analysis. They find that exhibition environment was the main factor affecting satisfaction, followed by the size of the museum that had a slight direct effect on the mental and physical fatigue felt by the visitors.

There is a further strand of literature that concentrates on the input-indicators to evaluate museum visitors' satisfaction (e.g. Ciavarella and Paternò, 2004; McIntyre, 2009). Reino et al. (2007), for example, employ an Importance-Performance Analysis (IPA) to evaluate visitors' predilection/dislike of technology implementation in the Beamish and the Bowes Museum (UK). The empirical findings suggest that technology is viewed as a complement in traditional museums, enhancing the interactivity and multi-sensory provision of exhibition. Bonn et al. (2008), using a multiple regression analysis to investigate the return-on-investment in four key attractions in Tampa (Florida), find that environmental cues (e.g. lighting, colour, spaciousness, traffic flow) are far more important to perpetuate brand meaning and uniqueness in the minds of visitors than tour guides, music, merchandise quality. The authors argue that low-cost change to mood and pace within the attraction can reach the wider objective to increase personal word-of-mouth recommendations.

In an original paper, De Rojas and Camarero (2008) apply a factor and path analysis to evaluate visitors' both cognitive (perceived quality) and emotional (pleasure) experiences at the Queen Isabel Interpretation Centre, in Spain. The results show that the effect of perceived quality on satisfaction is greater than the effect of emotions. In addition, the intensification of purchase of related products and material is correlated, though weakly, to visitor satisfaction. Alcaraz et al. (2009) collected data on 20 consultant Australian customer diaries and interviews to evaluate their satisfaction and the probability of a repeat visitation. The qualitative results show that long term success of museums depends on a service centric approach. Museum positive experience can be enhanced by self-paced consumption, interactivity from staff and technology atmospherics and flow. Burton et al. (2009) employ a discrete choice modelling in two major Australian museums to identify attributes that influence repeat visitation. Their study show that museum visitors tend to be actively engaged in social and cultural activities, often combining a number of activities in a single day. Hence, the authors suggest that museums can benefit from strategic alliances with other cultural attractions and to cost joint packaging offers that add value to the overall experience. As a novel research tool, Chan (2009) applies a Profile Accumulation Technique to 53 foreign visitors to investigate their experience at the Malaysian Sabah museum. This study shows that individual cognition and affective/emotional feelings and, hence the overall experiential dimension, are more important determinants for satisfaction than the



physical environment/setting. Gil and Ritchie (2009), via a factor and a path analysis, examine the image formation process for a total of 13 museums in Canary Islands (Spain), discriminating residents from tourists. On the one hand, the empirical findings highlight that museum image influences visitor satisfaction with no difference between the two groups; on the other hand, important differences between the two groups emerge in the variables that explain that image.

Packer and Bond (2010) use a qualitative approach to analyse tourists and local residents' satisfaction at Australian museums and other attractions. The study highlights the importance of "restoration" that enables visitors to relax and recover from the stresses of life.

From the present literature review, it emerges that a numerous studies have appeared on satisfaction and the probability to repeat visitation and recommend, though less attention has been paid on the economic impacts of museums in the economy (Cellini and Cuccia, 2009; Choi et al. 2010). In addition, all the reviewed papers on visitors' preferences concentrate on satisfaction and loyalty to a specific museum. Hence, the present paper stands as a novel case study since examines not only visitors' preferences to the MART but also to the city of Rovereto, as a whole tourism destination. The findings can shed light on how a museum may become a driver for local economic welfare.

### **3. The town of Rovereto and the mart museum**

Rovereto is a northeast town (approximately 37,000 inhabitants) in the Trentino Alto-Adige region, Province of Trento (Italy). The bulk of its economy is based on industry, agriculture and tertiary sector, though, tourism does not play an extremely important role.

Rovereto had a very interesting economic and cultural history, particular under the Venetian rule (15<sup>th</sup> century), when its inhabitants learnt the art of silkworm breeding that led to a strong economic development. Thanks to this economic welfare, art and culture started developing as well: salons, cultural institutions, schools were established (in 1750, the "Accademia degli Agiati" was founded; in 1782, the theatre "Zandonai" was built).

Nowadays, Rovereto is well-known for its events (e.g. live music, performing arts and traditions) and, especially, for the Mozart Festival (who held a concert in 1769), *Oriente-Occidente* festival, that aims at expanding social and ethnic cohesion, and *Palio "Città della Quercia"* with its athletic tournament. The town also hosts four museums: the Italian War History Museum, the Civic Museum, the Museum "Casa Depero",

which is part of the Museum for Modern and Contemporary Art of Trento and Rovereto (MART), the most important museum in the region and one of the most important museums for modern art in Italy.

The idea of a museum for modern and contemporary art was born at the end of the 70's/beginning of the 80's, in order to face the industrial and unemployment crisis Rovereto was going through. The project was aimed at unifying the different collections of masterpieces by Fortunato Depero and other futurist artists in the town to create a permanent collection. The MART was then founded in 1987 as an independent public institution of the Autonomous Province of Trento. It includes three exhibition centers: the Mart main building in Rovereto, the "Palazzo delle Albere" in Trento and the recently restored "Casa Depero" (re-opening in January 2009), still in Rovereto. The Mart of Rovereto opened on the 15th December 2002, and since then it has had around 200,000 visitors per year. The three sections of the museum have had more than 1,700,000 visitors from December 2002.

From a financial point of view, 24% of the total expenditures of the museum is covered by its own revenues, such as tickets, merchandising, sponsors and publishing. The rest is covered by the Autonomous Province of Trento.

Before running the empirical investigation, it is worthwhile to investigate the economic impact of the MART in the Rovereto economy. To host visitors, by 2009, Rovereto, counted 23 accommodation of which hotels, and non-hotel infrastructures such as bed and breakfast, serviced apartments, hostels, agrotourist activities and huts. Analysing data provided by the Statistics Office of the Autonomous Province of Trento, the number of overnights in hotel infrastructure has had a steady increase during the past decade, after an unstable pattern experienced during the '90s, where demand fell from almost 90,000 per year in 1990 to 60,000 in 1995, with some adjustments occurring during the second half of the '90s. However, an annual increase by 1.5% occurred from 2003 to 2008, possibly showing the positive impact that MART had on tourism demand. These findings are further supported by overnights in non-hotel infrastructure. Tourism overnights were relatively low and stable during the second half of the '90s (approximately 10,000 per year), while an outstanding increase, by an annual average of 47%, occurred between 2005-2008. As Festini (2009) points out, these figures are due both to the growth in demand and the increase in the number of non-hotel accommodation in Rovereto.

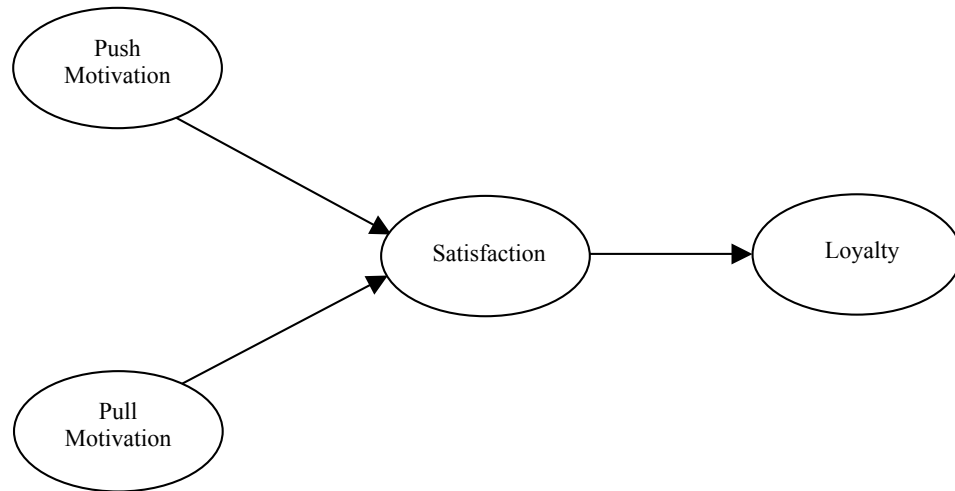
From a macroeconomic perspective, an economic indicator of the potential contribution that the MART, and overall culture activities and services, may have had on Rovereto economy can be expressed in terms of value added and employment, thanks to an analysis of the so-called Local Labour System, *SSL*, (*Sistema Locale del Lavoro*, ISTAT, 2005). Specifically, the SSL are territorial unities, constituted by several municipalities that have common borders, as well as geographical and statistical comparability. They represent an useful tool to analysis the territorial socio-economic structure and local development. Taking into consideration the period 2002-2005, it emerges that Rovereto SSL has grown more than the province capital SLL, Trento: the average growth in the value added per capita is in fact 2.2% against 0.5% of the capital; the average growth in total employment is 1.6% against 0.6% of Trento SSL; finally, the average growth in total employment in services is 1.5% against 0.2% in the capital SSL. Notably, the primary sector experienced a reduction in both the SSL (an average of -0.5%, respectively) while the secondary sector is characterised by a small increase in the Rovereto SSL (0.7%) and of 1.9% in the Trento SSL. Hence, there is statistical evidence that Rovereto is an important leader for the province overall growth in terms of income and jobs creation.

#### **4. The theoretical model and data collection**

To analyze the visitors' motivation, satisfaction and loyalty, a theoretical framework is constructed based on the study proposed by Yoon and Uysal (2005). Figure 1 presents the theoretical model where the exogenous variables, push and pull motivation, cause the two endogenous latent factors, satisfaction and loyalty.

Proposed hypothetical model: the exogenous variables, push and pull motivation, cause two endogenous latent factors, satisfaction and loyalty.

**Figure 1**



In this specific study, eight push factors are identified: beautiful exhibitions; activity to do during bad weather, entertainment and relax, try something different, nearby MART and nothing else to do, bringing a partner, family or friends, recommended, learn about new things. As pull motivation forces, seven factors are identified: visit Rovereto, visit the Mart, visit other city's museums, visit Trentino, visit friends and families, business.

To evaluate customers' satisfaction and hence the performance of the product offered, that is the MART museum as a destination, seven indicators are developed: MART is a museum for tourists, unique in Italy, a place to learn, a place to have fun, a place of cultural heritage protection, the main tourist attraction in Rovereto, the level of satisfaction ("How satisfied are you with the MART?").

Finally, in the present study, loyalty is expressed by four main factors: probability to return to MART next year, probability to recommend MART, probability to return to Rovereto as a tourist and probability to recommend Rovereto. This definition further expands the existing literature, by including into the concept of loyalty not only the probability to revisit/recommend the museum, but also to revisit and recommend Rovereto as a whole destination. Loyalty is in fact a key

determinant for enhancing future business and guarantee destination competitiveness. This is particularly true as tourists, if satisfied with their own travel experience, are likely to recommend the same destination to friends and family, driving a virtuous path of growth for the hosting economy. A complete description of all the factors used for motivation, satisfaction and loyalty is provided in Table 1.

**Table 1. Variables included in the CFA analysis**

<b>Push Motivation</b>	<b>Pull Motivation</b>
Beautiful exhibitions Something to do during bad weather Entertainment / Relax Try something different Nearby MART and nothing else to do Bringing partner / family / friends Recommended Learn about new things	Visit Rovereto Visit the MART Visits other city's museums Visit Trentino Visit friends and relatives Business
<b>Satisfaction</b>	<b>Loyalty</b>
A museum for tourists Unique in Italy A place to learn A place to have fun A place of cultural heritage protection The main tourist attraction in Rovereto Level of satisfaction: How satisfied are you with the MART?	Probability to return to MART next year Probability to recommend MART Probability to return to Rovereto as a tourist Probability to recommend Rovereto

The theoretical model is tested via a structural equation model (SEM), as a confirmatory empirical tool. To this aim survey data were collected. The investigation was carried out from September to November 2009, during a whole week (from Monday to Sunday), at the

MART museum, via face-to-face interviews. The individual participants were selected with a quota random sampling procedure. The quotes were based on age and gender and covered a sufficient amount of cases characterized by heterogeneous demographics features. Overall, 350 complete interviews were collected.

The questionnaire was designed based on a survey previously run at the Archeological Museum of Bolzano and in the Christmas Markets in South Tyrol (Italy). It contains 56 questions organized in six blocks that aim at gathering information on: socio-demographics, trip description, information about MART, motivation, satisfaction, and loyalty (as previously described). In almost all the questions a five-point Likert scale was used, ranging from 'not important' to 'very important' for the motivation factors, from 'strongly in disagreement' to 'strongly in agreement' for assessing tourist's satisfaction, and from 'very unlikely' to 'very likely' for the loyalty factors.

## **5. Factor and structural analysis: empirical results**

### *Statistical analysis*

The hypothetical model proposed, as expressed in Figure 1, is estimated by using a SEM procedure, via the R software package (see Fox, 2002). SEM simultaneously estimates and tests a series of hypothesized inter-related dependency relationships between a set of latent (unobserved) constructs, each measured by one or more manifest (observed) variables (Reisinger and Mavondo, 2007). It is assumed that there is a causal structure among a set of latent variables and the observed variables. The model consists of two parts, the measurement and the structural equation model:

- The measurement model specifies the relationship between the latent constructs and the corresponding observed variables. The fit assesses the reliability and validity of the latent variables (Hair et al. 1995; García and Martínez, 2000).
- The structural equation model specifies the causal relationships among the latent variables, describes the causal effects, and assigns the explained and unexplained variance (Diamantopoulos and Siguaw, 2000). In analyzing the structural model fit, the standardized parameter estimate, that link the two latent constructs in terms of sign and statistical significance, is tested.

In a structural equation model, the input is the observed covariance matrix. The test on the null hypothesis of goodness of fit compares this matrix with the estimated matrix of covariance, reproduced by the model proposed. Also, for the model estimation, it is assumed that the variance of the latent variables is equal to one, that is the model is fit under the standardized solution and the Maximum Likelihood, ML, (using the Newton – Raphson algorithm) is employed in the optimization procedure.

As the observed variables in the model are ordinals, the polychorical matrix of covariances is calculated for the model estimation. Using the ML fitting criterion with polychoric correlations produces consistent estimators of the parameters of the model, but the standard errors are not reliable (Fox, 2002). Consequently, a bootstrap procedure is used to compute them.

#### *Measurement model*

Prior to testing the SEM model, a confirmatory factor analysis (CFA) was conducted to evaluate the measurement model for each construct separately. According to Anderson and Gerbing (1988), confirmatory measurement models should be evaluated and re-specified before measurement and structural equation models are examined simultaneously.

Three types of overall fit measures were used. An absolute fit index is used to directly evaluate how well the a priori theoretical model fits the sample data, a incremental fit index assesses the proportionate fit by comparing a target model with a more restricted, nested baseline model and a parsimonious fit measure is used to diagnose whether model fit has been achieved by over-fitting the data with too many coefficients (Hu and Bentler, 1995). Furthermore, the CFA analysis allows for making a prior selection of variables to consider in the overall measurement model. The items having a factor loading below 0.4 are deleted for further analysis.

In the first construct, i.e. “push factors motivation”, from an initial eight variables considered, the CFA analysis suggested four of them to be deleted. Hence, the variables included are “Activity during the bad weather”, “Entertainment/Relax”, “Try something different” and “Learn about new things”. The Chi-square was not significant at the 5% level (0.58845, p-value = 0.44302), and the measures suggest a good fit (GFI=0.99, CFI=1, NFI=0.99).

Considering the “Pull Motivation”, of the seven starting variables, the CFA suggests keeping only four: “Visit Rovereto”, “Visit the MART”, “Visit Trentino” and “Visit the other museums in the city”. The Chi-square was not significant (0.25, p-value = 0.61), and the values of the other measures suggest the goodness of fit also in this construct (GFI=0.99, CFI=1, NFI=0.99).

In the “Satisfaction” construct from initial eight variables, the CFA suggested including only five: “Unique in Italy”, “A place to learn”, “A place of interest and fun”, “A place of historical and cultural heritage protection” and “Overall satisfaction”. The value of the Chi-square is 7.14 and the p-value is 0.21. The value for the GFI, CFI and NFI are 0.99 for the three tests.

For the last one construct, “Loyalty”, from the CFA, all the variables included had loadings higher than 0.40, the Chi-square was not significant, with a value of 4.9 and a p-value equal to 0.08, and the measures suggest a good model fit (GFI=0.99, CFI=0.99, NFI=0.99).

Consequently, a total of eight exogenous variables and nine endogenous are used in the overall measurement model. The correlations suggested by the modification indices are analyzed to improve the model fit, simultaneously with the loadings and the reliability coefficients. From the analysis, it emerges a set of variables highly correlated with each other. For instance, the probability to return to Rovereto as a tourist is highly correlated with the probability to return to MART. Similar finding is detected between the variables belonging to the push motivation group and the variables of the satisfaction group. As a consequence of the interactions added to the model and the variables dropped, the factor loadings change in each construct, and the variables with a factor loading lower than 0.40 are deleted. The results of the overall CFA for the modified measurement model are presented in Table 2.



**Table 2. Overall CFA for the measurement model**

Construct & Indicators	Factor Loading	Inf 95%	Sup 95%	Construct reliability	Variance Extracted
<b>Push Motivation</b>				0,784	0,416
Relax	0,795	0,616	1,046		
Try something different	0,651	0,371	0,841		
Learn about new things	0,427	0,130	0,633		
<b>Pull Motivation</b>				0,699	0,442
Visit Rovereto	0,586	0,366	0,940		
Visits other city's museums	0,639	0,330	0,920		
Visit Trentino	0,799	0,580	1,041		
<b>Satisfaction</b>				0,786	0,519
A place to have fun	0,802	0,620	1,109		
A place of cultural heritage protection	0,752	0,546	0,913		
Overall satisfaction with MART	0,606	0,376	0,926		
<b>Loyalty</b>				0,665	0,306
Probability to return to MART	0,641	0,016	1,167		
Probability to recommend MART	0,641	0,016	1,167		
Probability to recommend Rovereto	0,415	0,127	0,888		

The model assumes that the parameters for the probability to return or recommend MART in the Loyalty construct are equal. This restriction is imposed with the purpose of improving the fit. As expected, the constructs have a positive impact over the different items. The reliability coefficients are higher than 0.70 in the cases of “Push Motivation” and “Satisfaction”, that implies that constructs are consistent. Still, for the other two constructs, although the value is close to 0.70, this level can be regarded as acceptable. Nevertheless, the acceptance level for the variance extracted (0.50) is just reached by the “Satisfaction” construct.

The higher variance is in the “Loyalty” group, it can be seen in the size of the confidence intervals estimated by bootstrap, and can explain the value of the variance extracted. In this construct one coefficient of “Probability to recommend Rovereto” is not significant at a 95% confidence level, which means that the loyalty can be seen through the

loyalty to MART: if the visitors are coming back to MART, they are coming back also to Rovereto.

*Structural equation model: goodness of fit*

Having assessed the measurement model, an empirical SEM is developed and tested to investigate whether the hypothesized theoretical model is consistent with the collected data. As it emerges in Table 3, the Chi-square was not significant at a 95% confidence level, with a value of 32.3 and a p-value equal to 0.26. In addition, the other absolute measures suggest the goodness of fit, also in line with the incremental and parsimonious measures. The goodness of fit makes the interpretation of the estimated coefficients possible.

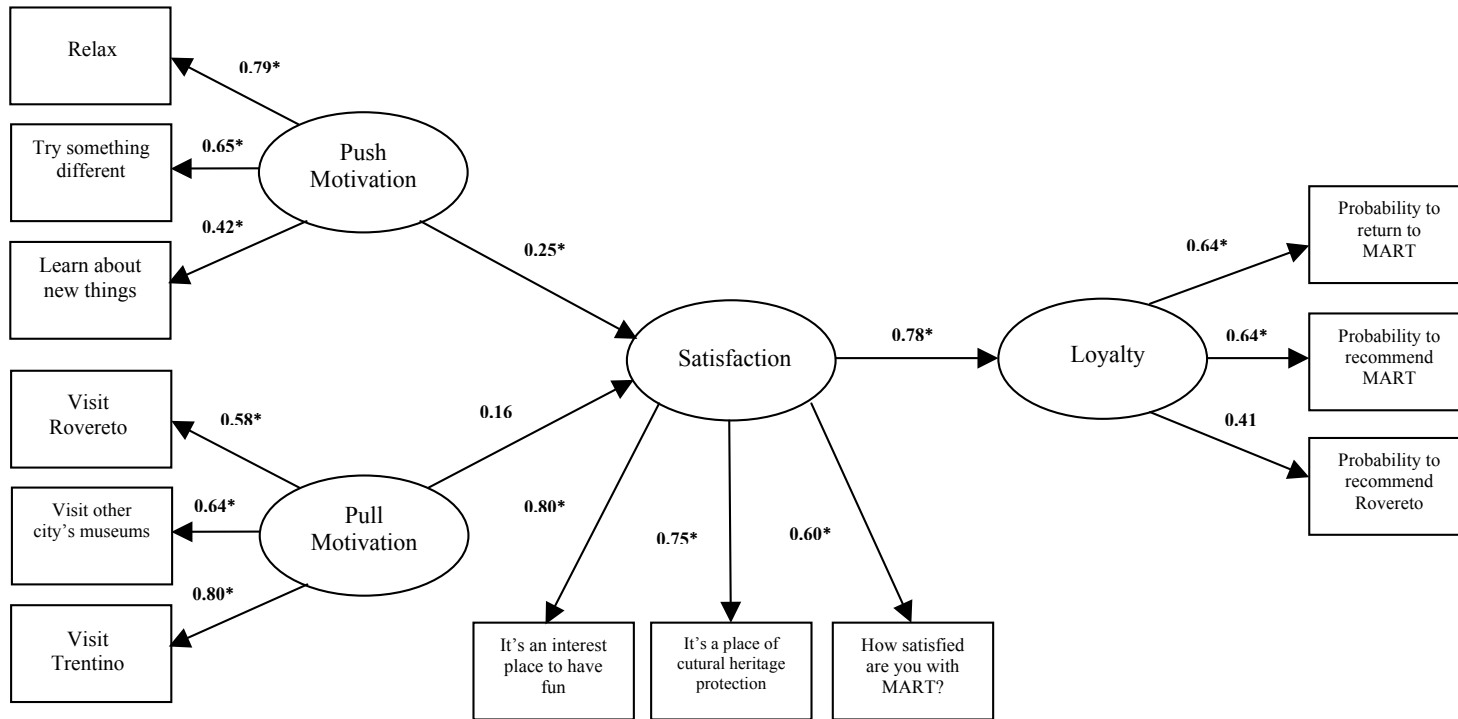
**Table 3. Goodness of fit measures for the structural equation model**

<b>Absolute fit measures</b>				<b>Incremental fit measures</b>			
$\chi^2$	GFI	RMSR	RMSEA	$\chi^2$	AGFI	NNFI	CFI
32.27	0.98	0.04	0.02	1632.3	0.95	0.99	0.99
p = 0.26				Df = 66			

*Findings of the structural relationships*

Given the confidence in all the procedures, the final results are employed in examining the path relationships among the constructs. As presented in Figure 2, there is empirical evidence for a positive relationship between satisfaction and loyalty, at a significant level of 0.05.

Figure 2. Results of testing hypothetical model



Note: \* p<0.05

The results also support the relationship between push motivation and satisfaction. However, the relationship between pull motivation and satisfaction does not hold. The signs of the significant coefficients are in agreement with the theoretical model. Specifically, the push motivation presents a positive and direct effect on tourist loyalty. For the pull motivation it is not possible to reach the same conclusion, since the coefficient is not statistically significant.

Overall, satisfaction with the MART experience and loyalty positively depends only on push motivation. This implies that tourists coming to Rovereto for visiting the MART are mainly motivated by internal factors. Satisfied tourists are those who can find relaxation and new experiences, and can learn new things. In addition, loyalty also positively influences the probability to return to the MART and recommend the visit to friends and family. However, visit the city or the region of Trentino has no impact on satisfaction and loyalty to the MART. Besides, loyalty to MART does not imply the probability to recommend a visit to Rovereto.

## **6. Summary and conclusions**

This paper has aimed at analyzing how a museum can impact visitors' motivation, satisfaction and loyalty, and be a potential driver of economic growth in a destination.

To this aim, empirical data were collected via a survey on 350 visitors at the Museum for Modern and Contemporary Art (MART) of Rovereto (Italy). The recent investment in cultural activities has been the local institutions' answer to face the economic crisis Rovereto was going through. As a matter of fact, in the past decade, the town has experienced an increase in the total number of tourism overnights, both in hotel and non-hotel infrastructure.

The analysis of visitors' motivation, satisfaction and loyalty to destination has highlighted possible channels for further business expansion. A theoretical model has been based on two exogenous variables (push and pull motivation) and two endogenous variables (satisfaction and loyalty). A SEM has been estimated as a confirmatory tool of the hypothetical model. The findings reveal that tourists coming to Rovereto for visiting the MART are mainly motivated by push factors, that is relaxation, looking for a new experience and learn new things. This outcome is in line with other empirical studies that found that satisfaction is highly influenced by "restoration" that enables visitors to relax and recover from the stresses of life (e.g. Packer and Bond, 2010).

Despite, in recent years, there has been a joint public and private effort in promoting Rovereto as a part of the national and international cultural circuits, the empirical findings have shown that further improvement are still possible. On the one hand, there is evidence that the MART can activate multiplier effects in the local economy. Overall, consumers are satisfied with the offered product and are willing to revisit and recommend the modern art museum by word-of-mouth. On the other hand, MART's visitors do not seem to be attracted by either return to Rovereto as tourists or recommend the destination by word-of-mouth. These empirical findings have important marketing and management implications, as arise questions on the effectiveness of the local tourism network, cooperation, sponsorship and co-marketing operations. Yet, such a limit can also be considered as an opportunity to increase return-to-investment and competitiveness.

Notwithstanding the present research stands as a case study for a specific museum, nevertheless the study can be regarded as a novelty in that it has examined the impact of a museum within a specific destination and the potential expansion for business thanks to the evaluation of consumers' satisfaction and loyalty.

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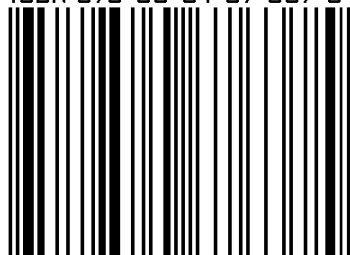
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Finito di stampare nel mese di Dicembre 2010  
Presso **studiografico&stampadigitale Copy Right**  
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07100 Sassari

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ISBN 978-88-84-67-637-5



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