An exploratory study of Tourist-patient satisfaction and behavioral intentions in medical tourism: Post-hoc segmentation

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Une étude exploratoire de la satisfaction et des intentions de comportement du touriste-patient dans le cadre du tourisme médical : segmentation Post-hoc

Résumé

Cette étude explore l'influence de la qualité perçue du médecin et la valeur perçue du prix sur la satisfaction du touriste-patient et ses intentions de comportement envers une destination médicale. Le modèle proposé est analysé par l'approche PLS des équations structurelles. Celle-ci étant adaptée aux échantillons de petite taille et n'exige pas la normalité des données. Les résultats obtenus au niveau du modèle global montrent l'existence d'une hétérogénéité dans les réponses obtenus. Par conséquent une analyse par REBUS-PLS a été effectuée afin de détecter les éventuels segments latents. Les résultats de cette recherche apportent un éclairage nouveau sur le comportement post-consommation du touriste-patient. Ils sont discutés à la fin de cet article ainsi que leurs implications théoriques et managériales.

Mots-clés : Tourisme médical, comportement post-consommation, qualité du médecin, valeur perçue du prix, segmentation

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Abstract :

This study is an exploration of international tourist-patients' satisfaction and their behavioral intentions toward a medical destination. The main objective here was to determine whether the perception of price fairness and the positive perception of doctor quality play a positive role in the post-purchase behavior. The proposed model was tested with a PLSPM that is adapted to non-normal data and the small sample size. The results of global model (whole sample) showed that there is heterogeneity in responses obtained. Therefore, a REBUS-PLS analysis was conducted to detect latent segments. The result sets of this research bring a new light on the post-consumption behavior of the tourist-patient. They are discussed at the end of this paper with their theoretical and managerial implications.

Keywords: Medical tourism, post-consumption behaviors, doctor quality, price value, segmentation

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Introduction

Medical tourism is to travel to a foreign country, in order to diagnose or treat illness, or for esthetic treatment or surgery (Carrera & Bridges, 2006; Mugomba & Caballero-Danell, 2007; Conrady & Buck, 2010). This can be associated with conventional tourism services such as transport and accommodation (Mugomba & Caballero-Danell, 2007). In this sense, it is a subcategory of health tourism, which in turn integrates all forms of tourism related to health and wellbeing (Mugomba & Caballero-Danell, 2007; Smith & Puczko, 2008). Therefore, the main specificity of the medical tourism consists in the medical intervention (Connell, 2013). This firstly implies the exclusive intervention of doctors and medical staff for the treatment of patients. Moreover, such practice allows purely medical establishments that consist in hospitals, clinics and medical offices.

In recent years, this market has been growing for many reasons: excessive price of medical intervention, unavailability of certain treatment, lack of insurance, long waiting list, etc (Peter & Sauer, 2011). However, according to Connell (2013), little is yet known about the tourist-patient's behavior and about the results of such travel experience. Meanwhile the understanding of such determinants related to tourist-patient satisfaction and those of his intentions toward the medical destination could bring advantages for both government and practitioners to improve their communication and marketing strategy and develop their market share. This research seeks to advance knowledge in these directions by understanding the international tourist-patients' behavior across different medical destinations. Unlike the previous researches in this context, they have been broadly focused on behavioral intentions toward hospital/clinic or medical treatment at a particular destination (Mechinda & Anuwichanont, 2009; Lertwannawit, Suan, & Nak, 2011; Han.H & Hyun.SS, 2015) especially the Asiatic ones (Connell 2013).

The cognitive-affective model of consumer behavior is the most commonly applied approach in tourism and medical service studies (Giese & Cote, 2000; Gill & White, 2009). Moreover, results often highlight the positive relation between quality, satisfaction and behavioral intentions (ex. Dagger, Sweeney, & Johnson, 2007). In this research, we proposed an extension of this model adapted to medical tourism context by inferring perceived price. The main objective of this study is to determine the significant determinants of both tourist-patient satisfaction and his behavioral intentions toward a medical destination. Specifically we tend to

explore whether the perception of doctor quality and price value which are considered by many authors as "pull motivations factor" in medical destination choice (Doshi, 2008; Connell, 2013), may lead to a positive behavioral intentions such as intention to recommend and to revisit the medical destination for other treatment or also for pleasure. Such findings can lead to a behavioral segmentation of the tourist-patients and may have consequently an impact on the destination's marketing strategy.

1. Literature background

Zeithaml (1988) defined perceived quality as the judgments of excellence or superiority of the service provided. According to Parasuraman and al (1985), perceived quality is a result of the perceived difference between consumer expectations and their perceptions of service performance. For many authors, quality assessment may precede the act of consumption since it can be the result of disclosures word-of-mouth (WOM), or company's communications, unlike the satisfaction concept that is a post-consumption evaluation state (Parasuraman, Zeithaml, & Berry, 1985; Oliver R. L., 2010). Consequently, they represent two distinct concepts (Parasuraman, Zeithaml, & Berry, 1985).

1.1. Accommodation quality, tourist-patient satisfaction and behavioral intentions

According to Baker and Crompton (2000), quality is a measure of provider outcome, whereas level of satisfaction measures a tourist's outcome. Furthermore, they considered perceived quality as an antecedent of satisfaction and have a direct and positive effect on it. In marketing, many studies have confirmed this correlation (Cronin Jr & Taylor, 1992; Bei & Chiao, 2001).

In tourism context, Žabkar and al (2010) found that a positive perceived quality of destination product could enhance the level of tourist satisfaction. In addition, Chen and Chen (2010) in heritage tourism supported the positive effect of perceived quality of experience on tourist satisfaction. This result is similar to that found by Loureiro and González (2008) in the rural tourism context and that found by Bigné and al (2001).

In this research, we consider that the more the tourist-patient (TP) has a positive judgment about the quality of accommodation, the more he perceives that this trip experience is comfortable and more he expresses a higher level of satisfaction and behavioral intentions toward this destination. Therefore, we posit:

H1: Perceived quality of destination accommodation has a direct and positive effect on tourist-patient satisfaction with trip experience.

H2: Perceived quality of destination accommodation has a direct and positive effect on behavioral intentions

a. *Perceived quality of destination accommodation has a positive and direct effect on behavioral intentions with medical purpose*

b. *Perceived quality of destination accommodation has a positive and direct effect intention to revisit the medical destination for pleasure*

1.2. Doctor quality, tourist-patient satisfaction and behavioral intentions

In healthcare research, some studies have also corroborated the positive correlation between perceived quality of healthcare service and patient satisfaction. For instance, Dagger and al (2007) showed that healthcare quality has a positive impact on patient satisfaction and his behavioral intentions toward both the clinic and the treatment.

According to Crow and al (2002), doctor-patient interrelationship and disclosed information about the process of medical care, are the most important dimensions of medical service that affect patient satisfaction. This result is supported by many other studies related to different cultures (ex. Japan, India, UAE, Ethiopia, Turkey, etc.) (Andreani, Eleouet, & Savart, 2006; Xiao & Barber, 2008; Badri, Attia, & Ustadi, 2009; Birhanu & al, 2010; Camgöz-Akdag & Zineldin, 2010). As an example, Xiao and Barber (2008) found that listening to a patient is determinant in his satisfaction with medical provider. Similarly, Birhanu and al (2010), found that verbal and non-verbal communications are important determinants of patient satisfaction. Elleuch (2008) found that quickness of service provided and interaction with medical staff are the most important determinants of the Japanese patients' satisfaction. However, Yu-Chi Tung and G-Ming Chang (2009) found that a patient's overall satisfaction is more influenced by a doctor's technical skill than by his interpersonal skill. They concluded that compared to the other dimensions of healthcare service quality (doctor's interpersonal skill, staff care and access), the technical skill of the doctor is the most important factor in overall satisfaction and plays a critical role in patient recommendation of a clinic to his friends and relatives.

Lertwannawit and al (2011) found that perceived quality of medical service is a direct and positive antecedent of tourist-patient satisfaction in Bangkok. In quasi similar context Wanlanai (2011), found that perceived quality of medical staff has a positive influence on satisfaction with treatment, satisfaction with hospital and satisfaction with trip, while tangible dimensions do not influence tourist-patient satisfaction. In addition, he found a significative

correlation between quality of medical staff and positive WOM. Rad, Som, & Zainuddin (2010), showed that equipment and staff appearance do not affect tourist-patient satisfaction while, all other dimensions of the medical service including staff's empathy directly and positively influence it. They also found a significative indirect relation between service quality and behavioral intentions through satisfaction.

Resulting in literature developed previously, we consider that:

H3: Perceived quality of doctor has a positive and direct effect on satisfaction with trip experience

H4: Perceived quality of doctor has a positive and direct effect on intentions behavior

a. *Perceived quality of doctor has a positive and direct effect on intentions behavior with medical purpose*

b. *Perceived quality has a positive and direct effect on intention to revisit the medical destination for pleasure*

1.3. Price value, tourist-patient satisfaction and intentions behavior

Price is a determinant factor in medical destination choice (Connell, 2013). In fact, many patients undergo medical treatment abroad to avoid the expensive prices of such treatment in their own country. This price represents the perceived cost of destination package or medical provider offer. However, in this research we are interested in perceived price by the tourist-patient after medical intervention. According to Zeithaml (1988), perceived price is an encoded price that reflects monetary and non-monetary sacrifices made to obtain the product or service.

In this research we share the point of view of Bolton & Lemon (1999) who have defined price value as a perception of paiement equity. Consequently , we consider that price value is the tourist-patient's perception that the price paid is fair, compared to what he received as medical service in the host destination. This definition refers also to the notion of «price fairness». This terminology was previously used by many researchers in consumer behavior models (Martins & Monroe, 1994; Bei & Chiao, 2001; Xia, Kent, & Cox, 2004; Diller, 2008). It indicates that the medical intervention made abroad is a « good deal » or the price is "acceptable" with regard to the service received (Bei & Chiao, 2001). Previous studies have established a positive and direct relation between perceived price fairness and satisfaction (Bolton & Lemon, 1999; Bei & Chiao, 2001; Andreas, Xia, Monroe, & Huber, 2007). The direct and positive relation between perceived price fairness and intentions behavior has also been found (Bei & Chiao, 2001; Varki & Colgate, 2001). In addition, the negative perception

of price could lead to a negative reaction from the consumer such as lower shopping intentions as demonstrated by Cambell (1999).

As a result, we consider in our case that the perception of price fairness leads to a positive intentions behavior toward destination and has a positive and direct effect on tourist-patient satisfaction toward this trip experience. Therefore, we posit:

H5   Positive perception of price has a direct and positive effect on tourist-patient satisfaction with trip experience

H6   Positive perception of price has a direct and positive effect on tourist-patient intentions behavior

a. *Positive perception of price has a direct and positive effect on tourist-patient intentions behavior with medical purpose*

b. *Positive perception of price has a direct and positive effect on tourist-patient intention to revisit the medical destination for pleasure*

Finally, we propose the following schema that represents the proposed model of tourist-patient satisfaction and his behavioral intentions toward a medical destination. In addition, it summarizes all the hypothesis of research mentioned before.
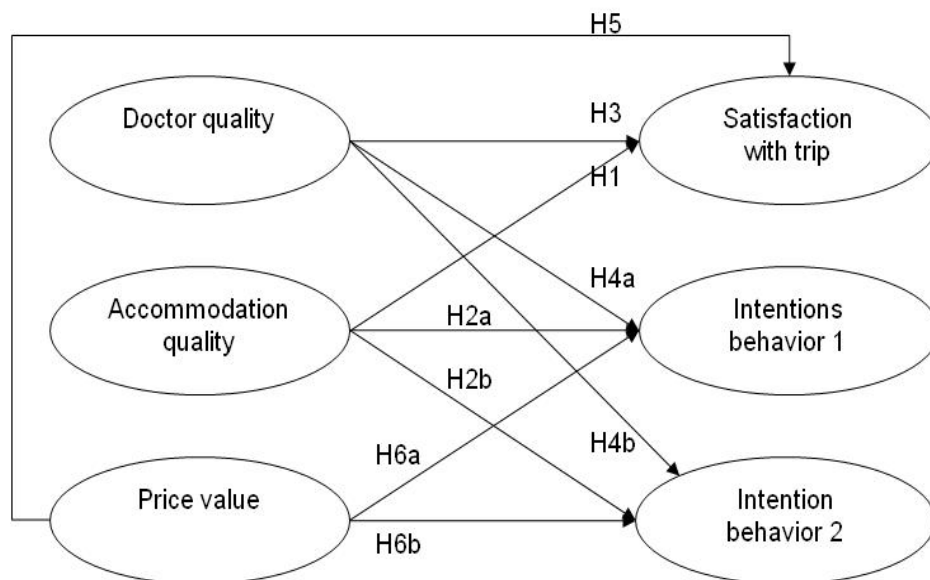
Figure 1. Proposed model of tourist-patient satisfaction and intentions behavior toward medical destination

2. Methodology

2.1. Research design

The empirical survey was conducted through a self-administered questionnaire in two languages (French and English) that was distributed by different means: internet and directly at the departure from the accommodation (Hotel or rented house) at Tunis. On the web, the invitations to participate in the survey were sent by incorporating links on facebook pages related to the medical tourism context, either by emails. The target population was people who traveled abroad to undertake medical intervention (chirurgical, non-chirurgical, esthetic and non-esthetic intervention (related to illness)). For this purpose, we posited at the beginning of the questionnaire, a screening dichotomous question for which response can be either yes or no and that consists in "have you ever traveled abroad for medical or surgical operation/treatment?" ; In total 130 responses were obtained and 101 were selected as valid for analysis.

2.2. Sample

The selected sample is constituted from 51% females and 49% males having different categories of ages and nationalities. 42.5% of respondents are adults aged between 26 and 35 years and 43.5% of them belong to a category of middle-aged adults from 36 years to 55 years. The rest are seniors over 55 years. The major responses are patients with African origin from Tunisia, Algeria, Mauritania and Libya (51.48%). In addition, we have 29.7% of respondents from Europe (France and Swiss) and 18 .81% from the U.S.

2.3. Measures

All the measures were adapted from previous literature on tourism, medical service and medical tourism. Moreover, they were pretested with convenience sample of 20 tourist-patients. The results of their reliability are mentioned below (See the alpha scores in table 1). In all the questions, we asked the respondent to denote his level of agreement or disagreement with proposed statements in five points Likert from strongly disagree (1) to, strongly agree (5). The questionnaire survey consisted in the following major parts: questions related to the tourist-patients demographics, date and type of medical intervention and the name of the medical destination where the operation/ treatment was undergone. Moreover, there are questions related to measures of the following variables: doctor perceived quality, satisfaction with trip, price value, accommodation quality, and intentions behavior (See table 1).

Variables	Definition	Items
Doctor quality *(D'Souza and Sequeira, 2012; Choi& al., 2004)*	*The perceived quality of doctor means: his empathy, his abilities to communicate with patients and to understand their needs, his technical skill and his trustworthiness.*	*Alpha de Cronbach = 0.856* *QDoctor1:"The doctor who treated me is friendly"* *QDoctor2: "has explained me everything concerning the intervention, the treatment and the consequence of the cure"* *QDoctor3: "has allowed me to ask him/her as much as I wanted to clear every thing"* *QDoctor4: "has carefully considered my expectations"* *QDoctor5: "has made me at ease"* *QDoctor6: "inspires confidence"* *QDoctor7: "he/she knows what he /she is doing and does it well"*
Satisfaction with trip experience (Assaker, Vinzi, and O'Connor, 2011)	*A one-item variable reflects the overall satisfaction with the trip experience lived at the destination level.*	*STE:"Overall I'm satisfied with my stay"*
Accommodation quality (Žabkar, Brencic, and Dmitrovic, 2010)	*A one-item variable that reflects overall perceived quality of accommodation (ex. Hotel, rented house, etc.)*	*AQ:"Accommodation is of a good quality"*
Price value (Voss, Parasuraman,and Grewal, 1998; Bei and Chiao, 2001)	*A one-item variable that reflects the fairness of price of medical intervention effected abroad.*	*PV:"Reasonable price"*

| Intentions behavior (Mechinda & al., 2009; Žabkar & al, 2010) | This variable is divided into two dimensions: First dimension relates to the medical context (4 items (non-regret, positive WOM, recommendation, and intention to revisit). Second dimension consists in revisit intention for pleasure. | Intentions behavior 1 (dimension1): IB1 Alpha de Cronbach = 0.928 Intention1: "If I have to go through it again, I'll choose the same destination" Intention2: "I'll recommend this medical destination to my friends and relatives" Intention3: "I'll praise this destination" Intention4: "If needed, I'll return to this destination for other medical care" Intention behavior 2 (dimension 2) IB2:"If I have the opportunity, I'll come back to this destination for pleasure" |

Table 1. Measures and definitions of variables

2.4. Analysis method

The proposed model was tested by using the partial least square path modeling (PLSPM) with XLSTAT2015 Software. This method is adapted to a small sample and/or with non-exigency about the normality of the data (Chin W. W., 1998; Hair, Ringle, & Sarsted, 2011). According to Assaker and al (2013) PLSPM can overcome the difficulties associated with non-normal datasets, complex models and relatively small sample sizes, which are common in tourism research. Therefore, these authors postulated that the use of this method could expand our undestanding of many phenomena including destination competitiveness, satisfaction, and customer loyalty.

The analysis of the PLSPM consists in two steps (Chin W. , 2010) : (1) analysis of outer model and (2) analysis of structural model. The first step is an evaluation of measures. The constructs of this study are reflexives (Mode A). Therefore, their evaluation consists in the analysis of their reliability, unidimensionality, convergent validity and discriminant validity (Chin W. , 2010; Götz, Kerstin, & Krafft, 2010). The second step is related to the evaluation of relations between the latent variables and the hypothesis testing. This step consists in the evaluation of the significance of the path coefficients by combining several methods and indicators: student-t test, effect-size (f^2) and confident bootstrap interval. The cross validation of the two models (outer and inner) was carried out with the blindfolding procedure, using G=30.

3. Results and discussions

3.1. Measurement model

Before analyzing data with PLSPM, we conduct a principal component analysis (PCA) with Varimax rotation on doctor quality items. Our objectives are to get factors that may lead to a more comprehensive model of tourist-patient behavior, and to facilitate the interpretation of results. Therefore, we obtain as a solution three principal components and the proportion of explained variance is equal to 78,132%. The first component is "Kindness" which is reflected by the item "QDoctor1: the doctor who treated me is friendly". The second component is coded "Communication/ information" and reflects the ability of the doctor to understand patient expectations, and his ability to establish with him a real dialogue about the medical process. Their related items are: "QDoctor2", "QDoctor3" QDoctor4" and "QDoctor5" (see table1). The latest component refers to technical skills of a doctor and his trustworthiness. In other words, it reflects the "trustworthy behavior" of a doctor and integrates two items: "QDoctor6 "("inspires confidence") and "QDoctor7" (knows what he/she is doing and does it well") (see table 1).

The tested model is shown in figure 2 below. The Alpha Cronbach (α) and composite reliability (D.G Rho, ρ) of the all multi-items constructs ("communication/information", "trustworthy behavior" and "intentions behavior 1"), are over .7 as indicated in Table 2. This shows a satisfactory internal consistency of these metrics and their unidimensionality (Henseler, Ringle, & Sinkovics, 2009; Chin W. , 2010; Vinzi, Trinchera, & Amato, 2010; Sanchez, 2013).

Latent Variables	N. items	Loadings ≥ .7	Cronbach Alpha ≥ .7	D.G Rho ≥.7	AVE ≥ .5
« communication /information »	4	.791	.831	.888	.665
		.840			
		.760			
		.850			
« Trustworthy behavior »	2	.912	.809	.913	.840
		.912			
Intentions behavior 1	4	.960	.951	.965	.873
		.966			
		.944			

		.843				

Table 2. Indicators of measurement model quality

The corresponding average variance extracted (AVE) of these variables are also widely over .5 (see table 2). In addition, the loadings of "communication/information" variable ranging from .76 to .854 and of "intentions behavior 1" construct ranging from .843 to .966. They are the narrow ranges. According to Chin (2010, p 674), measures "with both a higher average loadings and narrower range such as from .7 to .9 you would have greater confidence that all items help (i.e., converge) in estimating the underlying construct". Therefore, the convergent validity for these constructs is satisfied.

On the other hand, the discriminant validity, "is supported if a latent variable's AVE is larger than the common variances (squared correlations) of this latent variable with any other of the model's constructs" (Fornell & Larcker, 1981 from Götz & al 2010, p 696). In our case, this condition is supported, so the discriminant validity is also confirmed. Therefore, the variables of the proposed model are distinct theoretical constructs (see table 3).

|	Kindness	Com/info	TB	AQ	PV	STE	IB1	IB2	AVE >r²
Kindness	1	.213	.18	.062	.016	.044	.028	.036	
Com/Info		1	.423	.003	.05	.089	.136	.164	.665
TB			1	.004	.1	.075	.103	.190	.840
AQ				1	.003	.096	.013	.012	
PV					1	.052	.003	.048	
STE						1	.002	.013	
IB1							1	.355	.873
IB2								1	

Table 3. Discriminant validity of constructs (AVE> square correlations)

Note. Com/Info = communication/information; TB= Trustworthy Behavior; AQ= Accommodation Quality; PV= Price Value; STE= Satisfaction with Trip Experience; IB1=Intentions Behavior 1; IB2=Intention Behavior2

Finally, the quality of measurement model is satisfactory, thus we can evaluate the research hypothesis proposed.

3.2. Results of the Structural model

The determination coefficient (R^2) of the three dependents variables, satisfaction with trip, intentions behavior1 and intention behavior2, are significant and equal respectively to .231, .192 and .239 (figure 2).
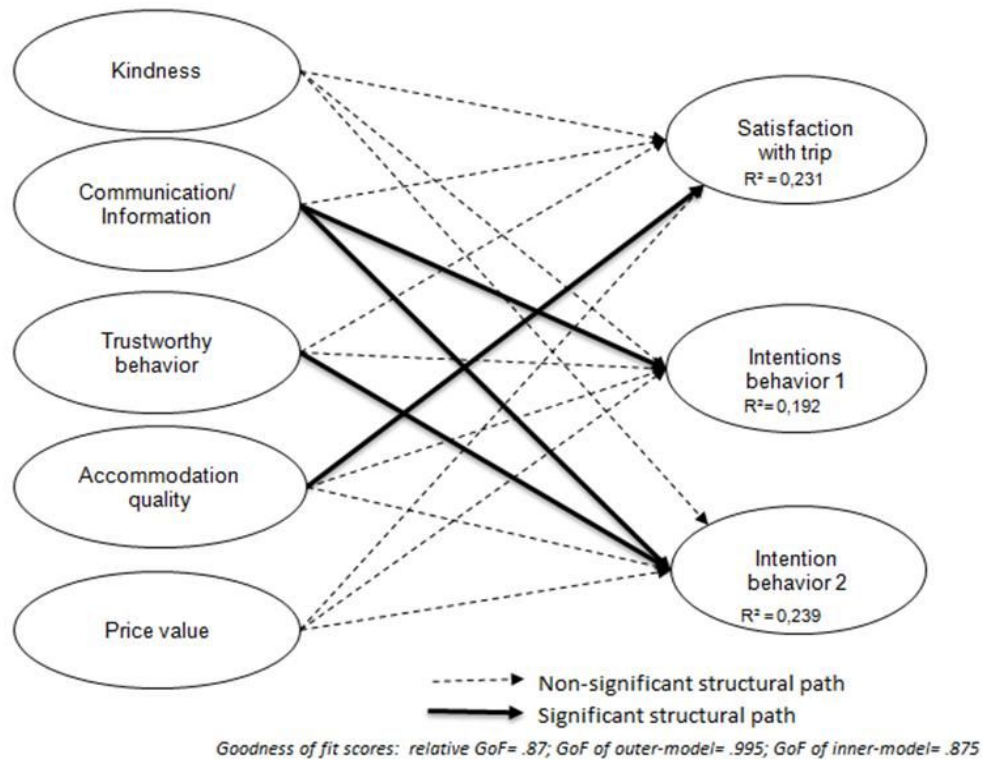
Figure 2. The results of PLS-PM structural model

The accommodation quality appears as a significant determinant of satisfaction with the trip experience (β= .344; p-value=.000< .001) (See table.4). Nevertheless, it does not constitute a significant determinant of both intentions behavior dimensions. Because the non-significance of corresponding path coefficients: β (AQ→IB1) =.132 with p-value= .180> .1, and β(AQ→IB2)= .133 with pvalue= .164> .1 .These findings were also confirmed by corresponding effect size scores (f^2) that are lower than .02 (See table 4). As a result, these variables do not have a significant impact on these structural equations (Chin W. , 2010; Hair, Ringle, & Sarsted, 2011).

In addition, the bootstrap test resulted in confident intervals that contain zero (see table 4). In consequence, we concluded that the hypothesis (1) of this research is supported. In contrast, the hypothesis (2) is not confirmed. The three dimensions of doctor quality as shown in table 4 below do not have a significant direct and positive effect on satisfaction with trip. The student –t tests for both "Kindness" and "trustworthy" dimensions, are not significant, p-value

is higher than .7. However, concerning the "communication/information" dimension, the student test is significant at the level of α=.05, but the corresponding bootstrap interval contains zero. Consequently, we consider that the hypothesis (3) is not supported.

From	to	Direct effect (p-value)	Confident interval bootstrap		Effect size (f²) ≥.02	Results
			Borne Inferior (95%)	Borne Superior (95%)		
Doctor quality Kindness	Intentions behavior (1)	-.074 (.507)	-.316	.179	.005	H4 (a) partially confirmed
communication/ information		.330 (.012)	.064	.584	.069	
Trustworthy behavior		.182 (.157)	-.049	.416	.021	
Accommodation quality	Intentions behavior (1)	.132 (.180)	-.064	.328	.019	H2 (a) not supported
Price fairness	Intentions behavior (1)	-.167 (.09)	-.313	-.011	.031	H6 (a) not supported
Doctor quality Kindness	Intention behavior (2)	-.086 (.428)	-.290	.113	.007	H4 (b) partially confirmed
communication/ information		.257 (.043)	.043	.464	.044	
Trustworthy behavior		.266 (.034)	.048	.491	.049	
Accommodation quality	Intention behavior (2)	.132 (.180)	-.064	.328	.019	H2 (b) not supported
Price fairness	Intention behavior (2)	-.167 (.090)	-.313	-.011	.031	H6 (b) not supported
Doctor quality Kindness	Satisfaction with trip	-.040	-.316	.260	.001	

		(.711)				H3 not supported
communication/ information		.275 *(.031)*	-.024	.539	.050	
Trustworthy behavior		.033 *(.793)*	-.265	.301	.001	
Accommodation quality	Satisfaction with trip	.344 *(.000)*	.183	.525	.137	H1 supported
Price fairness	Satisfaction with trip	.182 *(.058)*	-.027	.384	.039	H5 not supported

Table 4. PLSPM results: path-coefficients scores and significance

Furthermore, "kindness" dimension of doctor quality does not have a significant direct impact on intentions behavior toward a host destination. In contrast, the "communication /information" is a significant direct and positive antecedent of both intentions behavior with medical purpose ($\beta = .330$ and p-value=.012 <.05) and intention to revisit for pleasure ($\beta = .257$ and p-value=.043 <.05). "Trustworthy behavior" appears as only a significant and positive antecedent of intention to revisit for pleasure ($\beta = .266$ and p-value=.034 <.05). Consequently, the hypothesis 4 is partially supported. Concerning the perceived price fairness, results showed that this variable does not have a significant direct impact on all the three dependent variables (see table 4). Therefore, hypothesis 5 and 6 are also not supported.

The blindfolding test (G=30) showed positive scores of average CV-communalities a little below or downright superior to 0.5 that indicate the good quality of measurement model (Götz, Kerstin, & Krafft, 2010; Hair, Ringle, & Sarsted, 2011). However, for the average scores CV- redundancies related to intentions behavior (1) and satisfaction with trip are negative. This indicates that the predictive relevance of these variables is doubtful. In contrast, concerning the "intention behavior 2", the result of the blindfolding test showed the Q² equal to 0.189 that is larger than zero, which indicates the good predictive relevance of this variable (Chin W. , 2010). Looking closer at these scores, we notice that the intention1 ("no regret"), intention2 (intention to recommend), and the intentions 3 (positive WOM) are less predicted by the proposed model because their corresponding CV-redundancy are negative. On the other hand, intention to revisit for other medical intervention (intention 4), and for pleasure (IB2) are well predicted with this model.

Concerning the GoF values, we note that the relative GoF; GoF of inner model and of outer model, are above .9 (See figure.2). These indicate the good quality of the proposed model (Vinzi, Trinchera, & Amato, 2010; Chin W. , 2010). However, according to Vinzi and al (2010), in such case and when we have the lower values of R² associated with a higher factor loadings in measurement model (in our case the smallest loadings is equal to .760, see table.2), this could be a sign of possible unobserved heterogeneity in the data. Consequently, we conduct at this level of the study a Rebus-PLS analysis to determine the eventual post-hoc homogenous segments of tourist-patient intentions behavior. This latest variable constitute the key variable in medical tourism context that can be a good predictive of effective loyalty behavior toward a medical destination as were suggested by the theory of planned behavior (Ajzen, 1991). Obtaining such results can improve knowledge of the tourist-patient behavior and as a result help to formulate a suitable product policy for the most attractive segments (M.Mehmetoglu, 2011; Han.H & Hyun.SS, 2015).

3.3. Post-hoc segmentation of tourist-patient intentions behavior

Vinzi V. E. and al (2008) presented the REBUS-PLS as a newest method to capture unobserved heterogeneity in PLS-PM by detecting the sources of heterogeneity in both the structural and the outer model for all exogenous and endogenous latent variables. This method requires all block of variables to be reflective which is the case of this study (Vinzi V. E., Trinchera, Squillacciotti, & Tenenhaus, 2008; Vinzi, Trinchera, & Amato, 2010). In our case, performing the REBUS-PLS in the global model previously described gave as result automatically two latent classes (see figure 3). We note that the item of "doctor 7" related to latent variable "trustworthy behavior" was eliminated because it was detected by the REBUS-PLS algorithm as constant in class 2.

The table.5 below presents the results of path coefficients for global model (whole sample) and local models. This solution shows a Group quality index (GQI) equal to .573, which is higher than the absolute GoF of global model (.413). This improvement is higher than 25%, which is a satisfactory result (Trinchera, 2007; Vinzi, Trinchera, & Amato, 2010). For the two groups, the GoF values (relative, inner and outer models) are over .9 (See table 5).

The AVE related to the multi-items variables are over .5. The measurement model is as satisfactory in both segments. In addition, the R² values of the three dependent variables were ameliorated mainly those related to intentions behavior 1 where R² related to class 1 is over .6 and for class 2 is over .5. For the rest, the percentage of explained variance remains little lower than .5.
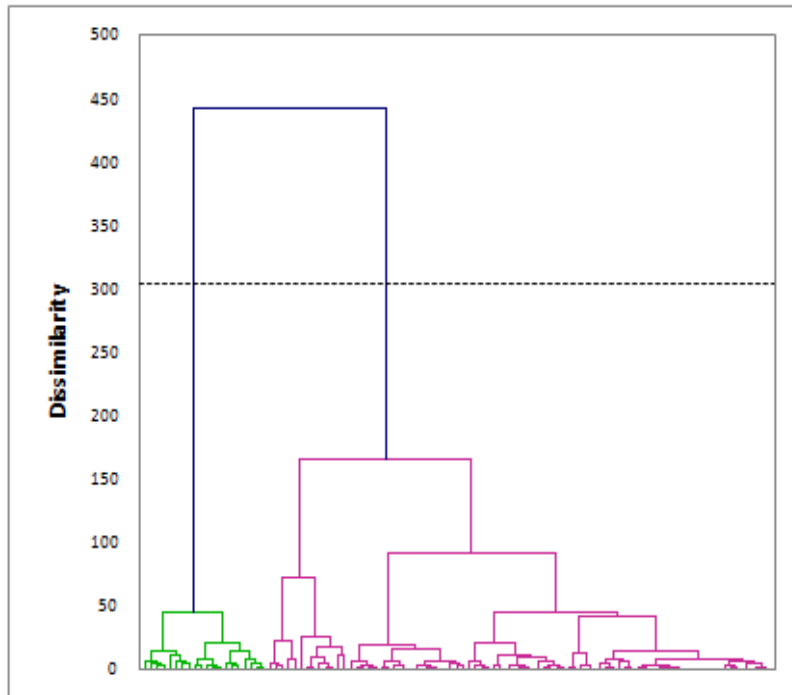
Figure 3. Dendrogram obtained by REBUS-PLS

	Global n=101	Class 1 n=33	Class 2 n= 69
GoF	**.413**	**.584**	**.604**
Satisfaction with trip ***R²***	***.341***	***.423***	***.466***
Doctor quality			
Kindness	-.04	.044	-.001
Communication /information	.275	-.391*	.511*
Trustworthiness	.033	-.245	-.004
Accommodation quality	.344**	.372*	.398**
Price value	.182	.246	.228*
Intentions behavior 1 ***R²***	***.191***	***.604***	***.582***
Doctor quality			
Kindness	-.072	.137	-.211
Communication /information	.330	.084	.193
Trustworthiness	.180	.312	.668**

Accommodation quality	.131	-.050	.246*
Price value	-.166	-.794**	.026
Intention behavior 2 *R²*	**.239**	**.459**	**.440**
Doctor quality			
Kindness	.085	.191	-.151
Communication /information	.256*	.002	.423*
Trustworthiness	.265*	.285	.204
Accommodation quality	.133	-.534*	.488**
Price value	.098	.185	-.112

Table 5. Measurement model results for the global and local models.

* Path coefficient is significant at the level of. 05

** Path coefficient is significant at the level of .001.

This obtained result from the REBUS-PLS analysis was performed by the permutation test (number of permutations =1000, α=5%) based on these two classes. This test confirmed the dissimilarity between these groups at the level of inner- model and showed that there is no significant difference between them at the level of measurement model. Especially, the permutation test confirmed the existence of significant difference between them, at the level of three structure relationships as shown in table 6 below. This difference lies not in strength of relations between latent variables which is higher in both segments, but in a sign of these relations.

Indicators	Difference	P<.05
Price value -> Intentions behavior 1	.750	.001
Accommodation quality -> Intention behavior 2	1.014	.001
Communication/information -> Satisfaction with trip	.985	.004
GoF	.022	n.s

Table 6. The results of permutation test between the two classes.

n.s: test not significant p>.05

The characteristics of these two segments are as follow:

Class 1: The occasional tourist-patients (n=32)

This class is characterized by a negative relationship between accommodation quality and intention to revisit the destination for pleasure. The effect size of this variable on the structural equation is high (f^2 = .482 > 0.35) (Chin W. , 2010). In addition, the price fairness has a high negative impact on intentions behavior 1 (β= -.794) and the doctor communication/ information dimension has a high negative impact on satisfaction with the trip (β= -. 391). Mainly we note that if the practitioners make further effort to improve the quality of accommodation or/and the perception of price fairness, they can make this kind of tourist-patient as relatively satisfied but they will not obtain from him a positive intentions behavior toward this medical destination such as revisit intentions or recommendation.

*Class2: The quality oriented tourist-patients (n=69)*

This class is characterized by a weaker influence of perceived price fairness on the three dependent variables. In contrast, it is characterized by a strong positive relationship between the "Communication/information" dimension of perceived doctor quality, and both variables "satisfaction with trip" and "intention to revisit for pleasure" (intention behavior 2). In addition, in this segment of TP, the trustworthiness of doctor has a significant and positive impact on the intentions behavior (1). Quality of accommodation appears also as a significant and positive determinant of satisfaction with trip, intentions behavior (1) and intention behavior (2). As a result, we can note that if the stakeholders in this sector make further efforts to improve quality of services at the destination level, they will make this kind of tourist-patient as satisfied, and at the same time, they will influence positively his intentions behavior with medical purpose and those related to entertainment motives.

According to M.Mehmetoglu 2011, such segmentation is not sufficient for gearing marketing-mix activities toward a specific segment, it should be complemented by a follow-up procedure that profiles individuals belonging to different obtained segments in relation to other relevant external variables such a socio-demographic data. Knowing that such a procedure is not available at the moment in Rebus-pls, this author started-up a CHAID analysis (Chi-squared automatic interaction detector) which is considered as compatible with PLS-SEM because they both handle the non-normally distributed data. In our case, we choose to undertake the same procedure to determine relevant individual characteristics for each TP segment. Consequently, we run a CHAID analysis in which the dependent variable is the two obtained segments from the REBUS-PLS and the independent variables are : gender, age,

country of origin, intervention type and medical destination. The results of this analysis are discussed in the following paragraph.

3.4. Profile of both occasional and quality oriented Tourist-patient

The CHAID analysis showed that the gender and intervention type are not pertinent in characterizing both tourist-patient segments. In contrast the other independent variables are more suitable (p-value=.000). Therfore, as shown in the figure 4 below, there is a high percentage of "occasional Tourist-patient" (occasional TP) among American tourist-patients and a higher percentage of "quality oriented tourist-patient" (quality oriented TP) among European and African tourist-patients. In addition, there is a high percentage of "occasional TP" among seniors (≥56 years) and a high percentage of "quality oriented TP" among tourist-patient aged less than or equal to 55 years (see figure 5). And finally, this analysis also reveals that there is a high percentage of "occasionnal TP" among the tourists that had made their medical intervention in the Asiatic destinations such as china, Malysia and India. On the other hand, there is a high percentage of "Quality oriented patient" among those that had made their medical intervention in Tunisia and other countries (ex.Hungary).
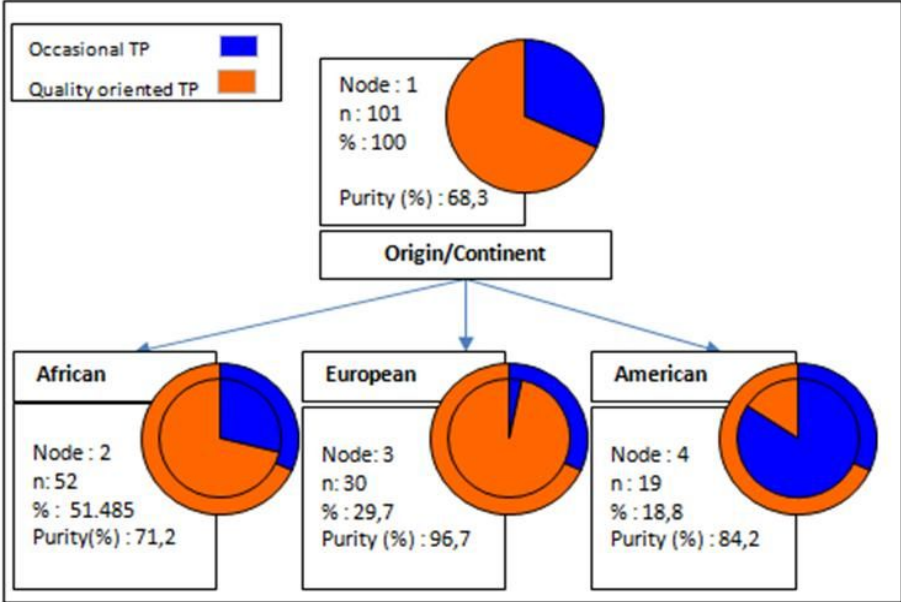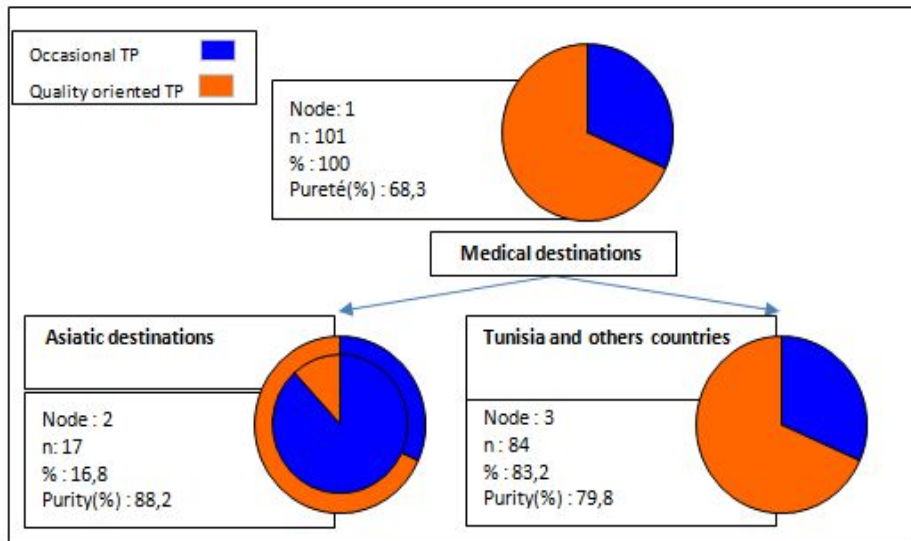

Figure 4. Result of CHAID analysis according to nationalities

Note. TP= Tourist-Patient; Purity= % of objects corresponding to the dominating class at the node level.
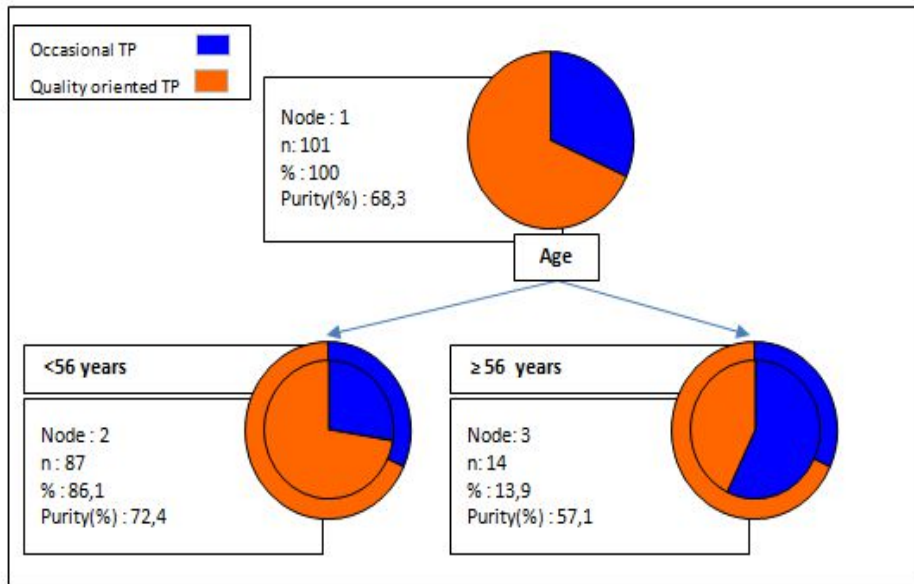
Figure 5. Result of CHAID according to ages

Figure 6 . Result of CHAID according to medical destinations

4. Conclusion

The most important finding of this research is the behavioral segmentation of the tourist-patients on two groups based on their intentions behavior toward the medical destination. They consist in the "occasional TP" which is intentionally non-loyal. This group takes the opportunity to make the medical intervention abroad, and that is all. They do not have any intentions to recommend and to speak positively about this destination or to revisit it, even if they have a positive perception of price and services provided. In contrast, the group of "quality oriented TP" is sensible to quality of accommodation, communication and

trustworthiness dimensions of doctor quality and may have a positive intention if supplementary efforts were made in these directions.

From the managerial standpoints, these results imply that the main interesting segment in term of profitability for both destination and stakeholders in medical tourism sector which concerns exclusively medical intervention (medical treatment or chirurgical intervention related to illness or for esthetic purposes), may be the group of "the quality oriented TP".

In addition, this study showed that perceived price fairness is a marginal variable in tourist-patient satisfaction and his behavioral intentions mainly for "oriented quality TP". In fact this study revealed that whether the perceived price fairness is high, the "occasionnal TP" will not have a positive intention toward the medical destination. On the other hand, this variable is also insignificant in tourist-patient satisfaction and his behavioral intentions for the group of "quality oriented TP". Such result indicates that if the price is a crucial element in marketing strategy to attract the newest tourist-patient (Connell, 2013; Doshi, 2008), it does not constitute a suffuciant element to retain them. These results are similar to those founded by Chaohui, Lin and XIA (2012) in event tourism context . Furtheremore, these could have a theorotical support in some finding of Cronin, Brady and Hult (2000) study. In fact, these authors concluded that consumers regarding healthcare services, seem to place greater importance on the quality of a service than they do on the costs associated with this acquisition. Consequently, we consider that quality seems to be as key variable in developing strategic and operational marketing in medical tourism market. In addition, these results encourage to establish in medical tourism context, a quality oriented theoretical framework for destinations.

Finally, we note that this study confirmed for the group of "quality oriented TP" that perceived quality is a good predictor of intentions behavior for both medical purpose and pleasure. This showed that a success of such medical experience could tempt the tourist to come to the same destination to see it in a different way and thus experiment in it other tourism products (ex. cultural, wellbeing, etc.). This result implies that further efforts should be made by the different stakeholders including government to enrich such experience and build such intentions behaviors toward a destination. In addition, this result implies that any experience with one destination can influence the attitude and future intentions toward this destination regardless of the product consumed at the level of this destination .

5. Limitations and further research directions

The main limit of this study consists in the small sample size and its exploratory character, which cautions any generalization of results. However, it is important to note that the stability of models (inner and outer) was checked out by a Bootstrap method (5000 re-sampling) and it is as satisfactory.

The explained variances of the three dependent variables (satisfaction, intentions (1) and (2)) for the two groups are around 0.5 or over 0.6. This indicates that a 0.4 or 0.5 of variance remains not explained. This amounts to the fact that the proposed model does not include all possible variables and elsewhere more research needs to be done in this direction, taking into account the quality of services as main factor. At final, this study provides insight on trends in perceptions and behavioral intentions of the TP through the destinations and nationalities where it is clear that US patients especially the seniors are for the most part the "occasional patients." Consequently, other research with large samples, need to be carried to check these trends by incorporating other destinations and other nationalities in order to consolidate the results found in this study.

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