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Adaptation of the “Caltic” Service Quality Model in the Tourism Sector

Maria Andreina Moros Ochoa^a, Juan Carlos Rincón Vázquez^b, Gilmer Yovanni Castro Nieto^c, Amelec Viloría^d and Janitza Ariza-Salazar^e

^aEscuela de Negocios de la Fundación Universitaria Konrad Lorenz, Bogotá, Colombia. Email: andreina.moros@konradlorenz.edu.co

^{b,e}Escuela de Negocios de la Fundación Universitaria Konrad Lorenz, Bogotá, Colombia. Email: juanc.rinconv@konradlorenz.edu.co;

janitza.arizas@konradlorenz.edu.co

^cPontificia Universidad Javeriana, Bogotá, Colombia. Email: gilmer.castro@javeriana.edu.co

^dUniversidad de la Costa, Barranquilla, Colombia. Email: aviloria7@cuc.edu.co

Abstract: The tourism sector contributes (to a greater or lesser extent) to the economy of any country and even more in emerging economies such as Colombia. According to the World Tourism Organization (UNWTO) tourism accounts for 9% of world GDP; 1 in 11 jobs are generated in this sector and represent 6% of international trade (UNWTO, 2015). In conclusion, with an instrument that contains psychometric properties that make it valid and reliable to be applied to clients who have made use of the hotel service.

Keyword: Servqual, Caltic, Quality, Service, ICT, Tourism.

1. INTRODUCTION

Caltic is a quality of service measurement model, validated from the recognized Servqual [1], which includes variables that take into account the Information and Communication Technologies (ICT). The process of developing the model will be summarized briefly, to contextualize the importance of ICT in the tourism sector. The Caltic model was developed by [2], to measure the perception of service quality and the degree of satisfaction of “internal and external” customers in the financial sector. However, the model can be adapted to any service organization. Subsequently, it was applied in the hotel and health sector, allowing interesting conclusions to be drawn for the design of new strategies with the aim of improving productivity and competitiveness of organizations.

This paper seeks to identify the variables taken into account for the adaptation of the Caltic in the hotel sector. To meet the objective of the research, an evaluation instrument was designed that seeks to establish what are the psychometric properties of the Caltic for the tourism sector?

2. METHODOLOGY

Taking into account the opinion of [3] (in [4]) whom advise not to develop new measurement tools when there are already others created and tested to measure the constructs or dimensions being studied, the Caltic model is used as reference and adapted to the tourism sector. Numerous tests were carried out to measure the psychometric properties of the scale used in the Caltic, consisting of five criteria (tangible elements, reliability, responsiveness, security and empathy), included in 22 items. This is an instrumental research.

According to [5] this type of study seeks the design and adaptation of tests, which corresponds directly with the objective of the research to estimate the psychometric properties of the instrument.

Thus, when evaluating a measurement instrument, mainly what is wanted is to establish the existence of:

- Constructs, understood as groups of concepts that can be measured through a questionnaire through a series of items. The evaluation instrument using the classical test theory (TCT), allows using items that are not optimal, because items that are modestly related to the construct can be successful if there are several of these. The above solves the difficulty when creating items that individually capture the nature of the construct optimally [6].
- Reliability. Refers to the extent to which test results or scores are error-free; One of the most commonly used methods is Cronbach's Alpha [7].
- Validity. [8] mentions that the following types exist: construct validity of the instrument; content validity and face validity.

3. RESULTS AND DISCUSSION

When applying the corresponding evaluations, the following results were obtained:

Evaluation of Judges

Suitability of expert judges: The judges were selected according to their profile, taking into account that they were knowledgeable about the fundamental aspects of quality assessment and customer satisfaction. In addition, that they had experience in teaching, research and work in the real sector.

Level of agreement among judges: The level of agreement among judges is measured by the coefficient of concordance Kendall's W. In this case the Kendall's W test had a value of: $W = .17$ ($p = .406$); $W = .25$ ($p = .471$) and $W = .20$ ($p = .471$) for the concordance of the dimension "classification", the relevance of the dimension "Caltic", and the concordance of the dimension "Caltic", Respectively. For the other dimensions of both relevance and consistency, all judges agreed.

Quantitative Content Validity Analysis

Content Validity Index (CVI): This index was applied according to the expert's test described by [9], reason why its criteria were taken for the calculation. Under this index, it is observed that all the dimensions of analysis have a value greater than 8, which leads to the conclusion that they are well constructed under the criteria of Content Validity Index CVI (Table 1)

Content validity Index (CVI): To calculate the CVI index, the criteria presented by [10]. It is observed that all the dimensions of analysis have a value of 1 based on the answers of between 5 and 11 Expert judges. It can be concluded that the construction meets the criteria of validity of the index.

Table 1
Index CVI

Dimensions	CONTENT VALIDITY INDEX (CVI)	
	BELONGING (In the sense of relevant, important or significant)	COHERENCE (In the sense of whether it is related to the subject matter)
Classification	1,00	0,96
Caltic	1,00	1,00
Importance	1,00	1,00
Satisfaction and personal information	1,00	1,00

Source: Own Elaboration

Table 2
Índice CVI

Dimintions	Content Validity – CVI
Classification	1,0
Caltic	1,0
Relevance	1,0
Satisfaction and personal information	1,0

Source: Own Elaboration

Exploratory factor analysis construct validity: It refers to the analysis of principal components, for this analysis, it was evidenced that there is only one construct. Table 3 shows the existence of two eigenvalues greater than 1 and it is evident that all items charge only to factor 1 (for which the factorial loads were observed in each of the components)

Table 3
Eigenvalues

Construct	Eigenvalues	Variance %	Accumulate %	95% Confidence Interval	
				Lower Limit	Upper Limit
1	12,353	56,152	56,152	9,794	14,913
2	1,392	6,329	62,481	1,104	1,681
3	1,202	5,464	67,946	0,953	1,451

Source: Own Elaboration

Based on the previous results, it is decided not to perform the confirmatory factor analysis since there is no evidence of the existence of constructs as suggested by the theory.

Cronbach Alpha: [11] and [12] state that this coefficient indicates to what degree the scales are free of random error or have internal variability.

For the evaluation of these results [13] and [14], they agree that a satisfactory reliability score is considered to exceed 0.60. However, in the bibliographic review carried out, [15] propound the following ranges: From 0.81 to 1.00 Very high; From 0.61 to 0.80 High; From 0.41 to 0.60 Moderate; From 0.21 to 0.40 Low and from 0.01 to 0.20 Very Low.

When applying the index to the 22 variables of the model, the Cronbach Alpha index was 0.958 (0.962 with the typed elements). These results show the reliability of the instrument and thus, it can be applied. Because the index as a whole and in each of them is very close to 1, therefore reliability is "Very high".

Lastly, the average of the items is taken, and the Jonckheere-Terpstra test is done with the item called “satisfaction” with a value of $p = .000$. The Spearman’s Rho correlation ($\rho = .360, p = .000$) shows convergent validity. These results demonstrate the validity and reliability of the Caltic instrument to be applied in the hotel sector.

4. CONCLUSION

The tourism sector is a “sensitive” service sector. When measuring service quality perception, technological variables must be taken into account as consumers are increasingly integrated with ICT in their daily activities. According to [16], clients are more informed and are more demanding with the services they expect to obtain. This research contributed to answer the absence of instruments that present valid and reliable scores that address the perception of quality in the hotel service. In this sense, the psychometric properties of the Caltic adaptation were estimated to be applied to clients who have received this service.

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