Influence of intellectual capital on organizational performance in tourism companies in Mexico

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Abstract: Tourism is an influential economic sector in Mexico that provides a considerable economic spill, creates jobs and encourages the growth of cities at regional and national level. This sector is recognized for jobs it generates and its valuable and intensive contribution of its human resources. However, the problem detected lies in the scarcity of research on intellectual capital related to organizational performance, since it is usually carried out in financial and technology related companies. The study was aimed to determine how intellectual capital influences organizational performance in tourism companies from Ciudad Obregón. The methodology was carried out under a quantitative, non-experimental and cross-sectional approach. The applied research technique for data collection was a survey. Results were analyzed with SPSS version 21 software, through the analysis of multiple linear regressions. This will determine that relational capital and structural capital influence in a positive and significant way, whereas human capital was not significant. The study concludes that two of three components of intellectual capital (structural capital and relational capital) influences organizational performance in touristic companies from Ciudad Obregón, Sonora, Mexico.

Keywords: Intellectual capital, Touristic companies, organizational performance.

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INTRODUCTION

Tourism began its activities since the times of the Greeks and Romans, performing actions to get out of their daily life. Over time, people started travelling for cultural, religious, business and sporting reasons among others. After the Second World War, the concept of paid vacations was announced and it is when the movement of tourists was initiated in the world, assuming a relevant role for the displacement of people and impacting the economy of cities dedicated to this area (Sammarchi, 2001).

According to Cabarcos (2006), tourism consists of activities carried out by the society during their displacements and stays in different destinations outside their place of residence, for a period of less than a year, for vacation, business and leisure purposes among others. According to the Secretariat of Tourism (SECTUR, 2015), the countries of Europe, Asia and America are the most visited by tourists worldwide, for leisure, health, visits to family, friends and businesses.

In the case of Mexico, it is considered as one of the main leaders in the “sun and beach” tourism, with 20 million tourists a year in the representative places, such as Puerto Vallarta, Cancun, Acapulco and Los Cabos, leaving a large economic spill. Likewise, there are other types of tourism in the country, such as alternative tourism, health tourism and rural tourism among others (Benseny, 2007).

In the State of Sonora, representative tourism is both rural and sun and beach. Rural tourism according to Figueroa, Cabazos & Mayett (2014), is practiced because there are small communities that lack income for the support of their families, offering sporting activities, hiking, cultural and historical visits, which provide and cover the need of those families. According to Enríquez et al. (2015), sun and beach tourism has become a residential tourism due to migrations that are mainly from the Unites States, but also from the surrounding cities of the State in the three beaches housed by the State of Sonora, which are: Peñasco, San Carlos Nuevo Guaymas and Kino Bay.

In the specific case of Ciudad Obregon, according to Alvarez & Limon (2011), its main tourism is business and tourists, while they carry out professional work activities, because the region lacks natural attractions as in other cities of Mexico. However, other types of tourism can be developed, such as health, cultural and educational.

Depending on the previous context, it is inferred that tourism is one of the main economic contributors of a country or region and therefore, the need arises to create increasingly competitive companies, having the best infrastructure, the best personnel for each position, the best processes and the best location. Thus the need arises not only to evaluate the companies form their economic value, wealth, products or services, but also from their intangible assets; that is, their intellectual capital. According to Ozkan et al. (2017), this resource has become one of the most important factors to measure the performance of organizations.

Due to the above, it is inferred that intellectual capital can generate influence in organizational performance as evidenced by Gómez (2016) in his study arguing that the companies will achieve their financial performance. Additionally, adequate organizational functioning and achievements in the entire company will be obtained (Chang & Lee, 2012).

It has been shown in recent decades that intellectual capital has become relevant for hundreds of companies. According to Sharabati, et al, (2013), it is poorly understood issue that has not been into practice, though in manufacturing, automotive, tourism, financial, pharmaceutical and technology sectors the issue of intellectual capital has been studied, as well as its three variables (human capital, relational capital and structural capital). This demonstrates the interest in being trained in the topic in order to increase and improve. However, the study carried out by Lillo-Bañuls & Casado-Díaz (2011) it is concluded that the literature analyzed on human capital in the tourism sector is relatively insufficient, compared to other economic sectors.

This is consistent with Rodríguez & Rubio (2006), who analyzed the hotel sector and concluded that it is necessary to perform a model to facilitate the measurement of intellectual capital in the sector. Likewise, Rivero et al.
(2003) propose a model to measure intellectual capital with relevant essential characteristics that the companies of the tourism sector should have.

With respect to the restaurant sector, Sánchez-Gutiérrez et al, (2012) carried out a study regarding the relation of the intellectual capital with the development of competitiveness together with technology. Likewise, Fuentes (2011), performed a study focused on tourist destinations, in which it was analyzed which of the variables of intellectual capital turned out to be more influential.

According to the above, it is important to note the significance of intellectual capital in relation to the organizational performance in different areas of tourism, being consistent with Carrington & Tayles (2012), by arguing that studies have been conducted in high-tech industries based on knowledge management, as well as in the financial sector. On the other hand, hotel industry and restaurant sector lack such studies. For this reason, the aim of the present research is to determine how intellectual capital influences the organizational performance of the tourism companies of the Ciudad Obregon, Sonora, Mexico.

LITERATURE REVIEW

The concept of competitiveness in organizations has been addressed along the years, analyzing the intellectual capital and considering that the companies grow, generate profits and depend on the innovation and the knowledge of their staff.

According to Sánchez et al. (2007), the intellectual capital dimension began to be studied by a small group of companies, called Skandia, Dow Chemical and the Canadian Imperial Bank to generalize intellectual capital as an intangible asset. They realized that the accounting tools they used available were not sufficient to register the value of their intangibles. In that moment, the term of intellectual capital begins to be popular and therefore, it was necessary to look for tools that could measure it.

The studies carried out highlight that evaluating the intellectual capital dimension can influence organizational performance through financial success, and determine the value of a product or service, as well as the expansion of the market (Gómez, 2016).

It is pertinent to know the definition of intellectual capital in order to have a wide context and understand the impact that the issue has on the companies.

There are certain coincidences regarding the conceptualization of intellectual capital, as defined by Sánchez et al. (2007); Bueno et al. (2008), and Cano et al. (2014), describing it as the collection of knowledge, material or intangible goods, experience, and technology applied to generate competitive advantage for the company. Thus the relationship with customers and suppliers will be improved.

In this sense, González et al. (2017) in their research about intellectual capital, conclude that this concept still presents certain level of heterogeneity and argue that it is in an emerging degree. However, for purposes of the present research, the concept applied is as follows: intellectual capital is an intangible and non-transferable resource capable to generate wealth in order to generate experiences and transform knowledge into a competitive advantage.

Literature emphasizes that over the years, models and measurement of intellectual capital have proved to be insufficient. Therefore, the authors have classified this dimension as human capital, relational capital and structural capital (Bontis, 1998; Scarabino et al., 2007; Sanchez et al., 2007; Cabrita & Bontis, 2008; Ferrerira & Martínez, 2011; Bontis et al., 2015).

For Cabrita & Bontis (2008) and González et al. (2017), human capital is one of the main elements of intellectual capital, because this variable is linked to genetic heritages, education, experience and attitudes about life and businesses. On the other hand, human capital is limited to the knowledge of employees.

However, in the study carried out by Lillo-Bañuls & Casado-Diaz (2011), they argue that when analyzing the human resource variable, it is necessary to measure the knowledge, skills and competencies that workers have individually acquired, mostly in their training and education.
process through their labor experience. For this reason, this variable is measured through education. However, when analyzing this variable in the tourism sector, the results could not be as expected, since there are different training levels or requirements compared to other economic sectors.

On the other hand, relational capital is perceived as intangible resources, willing to generate value shaped by the environment of the company to which are related to its customers, suppliers and the society among others. Such dimension allows generating value with the external relations of the company (Cabrita & Bontis, 1999). In that same sense, Santos-Rodrigues et al. (2011) conceptualize relational capital with aspects internal to the company, such as relations with customers, suppliers, institutions, etc.

For Cabrita & Bontis (1999), structural capital is made up by intangible assets that contribute, train and conserve the human resource in their routine and encourage the value of the company. In this sense, Santos-Rodrigues et al. (2011) define structural capital as the relation between internal aspects such as technology, patents, Computers and administrative systems.

The literature consulted allows contextualizing the measurement of intellectual capital in the companies, considering it as vital for its value to increase. For companies in the tourism sector, the determinant factor is the service and as it is well known, this corresponds to an intangible good.

Studies have been carried out in different sectors of tourism as Heredia (2009) did. This was aimed to know the influence of intellectual capital on competitiveness of hotels in the city of Aguas Calientes. This study was carried out through a Likert-type study, taking 53 hotels of the city as universe. Results showed that effectively, intellectual capital can be measured and this has great impact on productivity, because it can be reflected in its economic activity. However, human capital presented the lowest correlation related to competitiveness.

Jokar & Karnameh (2016) carried out an applied investigation in 142 travel agencies in Shiraz, Iran. The objective was to analyze the impact of intellectual capital on organizational performance. Results obtained show that this variable impacts positively and significantly the performance of workers, both in their productivity and profitability and reputation of the company.

On the other hand, Bontis et al. (2015) argue that service companies such as those in the tourism sector obtained positive results regarding the analysis of human capital and structural capital, concluding that commercial relations between partners is of great importance.

In the same sense, the authors Sanchez-Gutierrez et al. (2012) carried out a study in the metropolitan area to the restaurant companies of Guadalajara. This was carried out in order to analyze different variables to improve competitiveness of the restaurants. Thus, it was found that through intellectual capital innovative ideas can be created and implemented, providing benefits to the companies and increasing their competitive advantages.

Results obtained by Carrington & Tayles (2012) in their research carried out through a case study in a hotel chain in the Caribbean, concluded that it did not turn out to be a recognized dimension as such, but necessary in the practice within the hotels analyzed.

In the same sense, Zeglat & Zigan (2013) analyzed the existing relation between intellectual capital and performance in the Jordanian hotel industry. The results were obtained from 116 managers of 4 and 5 star hotels, concluding that the variable with the greatest impact and significance was the structural capital of the hotels analyzed.

In their research, Liu et al. (2014) analyzed the conceptual framework of the intellectual capital dimension in the intercultural electronic tourism in western China, in order to identify key factors of success, as well as find indicators at operational level. Results provided evidence to conclude that it the organizational management of the companies analyzed can be improved.

In this same sense, Sharabati et al. (2013) analyzed the influence of intellectual capital on the business performance of tourism organization in Jordan. The results reflected
a positive and significant relation between intellectual capital and tourism companies. However, they concluded that there is still work to be done in relation to the structural capital variable.

Considering that intellectual capital is made up of human capital, structural capital and relational capital, and considering the literature analyzed, the present research establishes the following research model and hypothesis (Figure 1).

**Figure 1: Proposed graphic model**

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Human capital X1

Relational Capital X2

Organizational Performance Y1

Structural Capital X3

Source: own
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Human capital, relational capital and structural capital influence the organizational performance of tourism companies

H₁. Human capital contributes positively and significantly to the organizational performance of tourism companies.

H₂. Relational capital contributes positively and significantly to the organizational performance of tourism companies.

H₃. Structural capital contributes positively and significantly to the organizational performance of tourism companies.

**METHODOLOGY**

The present research is considered causal, since it seeks to determine the influence of the intellectual capital dimension on the performance of tourism companies, specifically of the hotel and restaurant sector in the city of Obregon. It is based on a quantitative approach through data collected with the measuring instrument, it is aimed to measure the variables study object, objective and research hypothesis (Creswell, 2003). In that same sense, this research will address the questions and results about studies carried out by other authors have carried on this issue (Edmondson & McManus, 2007).

The design for this investigation is non-experimental, according to Hernandez et al. (2006), because the results obtained are presented as they happen, without trying to manipulate the analyzed variables.

The questionnaire used in the present research was an adaptation of the measuring instrument designed by Bontis (1998), which was applied to a total of 101 tourism companies, in order to determine the influence of intellectual capital on the organizational performance of the companies of this sector.

The population under study was determined from the National Statistical Directory of Economic Units (INEGI, 2016), with a universe of 159 organizations. Of these, 101 companies responded the instrument, equivalent to 63.52% and represented by: 80 companies of the restaurant sector and 21 hotels from 2 to 4 stars.

The statistical technique was selected, considering the sample size and the analyzed data in order to prove the hypothesis of the present study, through multiple linear regression analysis, with SPSS version 21 software.

The measuring instrument was applied, including the three variables that integrate the intellectual capital dimension (human capital, relational capital and struc-
tural capital) as independent variables, with 31 items. The organizational performance dependent variable was composed of 4 items, with an instrument of 35 items in total. The items were distributed as follows: a) 13 questions related to human capital, b) 11 for relational capital, c) 7 for structural capital, and d) for organizational performance.

A Likert scale with four elements was used, defined to avoid midpoints when analyzing the statistical results. The scale was as follows: 1 (strongly disagree), 2 (disagree), (agree) and 5 (strongly agree). Each question was written by the researcher, considering literature reviewed in the theoretical framework. Terminology adaptations were made to provide clarity to respondents.

The research was conducted as follows:

1. Based on the literature review, the items of the independent variables were generated: human capital, relational capital and structural capital, as well as the dependent variable, which was organizational performance.

2. The measuring instrument was adapted considering Bontis (1998), to now the perception of the respondents of tourism companies.

3. The population of 159 organizations was defined. Of these, 101 (80 of the restaurant sector and 21 hotels) responded the measuring instrument.

4. The application of the measuring instrument in the companies under study was monitored.

5. Exploratory Factorial Analysis (EFA) was performed to determine integration of the variables. It was observed that several items failed to obtain a correlation level greater than 0.4. These items were eliminated (see Table 1).

6. Technical criteria and necessary tests were validated with results obtained from the measuring instrument through the multiple linear regression models.

7. Statistical results were interpreted and conclusions were generated.

The application of EFA allowed reducing the items for each variable, of which a total explained variance of 62.95% was obtained, considering a total of 15 items. This same analysis allowed eliminating those items with a correlation level lower than 0.40.

With the result of the previous analysis, the internal reliability of this instrument was evaluated through the Cronbach’s alpha. According to Levy & Varela Mallou (2013), the result must have a scale greater than 0.60 for the exploratory studies such as this research. Therefore, it is concluded that the instrument is reliable and in addition, there is a correspondence between the grouped items.

Table 2 presents results of the Cronbach’s alpha by variable:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Input items</th>
<th>Output items</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human capital</td>
<td>13</td>
<td>4</td>
<td>0.769</td>
</tr>
<tr>
<td>Relational capital</td>
<td>11</td>
<td>5</td>
<td>0.802</td>
</tr>
<tr>
<td>Structural capital</td>
<td>7</td>
<td>3</td>
<td>0.860</td>
</tr>
<tr>
<td>Organizational</td>
<td>4</td>
<td>1</td>
<td>0.664</td>
</tr>
</tbody>
</table>

Source: own with data from SPSS software.

In that same sense, it is verified that there is internal validity of the measuring instrument and how the items are referred to the same variable that is intended to be measured through the Kaiser-Meyer-Olkin test and the Bartlett’s sphericity test. Results are shown in Table 3.
Table N° 3. KMO and Bartlett’s test

| Kaiser-Meyer-Olkin sample adequacy test | .809 |
| Bartlett’s sphericity test | Approximate chi-square 460.909 | gl 36 | Sig. .000 |

Source: own with data from SPSS software.

The result of Table 3 represents a KMO of 0.809 and the Bartlett’s sphericity test was significant of 0.000.

When validating the tests described above, a multiple linear regression model is analyzed, applying the “enter” method, so that all independent variables are displayed. The results are as follows:

Table N° 4. Summary of the multiple regression model (goodness of fit).

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R square</th>
<th>Corrected R square</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.636</td>
<td>.404</td>
<td>.386</td>
<td>1.955</td>
</tr>
</tbody>
</table>

Source: own with data from SPSS software.

As can be seen in Table 4, a model was found, which explains the dependent variable: organizational performance, with the variables human capital, relational capital and structural capital, with an explained variance of 0.404. This means that R2 explains 40.40%. The Durbin Watson statistics presents a result of 1.9555, which is within the established range (between 1.5 and 2.5), indicating that the residuals are independent.

The statistical result of F and the significance of the model are presented below:

\[
y = -0.585 \text{(DES)} + 0.039 \text{(CHX1)} + 0.364 \text{(CRX2)} + 0.722 \text{(CEX3)}
\]  

Table N° 5. ANOVA (analysis of variance).

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>17.981</td>
<td>21.948</td>
<td>.000²</td>
</tr>
<tr>
<td>Residual</td>
<td>26.488</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44.469</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent variable: DESY1a 
Predictor variables: (Constant), CEX3, CRX2, CHX1b

Source: own with data from SPSS software.

The F statistics presented in Table 5 allows inferring that there is a significant linear relation between the dependent variable and the independent variables presented in the model. In the same sense, the “sig” column obtained a value of .000 that is less than 0.05, being interpreted as significant for the model presented.

Table 6 shows the coefficients in order to construct the regression equation (1), shown below:

Table N° 6. coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Standard coefficient</th>
<th>Collinearity statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta</td>
<td>t</td>
<td>Tolerancia</td>
</tr>
<tr>
<td>1 Constante</td>
<td>-.585</td>
<td>-1.113</td>
</tr>
<tr>
<td>CHX1</td>
<td>.039</td>
<td>.318</td>
</tr>
<tr>
<td>CRX2</td>
<td>.364</td>
<td>2,282</td>
</tr>
<tr>
<td>CEX3</td>
<td>.722</td>
<td>4,948</td>
</tr>
</tbody>
</table>

Source: own with data from SPSS software.
Table 6 shows the result obtained from the "Variance Inflation Factor (VIF), which must be less than 5, with a value between 1 and 2 in the variables analyzed. It is determined that there is no presence of collinearity between dependent and independent variables.

Based on the above, it can be observed that H1: CH was not statistically significant. The above is consistent with the literature analyzed, particularly with the research results by Heredia (2009) and Lillo-Bañuls & Casado-Diaz (2011), arguing that human capital is measured through education or the experiences and training that workers have individually. Thus, it is concluded that this variable in the tourism sector is not expected, unlike other economic sectors.

For H2: Relational capital of this research presented a positive and significant relation respect to organizational performance in companies of the restaurant and hotel sector. The previous result is consistent with studies carried out by Santos-Rodrigues (2011), Figueroa & Fernández (2011); Sharabati et al. (2013), so that it is inferred that the companies under study are related to their customers, suppliers and external society, impacting organizational performance.

For H3: Structural capital presented the most significant and positive relation. This result is consistent with that obtained by Cabrita y Bontis (1999), Zeglat & Zigan (2013); Bontis et al.(2015), arguing that intangible assets of companies analyzed such as technology, computer systems and administrative systems are related to organizational performance.

CONCLUSIONS

Analyzing intellectual capital and the dimensions that integrate it have become in an area of opportunity especially for the academics since the literature reviewed evidences that there is a relation of this variable with the performance in organizations, such as the case of companies form the restaurant and hotel sector of Ciudad Obregon. The present research contributes to the already existing results in the analysis of intellectual capital on organizational performance. The literature confirms that the proposed model presents support and can be studied in greater depth. For the particular case of the restaurant and hotel sector in Ciudad Obregon, this analysis presents a view of the organizational performance based on the intellectual capital dimension. Additionally, it is an area little studied in depth by the researchers of the region and, according to Carrington & Tayles (2012), it is important to encourage the academics to perform further studies in this regard.

The foregoing is consistent with results obtained by Bontis (1998); Sánchez et al. (2007); Hormiga & Melián (2007) Cabrita & Bontis (2008), Ferrerira & Martínez (2011); Bontis et al. (2015), arguing the importance and the relation existing in intellectual capital on organizational performance.

It is important to highlight that this research, specifically in this context, is not capable to generalize the results obtained here. However, they can be considered as support for future studies or a complement to measure the organizational performance in tourism companies.

One of the implications identified in the research is the interest on the part of the academics to know to what extent intellectual capital influences the performance of organizations and in the future it will be possible to carry out studies in other areas of the tourism sector.

From a practical point of view, it is suggested that managers or business owners pay attention to the analysis of intellectual capital to enhance organizational performance.

Based on the above context, the present study met the objective set, which was: Determine how intellectual capital influences the organizational performance of companies in the tourism sector in Ciudad Obregon.

In this sense, two of the proposed hypotheses were checked through the multiple regression models as follows:
Table N° 7. Hypothesis check

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>($\beta$ of the model)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$. Human capital has a positive and significant influence on organizational performance of companies in the restaurant and tourism sector in Ciudad Obregón.</td>
<td>.039</td>
<td>Not accepted</td>
</tr>
<tr>
<td>$H_2$. Relational capital has a positive and significant influence on organizational performance of companies in the restaurant and tourism sector in Ciudad Obregón.</td>
<td>.364</td>
<td>Accepted</td>
</tr>
<tr>
<td>$H_3$. Structural capital has a positive and significant influence on organizational performance of companies in the restaurant and tourism sector in Ciudad Obregón.</td>
<td>.722</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Source: own with data from SPSS software.

As observed in Table 7, human capital was not statistically significant, being consistent with results obtained by Lillo-Bañuls & Casado-Díaz (2011), arguing that this variable was not significant in the tourism sector in Spain. The above is explained by arguing that the training of human resource of this sector is lower than in other sectors. This results in the possibility of moving away that better qualified resource, causing lower levels of competitiveness, quality in the service and innovation.

It is worth mentioning that the educational institutions will increase the level of training for the tourism sector, in order to increase the competitiveness of such sector, ensuring that the human resource is endowed with qualitative changes adapted to the needs of companies. Likewise, it is convenient to promote human resources with tourism entrepreneurs, adequately rewarding them and offering them job satisfaction, in order to increase the quality of tourism services.

References


