

Measuring The Impact of Intellectual Capital on Travel Agencies' Innovation Performance: Evidence from Egypt

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ABSTRACT

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This study aims to assess the impact of intellectual capital on the innovation performance of Egyptian travel agencies. To achieve this, the researchers used a deductive approach as well as a quantitative method. A semi-structured questionnaire was distributed to 250 travel agencies from 1008 Egyptian travel agencies in class A was collected by simple random sampling technique. Furthermore, the researchers reviewed the literature regarding intellectual capital and the performance of innovation. Structural equation modeling (SEM) was employed for the quantitative analysis. Also, Amos software version (26) utilised to perform the structural equation modeling analysis. According to the study's findings, two dimensions of intellectual capital (Human and Organizational) have a positive impact on the performance of innovation within the Egyptian travel agencies, while the dimension of social/relational capital has a weak negative impact on the innovative performance of Egyptian travel agencies. As a direct consequence, to achieve innovation performance, travel companies must strengthen their intellectual capital especially the human and organizational capital dimensions.

Introduction

According to (UNWTO, 2021) intellectual capital (IC) fosters an environment in which creativity and innovation can flourish.

Today, innovation is a top priority on the tourism agenda at all levels of government. According to the World Tourism Organization (2018) it is a critical tool for managing tourist activities (2018).

According to (Dumay, 2011) many studies at the turn of the century argued that knowledge and intellectual capital are critical in modern knowledge-based enterprises.

In this framework, the emphasis of (IC) research has shifted to the role it can play as a critical precursor to innovation (Dost et al., 2016). The Intellectual capital-radical

innovation relationship, on the other hand, is a complex phenomenon that has yet to be fully understood, necessitating future research (Delgado-Verde et al., 2016).

Moreover, there is empirical evidence that IC has an impact on the performance of innovation. (Li et al., 2019; Agostini et al., 2017; Lee et al., 2011; Wu et al. 2007).

Some other studies concentrate entirely on IC, ignoring the potential impact of IC on innovation's performance (Dumay et al., 2015; Ferenhof et al., 2015).

Furthermore, while some researches look at the innovation impact on the organizational performance, they don't look at it as a dependent variable. (Inkinen, 2015; Moustaghfir, 2009).

A lack of proceeding researches that assess the intellectual capital impact on the performance of innovation was found within Tourism business especially of travel agencies.

As a result, the authors were inspired to investigate the effect of IC on the performance of innovation of Egyptian travel agencies. Also, this article presents a model that better describes the effect of IC on the innovation performance (IP) of Egyptian travel agencies.

Intellectual capital (IC)

Academic research and management practices have both showed a rising interest in the topic of intellectual Capital (IC) over the last decade. (Agostini et al., 2017; Survilait et al., 2015)

In literature, several intellectual capital definitions have been presented. According to (Youndt et al., 2004) individuals' intangible assets are reflected in intellectual capital; which is kept inside the corporate processes and structures and is located in social interactions.

Li et al. (2019) summarized IC as the valuable knowledge-related resources that businesses own and use to obtain a competitive advantage by adding value (e.g., knowledge, experiences, creativeness, organisational technology, customer relations, and professional competencies).

According to Li et al. (2019) previous research has also proposed a variety of frameworks for investigating intellectual capital.

The majority of research papers explain intellectual capital using a three-part paradigm: (human, structural, and relational) (Buenechea-Elberdin, 2017)

Moreover, Lee et al. (2011) proposed three complementary elements of intellectual capital are Human capital (employee skills and knowledge), structural capital (operational systems and procedures), and social capital (employee social relations and interactions).

In addition, Li et al. (2019); Yitmen, (2011) mentioned that IC has various elements, with human, structural, and relational capital being the most significant components.

Furthermore, human capital is described by staffing, structural capital is described by organisational structures, and relational capital is described by consumers (Survilait, Tamoinien, & Shatrevich, 2015).

In more detail human capital refers to employee know-how, whether implicit or explicit. It has the abilities to keep the organization's knowledge up to date (Engelman et al., 2017). Also, human capital (HC) refers to an organization's ability to successfully utilise its employee capabilities, as measured by criteria like inventiveness, experience, and peer learning (Bontis, 2001; Seetharaman et al., 2004).

The structured component of IC refers to organisational knowledge and experience in the form of processes and the flow of data (Hsu and Wang 2012). Moreover, according to (Curado, 2008) it consists of all of an organization's non-human knowledge repositories. It's also known as the "value of what remains in the company after employees have gone home for the night.

Finally, Knowledge derived from an organization's interactions with external partners is referred to as relational capital (Cabrita and Bontis 2008, Engelman et al., 2017). Furthermore, (Løwendahl, 2005) added that it encompasses not just relationships with external partners (customers, suppliers, and so on), but also any other social assets such as image, brand, and commitment.

Innovation performance

Innovativeness is the company's propensity to encourage creative ideas, research and development (R&D), experimentation, etc., to bring in new products and technological processes for the market. (Gupta et al., 2020)

According to Rijdsijk et al. (2011), the potential of a new product to realize its financial and sales objectives is referred to as innovation performance.

Moreover, Innovation performance is defined according to (Zizlavsky, 2016) as the ability to translate innovation inputs into outputs, and hence the ability to turn innovative capability and effort into market implementation.

Furthermore, Zizlavsky (2016) added that, innovative performance is concerned with both the technical aspects and the introduction of new products into the market.

In addition, Wendra et al. (2019) define innovation performance as a substantial an innovative product, a new process, and a new marketing or organisational application that is not necessarily unique to the world but should be novel to the organisation.

Furthermore, according to Wendra et al. (2019) added that the four dimensions of innovation performance are product, process, marketing, and organisational innovation.

In general, according to Agostini et al. (2017) most work in the literature have investigated the effect of individual components of IC on a companies' performance of innovation independently, rather than looking at the overall effect.

Carmona-Lavado et al. (2013) are among the few recently published papers demonstrating the positive influence of human capital on service innovation, which is

H3. The IC (organizational capital (SOC)) has a significant effect on the innovation Performance (IP) of Travel Agencies in Egypt. (Alternative)

H4. The IC (organizational capital (SOC)) has no effect on the innovation Performance (IP) of Travel Agencies in Egypt. (Null)

H5. IC (social capital (SOC)) has a significant effect on the innovation Performance (IP) of travel agencies in Egypt. (Alternative)

H6. Social capital (SOC) has no effect on the innovation Performance (IP) of travel agencies in Egypt. (Null)

Method

The quantitative method is utilised in this research to explain the causal relationships between study variables (Saunders, Lewis, & Thornhill, 2016)

A semi-structured questionnaire also used to assess the major constructs.

The questionnaire form was distributed to a sample of 278 tourist companies (travel agencies), collected using the simple random sampling technique with a response rate of 65% Travel agencies (181).

Sample

Egyptian travel agencies serve as the study's sample frame. The Egyptian Travel Agents Association maintains a list of these businesses (ETAA).

The sample size was calculated by the formula by (Thompson, 2012):

$$n = \frac{N \times p(1-p)}{\left[\left[N-1 \times \left(d^2 \div z^2 \right) \right] + p(1-p) \right]}$$

Where N	Population size
z	Standard Z= 1.96 (z value corresponding to the level of confidence required)
d	Error accepted level = 0.05
p	Probability level = 0.50

According to the equation, a sample of 278 firms was selected at random from the sample frame.

Measures

Each of the variables described was assessed through a 5-point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree) (Strongly agree).

Intellectual capital: this variable was investigated using the three components are (human capital, organizational, and social capital) which have four items for human capital, structural/organizational, and three items for social/relational capital proposed by (Yuwono (2021); Wendra et al. (2019); Agostini et al.(2017); Soo et al.(2017))

Innovation performance: based on a survey of the literature, and from previous research' questionnaires proposed by (Yuwono (2021); Wendra et al. (2019); Agostini et al. (2017); Soo et al. (2017) which contains one scale that has six items

Analysis

For quantitative data analysis, structural equation modeling (SEM) is applied. SEM is recognised as the most appropriate technique for this type of research because of its ability to measure complex causal relationships among variables (Olsson et al. 2000). Amos version (26) was also used to conduct the SEM analysis.

According to Hair et al. (2014) Maximum likelihood estimation (MLE) is efficient and unbiased, when the assumption of multivariate normality is accomplished.

Findings

Evaluation of the measurement model

The saturated model's measurement of goodness of fit, according to Henseler et al. (2016), should be the beginning point in the assessment of the measurement model. The observed variables (Indicators) are specified to latent variables in Figure 2.

The degree to which a group of measured variables represents the theoretical latent construct that they are developed to measure is referred to as construct validity.

Furthermore, according to Van de Wijngaert (2010), it looks at the relation between observed (indicators) and unobserved variables (constructs).

According to Hair et al. (2014), measurement model validity is dependent on obtaining acceptable levels of goodness-of-fit for the measurement model as well as finding specific evidence of construct validity.

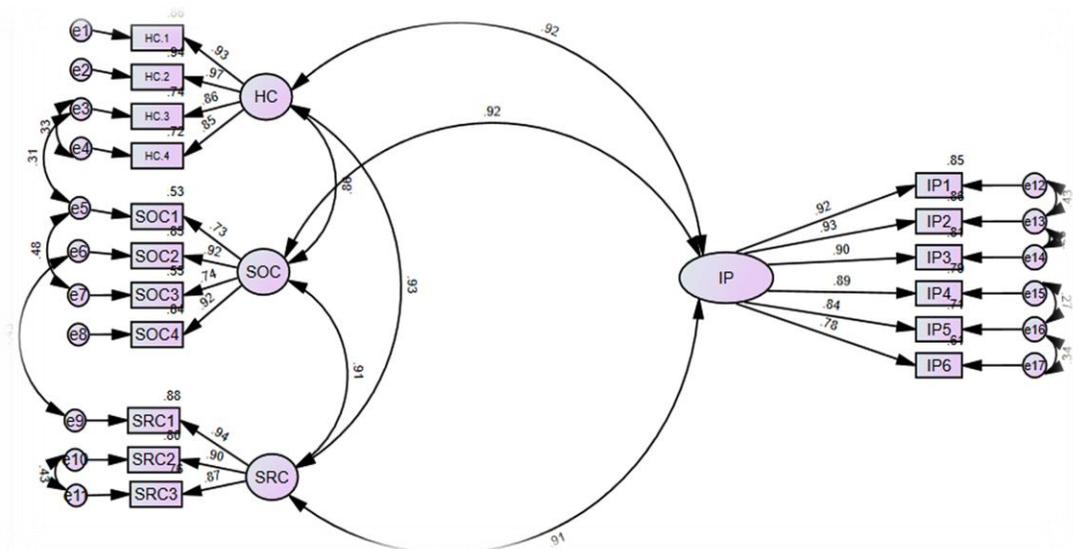


Fig.2. Observed variables (Indicators) specified to latent variables

Hair et al. (2014) indicates that the model fit indices should be within target limits when analyzing the measurement model's findings. The following are model fit indices:

- Chi-square = 129.8
- Degrees of freedom = 104 (must be > 0) where it represents the amount of mathematical information available to estimate model parameters.
- Chi-square P-value = .044 (ideal when >.05) where we look for a relatively small Chi-square (χ^2) value (and corresponding large p-value), demonstrating that there is no statistically significant difference between the two matrices, supporting the notion that a proposed theory fits reality

Measurement model incremental fit indices:

- Comparative Fit Index CFI = .988 (ideal when > 0.9) A better fit is indicated by higher values.
- RMSEA= .05 Lower values of RMSEA indicate a better fit. Where it clearly demonstrates how well a model fits a population rather than merely a sample used for estimation.
- PNFI Ratio= .721 (highest PNFI values represent good fit). In terms of the criteria reflected by this index, the highest PNFI value is the most supported.

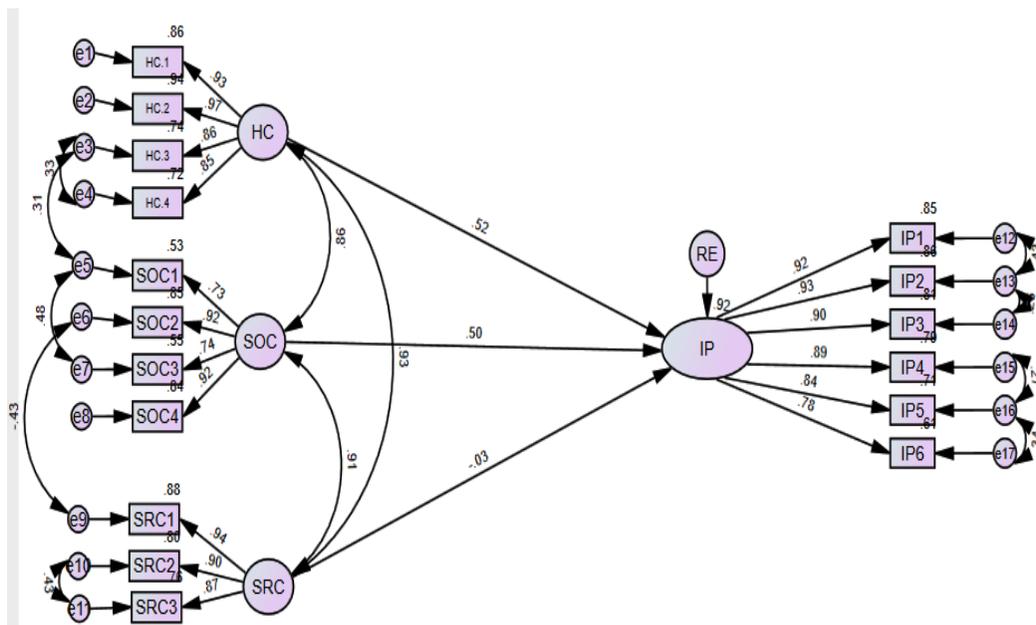


Fig.3. The structural model of IC and innovation performance.

Structural model Goodness of Fit

- Chi-square = 129.8
- Degrees of freedom = 104 (must be > 0) where it denotes the amount of mathematical data that can be used to calculate model parameters.
- Chi-square P-value = 0.44 (ideal when >.05) where we look for a relatively small Chi-square (χ^2) value (and corresponding large p-value), demonstrating that there is no statistically significant difference between the two matrices, supporting the notion that a proposed theory fits reality.

Measurement model incremental fit indices:

- CFI = .869(ideal when > 0.9) where higher values proving better fit.
- RMSEA= .05 Lower RMSEA values demonstrate a better fit.
- PNFI Ratio= .721 (highest PNFI values represent good fit).

Empirical findings

The following findings are supported by the previous structural model where:

- The descriptive findings show that only 45% of respondents agree and strongly agree regarding the human capital, also only 49.5% agree and strongly agree for the adoption practices of the structural organizational capital, only 48% of respondents agree and strongly agree for the adoption practices of social relational capital, and finally only 50% of respondents agree and strongly agree on the adoption of innovation performance practices by the Egyptian travel agencies.
- Study findings show that dimension of human capital has a moderate positive effect on the performance of innovation within the Egyptian travel agencies where ($\beta = 0.52$, $P < 0.05$). Therefore, the null hypothesis (H2) is rejected, while the alternative hypothesis (H1) is supported.
- Structural/organizational has a moderate positive effect on innovation performance of travel agencies in Egypt where ($\beta = 0.50$, $P < 0.05$). As a consequence, the alternative hypothesis (H3) is accepted, while the null hypothesis (h4) is rejected.
- Social/relational capital has a negative weak effect on innovation performance of travel agencies in Egypt where ($\beta = - 0.03$, $P < 0.05$). Consequently, the alternative hypothesis (H5) is rejected, and the null hypothesis (H6) is accepted.

Discussion and conclusions

This research adds to the current knowledge of how the dimensions of IC influence the success of Egyptian travel agencies in terms of performance of innovation.

Findings indicated that only about 50 % of the Egyptian travel agencies possess innovation performance, also the same is found regarding the intellectual capital where only (45% for HC- 49.5% for SOC- 48% for SRC) agree and strongly agree regarding the adoption practices for the intellectual capital dimensions.

A direct influence was hypothesized of the three dimensions of IC on IP of Egyptian travel agencies. According to the study's findings, only two dimensions of intellectual capital are human capital and organizational capital have a positive impact on the innovative performance of Egyptian travel agencies which disagree with the findings of a study by Yuwono 2021 and partially agree with Soo et al., 2017; Agostini et al.,2017; Wendra et al., 2019 findings in regard to human and organizational dimensions of IC, while the dimension of social/relational capital has a weak negative impact on the innovative performance of Egyptian travel agencies which agree with

Yuwono 2021 and disagree with Soo et al., 2017; Agostini et al.,2017; Wendra et al., 2019 regarding this dimension of IC .

This article makes a contribution by offering an updated model based on data that accurately explain the impact of travel agents' intellectual capital (IC) on innovation performance (IP) in Egypt.

In conclusion, the findings of this study provide empirical proof to travel agency managers that having strong intellectual capital, particularly in the human and organisational capital dimensions, is associated with a stronger potential to increase Egyptian travel firms' innovation performance.

Future research could investigate the barriers and enablers of IC as a prerequisite for strong innovation performance in travel agencies. Future research should include other aspects and sectors of the tourism industry as well.

This study finding has practical implications for Travel Agencies as the following:

- Managers of travel agencies should reasonably manage their IC resources to strengthen their innovation performance.
- In order to increase employees' competencies, travel agency managers should prioritise HC management, continual training for personnel, and the recruitment of high-level talent. They should also develop employee incentive system and an innovative work environment.
- Managers of travel agencies should nurture technological innovation and invest continuously in R&D operations to improve resource utilization efficiency and adoption.
 - Travel agencies must shift their attention from measurements and quantifying intellectual capital to developing and effectively utilising it.

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قياس تأثير رأس المال الفكري على الأداء الإبداعي لشركات السياحة: دليل من مصر

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المخلص

يتمثل الغرض من هذه الدراسة في تقييم تأثير رأس المال الفكري على الأداء الابتكاري لوكالات السفر المصرية. وقد استعانت هذه الدراسة من أجل تحقيق هذا الهدف بالمنهج الاستنباطي الطريقة الكمية حيث تم توزيع استبيان لهذا الغرض على عينة من 250 شركة سياحة مصرية من الفئة أ من إجمالي 1008 شركة سياحة تمثل مجتمع الدراسة والتي تم اختيارها باستخدام العينة العشوائية البسيطة. وقد قام الباحثون بفحص الأدبيات المتعلقة برأس المال الفكري والأداء الابتكاري لخدمات السياحة والسفر. كما تم استخدام نموذج المعادلة البنائية (SEM) لتحليل البيانات الكمية. كما تم استخدام برنامج أموس (26) لإجراء التحليل. وقد وجد وفقاً لنتائج الدراسة أن بُعدين لرأس المال الفكري (رأس المال البشري ورأس المال التنظيمي) لهما تأثير إيجابي على الأداء الإبداعي لوكالات السفر المصرية، في حين أن بُعد رأس المال الاجتماعي / العلاقاتي له تأثير سلبي ضعيف على الأداء الإبداعي لوكالات السفر المصرية. وكننتيجة مباشرة، لتحقيق أداء إبداعي، يجب على شركات السفر تعزيز رأس مالها الفكري وخاصة أبعاد رأس المال البشري والتنظيمي.

معلومات المقالة

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