

NEW MODELS OF TOURISM HUMAN CAPITAL (THK) ANALYSIS: INNOVATION AND SUSTAINABILITY

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ABSTRACT

In recent years the tourism countries suffer the effect of the pandemic, the geopolitical situation due to the war in Ukraine-Russia and Israel-Gaza. The uncertainties generated in this new scenario have led to a paradigm shift in tourism human capital (THK). This paper analyses the different aspects that have been studied in the literature on human capital in tourism and proposes two new analysis models. In the first, the different points of analysis of THK for any tourist destination are studied given Sustainable Development Goals (SDG) for human capital, and the second, the innovation and sustainability of THK within the tourism company and new requirements for actual tourism are analysed in a new international context.

Keywords: tourism human capital; holistic model; innovation; sustainability; SDG.

Nuevos modelos de análisis del capital humano turístico (KHT): innovación y sostenibilidad

RESUMEN

En los últimos años los países turísticos sufren el efecto de la pandemia, la situación geopolítica por la guerra en Ucrania-Rusia e Israel-Gaza. Las incertidumbres generadas en

Fecha de recepción: 26 de noviembre de 2024.

Fecha de aceptación: 19 de junio de 2025.

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este nuevo escenario han provocado un cambio de paradigma en el capital humano turístico (KHT). En este trabajo se analizan los distintos aspectos que se han venido estudiando en la literatura de capital humano en turismo y se proponen dos nuevos modelos de análisis. En el primero se estudian los diferentes puntos de análisis del KHT para cualquier destino turístico dados los Objetivos de Desarrollo Sostenible (ODS) para el capital humano, y en el segundo se analiza la innovación y sostenibilidad del KHT dentro de la empresa turística y los nuevos requerimientos del turismo actual en un nuevo contexto internacional.

Palabras clave: capital humano turístico; modelo holístico; innovación; sostenibilidad; ODS.

1. INTRODUCTION

The major changes that have taken place in recent years, caused first by the Covid-19 health crisis, then by the war in Ukraine and more recently by the Israel-Gaza war, have changed the landscape of the world tourism market, presenting it with new challenges. This has created a need to determine which new factors and strategies guarantee the competitiveness of both tourist destinations and companies in the sector while still demanding sustainability and safety. Thus, it is essential to analyze tourism human capital as a fundamental factor within a new context of international tourism. Human capital in tourism constitutes one of the key elements for the development and sustainable growth of this sector (Baum, 2007 and 2015; Lillo-Bañuls, 2009).

On a global level, tourism is one of the sectors that has been most affected by the pandemic. There was unprecedented reduction in international tourism as a result of the adoption of restrictions on the mobility of people in all of the world's tourism destinations in order to limit social interaction. This scenario caused international tourism to contract to levels of 1990, with a loss of USD 1 billion of international tourist arrivals in 2020 compared to 2019 (-74%), the pre-pandemic year; a loss of USD 1.3 trillion in tourism exports; an estimated loss in global GDP of over USD 2 trillion; and placed 100-120 million direct tourism jobs at risk. Spain was the country that recorded the largest descent in the world ranking in terms of the contribution of tourism to GDP, followed by the United Kingdom, China and Turkey (UNWTO, 2021). However, international tourism has shown great resilience. After a change in trend that began in mid-2021, international tourism reached 63% of the pre-pandemic level in 2022. Global tourism export revenues, which decreased by 62% and 59% in 2020 and 2021, respectively, grew over the next two years, in 2023 reaching 95% of 2019 tourism export revenues. The elimination and the easing of mobility restrictions, as well as the strong accumulated demand, have led to a notable increase in the number of international tourists, which, in 2023, reached 89% of pre-pandemic levels, and 97% in the first quarter of 2024. Europe recovered its pre-pandemic numbers, reaching 2019 levels. Likewise, The Middle East recorded the highest growth rate, with international arrivals exceeding 2019 numbers by 36% (UNWTO, 2024). However, travel demand to this region is being affected by the Israel-Gaza war, which may benefit destinations in southern Europe.

The serious situation that the tourism sector on a global level experienced as a consequence of the health crisis and the subsequent repercussions on the economies with large tourism sectors highlight the need to design new models with support strategies that enable the tourism industry to successfully manage the post-Covid scenario. Likewise, the recent recovery of international tourism represents an opportunity to improve the qualifications of workers in the tourism sector, and constitutes a challenge to advance the competitiveness and sustainability of tourist destinations based on human capital, allowing them to satisfy current and future demands.

Given the importance of human capital in tourism, this paper proposes a holistic model for analyzing specifically this strategic factor, since Covid-19 and its consequences have constituted a salutary lesson for all the surviving tourism economic agents.

In this paper, first, a holistic model of tourism human capital analysis (THK) is proposed taking into account the different elements that influence its configuration and is conducted on a national, regional or local scale. Subsequently, another model for analyzing the innovation and sustainability of THK within tourism organizations is established, in which the relationships are formed in the company in order to search for opportunities and innovate in human resources strategies and, in this way, obtain the best human capital possible for the company as an essential element for its smooth running and the fulfilment of the objectives proposed. This human capital should be, where possible, stable and sustainable. Together with the human capital, two other fundamental aspects on which to focus to guarantee the growth of the tourism sector in a new scenario are technological innovation and sustainability. It is crucial to establish interrelations between these three pillars (THK, both on a global level and within the company, innovation in digital advances and ICTs, and sustainability in tourism. Finally, the main conclusions, limitations and future lines of research are presented.

2. WHY HAS THE PANDEMIC AND POST-PANDEMIC CONSTITUTED A SALUTARY LESSON FOR THE CONCEPT OF HUMAN CAPITAL IN TOURISM?

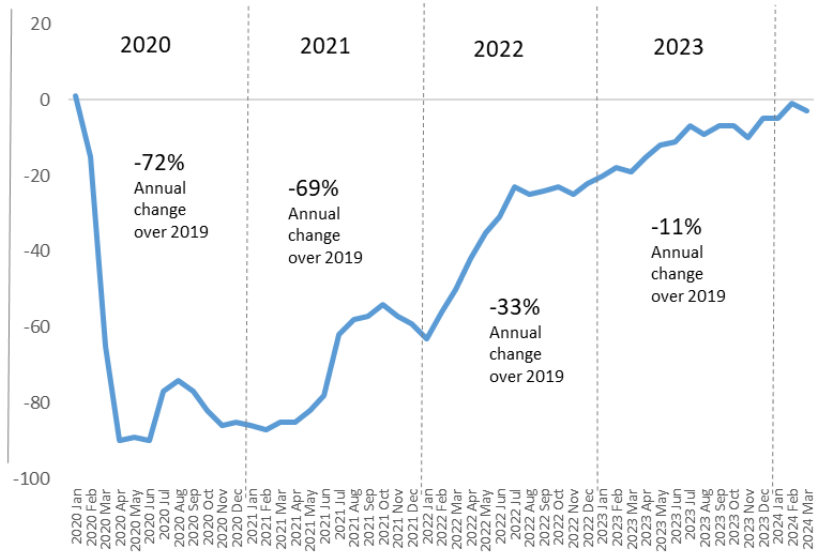
The negative impact of Covid-19 on the economy, with a very strong impact on tourism (Perles-Ribes *et al.* 2021; Seyitoglu & Costa, 2022), the subsequent reactivation of the activity, particularly in 2022 and 2023, together with the good forecasts for 2024, despite the economic uncertainties on a global level derived from the war in Ukraine and the Palestine-Israel, have provided an impetus to study the importance of human capital in tourism.

It is important to adopt different approaches to human capital theory and assess different concepts associated with this strategic factor and its repercussions in order to design future strategies for tourism in light of the new challenges arising.

During the pandemic, the dismissals represented a considerable loss of THK. The closure of tourism companies due to Covid-19 including hotels, restaurants, travel agencies, OTAs and transport companies, among others, left thousands of tourism workers unemployed.

After the Covid world crisis had been overcome, in 2022 an unprecedented recovery of tourism was observed. The mass lockdown, the lack of interpersonal relations and the impossibility of travelling during the pandemic generated strong growth in post-pandemic tourism demand on a global level, despite the increase in prices (Figure 1).

Figure 1
INTERNATIONAL TOURIST ARRIVALS, JANUARY 2020- MARCH 2024
(monthly % change over 2019)



Source: UN Tourism | World Tourism Organization, may 2024.

The WTO predicts that international tourism will recover its pre-pandemic levels in 2024, with estimates that show a growth of 2% in relation to 2019 levels. These forecasts are subject to the evolution of the economic and geopolitical situation. This post-pandemic tourism reactivation had led to difficulties for companies in the sector to find labor for the high season. This means that tourism companies are not demanding skills or experience as there is a shortage of workers and this affects the quality of the tourism service provided.

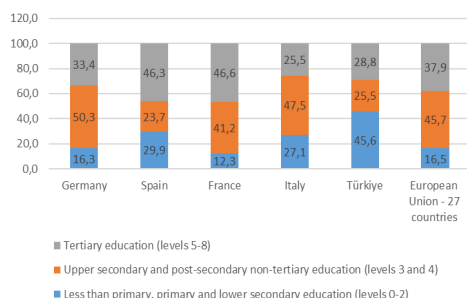
On the one hand, one of the principal problems found in the workforce of the tourism sector is the low level of training of the workers who hold intermediate and basic positions (Exceltur, 2018). In the tourism sector as a whole, there is a predominance of workers with secondary education studies although the workers in the hospitality industry mainly have a primary education level. For example, 45.6% of tourism sector employees in the EU-27 in 2023 had secondary education, while 16.5% had lower educational levels. In relation to accommodation and restaurant activities, this last percentage amounts to 30.8% of employees. In 2023, 37.9% of tourism employees in the EU-27 had tertiary education compared to 16.7% in the hospitality sector. (Figure 2).

On the other hand, it is also true that the basic positions in tourism are poorly paid, and the working conditions are mostly precarious (Baum, 2018; Robinson *et al.*, 2019; Casado *et al.* 2022), which makes it difficult to attract and retain workers with the necessary skills. Studies on the returns of education in tourism observe that even the most highly trained tourism workers receive lower returns for their years of education than those with the

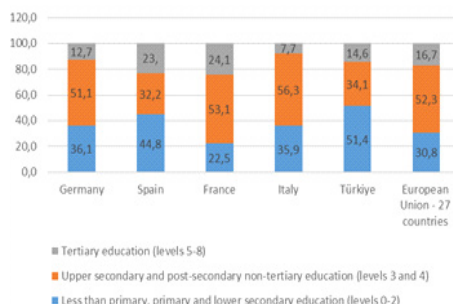
same level of education employed in other services or in the rest of the productive sectors (Lillo-Bañuls and Ramón-Rodríguez, 2005; Thrane, 2008; Lillo-Bañuls and Casado-Díaz, 2012 and 2015; Onns Capa et. al. 2017 and 2020).

Figure 2
EMPLOYED PERSONS FOR TOURISM INDUSTRIES BY EDUCATIONAL
ATTAINMENT LEVEL
(percentages)

Total tourism industries



Accommodation and food services activities



Source: Eurostat.

In addition, the employment conditions of the sector are still characterized by a high level of instability, which explains the low quality of employment in this industry (Casado *et al.*, 2022). According to García and Porto (2022:2077) “it is imperative to find strategies that generate adequate incentives in the tourism labour market so as to end the vicious circle of ‘bad jobs’ and unskilled workers with little power to demand improvements at work”.

As previously indicated, in the pandemic period THK was lost, but in the post-pandemic era, tourism demand is increasing, which has led to a growing need for labor in the sector, particularly in labor intensive activities, such as those in the hospitality industry. This reactivation of tourism employment has prompted an assessment of THK and highlights the need to foster the creation of quality jobs to attract and retain workers with the skills necessary for developing the tourism industry. If we want to address new post-pandemic strategies in tourism, the THK must be sufficiently prepared so as to meet the quality standards that are increasingly needed in the tourism sector. The improvement in working conditions for tourism employees and better education and training at all levels (skilled, medium-skilled, and unskilled) is necessary and should involve all of the interested parties (companies, tourism institutions, workers and tourism education centers)

3. TOURIST HUMAN CAPITAL: A REVIEW

Human capital is identified with formal education, non-formal education and work experience. It also refers to the amount of useful and valuable knowledge accumulated

by individuals in the education and training process. It includes innate ability and talent, as well as education and acquired qualifications, and is usually strongly conditioned by the family environment (Lillo-Bañuls, 2009).

Therefore, within the concept of human capital, we can differentiate between innate human capital and acquired human capital. The former consists of individuals' physical and intellectual abilities, while the latter consists of formal and informal education.

Laroche *et al.* (1999) argue that informal education is acquired through a variety of means, such as personal contacts, social organizations, work experience (learning by doing) and self-learning.

Similarly, de la Fuente *et al.* (2004) distinguish three components of human capital: general skills, related to linguistic and quantitative literacy and, more generally, to the ability to process information and use it in problem solving and learning. Specific skills are those related to the operation of specific technologies or production processes. Technical and scientific knowledge involves mastery of different bodies of organised knowledge and analytical techniques relevant to production or the advancement of technological knowledge.

Thus, we can affirm that there are good reasons to believe that human capital is an important determinant of productivity, both at the individual and aggregate levels. This is especially true in a changing context of continuous incorporation of new information and communication technologies into production processes and services. The link between productivity and human capital therefore seems clear. Theoretical models of human capital and economic growth (Lucas, 1988; Romer, 1989; Mankiw, Romer and Weil, 1992; Barro and Sala i Martin, 1992, among others) are based on the idea that the knowledge and skills of the population have a positive impact on productivity and the adoption of new technologies. Similarly, at the microeconomic level, theoretical models have been established that relate education to productivity and workers' wages, Becker (1964), Mincer (1974).

Another important aspect is the social component of human capital and the gender gaps that appear in the labour market. Goldin (2006, 2014 and 2021) showed how social norms and wage penalties for flexible work are key to understanding these gaps. According to this author, well-paid jobs are very inflexible and therefore difficult to reconcile with childcare and household tasks, which are normally performed by women. Goldin argues that equality in the labour market could be achieved by changing the structure of jobs and wages so that long working hours or working at specific times are not rewarded.

With regard to the tourism sector, THK is considered a strategic factor of competitiveness in tourism. Thus, the professionalization of workers in the sector is of crucial importance for the fulfillment of strategies in the tourism enterprise, given that tourism personnel have direct contact with customers and are the main link through which the tourist forms a value judgment of the service received and the fulfillment of his or her expectations. The client-tourist is part of the production process and, therefore, we can affirm that the tourism product or service is the result of the tourist's experience. The perception obtained from the consumption of a given tourist service is linked to numerous factors and subjective elements, among which we must undoubtedly highlight the treatment and quality of the service provided by the tourism human capital during the tourist experience. It is therefore very important for tourism companies to value quality in the provision of tourism services and to reflect this in their human resources policy.

Many studies have analyzed various aspects related to tourism human capital (Table 1). These studies show, from different points of view, the interest of tourism researchers in this area of particular importance for the sector:

Table 1
THEORETICAL REVIEW OF TOURISM HUMAN CAPITAL (THK)

Themes	Studies	Description
Human resources	Baum (2007)	This study analyzes the new needs in tourism human resources in response to the increase and globalization of tourism demand and proposes the correction of the poor labor conditions and low qualifications existing in tourism.
	Kuslusvan <i>et al.</i> (2010)	A rigorous analysis of the specific needs of human resources management in the tourism sector, including, among others, motivation, stress and job satisfaction.
Employment	Haven-Tang and Jones (2008)	These authors evaluate the situation of the labor market and skills needs of tourism in Wales, indicating that the competitiveness of the sector is dependent on service quality skills. The small businesses not appreciating links between skills, training and competitiveness must change and adopt strategies to motivate workers and retain staff.
	Baum (2015)	This study analyzes external changes and changes occurring in the tourism industry and their impact on the employment of the sector. It highlights the need for important changes for stakeholders in tourism, in particular employers, employees and governments to address the future of the work-force in tourism.
	Dogru <i>et al.</i> (2020)	This study analyzes how hotel investments create jobs in the USA and finds that hotel investments increase employment in both the overall economy and the tourism, leisure and hospitality industries.
	Melián-González and Bulchand-Gidumal (2020)	For Spain, France, Germany and Europe (28) this study uses data of hotels from the last 10 years and shows how the intensity of the human capital required has reduced, especially in high-category hotels, because with the automation of hotels the labor needs in the hotel sector are decreasing.

Themes	Studies	Description
Impact of Covid-19 en on employment	Karsavuran (2021),	This author studies the impact of Covid-19 on tourism employment, dismissals in the sector and also the repercussions on the psychological health and social consequences for the dismissed workers.
	Claudio-Quiroga <i>et al.</i> , (2022)	This study analyzes the impact of Covid-19 on Spanish tourism employment from a gender perspective, finding that women have been more affected by the shock than men. However, women in hospitality and tourism, who tend to be more vulnerable, part-time, and temporal, constitute a more permanent workforce than men.
	Perles-Ribes <i>et al.</i> (2023)	Analyzes the evolution in March-April 2020 of employment in tourism in Spain after the impact of Covid 19 with the lockdown and closure of tourism establishments using the Box-Jenkins method (ARIMA) and the Bayesian Structural Time-Series Models. This study has been carried out for both salaried and self-employed workers in the sector.
Gender differences	Sinclair (1997), Hutchings <i>et al.</i> (2020)	The tourism industry is characterized by further divisions between the workers, notably gender.
	Campos-Soria <i>et al.</i> (2009, 2011 and 2015), Casado-Díaz <i>et al.</i> (2022).	Using the model proposed by Oaxaca, this study analyzes wage differences in accordance with gender, finding that women earn lower wages than men.
	Ons Cappa <i>et al.</i> (2017 and 2020)	Analyzes the returns to education in tourism, comparing men and women, finding that women have lower returns to education.
	Fasone and Pedrini (2023)	These authors indicate the specific skills needed in post-Covid tourism and, therefore, that the workers of the sector need to improve their training. However, with data for seasonal workers (Rimini, Italy) from 2019, they find that women who work in tourism experience both horizontal and vertical occupational segregation. They conclude that the significant horizontal segregation suffered by women in the sector constitutes a barrier for their training and for them to start a potential career path.
Wages	Santos and Varejao (2007), Casado-Díaz and Simón (2016)	Using the Oaxaca model, these authors study the wage differences in tourism in accordance with different variables such as gender, educational level and other employment and personal characteristics.

Themes	Studies	Description
Wages	García-Pozo <i>et al.</i> (2012)	This study analyzes the relationship between the size of the hotel establishment and the wages paid to its employees, obtaining a positive relationship. It also studies the wage premia earned by workers employed by larger hotels taking into account the specific characteristics of each establishment such as productivity, labor quality, working conditions and internal labor markets.
Returns to education	Thrane (2010)	This study finds that the returns to educational degrees clearly exceed the returns to years of schooling for both male and female tourist employees (Sheepskin effects).
	Lillo-Bañuls and Ramón Rodríguez (2005), Thrane (2008), García-Pozo <i>et al.</i> (2011), Lillo-Bañuls and Casado-Díaz (2012, 2015)	Using the Mincer earnings function, these studies analyze returns to education, finding that they are lower in tourism/hospitality than those of others sector, in terms of both the years of education and level of education. They also include personal and employment control variables and, in some cases, regional variables.
	Lillo-Bañuls and Casado-Díaz (2010)	These authors study the returns to education with instrumental variables, considering education as being endogenous in the model. They find that these returns are lower than in other sectors but not with such large differences as those found using the OLS Mincer equation.
	García and Porto (2022)	This study analyzes returns to education, differentiating between the more tourism-related sectors and less tourism-related sectors, finding that those more specialized in tourism have higher returns to education. It indicates that a possible explanation would be that as the more tourism-related sectors have lower qualified employees, the less educated are more highly compensated in the tourism sector.
Educational mismatch	Marchante-Mera <i>et al.</i> (2005), García Pozo <i>et al.</i> (2014), Lillo-Bañuls and Casado-Díaz (2011, 2015)	In tourism there are employees who have a higher level of education than is necessary for the position that they hold. In other words, they are overqualified. However, this overqualification penalizes their returns to education as the overqualification is significant and negative in wage equations.

Themes	Studies	Description
Education and training	Jafari and Richie (1981), Fayos-Sola (1997), Smith, G and Cooper, C. (2000), Tribe (2005), Stergiou <i>et al.</i> (2008), Sheldon <i>et al.</i> (2011), Hsu (2018)	Reflections on tourism education and its importance and the curriculum of tourism studies.
	Haven-Tang and Jones (2008)	These authors evaluate the labor market situation, and the skills needs of tourism in Wales, indicating that the competitiveness of the sector is dependent on service quality skills. Small businesses must adopt strategies to motivation workers and staff retention.
	Alipour <i>et al.</i> (2020)	This study indicates that more educated and trained tourism workers can generate best services which can contribute to the development and competitiveness in tourism destinations.
	Sigala (2002, 2007), Costen (2009), Lillo-Bañuls <i>et al.</i> (2016)	Technology applied to tourism education and the new technological-educational tools for tourism training.
	Qiu <i>et al.</i> (2021), Tiwari <i>et al.</i> (2021)	The adaptation to the Covid-19 situation of higher education in tourism, using online teaching and learning.
Job Satisfaction	Lillo-Bañuls and Casado-Díaz (2011, 2015), Lillo-Bañuls <i>et al.</i> (2018)	An analysis of job satisfaction in tourism is through a binomial model which finds that those tourism workers with poor working conditions have a significantly lower level of job satisfaction. The study also analyses different aspects that influence job satisfaction such as: wages, working hours, weekly hours, monotony, routine, physical effort, among others.
Precariousness in employment	Baum, (2018), Robinson <i>et al.</i> , (2019)	These studies analyze precariousness, sustainability and the social dimension of tourism workers and propose different objectives that should be reached in order to achieve sustainability in tourism human resources and reduce the job instability existing in the sector.
	Casado <i>et al.</i> (2022)	Tourism workers, particularly those employed in the hospitality industry, work in more unstable working conditions than in other sectors. There are more part-time and seasonal contracts related to seasonality, low wages, long hours, working on public holidays, high rates of rotation, among others. This study empirically analyzes through indicators the importance of precariousness in tourism in Spain.

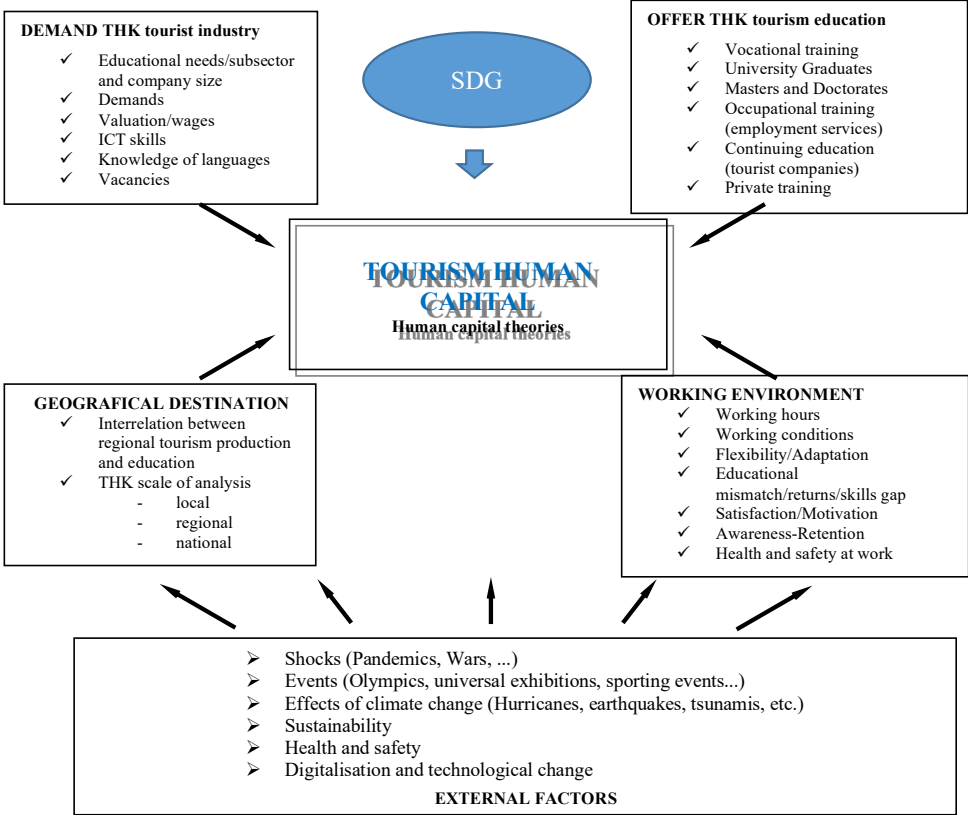
Source: Prepared by authors

4. TWO MODELS OF THK

4.1. THK holistic analysis model: Macroeconomy

The current scenario, a consequence not only of the pandemic and the recent war conflicts, but also of global change and the digital model of tourism, highlights the need to propose a new THK model that analyzes the multiple interactions that characterize it in order to improve this strategic factor. This is a holistic model that brings together all the aspects that must be analyzed in any tourist destination to improve its human resources and, therefore, its competitiveness, together with the innovation and technological changes in which the sector is immersed (Figure 3).

Figure 3
HOLISTIC MODEL OF HUMAN CAPITAL IN TOURISM (THK)



Source: Prepared by the authors.

Taking into consideration the interdependence of all these aspects associated with THK, a holistic model is presented below to improve this strategic factor and, therefore, the competitiveness of tourism in any development country or tourist destination. We must not forget that quality in the provision of services, and especially in tourism services, is related to the perception of intangibles by the consumer. The capacity and experience of the tourism workers constitutes an indispensable link in the value chain and shapes the level of satisfaction of the tourists. Therefore, the success of tourism companies is inextricably linked to the capacity and professionalism of their workers.

The holistic model in THK highlights *the demand for human capital in tourism*. Worker profiles are sought in tourism companies and organizations. Which university graduates are most in demand? For which positions? In which tourism subsectors? What vocational training specialties are in demand in each subsector? What training needs do companies detect? What skills are required of workers? What specific knowledge (languages, ICT) is demanded? What positions are left vacant?

The formal and non-formal education system, *THK's supply*, must respond to the demand of the labor market, offering individuals the training that will allow them to join tourism companies in the most efficient way. Educational mismatches, the prolongation of years of study and employers' preference for formal education levels seem to indicate that filtering and competition for jobs currently play an important role.

The point of reference in the design of tourism training should be the needs of companies.

The offer of undergraduate and postgraduate degrees in tourism constitutes an opportunity to adapt tourism training to the needs of the sector and to bring the university academic environment closer to tourism companies, to establish synergies and to improve human capital and research in tourism. Similarly, vocational training specialties should be adapted to each tourism subsector and to the different jobs. On the other hand, continuous and occupational training constitutes a reference in companies so that workers acquire the necessary skills in their organization.

In addition, we should note the need to establish different dimensions in the THK, depending on the *geographical destination*. The tourism education needs of a coastal sun and beach location are different to those of an urban location. They also differ between a region that is a highly popular tourist destination and one that is less so. In this regard, García and Porto (2022) study returns to education comparing tourist agglomerates (destinations with a significant weight of tourism) with agglomerates with less tourism (destinations in which tourism has a lower share).

Finally, it is essential to consider the *work environment* of the tourism sector in order to understand the factors that affect its human capital. This is essential in order to make the right decisions regarding the strategies to be developed and the specific actions to be carried out in the area of tourism training.

In this respect, we must take into account the characteristics of the different groups of the tourism labor market (active, employed and unemployed). Other elements, such as the type of contracts, professional categories, average remuneration in the different types of positions, the very specific working times in this sector (Bericat, 1999), the availability of labor at specific times due to seasonality, the detection of "bottlenecks" in certain positions, and the agility or otherwise of the processes of incorporating new workers are issues to be taken into

account when designing training policies aimed at the tourism sector. It is also important to analyze the returns to education of tourism workers, which has been estimated at 3.5%, half that of other service sectors (Lillo-Bañuls and Ramón Rodríguez, 2005); overeducation in tourism, with a percentage of overeducated people of around 20% (Marchante *et al.*, 2005), who have a wage premium, in accordance with Thurow's theory (1975); and job satisfaction in tourism, a sector in which its workers maintain their degree of job satisfaction despite the stress and characteristics typical of their jobs, indicating an awareness and acceptance of the working conditions of the sector with the exception of overqualified workers (Lillo-Bañuls and Casado, 2015). For the British case, Jones (2009) studies the relationship between training, job satisfaction and workplace performance, finding that for all of the sectors analyzed, a positive and significant relationship is obtained between training and job satisfaction in all of the indicators contemplated. Furthermore, this author indicates that the hotel and restaurant workers have a quit rate that is double that of the average value of the sample, considering this rate to be a measure of workplace performance. The study also finds that job satisfaction is also positively and significantly associated with workplace performance.

For all these reasons, it is necessary to analyze the situation of the tourism labor market and its own characteristics, such as the temporary employment rate, traditionally higher than in other sectors; permanent seasonal contracts due to the seasonality of the sector; working conditions, usually linked to situations of labor precariousness; aspects related to the incorporation of immigrant, young, female and low-skilled workers; labor mobility; rotation in the company and between companies; motivation and work climate; safety and hygiene at work; information and evaluation of occupational risks; information on stress at work; working hours; working time; working hours, with continuous or split shifts and night work; shift work, holidays and weekends; time spent commuting; continuous training in the company and occupational training; promotion expectations; pride in work and identification with the company; hierarchy and levels of supervision at work; two-way company-worker communication; satisfaction with work and pay; work-life balance; employer's assessment of education (wages, return to education).

External factors also have an impact on THK, as demonstrated by the experience of the pandemic, with airspace closures, and the war in Ukraine, with the practical closure of the Russian outbound tourism market, and the increase in fuel and transport costs, which is affecting tourism prices and, therefore, demand. Also, as discussed above, the pandemic has led to a massive outflow of tourism workers to other sectors with the consequent loss of THK. Likewise, aspects associated with the effects of climate change and events have a major impact on THK, altering its demand as the case may be. Finally, we cannot forget the change that digitalization and technological innovations in the sector have brought about in tourism, which pose new training and motivational requirements for the THK.

4.2. Model of Innovation and sustainability of THK: Microeconomy

It is necessary a model to analyze which elements must be innovated so that tourism companies may implement a sustainable approach taking their THK as a differentiating factor for the achievement of competitiveness and address the future strategies in tourism.

Also, the technological changes required for the evolution of the sector and necessary sustainability in the tourism system in light of the evidence of climate change can only be implemented with an THK that is trained and prepared to take on these challenges. It is necessary a human capital involved in sustainability that is capable of communicating to clients the importance of the changes undertaken in the company to improve the sustainability objective.

The following is a study of the points of analysis and the interrelationships and interactions of this innovation and sustainability scheme in the THK (Figure 4).

We take as a starting point the recruitment and selection of personnel made by the company through the human resources department, managing the procedures to attract talent to its organization. Once the selection of personnel has been carried out, based on the needs of the company for certain positions, and after evaluating important aspects such as training, experience, knowledge of languages and ICTs, and different characteristics of the individuals, the recruitment of personnel is conducted. An important part of this phase in the innovation and sustainability ecosystem of THK is the communication to the new internal customers (its employees) of the company's internal policy as an organization, what is expected of them in their professional performance and the possibilities of promotion.

When this talent becomes part of the company's THK, they develop, based on their education, experience, skills, flexibility, customer service and professionalism, their performance in the job that they have been assigned. Flexibility between positions is very important in a tourism company, since at certain times workers are required to perform different tasks in the organization chart.

The tourism workers are in direct contact with the external customer (the tourist) who, after receiving the service, has a specific tourist experience and constitutes an essential source of information for the company in its quest to achieve continuous improvement of its THK and, therefore, of its competitiveness.

On the one hand, information on the tourist experience flows into the search for opportunities for improvement, for example, through short online surveys carried out by the company itself, or the information provided by ratings, comments and reviews on the online booking platforms of tourism companies, such as OTAs, for example, Tripadvisor, booking, atrapalo, trivago, etc. Direct observation of customers is also important. For example, in many hotels the customers prefer to bring their own suitcase to the room (no need for tipping), however, they value quick attention at check-in or automated processes that save time, as well as the ease of use of ICTs in the room or the comfort of the room. Restaurant services, room service, laundry, information on transportation schedules (airport transfer, cab reservations) are other services valued by clients. All this information is collected by a department specialized in seeking opportunities for innovation in THK.

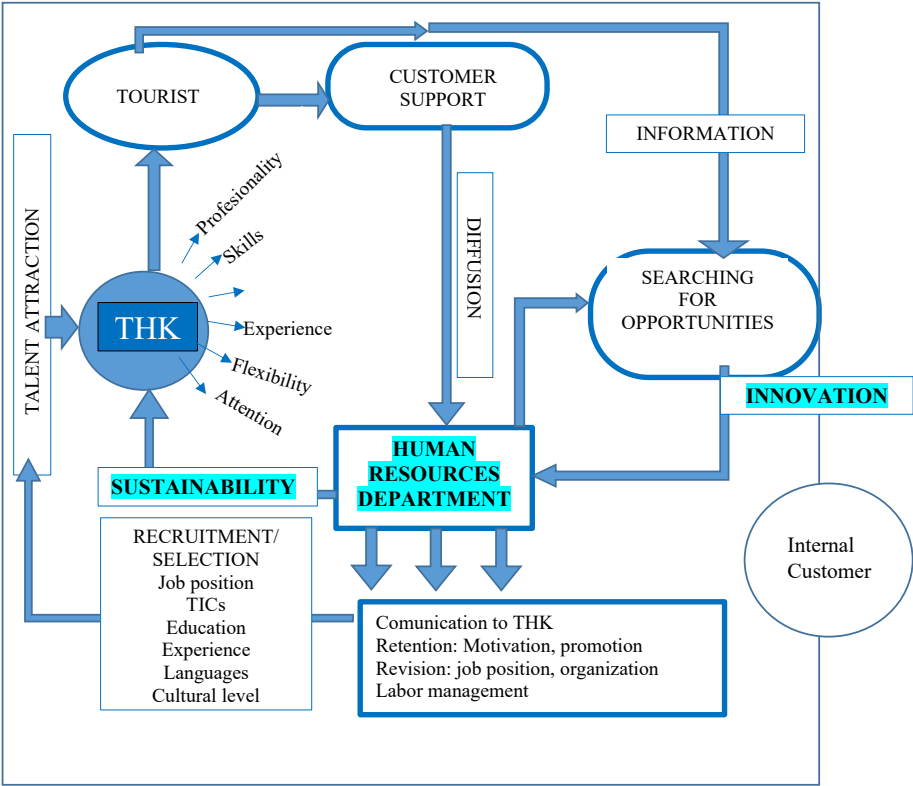
On the other hand, when the tourist's experience is negative, it provides information to the customer service department, which uses it in order to search for opportunities. This information is highly valuable because, after analysis, it allows failures in the organization to be found, mainly in the THK, and provides new opportunities for innovation in this factor, its performance patterns, training needs, functions or communication, among others. Examples in the airline industry would be information regarding complaints about deficiencies in boarding, as slow access, lack of attention in the cabin, deficiencies in

cleanliness and lack of punctuality. In all of these aspects, the human capital of the commercial aviation sector is fundamental.

The human resources department takes all the innovative approaches in THK and executes them, on the one hand, in THK in order to ensure its sustainability. On the other hand, thanks to good communication, it implements them among its internal customers. A very important objective is the retention of human capital, mainly through motivation and promotion, together with job and organizational reviews. And finally, it incorporates these approaches in the recruitment and selection of the best possible THK for the company's needs.

Another consideration in the THK analysis scheme studied here is that it can be focused both on large conglomerates and companies dedicated to tourism, as well as on smaller companies. In the case of small companies, most of companies in tourism, the human resources department would be replaced by the entrepreneur him or herself, who makes decisions on labor matters. We would also eliminate the customer service department since it is the entrepreneur and his or her employees who would receive the opinions of tourist consumers and observe the tourists' experience in their tourist establishment.

Figure 4
INNOVATION AND SUSTAINABILITY IN THK



Source: Prepared by the authors.

Also, the human capital must be sustainable in the company, small or large, that is, excessive worker turnover must be avoided and, in this way, training and experience must be maintained in the company as much as possible. All of this feeds back into continuous improvement in competitiveness through its THK. Taking care of the human capital value chain in all sections and in all positions, as well as achieving efficient internal communication is essential for achieving improvement objectives that result in better customer service. For example, in catering, a good attentive, fast and correct table service, good interaction between the kitchen and table service times. In short, good planning is essential for customer satisfaction in catering. You may have the best chef in the world, but if you do not take care of the table service staff and the times, the customer's final assessment will be negative.

In this way, the socioeconomic and competitiveness objectives of the tourism company can be improved by investing in human capital and improving, through innovation and sustainability, this strategic factor. For human capital to serve as a strategic element, tourism companies must define and analyze the lines to be followed in relation to human capital in order to achieve their goals or objectives.

5. FUTURE STRATEGIES IN TOURISM: THK, INNOVATION AND SUSTAINABILITY

We have highlighted the importance of human capital for the development, evolution and competitiveness of tourism. However, it is very important to establish the fundamental role of three pillars that constitute the future of tourism in the post pandemic scenario and the uncertainty of the wars, as both shocks are affecting the global tourism panorama. These three pillars are tourist human capital, innovation, particularly technological and digital innovation, and sustainability, with the fulfillment the sustainable development goals (SDGs).

THK is the principal pillar without which the other pillars could not be sustained. It embodies the analysis of the previously described THK holistic model and the innovation and sustainability model of THK.

THK ensure that education in tourism transmits transversal contents (ICTs, languages) that are valued by companies and allow the incorporation of graduates into the labor market in an effective manner. THK increase the average educational level in the sector and its competencies and, therefore, enhance its human capital as an element of differentiation competitiveness, flexibility and adaptation of the THK new requirements to the post-pandemic age and the uncertainties generated by the wars.

With respect to Innovation/ICTs, there is no doubt that digitalization forms part of the present and future of tourism. The Internet of Things (IoT) (Car *et al.*, 2019), big data (Line, 2020), artificial intelligence (AI) (Tussyadiah, 2020), the metaverse for promoting tourism (Buhalis *et al.* 2023a), the cloud, smart destinations (Buhalis *et al.*, 2023b), online reservations, blockchain (Caddeo *et al.* 2021), chatbots (Zlatanov and Popesku, 2019), the need for a scrum master (Shastri *et al.*, 2021) who interrelates the business needs of the tourism company with the technological department of the company or with the externalized IT services, among others, are essential in the current tourism panorama. Therefore, education, training and talent attraction are key aspects in the development of this pillar.

Meanwhile, sustainability currently constitutes a crucial aspect in the future challenges and in the social responsibility of tourism companies. In the present and future of tourism, the contribution of tourism companies and institutions to fulfilling the SDGs established by the United Nations in its 2030 Agenda is essential. To do this, it is crucial to focus on climate change, as this is affecting tourism development; communication and raising awareness about sustainability in tourism; the establishment of values, such as health and well-being; caring for the environment and protecting natural resources; committing to renewable energies; and ensuring gender equality, among others.

Responsible tourism is a commitment of everyone: tourists, tourism companies and tourism organisations. In order for the tourism sector to continue to develop in a sustainable manner and provide benefits to society, it is essential that it operates in a responsible manner and within the framework of the SDGs (Spanish Network for the United Nations Global Compact and the World Tourism Organization OMT/UNWTO, 2016). According to this report, tourism can contribute, directly or indirectly, to these objectives and, specifically, tourism appears in number 8 (decent work and economic development), 12 (responsible production and consumption) and 14 (underwater life), which are related to inclusive and sustainable economic development, sustainable consumption and production and the sustainable use of oceans and marine resources, in the latter case in everything related to blue tourism.

It is imperative that THK is involved in all of these changes at all levels of the organization so that these goals are successfully fulfilled and that the values are transmitted and communicated to the clients, workers and managers as a sign of quality and improvement in tourism organizations.

On the other hand, sustainability and innovation in tourism are interrelated. New innovations are required in order to obtain sustainability in tourism and, in turn, innovation in tourism should be implemented within a framework of sustainability. García-Moreno and Fernández (2022) indicate that in the Spanish case smart tourism is being developed, adding that smart tourism can only be achieved with sustainable tourism.

Therefore, in order to ensure a successful future in tourism, an THK is required that is trained, educated and organized in accordance with the new needs of the sustainable and innovative tourism companies.

6. CONCLUSION AND DISCUSSION

The pandemic constituted a major shock to the tourism labor market and led to a change in the valuation of THK. Before Covid-19, the tourism labor market, especially in subsectors such as hospitality, was considered one of the most precarious. Subsequently, the paralysis of activity brought about by the pandemic, with the consequent loss of employment, entailed a significant loss of THK, which generated serious difficulties for companies to reopen, especially in 2021, although after that, 2022 and 2023 have shown the resilience of the tourism sector.

The successive wars in Ukraine-Russia and Israel-Gaza have also led to a new international panorama of uncertainties that have affected the tourism sector. Despite this, international tourism growth, except in conflict zones, is being supported by data. The

UNWTO has predicted that international tourism will recover pre-pandemic levels in 2024, with estimates showing a growth of 2% in relation to 2019 levels.

This recovery of international tourism offers an opportunity to rethink and reflect on the human capital factor of workers in the tourism sector.

THK, as a priority intangible factor, must be analyzed in an integrated way, through a holistic model that allows us to appreciate the network of connections between the labor market, the business and the educational offer in tourism. Without this comprehensive understanding, it is not possible to plan and develop educational policies that will help us to establish lines of action to improve tourism training.

On the one hand, the tourism business network must be involved in the objectives of improving human capital, not only with continuous training in companies but in a global way, collaborating with universities and tourism education centers and facilitating access to jobs in their companies for personnel trained in tourism. It is necessary to implement educational policies that achieve these synergies with tourism entrepreneurs so that the skills acquired by tourism graduates at different educational levels are better valued. Likewise, this collaboration should allow information on the needs of the sector to be gathered and the curricula of tourism degrees to be modified. These courses should adopt a continuous process of improvement and adaptation. Furthermore, the possibility of carrying out on-demand training from educational institutions as a complement to formal training should also be contemplated.

Regarding the THK macroeconomic model can be used to analyze the THK in any destination and in response to any event, such as climate change, pandemic or war, which has constituted a catalyst for the improvements needed by the sector. As already indicated, the human capital factor is its most valuable intangible asset, and the study of the different interrelated points of analysis (demand, supply, labor environment, geographical destination and external factors) is essential for the success of tourism companies and destinations.

On the other hand, the THK microeconomic model of innovation and sustainability introduces an improvement in the way in which the human capital of any tourism company or corporation is fed back and analyzed, allowing the detection of the gaps that may exist within it in order to preserve the essential value of its human capital, and to establish guidelines for its continuous improvement.

Both models are interrelated. The holistic model needs the THK innovation and sustainability model to obtain necessary information that it must analyze. In addition, both models help to reorder the design of education and training policies in tourism that ultimately enable the level of training in the sector in all positions to be increased and to ensure quality human capital in any country or tourist destination in which tourism has significant weight (THK macroeconomic model) and in any tourism company (THK microeconomic model).

Finally, the relevance of THK is analyzed, establishing a link between the two previous models and two essential pillars in the future strategies of tourism: sustainability and innovation. Without a prepared THK we cannot achieve these two objectives. Furthermore, sustainability and innovation in tourism are also interrelated, as sustainability needs innovation and, in turn, innovation in tourism should be implemented taking sustainability into account.

Thus, the three pillars are substantial in futures strategies. THK together with innovation and sustainability are crucial factors for the post-pandemic stage and wars context since, faced with the new challenges of competitiveness and differentiation that are emerging in tourism, it allows the implementation of tourism experiences of greater added value in higher quality environments.

7. LIMITATIONS AND FUTURE LINES OF RESEARCH

The principal limitation of the THK models presented is that they are designed to analyze the THK in powerful tourism destinations and developed countries, in which there is abundant information and statistics for analyzing the evolution of tourism; where there is a consolidated official education supply at all levels of tourism-related studies; where there are labor laws and quality control of tourism companies; where data are periodically gathered on the THK demand and the profiles of the vacancies. Moreover, the THK models, innovation and sustainability would be implemented in medium or large-sized firms, but not to small businesses which do not usually have a specific human resources department.

Therefore, these models have not been adapted to countries with developing tourism destinations or countries with a low tourism GDP or to small companies.

In light of the principal limitation of this study, there is an opportunity for other researchers to adapt these models to developing countries and emerging tourist destinations. Furthermore, the second model could be adapted to small tourism companies which are abundant in the sector.

Another possible application of one or both of these models is their use for the study of tourist destinations or specific tourism companies in order to analyze their THK, that is, case studies.

Finally, the holistic model can also be used to analyze how THK is affected in each of the points of analysis when faced with a specific external shock (wars, climate disasters, pandemics, events, etc.) and in relation to two highly important aspects in the challenges arising in tourism, the advances in digitalization, AI, the metaverse, and IoT and the compliance with the SDGs in tourism organizations.

Authorship statement: The authors declare no conflict of interest. Conceptualization: Adelaida Lillo-Bañuls. Consulting and treatment of original sources: Adelaida Lillo-Bañuls and Begoña Fuster. Research and writing: Adelaida Lillo-Bañuls and Begoña Fuster

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