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Theoretical and Methodological Model for the Study of Social Perception of the Impact of Industrial Tourism on Local Development

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Abstract: Tourism is considered to be an engine for socioeconomic development and a tool to alleviate the problems of different regions and, specifically, of industrial zones. Furthermore, from this standpoint, industrial tourism tries to harness any potential cultural interest that visitors may have in industrial heritage. Using this as a starting point, the general objective of this research is to analyse industrial tourism's contribution to local development in four case studies that form part of the industrial tourism in Spain and Portugal. For this purpose, a quantitative methodology has been proposed and designed through surveying the local population, the results of which show that the tourism type analysed has positive impacts on each of the local development capitals or dimensions (symbolic, heritage, social, human, economic and infrastructure). Likewise, it has also been discovered that the impacts perceived by the local population are related to the intrinsic characteristics of the territory itself, due to the destination's degree of tourist development, as well as to the attitudes shown by the local population towards industrial tourism, among other factors.

Keywords: industrial heritage; tourism; local development

1. Introduction

The debate on the role of tourism in local development is ongoing and numerous studies have been carried out on this subject (Picornell 1993; UNWTO 1998; Hernán Muñoz and Lema 2001; Barbini 2002, 2008; Mantero 2004; Vergara and de Souza 2005; Álvarez Sousa 2005; Wallingre 2007; Cañizares Ruiz 2008; Yildirim et al. 2008; Álvarez Sousa and Rodríguez 2009; Massukado Nakatani and Gonçalves 2013; Pérez Víctor et al. 2014; Horrach Estarellas 2014; Orgaz Agüera and Morales 2015; Muresan et al. 2016; Pulido-Fernández and Parrilla González 2016; Afthanorhan et al. 2017; Zhu et al. 2017 among others).

Heritage and tourism have been identified as key drivers of socioeconomic development, which is why it is increasingly common to consider tourism as an effective tool to alleviate the challenges of decline in different regions and, as in the case of this study, of industrial areas (Edwards and Coit 1996; Llurdés i Coit 1999; Hospers 2002; Castillo Canalejo et al. 2010; Prat Forga and Soria 2014), where the aim is to take advantage of the potential cultural interest that visitors have in industrialisation heritage, by promoting a connection between tourism and local development, based on harmony and the principles of sustainability (Pardo Abad 2017). These considerations have led to a greater awareness and appreciation of industrial heritage by society that can be successful in initiatives that contribute toward the enhancement of this type of heritage (Cañizares Ruiz 2008).

In west-European countries, public policies often argue that heritage (in particular, industrial heritage) could be an effective resource for economic and social development in areas that have been

severely affected by de-industrialisation (Rautenberg 2012). In fact, many cities turn to industrial heritage in order to stimulate their local economies, as they endeavour to reinvent themselves in a post-productivist era (Lee 2016).

Ultimately, in a context of the growing importance of industrial tourism (Pardo Abad 2005; Otgaar et al. 2015; Zárate Martín 2011; Guenaga Garay and Saratxaga 2012; Prat Forga and Cánovas 2012; Swensen and Stenbro 2013; Prat Forga and Soria 2014), it is considered that this should be researched in general terms and that the impact it has on local development needs to be studied in detail. On the basis of these considerations, the question arises that this study is trying to answer: To what extent can tourism based on industrial heritage become a development factor for society? Thus, the general objective of this paper is to analyse the impacts of industrial tourism on local development and build a methodological and conceptual model that explains the impact of this tourism, through a confirmatory factorial analysis, using structural equations, in order to systematise the knowledge obtained.

The current investigation focuses on four case studies that form part of the tourism offer in the Iberian Peninsula. In Spain: Las Médulas (León) as a case study of mining tourism, in other words, historical–industrial heritage; Taramundi (Asturias) as a case study of active industrial tourism with the promotion of knife manufacturing, and as a case study of historical–industrial tourism for promoting hydraulic infrastructure, among other things; Ferrol (Galicia) for promoting shipbuilding (active industry) and, in Portugal, the case study of Vila Nova de Gaia as a wine tourism destination, based on wine and visits to its wineries. To this effect, a quantitative methodology has been designed through surveying the local population, since the effects of tourism on local development will depend, to a large extent, on the recognition and commitment of the local community to the tourism potential of its heritage, in this case, industrial.

The paper is organised as follows: we will review relevant literature on industrial tourism and local development; this is followed by a description of the research methodology, including target population and the case studies. Finally, the paper concludes with the results and arguments of our findings.

2. Current Situation: Conceptual and Methodological Bases

2.1. Local Heritage as a Resource for Industrial Heritage: Industrial Tourism Case Study

There are many authors who consider industrial heritage to be an important feature of cultural heritage (Benito del Pozo 1997, 2010; Llurdés i Coit 1999; Casanelles Rahola 2007; Álvarez Areces 2007; Cardoso 2012; Guzmán Ramos et al. 2014) based on its material value and, essentially, on its social value.

However, it should be noted that industrial areas were not initially considered to be heritage features worthy of conservation, due in part to the fact that their characteristics did not coincide with traditional valuation methods[1]. Social interest in industrial heritage began in the United Kingdom in the middle of the 1960s, spreading to Spain from the 1980s onwards. This interest has gradually increased as shown, for example, in the growing protection of industrial architecture (lists of protected buildings and national plans, such as the listing of industrial resources in the list of UNESCO World Heritage Sites), which has meant comparing the aforementioned heritage with other more traditional heritage features (Moulin 1994).

Factors such as social sensitivity, the expansion of heritage values, its regenerating properties and its institutional and legal recognition (Makua 2011), have contributed towards assimilating the industrial past as a cultural feature. In fact, to begin with, industrial tourism was exclusively related to visiting the actual historical industrial heritage (Edwards and Coit 1996; Hidalgo Giralt 2011).

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1   The traditional valuation methods, according to Casanelles Rahola (2007), were beauty and antiquity. Thus, heritage that deserved to be conserved should have been accepted by society as something aesthetically beautiful and, furthermore, old.

However, nowadays there is greater recognition of current or active industrial heritage for tourism purposes (Calabuig and Ministral 1995; Capel 1996; Pardo Abad 2004; Frew 2008; Otgaar et al. 2015; Mancebo 2010; Vargas Sánchez et al. 2011; Millán Vázquez de la Torre 2012). Otgaar et al. (2015) presented a study which shows that industrial tourism can become a dynamic tool to improve the image of a city and its industries, stimulate the tourist competitiveness of a destination and facilitate a better relationship between businesses and urban society.

The current study begins by looking at how industrial heritage is made up of all the industrial resources that have been used in the industrial revolution, before the industrial revolution, or are still currently being used. The industrial heritage allows for the incorporation of evolution of labor forms and of the different sociocultural changes produced in a certain society due to the effects of factory urbanisation and/or the use of new technologies in the same visit (Fernández Zambón and Ramos 2005).

Both types of industrial tourism, historical heritage and active heritage, offer diverse opportunities not only to the heritage itself but especially to the destinations, among which the following are indicated (Díaz Herranz 2012): high potential for the seasonal adjustment and tourism sustainability, adapting to the new trends in demand; a complement to the tourist offers already developed, which takes advantage of the opportunities and increases the value contributed by the destination; also, intensifying its specialisation and differentiation; a boost to the socio-territorial rebalancing of tourism resources; and a good example of cooperation between public-private sectors.

There are also limitations and disadvantages for the enhancement of heritage related to economic problems (the high cost of restoration and/or adaptation for tourism, demographic crisis of the territories where they are located . . .), cognitive problems (the lack of awareness towards this type of heritage, presenting it as a tourist attraction . . .) and administrative problems (no legal protection, lack of coordination between the different departments . . .) (Capel 1996; Pardo Abad 2004; Vargas Sánchez et al. 2011).

2.2. The Study of Local Development and Its Relationship with Tourism: Main Analysis Factors

In 1997, UNESCO recognised the capacity of heritage as a resource for development and, after the economic crisis of the 1970s, when factories were closed in a large part of European industrial areas, there was a need to seek alternatives for industrial heritage, with the objective of encouraging their progress again (Benito del Pozo 2010).

In this sense, according to Álvarez Areces (2010), the reuse and recovery of industrial heritage is considered an entrepreneurial activity that also promotes the self-esteem of residents in a territory that has suffered from deindustrialisation, with all the consequences that this entails: economic depression, low population density, etc. In fact, industrial heritage tourism activities contribute to preserving a region's identity and stimulating the formation of local service activities and employment (Hospers 2002).

In this framework, tourism has been identified as an opportunity for local growth and development (UNWTO 1998; Vergara and de Souza 2005; Barbini 2008; Cañizares Ruiz 2008; Álvarez Sousa and Rodríguez 2009; Massukado Nakatani and Gonçalves 2013; Pérez Víctor et al. 2014; Horrach Estarellas 2014) and as one of the few sectors that is capable of fully influencing the territory (Arapa et al. 2016) by allowing for the diversification of the economy and better quality of life for residents.

Tourism can be considered as an ambivalent activity, because while it contains a positive aspect of development, without proper planning and management, it can generate negative effects (environmental degradation, carrying capacity, inadequate public services, loss of identity values, etc.). Other factors also influence the impact of tourism on the destination, for example, the degree of tourism development (Pulido-Fernández and Parrilla González 2016) or the life cycle of the destination (discovery, growth or expansion).

In short, although tourism cannot solve all the problems associated with its conservation, it can become an important instrument (González García 2005). For example, for the active preservation

of heritage, in the industrial case, as long as the recovery and reuse projects are governed by the principles of sustainability.

To understand and apply the theory of local development to tourism, it is necessary to understand it as a process (Arocena 2001; Precedo Ledo and Iglesias 2007; Márquez Domínguez 2011) that seeks the continuous improvement of the quality of life (Nisbet 1980; Salcedo 2005; Moreira et al. 2010) based on the internal factors of each locality and its connection with other dynamics at regional, national and international levels. While it is true that there have been several authors who have contributed to the different paradigms of local development, this research has followed the proposal of Vargas Castro (2006), who believes that the theories that best explain local development are the following: the theory of modernisation, the theory of dependency, the theory of world-systems, the theory of globalisation and the theory of sustainable development (see Table 1). The aforementioned paradigms, moreover, stand out as theoretical contributions that are useful for understanding the tourism situation of the destinations.

Table 1. Basic characteristics of local development theories and their relationship with the tourism situation.

LOCAL DEVELOPMENT PARADIGMS	BASIC CHARACTERISTICS OF EACH PARADIGM	CONTRIBUTIONS FROM EACH PARADIGM TOWARDS UNDERSTANDING TOURISM
Theory of Modernisation	Development and growth are considered to be synonyms. Science and technology emerge as determining factors in social development. All societies move towards modernity. Growth poles-peripheral areas.	Tourism needs to invest in the modernisation of infrastructure and communications as well as product innovation in order to attract tourists to the area and, vice versa; tourism development will directly benefit infrastructural capital, as well as the growth of tourism supply and demand.
Theory of Dependency	Emphasis on the use of third-world countries by the developed world. Underdevelopment as the other face of development. Promotes "disconnection".	It has been observed that tourists tend to come, mainly, from the more developed countries.
Theory of World-systems	Core-periphery division. Critical perspective on the globalised capitalist world.	In destinations, a core (represented by a magnet resource) and a periphery (environment closest to the magnet resource) is usually identified. The greatest benefits are detected in the core, although if it is planned and managed properly the periphery can also benefit
Theory of globalisation	It homogenises and standardises values in the principles of capitalism and democracy. New delimitation of what is "local". The concept of "glocalisation" emerges.	The tourism market is increasingly competitive, but there is standardisation in terms of supply. Therefore, destinations must promote strategies that allow them to differentiate and position themselves in a unique way while promoting the particularities of each place.
Theory of Sustainable Development	Concern for natural and cultural biodiversity. Three new analysis items are defined: social equity, economic efficiency and environmental conservation	Tourism is based on the need to implement tourism sustainability in all activities. Hence, there is a need to generate not only economic benefits in the region but also benefits in social and heritage conservation (natural and cultural) areas.

Source: Developed by author based on Vargas Castro (2006), Calderón (2008) and Mantero (2004).

Local development is a complex concept (Barbini 2002) and therefore there is great deal of controversy regarding the definition of the dimensions that define it (García Docampo 2007). For this reason, while the theory of sustainable development focuses its attention on three dimensions (economic, social and environmental), there are authors who widen the field of study considering it necessary to also observe, among other things, technological, infrastructure, and symbolic areas, etc. Table 2 presents different inputs to capitals and/or dimensions that must be taken into account when measuring the impact of an activity—in this case tourism—on local development.

Table 2. Contributions to capitals and/or dimensions of local development.

AUTHOR	CAPITALS AND/OR DIMENSIONS
Salcedo (2005)	Social, economic, political, ecological and cultural
Álvarez Sousa (2008)	Symbolic, heritage, ecological, social, human, financial and infrastructure
Tomás Carpi (2008)	Human, corporate, technological, infrastructure and logistical, urban, social, natural and institutional
Saz Gil et al. (2011)	Social-development, human, political-institutional, territorial-environmental and economic-productive
Arapa et al. (2016)	Social, symbolic, human, financial, infrastructure, heritage and environmental

Source: Developed by author.

The integral study of tourism and its possible contributions to local development present the challenge of reflecting on the diversity of the dimensions that make up the same. In this study, Álvarez Sousa (2008) proposal, which integrates the aforementioned factors grouped into six independent, interconnected capitals—interconnected and with a clear relationship of interdependence as shown in Figure 1[2]—will be followed.
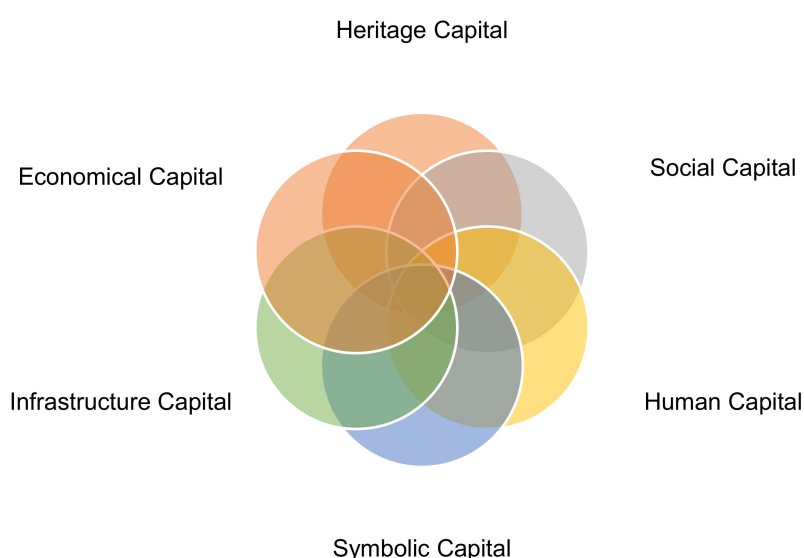
Figure 1. Capitals that make up local development. Source: Developed by author based on Álvarez Sousa (2005, 2008).

Each one of the exposed capitals is made up of a series of variables and indicators[3] that allow for empirically analysing the impact of tourism on each one of them. Then, therefore, a theoretical presentation is made of each of the capitals and their respective most significant indicators which will be used in the empirical part of the research.

Symbolic capital refers to two sub-dimensions: identity and image (Álvarez Sousa 2009; Soto and López Salazar 2009; Andrade Suárez 2010). Accordingly, each destination possesses and projects a certain symbolic capital that is formed through different social constructs that are reproduced and developed over time. Both identity and image constitute key elements when studying the competitiveness of the destination and the impacts of tourism. Figure 2 shows the basic indicators of

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[2]　It has been decided to group heritage capital and environmental capital in a single dimension, since UNESCO (1972) includes both natural and cultural resources in the heritage concept.

[3]　The choice of indicators fits the following criteria: relevance, adaptability, credibility, feasibility, binding, interesting and understandable (Pérez and Hernández 2015), for which they must have been previously designed and must be revised according to their evolution (Elías et al. 2012).

symbolic capital analysis that should be taken into account when analysing the contribution of tourism to local development.
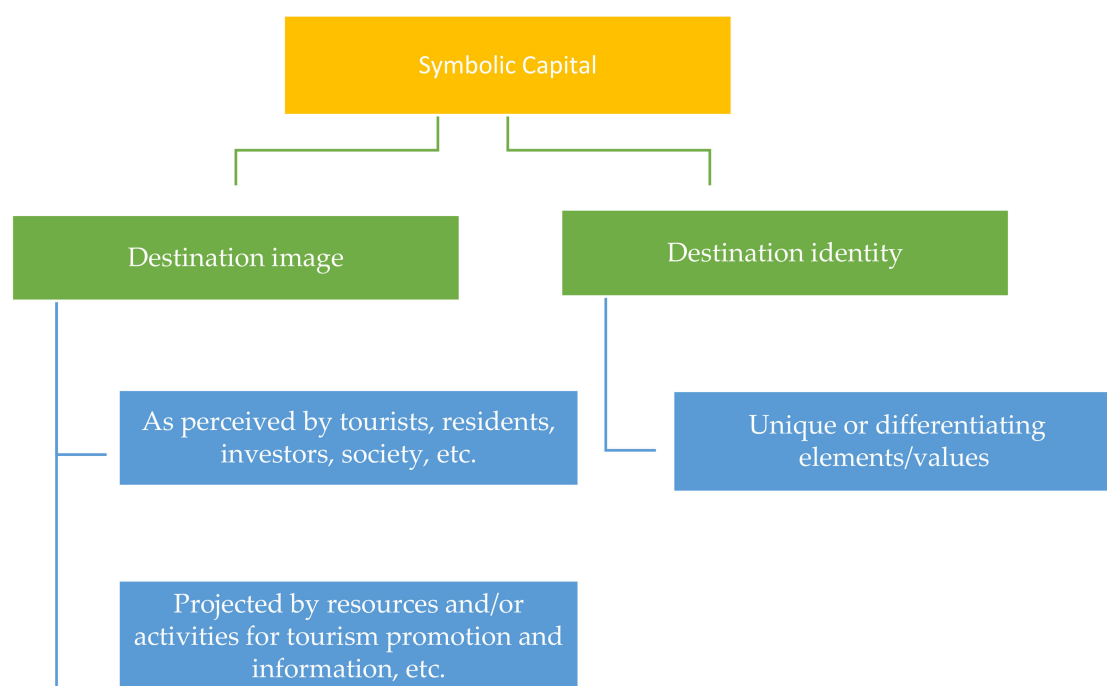

Figure 2. Indicators of Symbolic Capital in the tourist sector. Source: Developed by author.

Heritage capital, which includes both natural and cultural resources, is one of the broadest dimensions of local development and is the basis for any tourist activity. It has great symbolic and identity weight since it is inherited from past generations and so this heritage capital becomes a reflection of society and part of its culture (Rodríguez Temiño 2010). In Figure 3, the basic indicators of heritage capital considered useful for studying the contribution of tourism to local development are presented in diagram form.

The analysis of social capital in the tourism sector, as Rubio Gil and Mazón (2009) state, is more complex than any other type of capital, mainly due to the intangibility of its indicators. However, as the aforementioned authors point out, it is a basic element in structuring society as well as a mechanism for the creation of identity and values of special importance in mobilising individual and collective actions. It is considered, therefore, to be one of the most paramount capitals as it sets the enabling or limiting behaviour of tourism development (Barbini 2005; Prats 2011) due to being considered an essential tool for mobilising and promoting, for example, participation association and cooperation strategies that facilitate competitiveness or innovation (Camagni 2003). Next, in Figure 4, the indicators used to evaluate social capital in the tourism sector are presented.

Human capital can greatly influence development (Barbini 2005; Vázquez Barquero 2007; Álvarez Sousa 2009; Villalobos Monroy and Pedroza Florez 2009; Lillo Bañuls and Casado Díaz 2011; Muñoz Mazón et al. 2012) and it is a key element in the case of tourism (Lillo Bañuls et al. 2006). In addition to analysing training, it is also necessary to study other indicators (Rubio Gil and Mazón 2009; Álvarez Sousa 2009; Lillo Bañuls and Casado Díaz 2011; Muñoz Mazón et al. 2012) such as, for example, employment and working conditions, motivation, innovation, preparedness, capacity, and know-how, etc. Figure 5 shows the main indicators that must be considered when studying human capital and its impact on the local development of a destination.
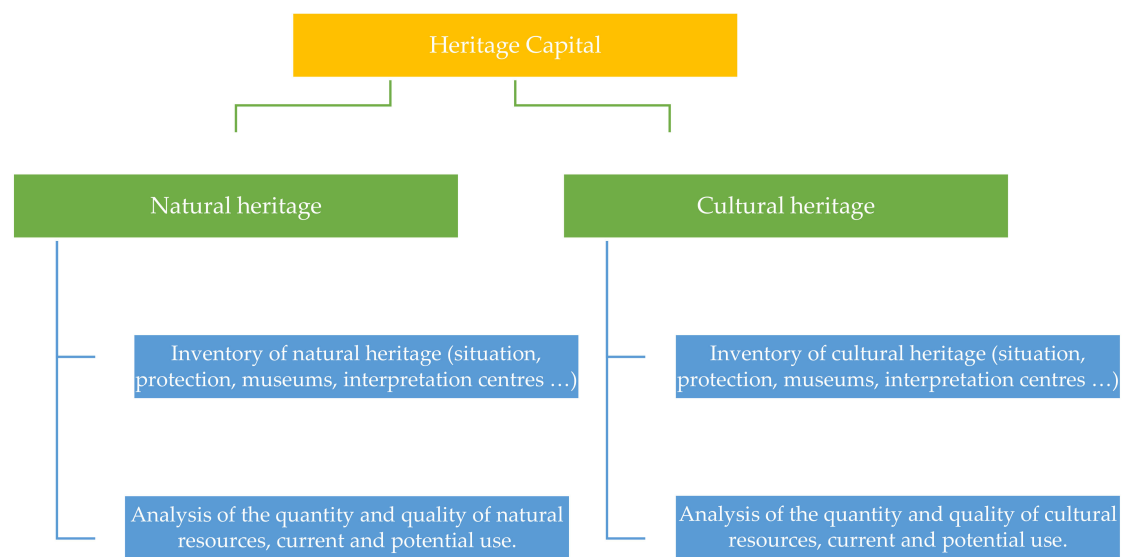
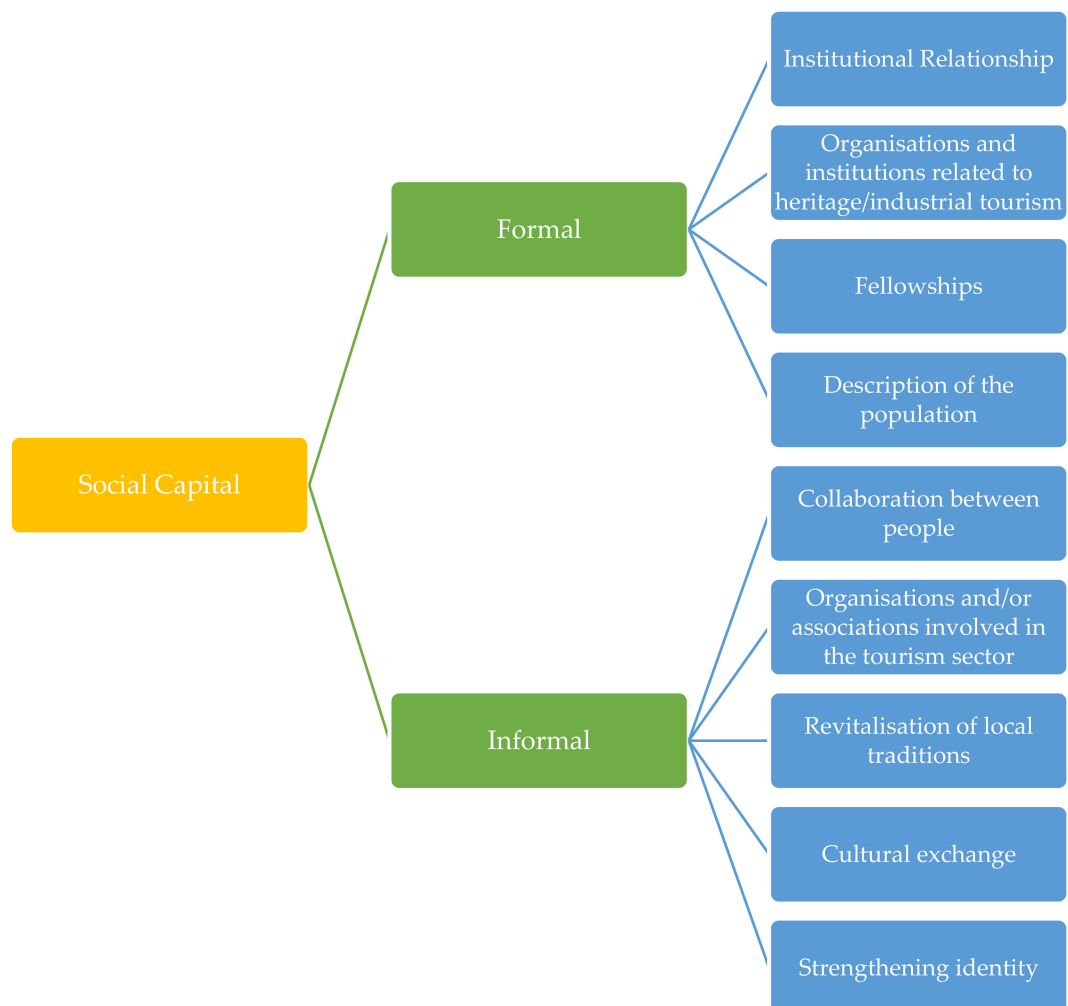**Figure 3.** Indicators of Heritage Capital in the tourist sector. Source: Developed by author.

Figure 4. Indicators of social capital in the tourism sector. Source: Developed by author.
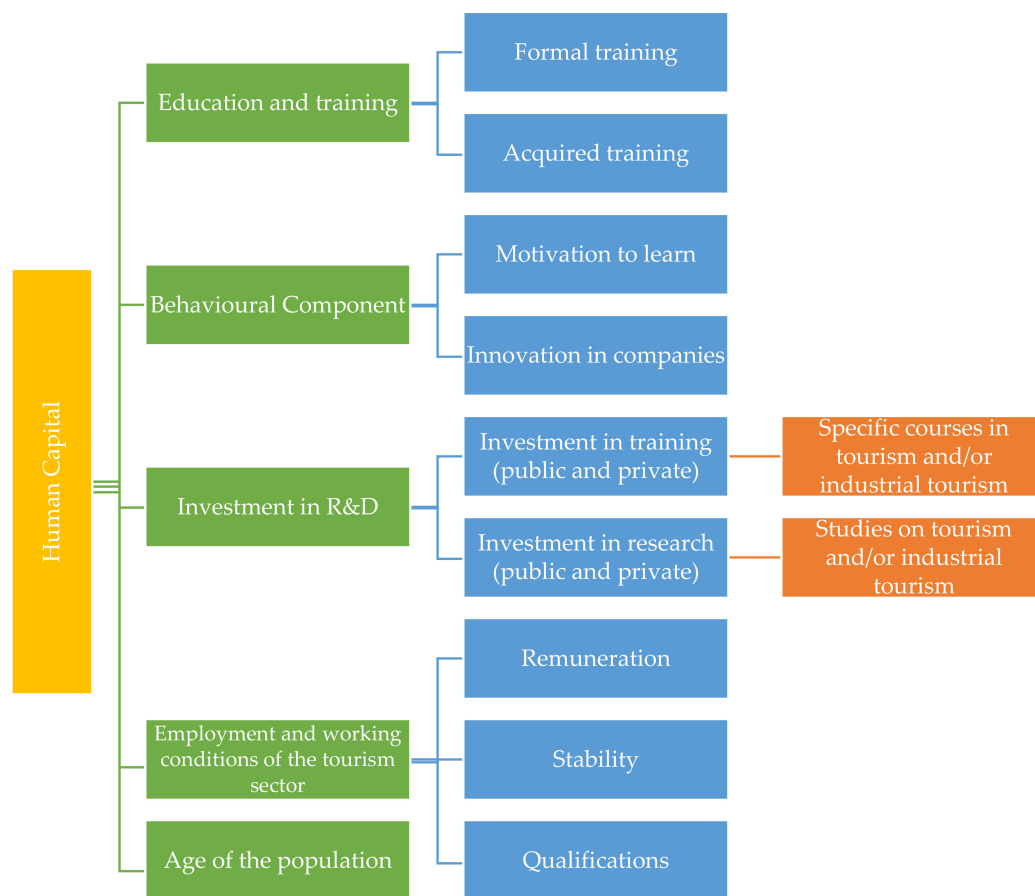
Figure 5. Indicators of Human Capital in the Tourism Sector Source: Developed by author.

Economic or financial capital is considered by Álvarez Sousa (2008) to be the set of resources an area has in order to increase the investment capacity and purchasing power of companies, institutions and citizens. Under this consideration, it should be emphasised that the tourism sector is currently one of the largest industries in the world, and for this reason, several regions are interested in promoting it specifically for the economic benefits it provides (Vergara and de Souza 2005; Gabriel Brida et al. 2008; Prat Forga and Soria 2014; Pulido-Fernández and Parrilla González 2016; Zhu et al. 2017) as a multi-sector activity with a clear multiplier effect (Bote Gómez 1994; Gabriel Brida et al. 2011; Flores Ruíz 2015). In Figure 6, the proposal is presented with the most significant indicators in order to analyse the complex impact of tourism on economic capital.

Infrastructure capital is also a key factor for development (Salvador García 2002; Blanco 2008; Tomás Carpi 2008; García López 2008; Vázquez Barquero 2009; Benzaquen et al. 2010); the capacity of an area to attract tourist flows depends to a large extent on its infrastructure (Barrado Timón 2004; Guerrero Casas and Ramírez Hurtado 2012; Duro and Rodríguez 2015; Zanirato and Tamazzoni 2015). Figure 7 shows the diagram of indicators selected to study the impact of tourism on infrastructure capital.
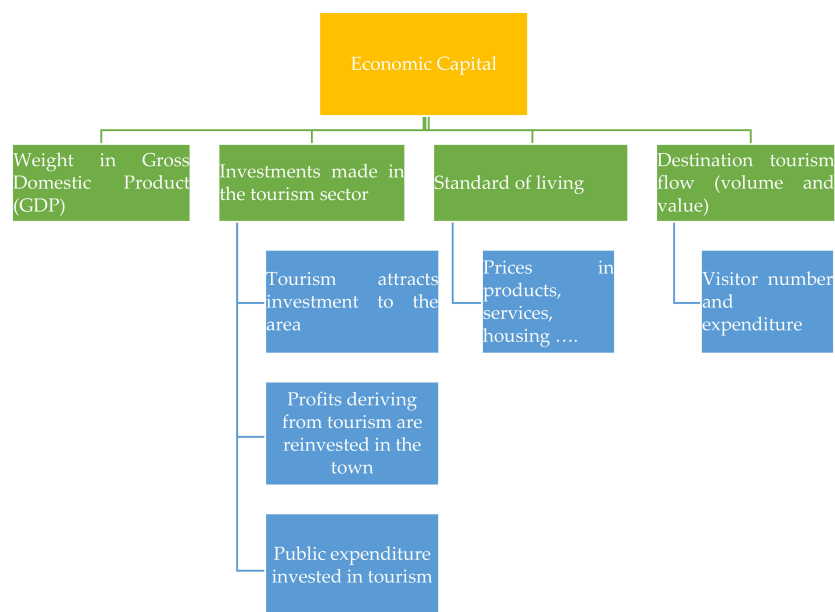
Figure 6. Indicators to analyse Economic Capital in the Tourism Sector. Source: Developed by author.
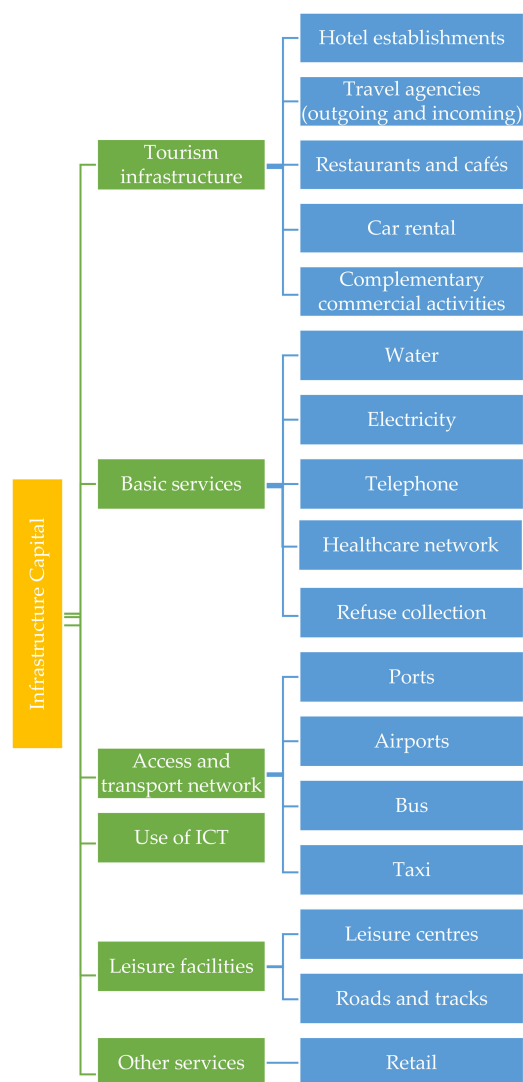

Figure 7. Indicators of Infrastructure Capital in the Tourism Sector. Source: Developed by author.

3. Methodological Design of the Study

In order to analyse the impacts of industrial tourism on the different dimensions of local development a theoretical-methodological model is proposed that contains the necessary elements to organise and systematise the results obtained from the empirical study (application of the model) based on the theory (theoretical part). For the subject and methodology applied, we considered the works of: Pardo Abad (2004); Mancebo (2010); Makua (2011); Vargas Sánchez et al. (2011); Zárate Martín (2011); Cardoso (2012); Guenaga Garay and Saratxaga (2012); Millán Vázquez de la Torre (2012), among others.

To this end, a quantitative methodology has been used through 317 surveys directed at the local population with emphasis on the perception of tourism impact in the four case studies in Spain and Portugal: Ferrol (Galicia); Las Médulas (Castilla y León), Taramundi (Asturias) and Vila Nova de Gaia (Portugal). Table 3 shows the technical data of the methodological process that guides the study.

Table 3. Data of the methodological process of the investigation.

Type of survey	Survey conducted in situ by researchers
Universal/community	Local population of the destinations chosen as a case study
Geographical area	• Ferrol (Galicia) • Taramundi (Asturias) • Las Médulas (León) • Vila Nova de Gaia (Portugal)
Sample size	• Ferrol (Galicia): 102 surveyed • Taramundi (Asturias): 50 surveyed • Las Médulas (León): 65 surveyed • Vila Nova de Gaia (Portugal): 100 surveyed
Date of field work	September to December 2015

Source: Developed by author.

Ferrol (Galicia) is a city with a rich heritage, encouraging cruise tourism, and visitors to the route of the Meninas, the English Way and the Route of the Naval Construction, among others. In fact, the Route of Naval Construction, as an industrial tourism activity, has tried to resolve the crisis in shipbuilding and strengthen the identity of the territory. It receives more than 20,000 visitors each year, mainly domestic visitors.

Las Médulas (Castilla y León) is an ancient Roman mine that has become a magnet resource for the Bierzo Region (León), catalogued as a World Heritage Site by UNESCO in 1997. Las Médulas is located in the province of León near the municipalities of Carrucedo (where the town of Las Médulas is located), Borrenes and Puente de Domingo Flórez. In these three municipalities the population has shown a downward trend in recent years due to the closure of the mines, the decline in the sector of the slate, and an aging demographic profile. It has an influx of about 90,000 visitors per year but, mainly, day trippers whose origin is of a domestic (96%) and proximity nature.

Taramundi (Asturias) is located in the south west of the region of Asturias, in the Oscos-Eo region. It is one of the first pilot experiences of Spanish rural tourism development and an internationally recognised example of the reuse and recovery of rural heritage, mainly, of ethnographic industrial nature and the industrial knife. It receives nearly 20,000 visitors per year, mainly domestic, and it has an accommodation offer based on rural tourism.

Vila Nova de Gaia (Portugal) is located in the Metropolitan Area of Porto. It is known to be where most of the activities offered in Porto are related to the wine world. In fact, many of the tourists who visit it stay overnight in Porto and take advantage of the trip to visit the famous wineries. It receives nearly 600,000 visitors per year.

The four destinations have been chosen, on the one hand, as they are representatives of industrial tourism at a European level and, on the other hand, because they are different from each other and make up a wide range of industrial heritage tourism case studies. They have unequal characteristics due to the industrial tourism products they offer (historical–industrial tourism and active-industrial tourism) with different environments (rural–urban) and with different levels of tourism development (low, medium and high). Consequently, the results are disparate and are linked to the intrinsic characteristics of each destination.

In the present study, as mentioned above, the following has been analysed: social, symbolic, economic, human, cultural, heritage and infrastructure capital.

The methodology proposed by the author Álvarez Sousa (2005) has been followed for choosing the capitals to carry out the research. In order to select the items that should appear in the questionnaire, a discussion group has also been carried out after the bibliographic review in order to delimit the items. The study of industrial tourism presents particular difficulties to obtain reliable and comparable data (Baggio and Klobas 2011). At the same time, the study of the impact of tourism is very complex, essentially, when choosing the indicators (UNWTO 1998; Álvarez Sousa 2009; Pérez Víctor et al. 2014). Therefore, in order to select the indicators a bibliographic review has been carried out and a qualitative methodology based on interviews has been used.

Thus, we selected, and the questions of the questionnaire were defined, including a total of 34 items[4] that aim to ascertain how they are perceived by the local population[5]. Accordingly, the choice of sample is justified because the effects of tourism on local development will depend to a large extent on the perception, assessment and expectations of the local community (Álvarez Sousa 2018) concerning the value and recognition given to heritage and its tourism potential.

With regard to certifying the reliability of each of the questionnaire's dimensions, it should be noted that the latent concepts that are part of the theoretical model are measured through multi-item scales in order to capture its true multidimensional nature. In relation to the system of weighting of the variables and items included, the questionnaire was developed using a Likert-type scale of 5 points, with 1 being equivalent to totally disagreeing and 5 being symmetrically opposed or totally in agreement.

The procedure for collecting information consisted of randomly carrying out on-site surveys by the researchers themselves, provided that those surveyed met the requirement of being residents of the municipality where the tourist attractions are located.

The processing of the results obtained from the empirical work was done through the Windows programme version 21.0 SPSS (Statistical Package for Social Sciences). The data obtained was processed applying univariate, bivariate and multivariable statistical techniques. First, the descriptive phase of the study was developed (sample size, frequencies, percentages, mean, standard deviation, minimum, maximum, etc.). Then, in order to find out how the variables or orders of the ranges are related, the bivariate correlation procedure was used. Finally, it has been decided to use and combine the structural equations through confirmatory factor analysis and also as a regression model within the same model.

Next, in Table 4, the sociodemographic data of the research sample is presented:

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[4]   A total of 27 items are related to the different capitals studied, 2 items with the level of tourism development and 5 items with the interest shown by the local population for the promotion of industrial heritage in their locality.

[5]   In most of the questions, participants are directly asked about the perception of the local population towards tourism not including the term "industrial tourism" due to the local population's lack of familiarity with this concept.

Table 4. Sociodemographic profile of the sample.

Variables	N	%	Variables	N	%
GENDER			**AGE**		
Male	118	37.2%	Between 18 and 35	83	26.2%
Female	199	62.8%	Between 36 and 50	99	31.2%
			Between 51 and 65	82	25.9%
			66 or over	50	15.8%
LEVEL OF EDUCATION			**PROFESSION**		
No schooling completed	12	3.8%	Self-employed	60	28%
Primary education	75	23.7%	Employed	139	38%
Secondary education	109	34.4%	Unemployed	16	2.0%
University studies	108	34.1%	Retired/pensioner	49	8.0%
DK/NO	71	22.4%	Student	27	20%
			Household chores	5	18.6%
			DK/NO	21	6.6%
SECTOR IN WHICH ECONOMIC ACTIVITY IS CARRIED OUT			**PERSONAL MONTHLY INCOME (€)**		
Agriculture	10	3.2%	Below 600	74	23.3%
Industry	18	5.7%	Between 601 and 1000	107	33.3%
Construction	7	2.2%	Between 1001 and 1300	24	7.6%
Commerce	69	21.8%	Between 1301 and 1800	16	5%
Hospitality and Tourism	84	26.5%	Between 1801 and 2000	15	4.7%
Transport	5	1.6%	Over 2001	10	3.2%
Financial Intermediation	0		DK/NO	71	22.4%
Real Estate	0				
Public Administration	19	6.0%	**TRAVEL EXPERIENCE**		
Healthcare	13	4.1%	Doesn't usually travel	32	10.1%
Education	14	4.4%	Travels once a year	162	51.1%
Other	43	13.6%	Travels more than once a year	119	37.5%
DK/NO	35	11%	DK/NO	4	1.3%

Source: Developed by author.

4. Analysis of the Results

In order to analyse the local population's perception of the contribution of industrial tourism towards local development, a detailed presentation will be made of each of the dimensions or capitals under study.

Thus, in order to study symbolic capital, 6 variables have been selected that include the analysis of identity and image (See Table 5).

Table 5. Descriptive table corresponding to the variables of the symbolic capital.

Variables of Symbolic Capital	Mean (SD)	Variance
Tourism contributes to improving and adding value to the locality's image	4.06 (1.120)	1.255
Tourism makes the local people feel more proud to belong to their locality	3.89 (1.195)	1.428
Tourism decreases tranquility and increases overcrowding	1.98 (1.245)	1.551
Tourism increases dirt, noise and pollution	1.92 (1.1198)	1.436
Tourism encourages an increase in robberies and crime	1.81 (1.239)	1.535
Tourism causes problems of coexistence between tourists and residents	1.57 (0.974)	0.948

The local population indicates the importance of each of the statements using a Likert scale (1 = Strongly disagree, 5 = Strongly agree).

The study shows that the item with the highest score is "tourism contributes to improving and adding value to the locality's image" (4.06 out of 5). The highest rating corresponds to Taramundi, a small locality that, thanks to tourism development, has managed to diversify its economy and has

established itself as a benchmark for rural tourism in Spain. It is followed by Vila Nova de Gaia, where the tourist offer is mainly focused on the world of wine. Both cases are successful destinations and are renowned thanks to their unique tourism products based on industrial heritage.

The second item with the highest rating in terms of symbolic capital (3.98 out of 5) has been the statement that "the inhabitants of the town feel more proud to belong to their locality" where the differences between the four destinations are not very significant. This result should be considered when carrying out actions in the planning and tourism management of each destination, as the sense of belonging to a place is an important element of local development strategies (Precedo Ledo and Iglesias 2007).

The four items with a lower rating are those related to the impacts considered harmful (overcrowding, dirt, noise, pollution, theft, crime ...). Thus, "tourism decreases tranquility and increases overcrowding" (1.98 out of 5); "Tourism increases dirt, noise and pollution" (1.92 out of 5); "Tourism encourages an increase in robberies and delinquency" (1.81 out of 5); and "tourism causes problems of coexistence between tourists and residents" (1.57 out of 5).

The local population's perception of the impact of industrial tourism on the heritage capital of their localities has been examined through the inclusion of 5 items in the survey, as shown in Table 6.

The variable with the highest ranking was "tourism conveys the history and culture of the region" (4.10 out of 5). In all the case studies, positive perception on the part of the residents is detected when considering tourism as one of the ways to convey the history and culture of a region. Likewise, the local population perceives that, thanks to tourism, "the maintenance and restoration of the historical and cultural heritage is encouraged" (3.51 out of 5), highlighting Taramundi as a prime example of restoration and enhancement of industrial heritage. The statement that "the local population shows interest in the revitalising and enhancing activities of industrial heritage" also stands out with a very positive average weighting (3.37 out of 5). It should be added that, although in all four cases processes have been carried out to improve and promote industrial heritage, the local population relates it to other resources such as ethnographic (Taramundi), enological (Vila Nova de Gaia), natural (Las Médulas), and cultural (Ferrol).

Table 6. Descriptive table corresponding to the variables of the heritage.

Variables of Heritage Capital	Mean (SD)	Variance
Tourism conveys the history and culture of the region	4.10 (1.082)	1.171
Tourism contributes to the maintenance and restoration of historical and cultural heritage	3.51 (1.395)	1.946
The population shows interest in activities related to the recovery and revitalisation of industrial heritage for tourism use	3.37 (1.108)	1.228
Tourism contributes to the destruction or deterioration of natural resources and the local ecosystem	2.18 (1.288)	1.659
Tourism contributes to changes or loss in the traditional culture of the area	2.07 (1.279)	1.635

The local population indicates the importance of each of the statements using a Likert scale (1 = Strongly disagree, 5 = Strongly agree).

The lowest ranking corresponds to the item "tourism contributes to changes or loss in the traditional culture of the area" (2.07 out of 5). Regarding the assessment that "tourism contributes to the destruction or deterioration of resources", the cases of Vila Nova de Gaia (2.54 out of 5) and Las Médulas (2.52 out of 10) stand out with a higher average. In both cases, this result is justified by the massification of specific tourist hubs in the high season, which gives rise to perceived negative impacts (large queues, damage to heritage ...) both by the local population itself and by visitors.

In short, it has been confirmed that industrial tourism positively boosts heritage capital since the positive items that make up this variable have been ranked with high scores (all greater than 3), thus highlighting the multiple benefits of improving industrial heritage (conservation of the identity of the region, maintenance of heritage ...).

We proceed next to the study of social capital, one of the most important when analysing the tourism development of a region (Barbini 2005; Prats 2011) since the participation of local key players

is one of the fundamental elements in both planning and in tourism management (Pulido-Fernández and Parrilla González 2016; Soares et al. 2016). Three items have been selected to be included in the surveys with the purpose of studying social capital through the perception of the local population itself (See Table 7):

Table 7. Descriptive table corresponding to the variables of social capital.

Variables of Social Capital	Mean (SD)	Variance
Tourism encourages greater cultural exchange	3.74 (1.224)	1.498
Tourism enhances the offer of cultural and recreational activities	3.31 (1.199)	1.437
Tourism contributes to increasing collaboration between people, companies or institutions	3.22 (1.280)	1.639

The local population indicates the importance of each of the statements using a Likert scale (1 = Strongly disagree, 5 = Strongly agree).

The aforementioned Table 7 shows that the item with the highest score is "tourism encourages greater cultural exchange" (3.74 out of 5) which is directly linked to the degree of tourism development since, if a greater number of visitors is received, there will be a greater cultural exchange. In the four case studies, the average assessment was greater than 3, and even in the cases of Taramundi and Vila Nova de Gaia, greater than 4. Second, the evaluation referred to the item "tourism enhances the offer of cultural activities and recreational activities" (3.31 out of 5), which shows that, not only have the visitors benefited from this cultural programme, but also the local population, participating in these activities. In third and final place, the item corresponding to the examination of the social capital ranked the lowest has been "tourism contributes to increasing collaboration among people, companies or institutions" (3.22 out of 5). However, the weighting of the items selected to study the impact of industrial tourism on social capital places its average values above 3 out of 5, which is interpreted as a positive fact and, therefore, confirms that the local population perceives that industrial tourism does improve and reinforce social capital.

On the other hand, human capital is also considered as a dimension that contributes directly and positively to development (Barbini 2005; Vázquez Barquero 2007; Álvarez Sousa 2009; Villalobos Monroy and Pedroza Florez 2009; Lillo Bañuls and Casado Díaz 2011; Muñoz Mazón et al. 2012) and, in the case of tourism, it is undoubtedly one of the key components. In this study, 3 items related to training, motivation and employment have been included in the survey in order to analyse the impact of industrial tourism, as shown in Table 8:

Table 8. Descriptive table corresponding to the variables of human capital human.

Variables of Human Capital	Mean (SD)	Variance
Tourism encourages the creation of employment for the local population	3.39 (1.336)	1.785
Tourism workers have high levels of qualifications	3.18 (1.250)	1.563
The local population is motivated to start a business in the tourism sector	3.15 (1.311)	1.719

The local population indicates the importance of each of the statements using a Likert scale (1 = Strongly disagree, 5 = Strongly agree).

Thus, the value given to the item related to "the level of workers' qualifications in the sector" has been ranked with a 3.18 on a scale of 1 to 5. The destination that has received a higher score in terms of professionalisation in the tourism sector was Vila Nova de Gaia, which has both professional and polytechnic technical colleges; furthermore, undergraduate degrees and master's degrees in tourism can be studied in nearby areas, giving workers the possibility to train and specialise. The item that indicates whether "the local population is motivated to start a business in the tourism sector" has an average value of 3.15 out of 5, highlighting Taramundi and Vila Nova de Gaia, where residents have a greater motivation to start a business due to the strong impact of tourism in the local economy.

In reference to "tourism encourages the creation of employment for the local population" (3.39 out of 5), the destination that has the best average is again Taramundi (an average of 4.64 out of 5).

In short, the items included in the survey of the local population on human capital have been valued with overall averages close to 3. In any case, a more detailed analysis allows us to detect that the impact of industrial tourism on human capital is not affected so much by the degree of tourism development, but rather, by the intrinsic particularities of each of the destinations, that mark a positive trend or negative.

Below, the analysis of economic capital is presented. Accordingly, we must begin by emphasising that tourism has taken an increasingly relevant role in local development public policies in various regions, since it is said to encourage economic dynamism (Vergara and de Souza 2005; Gabriel Brida et al. 2008; Prat Forga and Soria 2014; Pulido-Fernández and Parrilla González 2016). The ranking by the local population on the 5 items proposed in this study on the aforementioned dimension is lower when compared to the rest of the capitals analysed, as shown in Table 9.

Table 9. Descriptive table corresponding to the variables of economic capital.

Variables of Economic Capital	Mean (SD)	Variance
Tourism as the main source of income	3.61 (1.387)	1.923
Tourism attracts more investment to the area	3.47 (1.350)	1.822
Tourism benefits only a small number of residents	3.01 (1.222)	1.493
The profits revert to companies and people from outside the locality	2.96 (1.332)	1.774
Tourism gives rise to an increase in the cost of products and services	2.68 (1.345)	1.810

The local population indicates the importance of each of the statements using a Likert scale (1 = Strongly disagree, 5 = Strongly agree).

The item with the highest score was "tourism as the main source of income" (3.61 out of 5); however, this figure varies depending on the degree of tourism development of the region as well as its dependence on the tourism sector. Hence, the town of Taramundi came first, followed by Vila Nova de Gaia, Médulas and, finally, Ferrol. Therefore, it is concluded that, as expected, the greater the degree of tourism development, the greater the impact on the local economy is perceived.

The rest of the variables of the economic capital are not related to the degree of development but, on the contrary, to the internal and particular problems of each of the destinations. Thus, the second item with a higher average has been "tourism attracts more investment to the area" (3.47 out of 5). In this case, Vila Nova de Gaia stands out (4.55 out of 5) since an important part of the companies that work in the region are of medium-large size, which encourages higher investments.

It has also been asked if "tourism benefits only a small number of residents" (3.01 out of 5). In this case, Las Médulas (3.57 out of 5) stands out—this is a destination in which the local population feels frustrated that employees of interpretation centres, guides, tourist offices, etc. come from other areas and no jobs are generated for locals. Finally, it is worth highlighting once more the case of Vila Nova de Gaia, in which their rating on "the profits revert to companies and people from outside the area" (3.51 out of 5) and "tourism increases the price of products and services" (3.25 out of 5) presents a score higher than the average.

Finally, regarding infrastructure capital—a key factor for local development (Salvador García 2002; Wallingre 2007; Blanco 2008; Tomás Carpi 2008; García López 2008; Vázquez Barquero 2009; Benzaquen et al. 2010)—4 items linked to leisure facilities, tourism infrastructure and basic services have been included in the survey, seen in Table 10.

Table 10. Descriptive table corresponding to the variables of infrastructure capital.

Variables of Infrastructure Capital	Mean (SD)	Variance
Tourism contributes to an improvement in the quality of hotel and catering services	3.65 (1.151)	1.324
Tourism improves the provision of infrastructure and public services	3.46 (1.392)	1.937
Tourism improves the provision and availability of leisure facilities	3.43 (1.315)	1728
The money invested by institutions to attract more tourists has generated new facilities, infrastructure and events suitable for tourism	3.19 (1.381)	1.908

The local population indicates the importance of each of the statements using a Likert scale (1 = Strongly disagree, 5 = Strongly agree).

The item that has been given the highest score by the local population is "the improvement of the quality of the hotel and catering services" (3.65 out of 5) followed by "tourism improvement in the provision of infrastructure and public services" (3.46 out of 5). In both cases Taramundi stands out with an average of almost 5, being a town of just over 700 inhabitants that has communication services and connections other municipalities with the same population do not have. "Tourism improves the provision and availability of leisure facilities" (3.46 out of 5) comes in third place. This item is also directly related to the degree of development, so that both in Taramundi and Vila Nova de Gaia, the population perceives to a greater extent that tourism has improved the provision and availability of leisure facilities. In fourth and last place, the level of tourism development also directly influences the local population's perception of "the money invested by the institutions to attract tourists has generated new facilities, infrastructure and events for the development of tourism activity" (3.19 out of 5). In this case, Ferrol, with a low level of tourism development, once again finds itself ranking last in the aforementioned item (2.34 out of 5).

In short, an examination of the impacts generated by industrial tourism in the different capitals or dimensions of local development reveals that the tourism type analysed generates positive impacts in all of the local development capitals. It has also been discovered that the impacts generated will be influenced by the intrinsic characteristics of the territory itself (individualism, aging of the population, experience as a destination . . .), by the degree of the destination's tourism development, by the attitude shown by the local population towards industrial tourism and by the actions promoted by the authorities in the area of tourism planning and management.

The mentioned capitals also maintain a clear relationship of interdependence. In fact, investing in human capital will allow for having a stronger and more active social capital that will promote the conservation of the environment, identity and heritage, which will strengthen the patrimonial capital and the symbolic capital. Once the local population identifies the tourist potential of their territory, they will be able to perform different actions to attract tourists and, with that, boost infrastructural capital that allows the development of tourism and the success of the destination. If the order is reversed, the relationship between the different capitals is also significant. Thus, if infrastructure is invested in, it will improve connectivity, accessibility, the offer of tourist services and so on. And as for in the heritage capital, appreciating the different resources of the area will promote the arrival of visitors to the territory which will generate an income that will improve the economic capital. However, so that the destination continues growing, it will be necessary to continue investing in infrastructure and human capital to offer the highest quality destination. In turn, tourism activity will reinforce the symbolic capital and social capital. In conclusion, the order of the factors does not alter the product, but it will influence the model of tourist destination.

In addition, the comprehensive study of tourism and its impacts on local development poses the challenge of reflecting on the diversity of the dimensions included within. With the aim of developing a theoretical-conceptual model that explains the impact of industrial tourism on local

development, factor analysis[6] has been used in the case studies examined and, following a previous analysis[7], the SEM (structural equation models) have been applied using confirmatory factor analysis (measurement model) to assess and observe a structure that initially is not perceived in the previous factorial technique[8].

The statistical analysis performed shows the existence of three factors or dimensions that integrate the variables affecting the impact of industrial tourism on local development, which are described below:

Dimension No.1 is formed by four variables that associate significantly with this factor (The money invested by the institutions to attract more tourists has generated new facilities and adequate infrastructure for tourism activity (p79), the people who work in the tourism sector of the locality have a high level of qualifications (p75), the local population is motivated to start a business in the tourism sector (p76) and tourism is one of the main sources of income for the development of the economy of the locality (p71)).

Accordingly, the four items are linked to the locality's economy through the improvement of infrastructure, the qualifications of workers, the motivation to start a business and the main form of income and, based on these components, the factor is labelled "Economic Dimension."

Regarding the adjustment of the model (See Table 11), it can be seen that, in general terms, a good fit occurs, with a $p >$ value of chi2 = 0.713, an RMSEA (Root Mean Square Error of Aproximation) value of 0.000, a CFI (Comparative Fit Index) value of 1.000 and an SRMR (standardized root mean squared residual) value of 0.008. Therefore, the data presented determines that the model reproduces the behaviour of the data observed in a very significant way.

Table 11. Adjustment of the Economic Dimension model.

Fit Statistic	Value	Description
Likelihood ratio		
Chi2_ms (2)	0.676	
p > chi2	0.713	Model vs. Saturated
chi2_bs (6)	266.722	Baseline vs. saturated
p > chi2	0.000	
Population error		
RMSE	0.000	Root mean squared error of approximation
90% CI, Lower bound	0.000	
Upper bound	0.085	Probability RMSEA <= 0.05
pclose	0.843	
Information criteria		
AIC	3618.761	Akaike´s information criterion
BIC	3662.633	Bayesian information criterion
Baseline comparison		
CFI	1.000	Comparative fit index
TLI	1.015	Tucker-Lewis index
Size of residuals		
SRMR	0.008	Standardized root mean squared residual
CD	0.783	Coefficient of determination

The scores obtained for each of the variables that are part of the Economic Dimension are similar (3.2 out of 5), with the exception of variable 71 "tourism is one of the main sources of income for the

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[6]   Because it is considered to be a statistical technique that is used to reduce a large number of variables used in the collection of data into a fewer number of latent factors (Hair et al. 1999).

[7]   In the preliminary analysis, all the factors discussed above have been applied, but in this section, it has not been deemed appropriate to present them all, but only those in which the model has been well adjusted by applying criteria of reason before exclusively mathematical criteria.

[8]   It is commonplace to use confirmatory factor analysis to validate and ensure that the models obtained can be replicated (Hair et al. 1999) and, especially when, as in this case, a posterior modelling is provided by systems of structural equations (Byrne 2001).

development of the economy of the area", which ranks the highest (3.7 out of 5). They are represented below in Chart 1 in confirmatory factor analysis results.
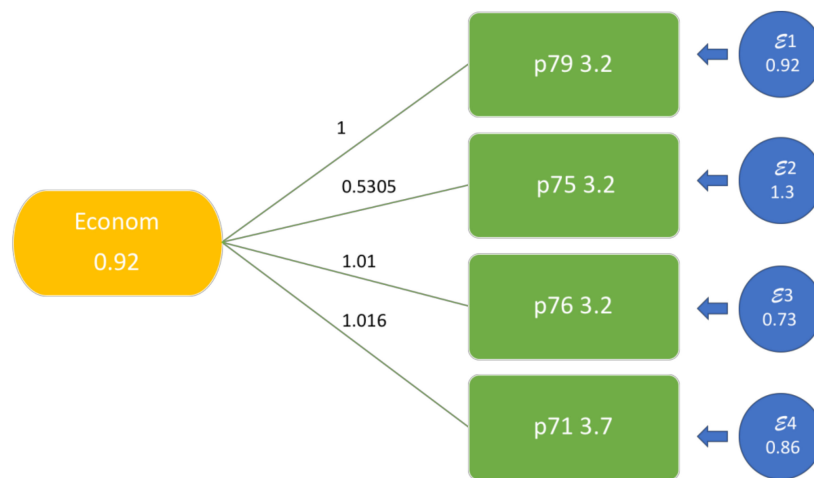

Chart 1. Confirmatory factor analysis results of the Economic Dimension.

As shown in Chart 1 and taking the variable p79 (=1) as a reference value, the values of the variables p76 and p71 are close to 1 and the value of the variable p75 is 0.53. Likewise, in the following Table 12, it is shown that the significance of all these values is very explanatory, with a $p > z$ of 0.000.

Dimension 2 is made up of four variables that are significantly associated with this factor (tourism encourages greater cultural exchange (p82): tourism contributes to increasing collaboration among people, companies or institutions (p77); tourism contributes to the creation of employment for the local population (p12) and tourism attracts more investment to the area (p73)). All of them refer to cultural exchange, to collaboration between agents, to the creation of employment and to the investment in the area and for this reason it has been named Socio-Cultural Dimension.

Regarding the adjustment of the model (See Table 13), it can be seen that, broadly speaking, a good adjustment is produced, with a $p >$ value of chi2 = 0.564, an RMSEA value of 0.000, a CFI value of 1.000 and an SRMR value of 0.008. Therefore, all the data presented indicates that the model reproduces the behaviour of the observed data in a significantly good way.

Table 12. Coefficients of the "Economic Dimension". (1) [p79] Econom = 1.

|	Coef.	OIM Std. Err.	Z	P > |Z|	[95% Conf. Interval]	
Measurement						
P79 <-Econom_cons	3.237762	(constrained) 0.0803308	40.31	0.000	3.080317	3.395208
P75 <-Econom_cons	0.530481 3.206294	0.0896373 0.0732456	5.92 43.77	0.000 0.000	0.3548003 3.062735	0.706179 3.349852
P76 <-Econom_cons	1.009816 3.185315	0.1045665 0.0763791	9.66 41.7	0.000 0.000	0.806936 3.539752	1.224941 3.851857
P71 <-Econom_cons	1.015937 3.695804	0.1066366 0.0796201	9.53 46.42	0.000 0.000	0.806936 1.539752	1.224941 3.851857
Var (e.p.79)	0.091201	0.1095931			0.7296075	1.163108
Var (e.p.75)	1.274235	0.1130514			1.070854	1.516244
Var (e.p.76)	0.725857	0.0998023			0.05545	0.9503559
Var (e.p.71)	0.085994	0.1085671			0.670514	1.100456
Var (Econom)	0.924364	0.1547932			0.665736	1.28348

LR test. of model vs. saturated: chi2(2) = 0.68, Prob > chi2 = 0.7130.

Table 13. Adjustment of the Socio-Cultural Dimension model.

Fit Statistic	Value	Description
Likelihood ratio		
Chi2_ms (2)	1.146	Model vs. Saturated
p > chi2	0.564	
chi2_bs (6)	293.261	Baseline vs. saturated
p > chi2	0.000	
Population error		
RMSE	0.000	Root mean squared error of approximation
90% CI, Lower bound	0.000	
Upper bound	0.097	Probability RMSEA <= 0.05
pclose	0.751	
Information criteria		
AIC	3768.057	Akaike´s information criterion
BIC	3812.542	Bayesian information criterion
Baseline comparison		
CFI	1.000	Comparative fit index
TLI	1.009	Tucker-Lewis index
Size of residuals		
SRMR	0.009	Standardized root mean squared residual
CD	0.777	Coefficient of determination

Source: Developed by author.

The scores of each of the variables included in this dimension are similar, especially emphasising p82 "tourism encourages a greater cultural exchange" (3.8 out of 5). The rest of the variables all have slightly divergent averages. The results of the confirmatory factor analysis obtained are presented in Chart 2.
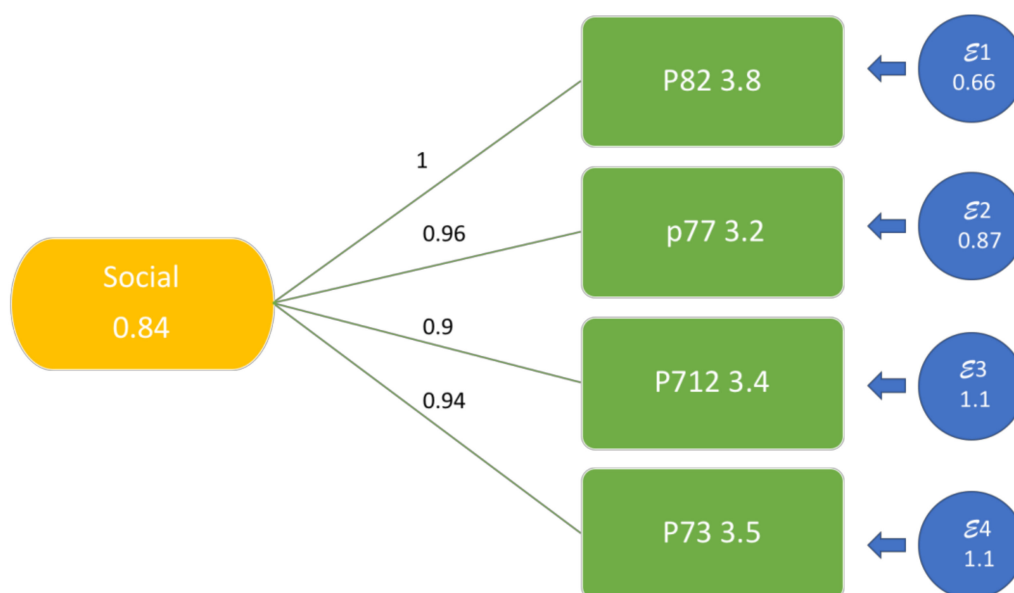
Chart 2. Confirmatory factor results of the Socio-Cultural Dimension.

As shown in the previous chart and taking the variables p712 and p73 as reference values, the value of the variable p77 (0.87) is close to 1 and, with respect to p82 (0.66), it moves away. In addition, the significance is very high, with all $p > z$ values being 0.000 (See Table 14).

Table 14. Coefficients of "Socio-Cultural Dimension". (1) [p82] Social = 1.

	Coef.	OIM Std. Err.	Z	P > |Z|	[95% Conf. Interval]	
Measurement						
P82 <-						
Social	1	(constrained)				
_cons	3.750831	0.0705002	53.2	0.000	3.612653	3.889008
P77 <-						
Social	0.9589433	0.102806	9.33	0.000	0.7574473	1.160439
_cons	3.239203	0.0737495	43.92	0.000	3.094656	3.383749
P712 <-					0.6996516	1.101512
Social	0.9005817	0.1025172	8.78	0.000	3.231439	3.53268
_cons	3.38206	0.0768486	44.01	0.000		
P73 <-						
Social	0.9417396	0.1018258	9.25	0.000	0.7421647	1.141315
_cons	3.51495	0.0772868	45.48	0.000	3.363471	3.66643
Var (e.p.82)	0.6585367	0.087946			0.5068787	0.8555707
Var (e.p.77) Var	0.8669764	0.0978213			0.6949697	1.081555
(e.p.712) Var	1.098352	0.1100976			0.9024393	1.336796
(e.p.73) Var	1.055177	0.1089539			0.8618532	1.291866
(Social)	0.8375174	0.1297808			0.6181482	1.134737

LR test. of model vs. saturated: chi2(2) = 1.15, Prob > chi2 = 0.5637.

The third and final dimension obtained is made up of three variables that are significantly linked (tourism makes local people feel prouder of belonging to their area (p810); tourism contributes to improving and adding value to the destination's image (p89) and tourism contributes to the maintenance and restoration of historical and cultural heritage (p812)). Accordingly, based on the fact that it groups variables associated with the local population's sense of pride, improving the area's image through tourism, and the maintenance and restoration of heritage has been called "Symbolic-Heritage Dimension".

Broadly speaking, there is a good fit with a *p* > value of chi2 = 0.000, a RMSEA value of 0.000, a CFI value of 1.000 and an SRMR value of 0.000, as shown in Table 15. Regarding the scores of each of the variables that make up this third dimension, p89 highlights "tourism contributes to improving and adding value to the destination's image" with a higher value (4.1 out of 5).

The results of the confirmatory factor analysis for the factor denominated "Symbolic-Heritage Dimension" are shown in Chart 3, in which it appreciates that the values of the three variables are close to one with the p810 value "tourism contributes to the inhabitants of the destination feeling more proud to belong to their locality" being equal to 1.
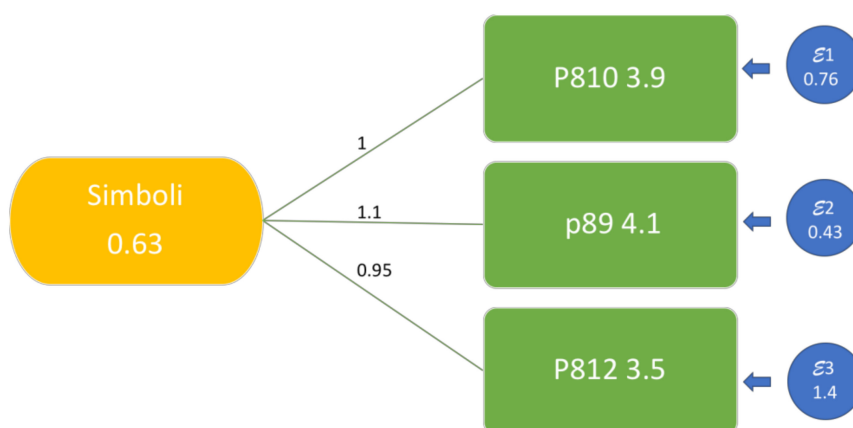

Chart 3. Confirmatory factor analysis results of the "Symbolic-Heritage Dimension".

Table 15. Adjustment of the Symbolic-Heritage Dimension model.

Fit Statistic	Value	Description
Likelihood ratio		
Chi2_ms (2)	0.000	
p > chi2		Model vs. Saturated
chi2_bs (3)	176.035	Baseline vs. saturated
p > chi2	0.000	
Population error		
RMSE	0.000	Root mean squared error of approximation
90% CI, Lower bound	0.000	
Upper bound	0.000	
pclose	1.000	Probability RMSEA <= 0.05
Information criteria		
AIC	2760.173	Akaike´s information criterion
BIC	2793.537	Bayesian information criterion
Baseline comparison		
CFI	1.000	Comparative fit index
TLI	1.000	Tucker-Lewis index
Size of residuals		
SRMR	0.009	Standardized root mean squared residual
CD	0.754	Coefficient of determination

Regarding the significance of the values included in the factor examined, it should be noted that it is significant since *p* > z is 0.000, as corroborated in the following Table 16:

Thus, according to the results obtained from the surveys taken of the local population and through an analysis in which the confirmatory factor analysis technique has been applied, the theoretical proposal presented throughout this research has been simplified in a single multidimensional model or structure of local development composed of three factors or dimensions (Economic Dimension, Socio-Cultural Dimension and Symbolic-Heritage Dimension), which are independent but, at the same time, are interconnected and with a certain degree of interdependence (See Figure 8).

Chart 4 visually presents an estimation of the structural model or single model in which the covariation between the different dimensions can be corroborated.

With regard to covariances, the strong relationship between the economic dimension and the socio-cultural dimension stands out with 0.75. However, the covariance between the rest of the dimensions is not as significant as it only shows 0.44. However, although *p* > of chi2 = 0.000 is not acceptable, the adjustment of the model is good since the rest of the values are significant as RMSEA has a value of 0.086, CFI has a value of 0.921 and SRMR has a value of 0.058. Therefore, the data obtained indicates that the model fits well (Table 17).
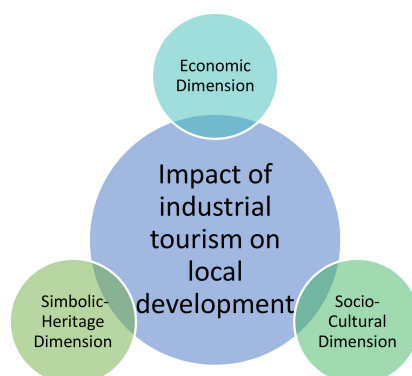

Figure 8. Dimensions that influence the impact of industrial tourism on local development. Source: Developed by author.

Table 16. Coefficients of the "Symbolic-Heritage Dimension". (1) [p810] Simboli = 1.

	Coef.	**OIM Std. Err.**	**Z**	**P > |Z|**	**[95% Conf. Interval]**	
Measurement						
P810 <-						
Simboli	1	(constrained)				
_cons	3.903654	0.0679405	57.46	0.000	3.770494	4.036815
P89 <-						
Simboli	1.121818	0.1585294	7.08	0.000	0.8111062	1.43253
_cons	4.059801	0.0636387	63.79	0.000	3.935071	4.18453
P812 <-						
Simboli	0.9480324	0.1293979	7.33	0.000	0.6944173	1.201648
_cons	3.51495	0.0799542	43.96	0.000	3.358243	3.671658
Var (e.p.810)	0.7623387	0.101385			0.5874148	0.9893524
Var (e.p.89)	0.4298881	0.1067312			0.2642542	0.6993408
Var (e.p.812)	1.360624	0.1322302			1.124645	1.646118
Var (Simboli)	0.6270499	0.124026			0.4255202	0.9239824

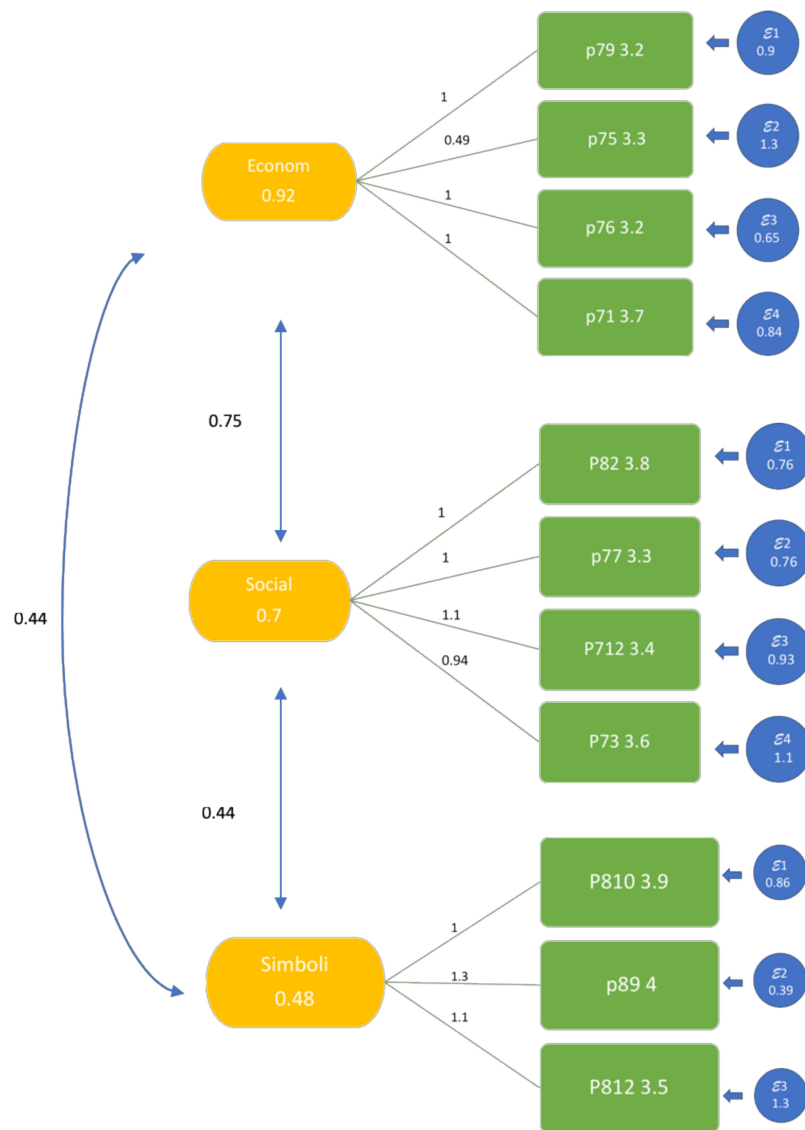LR test of model vs. saturated: chi2 (2) = 0.00, Prob > chi2 =.

Chart 4. Estimation of the structural or single model. Source: Developed by author.

Table 17. Adjustment of the common model.

Fit Statistic	Value	Description
Likelihood ratio		
Chi2_ms (41)	23.011	
p > chi2	0.000	Model vs. Saturated
chi2_bs (55)	1098.239	Baseline vs. saturated
p > chi2	0.000	
Population error		
RMSE	0.086	
90% CI, Lower bound	0.069	Root mean squared error of approximation
Upper bound	0.104	Probability RMSEA <= 0.05
pclose	0.000	
Information criteria		
AIC	8825.588	Akaike's information criterion
BIC	8954.863	Bayesian information criterion
Baseline comparison		
CFI	0.921	Comparative fit index
TLI	0.895	Tucker-Lewis index
Size of residuals		
SRMR	0.058	Standardized root mean squared residual
CD	0.963	Coefficient of determination

Source: Developed by author.

Below, Table 18 shows the data related to the different coefficients where it is observed that the significance of all these values is high, with all values of $p > z$ being 0.000.

In summary, we would like to add that the analysis of the contribution of industrial tourism in local development from the perspective of the local population indicates that the most benefited are the patrimonial and symbolic capital (thanks to the conservation of heritage, transmission of identity and improvement of the image, among others) being its mildest contribution in economic, infrastructural, social and human capital.

Although each destination presents a different evolution with their small peculiarities, the same pattern is shown in the results obtained. In any case, we can add the reflection of Monterrubio et al. (2013, p. 43) which indicates that, "although the sociocultural effects of tourism are repeated or are common in different contexts, the particularities of the destination—the level of tourism development, economic and socio-cultural conditions of the locality, the type of visitors and the specific behaviour that they adopt during their stay—will largely determine the type of perceived effects that are generated in local communities.

In all the destinations analysed, their main resource is the industrial tourism, but a feeling of reticence to use the term persists. However, despite this initial rejection, in these destinations the tourist activity has allowed for the preserving, appreciating and attracting visitors thanks to its industrial heritage by generating an interest and a more positive image about the territory and the productive activity that develops there.

Table 18. Coefficients of the single model.

	Coef.	OIM Std. Err.	Z	P > |Z|	[95% Conf. Interval]	
Measurement						
P79<-						
Econom	1	(Constrained)				
_cons	3.242537	0.0827008	39.21	0.000	3.080447	3.404628
P75<-						
Econom	0.4947033	0.0848513	5.83	0.000	0.3283979	0.6610088
_cons	3.261194	0.0746004	43.72	0.000	3.11498	3.407408
P76<-						
Econom	1.033466	0.919623	11.24	0.000	0.853223	1.213709
_cons	3.197761	0.078493	40.74	0.000	3.043918	3.351605
P71<-						
Econom	1.004999	0.0946052	10.62	0.000	0.0819577	1.190422
_cons	3.731343	0.0818055	40.74	0.000	3.571007	3.891679
P82<-						
Social	1	(constrained)				
_cons	3.768657	0.0738445	51.04	0.000	3.623924	3.913389
P77<-						
Social	1.043727	0.1010894	10.32	0.000	0.8455958	1.241859
_cons	3.343284	0.075408	44.34	0.000	3.195487	3.491081
P712<-						
Social	1.065203	0.1091934	9.76	0.000	0.8511882	1.279218
_cons	3.447761	0.0802255	42.98	0.000	3.290522	3.605
P73<-						
Social	0.9440603	0.1057161	8.93	0.000	0.7368606	1.15126
_cons	3.585821	0.0799436	44.85	0.000	3.429134	3.742508
P810<-						
Simboli	1	(constrained)				
_cons	3.914179	0.0708982	55.21	0.000	3.775221	4.053137
P89<-						
Simboli	1.301585	0.1452552	8.96		1.016889	1.58628
_cons	4.044776	0.0673154	60.09	0.000	3.91284	4.176712
P812<-						
Simboli	1.110428	0.1643619	6.76	0.000	0.7882843	1.432571
_cons	3.522388	0.0831733	42.35	0.000	3.359371	3.685405
Var (e.p79)	0.8982767	0.957232			0.7289594	1.106922
Var (e.p75)	1.262731	0.1127749			1.059961	1.504291
Var (e.p76)	0.652891	0.078465			0.5158726	0.8263021
Var (e.p71)	0.8494354	0.0915649			0.687662	1.049266
Var (e.p82)	0.7622396	0.0786117			0.6227374	0.9329922
Var (e.p77)	0.7622998	0.0798147			0.6208732	0.9359417
Var (e.p712)	0.9315694	0.0930822			0.7658846	1.133097
Var (e.p73)	1.089653	0.1044357			0.903039	1.314831
Var (e.p810)	0.863235	0.0881092			0.7067212	1.054411
Var (e.p89)	0.394694	0.0821758			0.262407	0.593547
Var (e.p812)	1.257321	0.1327045			1.022365	1.546275
Var (Econom)	0.9346904	0.1489715			0.683916	1.277417
Var (Social)	0.6991652	0.1159573			0.5051346	0.9677261
Var (Simboli)	0.4838813	0.1009138			0.321529	0.7282116
Cov (Econom, Social)	0.7491816	0.0992093	7.55	0.000	0.5547349	0.9436284
Cov (Econom, Simboli)	0.4365571	0.0749779	5.82	0.000	0.2896031	0.5835111
Cov (Social, Simboli)	0.442754	0.0702639	6.3	0.000	0.3050393	0.5804688

LR test of model vs. Saturated: chi2 (41). = 123.01, Prob > chi2 = 0.0000. Source: Developed by author.

5. Discussion and Conclusions

Tourism is an opportunity for local development in many territories (UNWTO 1998; Vergara and de Souza 2005; Barbini 2008; Cañizares Ruiz 2008; Álvarez Sousa and Rodríguez 2009; Massukado Nakatani and Gonçalves 2013; Pérez Víctor et al. 2014; Horrach Estarellas 2014; Muresan et al. 2016) and is acquiring a progressive socio-economic relevance and a growing impact on development (UNWTO 2014). In this context, it can be affirmed that since the beginning of the last century there has been a continuous evolution that has directly affected a greater valuation and use of industrial heritage, especially due to its intrinsic capacity of versatility to adapt to new uses. This favours, at the same time, its rescue. Although there are various options to enhance the value of industrial heritage. This research assumes that tourism is one of the possibilities that offers the greatest benefits for society and the local population since, in addition to helping to preserve its heritage, also establishes the way to become a new engine of development in industrial zones in crisis. However, tourism initiatives based on industrial heritage do not have to be seen as a definitive solution to their problems since, for example, from an economic point of view, the benefits could be more long-term or more intangible (Llurdés i Coit 1999).

Therefore, so that tourism has a positive impact on local development, an adequate planning is necessary (Vera Rebollo 1992; López Palomeque 2007; Dredge and Jamal 2015; Muresan et al. 2016) and effective tourism management (Macintyre et al. 1993; Merinero Rodríguez and Zamora Acosta 2009). That way, the destination can optimise the benefits (memory transmission, awareness . . .) and avoid risks (destruction of heritage, loss of identity . . .) thus becoming essential for many territories, developing initiatives that improve the local identification, showing the visitors and the local population, through heritage education, the elements that make up the history and the culture of the people. Otherwise, this may cause irreversible negative effects on the region.

This study has tried to examine the contribution of industrial tourism to local development in order to respond to the interest expressed by various authors in discovering the benefits this new tourism type contributes to the region and at the same time, investigate what factors influence the effects that tourism generates at the local level.

The methodology developed has made it possible to deepen the perception of the local communities in the four case studies on the potential industrial tourism has on local development. Thus, the main results of the empirical work are the following:

The population does not perceive a great economic impact of industrial tourism in local development, although it is confirmed that it is an addition to other types of tourism, such as rural tourism (in the case of Taramundi and Las Médulas) or urban tourism (the case of Vila Nova de Gaia and Ferrol). Likewise, it has been proven that if there is a greater degree of tourism development, the impact on economic capital will also be greater since it is understood that the number of visitors and the amount of income from tourism will increase.

One of the areas most valued by the local population is symbolic capital and, in fact, it is one of the greatest benefits that industrial tourism provides, since it helps to regenerate the region's image as well as transmitting and maintaining its identity. The analysis of social capital reveals that, at the very start of tourism development, the impulse of industrial tourism improves cultural exchange and increases the offer of cultural and leisure activities. Regarding the study of infrastructure capital, it is clear that industrial tourism influences its improvement, although it is intimately linked to the degree of tourism development, that is, as the degree of tourism development increases, authorities and the private sector will also invest more in infrastructure.

The data on the analysis of the impact of industrial tourism on human capital indicates that it improves job creation and boosts enterprise, albeit moderately, since it is a tourist type that does not generate large flows of visitors, but rather has a very specific demand. On the other hand, it becomes clear that industrial tourism is not currently contributing directly to improving tourism sector workers' qualifications in the cases analysed. However, it has been detected that, as the level of tourism

development increases, this trend changes as the number of enterprises increases and the qualifications of the workers reach a higher level.

Regarding the study of heritage capital, the data indicates that one of the greatest impacts of industrial tourism in the region is that it familiarises people with local history and culture. In addition, the positive effects (it enhances the conservation of heritage) are greater than the negative ones (destroys and/or deteriorates the heritage, contributes to the loss of traditional culture …). Nevertheless, it is has also been discovered that there is need for greater awareness, on the part of the population, of the importance of all the resources that make up the industrial heritage, as well as a coordinated work and a long-term strategy that enables its conservation, improvement, promotion and tourism marketing.

To conclude, industrial tourism generates positive impacts on the different, interdependent dimensions of local development—mainly on heritage and symbolic capital (thanks to heritage preservation, identity transmission and image improvement, among other things)—while its contribution regarding economic, infrastructure, social and human capital is lower. Nevertheless, this process will directly influence the characteristics of the region (individualism, aging of the population, experience as a destination …), the degree of tourism development of the destination, the attitude shown by the local population to industrial tourism and the actions promoted by the authorities in the field of tourism planning and management.

Regarding the measurement of the impact of industrial tourism on local development based on confirmatory factor analysis, it concludes with the proposal of a multidimensional methodological-conceptual model that shows the existence of three factors that integrate the variables affecting the impact of industrial tourism in local development:

The first factor (Economic Dimension) combines four items that are linked to the economy of the area through the improvement of infrastructure, the workers' qualifications, the motivation to set up a business and the main source of income. The second factor (Socio-Cultural Dimension) comprises four variables that are directly related to cultural exchange, collaboration between agents, job creation and investment in the area. The third factor (Symbolic-Patrimonial Dimension) groups four variables associated with the local population's sense of pride, improving the image through tourism and the maintenance and restoration of heritage.

It is evident that tourism activities linked to industrial heritage can play a decisive role as a complement to the development of a territory and it can be considered an example of sustainable and socially responsible tourism. In fact, they can be a way to publicise the industrial heritage and its relationship with the history of the place (Capel 1996; Pardo Abad 2004; Álvarez Areces 2010; Cardoso 2012) promote its conservation (Prats 1998; Capel 1996; Llurdés i Coit 1999; Makua 2011) and generate multiple benefits in the economic, social and symbolic territory.

However, it should be added that industrial tourism has not been accepted yet as an attractive type of tourism due to its recent nature (Casanelles Rahola 2007) and the negative social construction that society has created around the concept of industrialisation, among other reasons (Pardo Abad 2004; Martínez Casal 2011). In short, industrial tourism is recent and it needs new impulses to become a competitive tourist option since, despite its growing interest, this type of tourism still has a limited capacity for attraction and its benefits are presented in the long term (Llurdés i Coit 1999; Prat Forga and Cánovas 2012).

This research has tried to deepen, theoretically, the contribution of industrial tourism to local development. This way it can respond to the interest expressed by various authors regarding the need to know the benefits of this new tourism typology on the territories where it operates and, at the same time, investigate which factors have the greatest influence on the impacts that tourism generates at the local level. The results obtained, as well as the methodology used, can also be of interest to tourism professionals since it can allow for identifying the strengths and weaknesses in order to take measures to promote tourism.

For future research, cross-cutting over time is recommended using a broad series of data—for example, 5 to 10 years—in order to be able to compare the data at different stages of tourism

development. Likewise, focusing analysis on the impact of tourists' behaviour would also be interesting, given that tourism expenditure, its respect for identity, its relationship with the local population, etc., can directly affect the progress of the different dimensions of development. It could also be very useful to study in depth and provide solutions in relation to the difficulties in the implementation of tourism governance since, according to the results obtained, the participation and collaboration of the agents in the tourism planning and management process remains a pending task.

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