

Blockchain and other Determinants of the Financial Attractiveness of Tourism Enterprises at the Regional Level: A Proposal for a Synthetic Fundraising Indicator

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Annotation. This study evaluates the key factors influencing non-traditional financing in the tourism industry as an alternative to traditional bank financing. It explores whether companies using Blockchain technology or integrating it into their processes are more likely to secure investments. Two significant contributions are made: proposing variables that enhance financial attractiveness in tourism and examining whether companies adopting Blockchain attract more investment. Using a sample of 1,327 tourism companies from Crunchbase, this study develops five indicators and constructs a synthetic indicator using the P2 distance method. The results reveal that tourism companies incorporating Blockchain are more likely to secure financing, influencing regional financing capabilities, and enhancing appeal to private investors. The Synthetic Indicator of Fund Raising offers a novel tool for assessing investment potential globally, providing insights into financial attractiveness across regions and highlighting the role of advanced technologies, such as Blockchain, in securing private investments.

Keywords: tourism financing and competitiveness, CrunchBase, regional analysis, synthetic indicator of fund raising, DP2.

JEL classification: G1, O33, Z31.

Introduction

The tourism industry represents a key component of the global economy, contributing significantly to employment, GDP, and cultural exchanges between nations (Tsutsunashvili *et al.*, 2024). According to the World Tourism Organization (UNWTO), the tourism sector will contribute approximately \$ 10 trillion to the global economy, supporting 330 million jobs by 2023 (UNWTO, 2024). Non-traditional financing, often

contrasted with conventional bank loans, includes private equity, venture capital, and other forms of private investment. These options are increasingly relevant in the tourism sector, where businesses may seek more flexible or innovative funding sources to support growth and technological advancements, such as Blockchain integration. In this context, this study discusses the relationship between corporate financing and economic-financial indicators and their role in attracting investment and capital, focusing on companies in the tourism industry (Alnasser, Alkhozaim, 2024).

In this study, the concept of financial attractiveness of tourism firms is defined as the firm's ability to draw private, non-bank financing by demonstrating favourable financial stability, debt capacity, transparency, and innovation in technology, such as the adoption of Blockchain. These elements collectively contribute to a firm's appeal to investors, highlighting aspects that enhance its perceived profitability and growth potential. For example, Rzaeva (2021) and Hrynyuk and Dokiienko (2022) emphasise the importance of financial analysis in assessing investment attractiveness, proposing a system of purpose-built financial indicators. Troian (2023) and Ibrahimov *et al.* (2022) draw attention to the important role of financial potential and the quality of financial information as key factors in investment attractiveness. Other works, such as Ivanovich (2014) and Gulei *et al.* (2021), highlight the need to demonstrate investment attractiveness to attract capital, with the former focusing on investment evaluation and the latter on factors influencing investment attractiveness. Gutkevych (2019) stressed the importance of profits and innovation in investment attractiveness, which seems self-evident.

While there is research that analyses variables such as the quality of financial reporting, debt capacity, financial stability, and the adoption of innovative technologies as relevant factors in determining the financial attractiveness of tourism firms, few have integrated these factors into a cohesive framework for assessing the financial attractiveness of tourism firms. Despite this, there has been insufficient exploration of how these determinants vary across regions and how a particular technology such as Blockchain influences these that are being analysed in the paper. Therefore, with the aim of filling this research gap, this research intends to build a synthetic indicator that allows us to evaluate the financial attractiveness of tourism companies at a regional level, with the incorporation of innovative Blockchain technology.

Delving deeper into the objectives of this study, other studies have highlighted the use of indicators to assess the financial attractiveness of firms as a key factor in raising capital. For example, Tyutyukina and Sedash (2020) discuss the relevance of financial performance indicators, valuations, and intangible assets in this assessment. On the other hand, Voronova and Lukina (2023) include the importance of profitability, financial stability, and efficiency in assessing the investor attractiveness of fast-growing companies, which matches the profile of startups. Other studies propose the inclusion of specific financial ratios, such as Enterprise Value to its Earnings Before Interest, Taxes, Depreciation, and Amortisation (EV/EBITDA) and Return on Equity (RoI) (Nemtseva, Vorozhbickaya, 2021). Vinnikova (2020) goes further by developing a regression model to identify significant factors influencing investment attractiveness. Taken together, these studies underline the importance of developing tools and measures that are useful for assessing the financial attractiveness of companies to attract financial resources for their projects.

Some studies have made valuable contributions by shedding light on how traditional financial indicators, such as Net Present Value (NPV) and creditworthiness, influence investment decisions, especially under

conditions of uncertainty and varying levels of financial constraint. (Cleary, 1999; Kaaro, 2002; Suto *et al.*, 2009). This research focuses specifically on the tourism sector and combines both financial metrics and the adoption of Blockchain technology. Conversely, previous studies have examined financial attractiveness in relation to geographical variables and multi-objective decision-making systems (Babaei, Bamdad, 2020; Chavali, Raj, 2016). This research, however, introduces a synthetic indicator that incorporates Blockchain technology as a relevant variable, providing a more comprehensive framework to understand how technology can influence the financial attractiveness of the tourism sector. While previous works have analysed the importance of non-financial factors in technology-based companies as financial attractiveness (Guercio *et al.*, 2020; Hartmann, 1999), this research explores how the integration of Blockchain technology impacts the financial attractiveness of tourism companies.

Besides these studies and those discussed in later sections of this paper, there are no other indicators in the academic literature that can be used effectively to assess the financial attractiveness of companies. This type of indicator may be useful in evaluating investment opportunities and attractiveness for the future growth of companies and to provide a more global tool for investment decision making. In light of the aforementioned, the proposed synthetic indicator presented in this paper makes it possible to assess the capacity and attractiveness of companies in the tourism sector to acquire private financing, based on a set of variables taken from a sample of companies from the Crunchbase database (Crunchbase, 2024), using a methodology based on P2 distance (Pena, 1977). This approach allows each variable within the indicator to reflect distinctive information, preserving objectivity and avoiding arbitrary weighting. With the information available in the database, five indicators were developed, expressed in relative terms, which made it possible to group the companies by tourism region according to the UNWTO classification. This multidimensional approach offers a nuanced and objective view of financial attractiveness, facilitating a better understanding of the investment potential within the tourism sector.

Therefore, the main objective of this work is to analyse the importance of the variables that could be decisive in attracting financing in the tourism sector as an alternative to bank financing. These variables include financial performance indicators such as profitability and stability, valuations, intangible assets, and the implementation of Blockchain technology. It also aims to shed light on whether companies that market their tourism services through the use of Blockchain technology or have incorporated it into other phases of their production processes, are more likely to attract investment. In this regard, our research aims to solve several challenges in this industry, such as improving transparency in transactions, simplifying reservation systems and tourist identification procedures, and fostering user loyalty and knowledge (Nuryyev *et al.*, 2020; Prados-Castillo *et al.*, 2023). This study makes two important contributions to the literature. Firstly, on a theoretical level, the research suggests that different variables can have a positive effect on the financial attractiveness of tourism businesses. And, secondly, it aims to reveal whether companies that use Blockchain are better financed or more likely to be financed than others that do not integrate Blockchain into their business models.

Consequently, the following research questions (RQs) are proposed. RQ1: What are the most relevant variables that determine the financial attractiveness of tourism companies? RQ2: How does Blockchain technology influence inter-regional differences in the financial attractiveness of tourism companies? RQ3: In which geographical regions are tourism firms better able to attract financing? In the following sections, a review of the existing academic literature is conducted, then the methodology used is

presented, followed by a discussion of the results and a presentation of the conclusions, possible limitations, and future research.

1. Theoretical Background

1.1 Determinants of Financial Attractiveness in Raising Finance

To contribute to the construction of the proposed synthetic indicator based on the work of Pena (1977), the concept of financial attractiveness of tourism firms is defined as the firm's ability to draw private, non-bank financing by demonstrating favourable financial stability, debt capacity, transparency, and innovation in technology, such as the adoption of Blockchain. These elements collectively contribute to a firm's appeal to investors, highlighting aspects that enhance its perceived profitability and growth potential. Previous studies have focused on exploring firms' financial attractiveness as a relevant factor in raising financing. In this regard, variables such as the quality of the financial information provided, the ratios that mark financial stability, and intentional or unintentional behaviour in the market are relevant (Aktekin *et al.*, 2018). Other studies highlight the role of debt and bank financing received by firms as relevant variables in the financial attractiveness of investments. Some studies concentrate on assessing investment attractiveness by considering the debt capacity of high-growth firms (Ivanovich, 2014). From the point of view of technology-based companies, financial attractiveness implies taking into account other variables beyond financial ones (Hartmann, 1999), given that technology is key to improving competitiveness (Johan, 2021), and considering that the financial structures of technology-based companies can be difficult to understand with traditional financial criteria (Guercio *et al.*, 2020).

Numerous studies have addressed financial attractiveness in relation to its impact on attracting capital. For example, Love and Pería (2005) examine financing trends over time, analysing differences between companies, sectors, and years of business life, among other variables. Other studies analyse the importance of raising external capital, especially in companies with high levels of debt, limited cash flows, or significant investments in intangible assets, confirming that the most profitable companies in the long term prefer to finance their projects with retained earnings, even when they have financing capacity (Vanacker, Manigart, 2010). Other studies analyse how financing obtained by companies has a positive impact on the commercial success of technology startups, highlighting, in turn, the importance of human and intangible capital (McCalister, 2012). Delving further into technological innovation, other studies have addressed how technology and innovation increase financial firms' competitiveness. For example, the development of digital finance has been shown to drive corporate technological innovation, thereby influencing financial performance and economic development (Liu *et al.*, 2024). Thus, the adoption of technology such as artificial intelligence and the benefits offered, for example, by technologies such as Blockchain (Kayal *et al.*, 2018), can make firms more efficient, helping to reduce costs and improve the decision-making process more effectively (Johan, 2021).

Finally, other works focus on analysing the financing success of firms as they grow and become more transparent in terms of information, confirming the correlation between firm size and available financing options (Gregory *et al.*, 2005), as noted above. Robb & Coleman (2009) reveals that these firms rely heavily on the entrepreneur's personal financial resources during their first year, confirming that technology-based firms can raise larger amounts of capital compared to the average for all firms. *Table 1* provides a comprehensive summary of the financial attractiveness variables, detailing the contributions of the various authors utilised in the theoretical framework. The relevance of each variable is discussed

with reference to its role in enhancing investment attractiveness, offering a structured foundation for understanding the factors that influence tourism firms' ability to attract financing.

Table 1. Other proposals analysing financial attractiveness variables

Contribution	Authors
Introduction of a valid indicator for real business decision making	Suto <i>et al.</i> (2009)
Analysis of the relationships between investment decisions and financial factors such as creditworthiness and dividend policy.	Cleary (1999), Kaaro (2002)
Proposal of alternative models for financial attractiveness based on D-S models and the application of D-numbers, relating the concept of uncertainty.	Ling (2002), Huang (2019)
Study of the impact of financial attractiveness in relation to geographical variables and multi-objective decision making systems for P2P lending.	Chavali and Raj (2016), Babaei and Bamdad (2020)
Assessment of factors impacting intention to invest in P2P lending platforms	Lecké <i>et al.</i> (2022)
Analysis of factor relationships in equity investment using DEMATEL and ANP models	Lee <i>et al.</i> (2011)
Relevance of financial reporting quality, financial stability and market behaviour in attracting finance	Aktekin <i>et al.</i> (2018) (Moreno <i>et al.</i> , 2024)
Assessment of investment attractiveness in relation to the debt capacity of high-growth companies	Ivanovich (2014)
Importance of non-financial factors in technology-based firms for financial attractiveness	Hartmann (1999), Guercio <i>et al.</i> (2020)
Role of technology in improving the competitiveness and financial attractiveness of technology companies	Johan (2021)
Study on financing trends and differences between companies, sectors and years of business life	Love and Pería (2005)

Source: created by the authors.

Table 2. Other proposals analysing financial attractiveness variables

Attractiveness factor	Level	Contribution	Source
Quality of Financial Information	High	Improves transparency and trust	Aktekin <i>et al.</i> , 2018
Borrowing Capacity	Medium	Increases the ability to raise funds	Ivanovich, 2014
Financial Stability	High	Provides security for investors	Nemtseva and Vorozhbickaya, 2021
Adoption of Innovative Technologies (Blockchain)	High	Increases competitiveness and efficiency	Baker and Werbach, 2019; Luo, 2023; Prados-Castillo <i>et al.</i> , 2023

Source: created by the authors.

Table 2 provides a comprehensive overview of the key factors that define the financial attractiveness of tourism firms, including financial information quality, debt capacity, and financial stability. These factors represent critical dimensions that contribute to a firm's ability to attract private non-bank financing by enhancing its perceived profitability and growth potential. The table details each factor's level of importance and contribution, highlighting the role of various authors in shaping these determinants.

1.2 The Role of Technology and Innovation in Attracting Finance

The tourism industry has historically benefited from technological innovations (Prados-Castillo, Torrecilla-García, Guaita-Fernandez, *et al.*, 2024), which have facilitated the creation of new business models, encouraged modernisation efforts, and introduced cutting-edge technologies for the marketing

and distribution of tourism services (Önder, Gunter, 2020; Sarlab *et al.*, 2024). The tourism sector has been significantly affected by technological developments, especially considering the growing emphasis on sustainability (Prados-Castillo, Torrecilla-García, Liébana-Cabanillas, 2024). The main source of these sustainability concerns is the public policies implemented to measure tourism demand (Lopes, Estevão, 2024), which ultimately affects all actors involved in the tourism industry (Martín-Martín *et al.*, 2020).

Blockchain technology is a distributed ledger system that employs a consensus protocol and an immutable data structure which is unique in guaranteeing protection against the manipulation of the information it contains. The blocks that comprise this technology contain information about the system and its associated services. Each transaction recorded in the block includes information such as sender, recipient, time, asset type, and quantity. This technology can be used to process orders for the transfer of cryptotokens or to execute Smart Contracts, which are designed as self-executing agreements that are activated when certain conditions are met. For example, a digital signature may be required to initiate payments for an invoice (Prados-Castillo *et al.*, 2023). The value of Blockchain is derived from its key features, such as the ability to program computational logic for transactions, the irreversible and transparent nature of records, direct peer-to-peer transmission, decentralised distribution of databases, pseudo-anonymity, and the high security provided by cryptographic techniques. Each feature has significant implications, such as Bitcoin's discrete-time feature (Nakamoto, 2008), a network based on Blockchain technology, which allows "transaction aborting" and penalises stalling.



Source: created by the authors.

Figure 1. Blockchain and its Applications for Tourism

In recent years, there has been an increase in projects using Blockchain technology through the implementation of smart contracts (Rashideh, 2020; Shukla *et al.*, 2024). The PricewaterhouseCoopers (PwC) report entitled "Time for Trust" predicts that Blockchain technology will have a favourable influence on the global economy totalling USD 1.76 trillion by 2030. Specifically, the report suggests that

this technology will improve transparency and trust in multiple sectors (PwC, 2020). There are numerous practical applications of this technology for businesses in the tourism sector. The first is the tracking of services as they move through the tourism value chain. Another application is the creation of an alternative payment system that bypasses the conventional financial system. Digital identity and asset management is another crucial application, as is the implementation of customer loyalty programs. Businesses can use this technology to generate smart contracts. *Figure 1* illustrates the applications of Blockchain technology within the tourism sector, based on the theoretical framework developed by Prados-Castillo *et al.* (2023). This figure represents key elements discussed in the literature, such as enhanced transparency, security in transactions, and the creation of secure digital identity systems, which are critical to understanding the role of Blockchain in tourism.

Although arguments have been made about the variables for assessing the financial attractiveness of companies, there are still many research gaps in this respect. One example is the relationship between the use and implementation of Blockchain technology and the impact on attractiveness in acquiring financing in tourism projects that have implemented this technology in their business models. This issue requires a detailed analysis. It seems relevant to investigate the effect of the introduction of Blockchain technology on the business models of tourism companies and its influence on companies' indebtedness (Guercio *et al.*, 2020). These gaps present valuable opportunities for future research.

The potential of Blockchain technology to alleviate the financing challenges of small and medium-sized enterprises has been highlighted (Kayal *et al.*, 2018). The use of Blockchain technology in financial transactions potentially offers a number of competitive advantages, such as reducing the costs associated with financial transactions, providing transparency in such transactions, and other operations related to marketing strategy (Vovchenko *et al.*, 2018). This technology can adapt to the financial needs of companies by increasing their ability to generate revenue, reduce costs, and improve competitiveness (Luo, 2023; Xie *et al.*, 2023). The use of Blockchain in finance can improve the quality of information provided by enterprises and the management of information and processing of enterprise data from the point of view of sustainability and security (Sun *et al.*, 2024; Xue, 2021). This technology is expected to enhance financing processes and transform business models (Baker and Werbach, 2019). However, it is also necessary to address the challenges of security, scalability, and connectivity (Prados-Castillo *et al.*, 2023; Xie *et al.*, 2023).

1.3 Crunchbase: a Relevant Platform for Start-up Funding and Analysis

Crunchbase is an online database containing information on a multitude of companies ranging from startups to large corporations, classified into different categories, and provides details about the industry to which these companies belong: location and size (Crunchbase, 2024) and their financing, among other variables. Specifically, this platform conducts detailed monitoring of the financing rounds in which the company has participated to obtain capital for its business model. The monitoring of financing with a certain degree of risk is particularly noteworthy: investors can agree to acquire shares in companies in exchange for a stake in their capital. This database differs from more traditional databases that provide information on bank financing and equity capital markets. Investors in Crunchbase companies take on significant risks in exchange for theoretically high returns, whereas traditional bank financing involves lower risks, and in turn, lower potential returns.

This form of financing, unlike traditional bank loans, often involves higher risk and potential returns, as it relies on private investment rounds, such as venture capital and angel investments. These alternative financing options allow tourism companies to access capital in a more dynamic and flexible way, which is essential for companies aiming to implement cutting-edge technologies such as Blockchain. The process of raising finance on Crunchbase involves attracting investors through introductions and negotiations, as opposed to traditional bank financing which requires strong collateral or financing through continuous markets that are subject to stringent regulations. For this reason, the companies included in this database, which were used for the study, have a highly innovative component or trait characteristic of the startup concept (Szabó-Szentgróti *et al.*, 2023).

The Crunchbase database has been used previously in several studies, for example, for the creation of a predictive machine learning model to predict the success of a company (Żbikowski, Antosiuk, 2021) and for the analysis of startup success factors, using the social network LinkedIn as a complementary source (Te *et al.*, 2023). On the other hand, it has also been used to explore the interactions of business models and the financial attractiveness of sharing economy platforms (Grieco *et al.*, 2021) and in the analysis of innovation factors in the value chain (Grimm, Walz, 2024). Some studies have analysed possible avenues in economic research from a platform management perspective (Dalle *et al.*, 2017). Other studies have analysed the dynamics of equity finance and its influence on the success of firms (Deias, Magrini, 2023) or have even created predictive models on the behaviour of investment activities (Liang, Yuan, 2016).

2. Research Methodology

2.1 Data Collection

As mentioned above, the data used in this study were extracted from Crunchbase (<https://www.crunchbase.com/>), a data source that sorts companies by category and filter (Besten, L, 2020). Using the different filters that the platform includes, companies in the tourism sector incorporated were selected on or after 1 January 2010 which presented consistent data for all variables, eliminating companies with incomplete data. This resulted in a clean database with a total of 1,327 tourism companies as of 31 December 2023 which had obtained external financing at some point since their incorporation from private, non-bank investors. These enterprises were grouped by country and tourism region according to the regional classification established by the World Tourism Organization (UNWTO, 2023).

Using the information available in the database, five indicators were developed and expressed in relative terms. Thus, by grouping the companies by region, a homogeneous comparison was obtained. The aim was to establish variables or partial indicators that would serve as a measure of tourism companies' appeal to private external financing through non-banking channels. With this in mind, five indicators were formulated based on the literature reviewed, which has been examined in previous studies, albeit in a cross-sectional manner. According to the previously established definition of financial attractiveness, these indicators were designed to capture various dimensions, such as financial stability, debt capacity, and technological innovation, which contribute to a tourism firm's appeal to private non-bank investors.

1. Percentage of tourism companies using Blockchain technology: This indicator represents the degree of influence of technological factors on companies' ability to raise financing (Guercio *et al.*, 2020; Johan, 2021). In each region, the weight of tourism companies that use this technology is measured in relation to the total number of companies in the sector. Blockchain technology

stands out for its ability to improve transparency, efficiency, and security in transactions, which can lead to increased investor confidence (Baker, Werbach, 2019; Luo, 2023). Some studies have shown that the adoption of innovative technologies such as Blockchain can significantly improve the competitiveness of companies (Johan, 2021). Companies that incorporate Blockchain technology into their business processes can be seen as more modern, competitive, and innovative. This can mean a greater ability to attract investment by investors looking for opportunities in more technologically advanced sectors. This indicator reflects how the adoption of innovative technology, such as Blockchain, can be a differentiating factor that increases investor confidence and strengthens a company's competitiveness.

2. Funding raised per employee: This indicator expresses the amount of funding raised by each firm relative to the number of employees, which is equivalent to comparing funding to firm size (Cleary, 1999; Ivanovich, 2014; Kaaro, 2002). Thus, companies that are more attractive to investors can raise a greater amount of financing per employee. This indicator reflects the efficiency with which a company can use its human resources to attract financial resources. The literature reviewed suggests that companies that are more efficient in terms of financing per employee tend to have stronger and more productive organizational structures. This indicator is relevant for investors, as it can provide a tool to measure a company's relative performance and ability to generate revenue relative to its average size. This indicator measures organisational efficiency by relating the funding raised to the size of the company. A higher amount of funding per employee indicates strong organisational structures and a high capacity to generate revenue, which is attractive to investors.
3. The number of years since the last financing session is obtained. This indicator is measured in a negative sense: the longer the time elapsed since the last time a company obtained financing, the lower its market attractiveness to investors (Love, Pería, 2005; Robb, Coleman, 2009). This may be due to various reasons, such as a lack of innovative projects, a certain maturity in its product or service portfolio, difficulties in incorporating technology, or further growth in products or markets, among others. The frequency with which a company receives financing can indicate its capacity for innovation and growth (Love, Pería, 2005; Robb, Coleman, 2009). Companies that raise funding on a regular basis tend to maintain a high growth profile and consistent attractiveness to investors. Therefore, the shorter time since the last round of financing suggests that the company continues to promote investment projects that are attractive to investors. This indicator is interpreted negatively: a shorter period since the last financing suggests that the company maintains a high innovative capacity and market attractiveness, demonstrating a steady growth profile.
4. Volume of funding raised per round: This indicator can be associated with the size of the business projects for which funding is required, as well as the ability to attract capital from private investors at different points in time (McCalister, 2012; Vanacker, Manigart, 2010). A company that raises a higher volume of funding per round implies greater investor credibility in its business project, as investors expect a return on the capital invested. This indicator is associated with a company's ability to attract large amounts of capital in each financing round. This can be considered a sign of confidence towards investors and a mark business growth perspective (McCalister, 2012; Vanacker, Manigart, 2010). This is interpreted considering that

investors are more likely to trust companies that have been able to raise large amounts of financing. This indicator reflects the credibility and attractiveness of a business project to investors. A higher funding volume per round indicates investor confidence and a solid growth outlook.

5. Average number of financing rounds according to the age of the company: This indicator expresses the average number of financing rounds that companies have gone through per year (Gregory *et al.*, 2005; Robb, Coleman, 2009). A higher average indicates that the company has a high capacity to generate interest in its business among investors throughout its life, which is a sign that its business project is constantly growing or offers very favourable prospects. This indicator shows the ability of a company to remain attractive over time. Companies that participate in multiple rounds of financing are more stable and have a high growth potential (Gregory *et al.*, 2005; Robb, Coleman, 2009). A higher frequency of financing rounds indicates a firm's long-term viability and resilience. This indicator shows a company's ability to generate continued investor interest over time. A higher frequency of financing rounds suggests long-term stability and high growth potential, which reinforces the viability and resilience of a company.

Based on these five indicators, a synthetic indicator was created using the P2 distance methodology, which integrates all non-redundant or duplicated information provided by these variables. The process is described in the following section.

2.2 The Synthetic Distance Indicator P2

The synthetic distance indicator P2, developed by (Pena (1977)), quantifies disparities by calculating the distance between two points, making it possible to compare temporal and spatial differences. The use of this approach has been expanded beyond its initial application in social welfare research to encompass a diverse range of academic disciplines. Today, it is commonly employed in the fields of economic and social development, quality of life, tourism, and environmental studies, as evidenced by recent research (Salinas Fernández *et al.*, 2022). In our research, a synthetic indicator was developed to assess the attractiveness of tourism sector businesses to obtain external (non-bank) financing, grouped in major tourism regions worldwide, as identified by the World Tourism Organization (UNWTO, 2023). As described above, one of the variables or partial indicators that were considered is the use of Blockchain technology by tourism companies, a factor that is of interest due to its recent development and foreseeable impact on the competitiveness of companies (Chao, Di, 2024).

The method for calculating the DP2 indicator for each of the UNWTO tourism regions, which is referred to as the j -th territory, is as follows:

$$DP_2 = \sum_{i=1}^n \frac{d_{ij}}{\sigma_i} \left(1 - R_{i,i-1,\dots,1}^2 \right) \quad \text{con } i=1,\dots,n; \quad j=1,2,\dots,m$$

where:

The value of the i -th variable in the j -th region is represented by X_{ij} .

$d_{ij} = x_{ij} - x_{i*}$ is the difference between the value of the i -th variable taken in the j -th region and its minimum value across all tourism regions is what this sentence refers to. The number of variables is represented by the variable ' n '..

σ_i is the standard deviation of the i -th variable

$R^2_{i,i-1,i-2,\dots,1}$ is the coefficient of determination in the regression of the variable x_i on $x_{i-1}, x_{i-2}, \dots, x_1$ already included, and with $R^2_1 = 0$

Consequently, the DP2 synthetic indicator measures discrepancies in the tourism industry's ability to secure external financing between different regions. To determine this, the companies in each region are compared with an imaginary or hypothetical region in which all variables take the minimum value. This results in a value of zero for the synthetic indicator. To address the issue of variations in the units of measurement for the variables, standard deviation was employed as a scaling factor to convert them into abstract units, as proposed by Somarriba and Zarzosa (2016).

The coefficient of determination, also known as ($R^2_{i,i-1,i-2,\dots,1}$), assesses the proportion of each variable's variance accounted for by the linear regression model in relation to the prior variables or partial indicators.

As a result of these findings, Pena (1977) introduced the concept of the "correction factor" ($1 - R^2_{i,i-1,i-2,\dots,1}$) as a means of eliminating redundant information in the synthetic indicator by managing the incorporated variables relative to those already present. Therefore, this correction factor ensures that the synthetic indicator DP2 includes only the new information provided by each variable. Accordingly, the "correcting factors" assign varying levels of importance to each variable in the synthetic indicator, thereby resolving the issue of arbitrary weighting. In this context, when a variable demonstrates an exact multiple linear correlation with the preceding variables in the synthetic indicator, it receives a null correction factor. This indicated that the information provided by the variables was redundant and could be discarded. If none of the variables are correlated, each variable receives equal weighting in the synthetic indicator DP2.

The ranking of variables or partial indicators in the synthetic indicator DP2 was determined using the ranking procedure proposed by Pena (1977). This procedure involves arranging the variables in the order of highest to lowest absolute correlation with the synthetic DP2 indicator. However, because the synthetic indicator DP2 does not exist until it is calculated, it is necessary to start from an initial solution. To this end, Pena (1977) suggests using the Frechet Distance, which is defined as follows:

$$F_j = \sum_{i=1}^n \frac{d_{ij}}{\sigma_i}$$

where j refers to the territory under consideration and i to each of the selected variables or partial indicators.

This initial solution implies that all variables or partial indicators are perfectly uncorrelated, such that all coefficients of determination are zero. Therefore, the Frechet Distance indicator designates the highest value that DP2 can reach. To calculate DP2, the following steps must be followed:

1. Obtain the data matrix $X = \{X_{ij}\}_{m \times n}$, where X_{ij} is the value of the i -th variable in the j -th region. Variables whose increase leads to a worsening in the attractiveness of tourism sector businesses to obtain external (non-bank) financing should have a negative sign. This ensures that increases (or decreases) in the values of any variable correspond to an improvement (or worsening) in the objective to be measured.
2. Obtain the matrix of partial indicators I . Previously, it has been necessary to calculate the matrix of distances D between each territory and the reference base, as well as the standard deviations of the variables, σ_i

$$I = [I_{ij}] \quad \text{where} \quad I_{ij} = \frac{d_{ij}}{\sigma_i}$$

3. Find the F vector of the Frechet Distance indicators.
4. Calculate the n simple correlation coefficients between each variable and Frechet's Distance.
5. Order the variables according to the absolute values of the simple correlation coefficients obtained in the previous step, following the order from highest to lowest.
6. Calculate the DP2 indicator, introducing the variables in the order obtained in step 2. The vector of DP2 results obtained in the first iteration is denoted as DP2⁽¹⁾.
7. Calculate the simple correlation coefficients between each variable and DP2⁽¹⁾. The variables were ordered again following the absolute correlation between each variable and DP2⁽¹⁾.
8. Calculate DP2, introducing the variables according to the order obtained in the previous stage. The DP2 vector obtained in the second iteration is called DP2⁽²⁾.
9. The iterative procedure continues until the same DP2 vector is obtained in two successive iterations, that is, until convergence is reached.

The iterative process of calculating the synthetic indicator DP2 is described in detail by Somarriba and Zarzosa (2016). Similarly, the DP2 synthetic indicator shows a range of promising characteristics that set it apart from other synthetic indicators developed using alternative aggregation methods, including Principal Component Analysis (PCA) and ((DEA), as indicated by Pena (2009) and Zarzosa *et al.* (2005), Somarriba (2008) and Salinas Fernández *et al.* (2020). These properties include existence and determination, transitivity, monotony, exhaustiveness, uniqueness, additivity, invariance, homogeneity, and invariance with respect to the reference base. For more exhaustive definitions of these properties, refer to Pena (2009), Zarzosa (1996), and Zarzosa and Somarriba (2013). The neutrality property of the DP2 indicator is confirmed by the fact that neither the weight of the individual components nor their order of importance is chosen randomly Zarzosa (1996). This means that when calculating DP2, no arbitrary weight is given to the sub-indicators, and no specific order is established for them, which makes it neutral in its approach. To provide further clarity on the procedure for calculating the DP2 indicator,

Figure S1: Procedure for Calculating the Synthetic Indicator DP2 has been included as a supplementary figure.

2.3 Examining the Effectiveness of Indicators and the Role of Relative Information in Creating Synthetic Indicator DP2

Constructing an effective synthetic indicator necessitates the use of partial indicators or variables that are effectively discriminating in the territories being compared. In our work, as the objective was to measure the degree of attractiveness of tourism companies to obtain external financing in a set of regions and its determining factors, it was irrelevant to include a variable whose value is constant in all the regions considered, since in order to measure inter-regional distances, it would be indifferent to use it.

To better understand the effectiveness of each individual aspect in the composite indicator, the Discrimination Coefficient proposed by [Ivanovic \(1974\)](#) was employed, which is defined as follows:

$$DC_i = \frac{2}{m(m-1)} \sum_{j,l>j}^{k_i} m_{ji} m_{li} \left| \frac{x_{ji} - x_{li}}{\overline{X_i}} \right|$$

The number of tourist regions in set P is denoted as m.

For each region j in the set, the value of variable X_i is represented by j_{ig} , whereas x_{li} represents the minimum value of variable X_i in region l.

The number of tourist regions where X_i is x_{ji} is denoted by m_{ji} , and the average X_i is represented by the symbol $\overline{X_i}$

Finally, the number of different values X_i takes in set P is represented by k_i .

This metric ranges from 0 to 2, with a value of 0 indicating that all values of variable X_i are equal; therefore, it lacks discriminatory power. Conversely, when variable X_i has a non-zero value in one region and is zero in the remaining m-1 regions, it possesses the highest discriminatory power ([Zarzosa, 1994](#)).

Moreover, this indicator is not a typical measure of dispersion but is related to concentration measures, as demonstrated by [Zarzosa \(1994\)](#). Therefore, a variable with greater discriminatory power reflects a more unequal distribution between territories under comparison, being more concentrated in some areas than in others.

To determine the global information that the variables or partial indicators provide for the synthetic indicator DP2, the "Ivanovic-Pena global information coefficient" is defined as a measure that combines the Ivanovic-Pena discrimination coefficient ([Ivanovic, 1974](#)) and Ivanovic-Pena discrimination coefficient ([Ivanovic, 1974](#)) with the correction factor of [Pena \(1977\)](#). The coefficient was calculated using the following expression:

$$CIP = \sum_{i=1}^n DC_i (1 - R_{i,i-1,i-2,\dots,1}^2)$$

The number of variables or partial indicators in a given situation is represented by "n," and Ivanovic's discrimination coefficient is denoted by "DCi." Pena's correction factor is represented by $(1 - R_{i,i-1,i-2,\dots,1}^2)$.

To evaluate the individual influence of each variable on the synthetic indicator DP2, it has been employed the "Individual Relative Information Coefficient" method proposed by Zarzosa (1996). This approach enables us to assess the impact of each variable when introduced in a specific order and to determine their relative importance.

$$\alpha_i = \frac{DC_i(1 - R_{i,i-1,i-2,\dots,1}^2)}{CIP}$$

The value of this coefficient ranges between 0 and 1, and it assesses the proportion of global information that each variable contributes to the synthetic indicator, considering both the exclusive information provided by each variable or partial indicator and its discriminatory power. Consequently, this coefficient offers insight into the significance of each variable in determining the appeal of tourism companies to external financiers, which is crucial for classifying regions with the most attractive tourism companies for private investors.

3. Results

3.1 The Synthetic Indicator of FundRaising

The construction of the synthetic indicator DP2 provides information on the degree to which companies in the tourism sector attract financing from non-bank private investors in different regions of the world. As described in the methodology section, the five variables or partial indicators defined above follow the order of entry when integrated into the synthetic indicator, which is determined by the absolute linear correlation coefficient. The synthetic indicator was named the Synthetic Indicator of Fund Raising (SIFR).

Table 3. Synthetic Indicator of Fund Raising (SIFR) structure

Variables	Coef. Correl. Absolutes	Correction Factors
Number of years since last funding obtained	0.6849	1.0000
Average number of financing rounds by age of the company	0.6372	0.8739
Funding obtained per employee	0.5685	0.9883
Percentage of tourism companies using Blockchain technology as a percentage of the total	0.4782	0.5262
Volume of funding raised per round	0.3815	0.7093

Source: own calculations.

Table 3 shows both the order of entry of the partial indicators according to the correlation coefficient and the correction factors that represent the new information that each of them contributes when incorporated into the SIFR. According to the results obtained, all partial indicators have high correction factors (above 50%), which means that they incorporate useful, non-duplicated information into the synthetic index. Therefore, it can be affirmed that all the partial indicators that make up the SIFR are relevant in measuring the capacity of tourism companies to attract external financing.

The partial indicator that enters the synthetic index first and has the highest correlation coefficient is “Number of years since last obtaining financing”, which means that 100% of the information provided by this variable is incorporated into the SIFR. As mentioned above, this variable is interpreted in a negative sense, so its values are multiplied by (-1) to be consistent with the rest of the variables.

Next, with a correlation coefficient of 0.6372 with the synthetic indicator, the variable “Average number of financing rounds according to the age of the company” is incorporated, which also provides a great deal of information to the SIFR, given that the correction factor is 87.39%. In other words, it is an important variable, given that only 10.61% of its information is redundant owing to the preceding variable.

Similarly, the third variable incorporated into the synthetic indicator (“Funding obtained per employee”) contains 98.83% of new information, which is not duplicated by the two preceding variables. As can be seen, these three variables are particularly related to the capacity of companies to attract financing on a regular basis throughout their life. Furthermore, the volume raised is in line with their size, as measured by the ratio of resources obtained per employee.

Fourth and fifth place are the two variables with the lowest correlation with the synthetic indicator, namely “Percentage of tourism companies using Blockchain technology as a percentage of the total” (0.4782) and “Volume of funding raised per round” (0.3815). The first is the one that provides the least new information, only 52.62%, given that the remaining 47.38% is already included in the SIFR through the three preceding variables.

However, to determine which variables best explain the differences between regions in the degree of attractiveness of tourism companies to attract financing, it is also necessary to consider the discriminatory power of each variable. For this purpose, the Ivanovic Discrimination Coefficient was used, whose range of values varies between 0 and 2, reflecting the two extremes that a variable can take, zero, or total discriminatory power, respectively. *Table 4* shows the values of this coefficient for each of the variables that make up the synthetic indicator DP2.

Table 4. Ivanovic’s Discrimination Coefficient

Variables	Discrimination Coefficient
Number of years since last funding obtained	0.1390
Average number of financing rounds by age of company	0.2443
Funding obtained per employee	0.5441
Percentage of tourism companies using Blockchain technology as a percentage of the total	1.4269
Volume of funding raised per round	0.3330

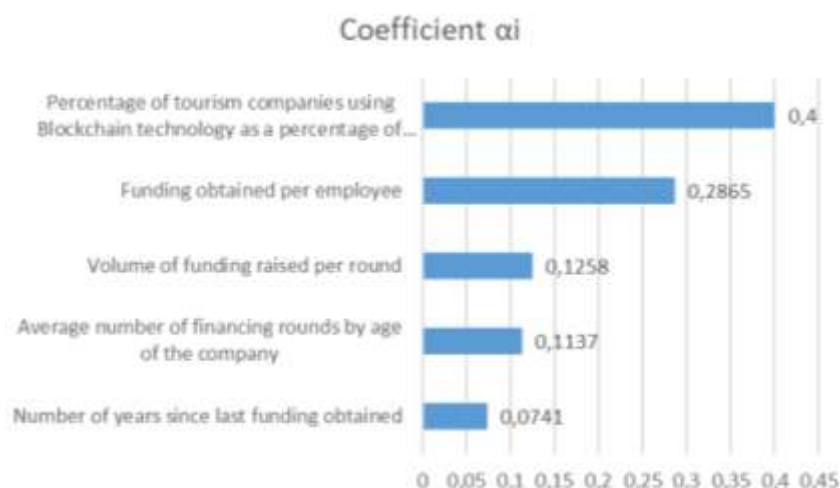
Source: own calculations.

The variable with the greatest discriminating power is “Percentage of tourism companies using Blockchain technology from the total” which reflects the fact that companies applying this technology are more concentrated in some regions than in others. Next, the second most discriminating variable is “Funding obtained per employee”, which also shows that there are regions in which tourism companies have more capacity than in others to attract a greater volume of financial resources in relation to their size, registering a more significant territorial inequality. Therefore, these two variables are more decisive in explaining the interregional differences in this study.

The remaining three variables have less discriminatory power, with the “Number of years since the last financing obtained” being the one that shows a more equal distribution in the values taken by this indicator among the regions considered. In other words, tourism enterprises that are better placed according to this variable are not concentrated in certain regions but are more evenly distributed. The same is true for the worst-placed enterprises, which are also more evenly distributed at the regional level.

3.2 Analysis of Key Variables in Attracting Financing for Tourism Enterprises

Once the useful information that each variable or partial indicator contributed to the SIFR through the correction factors and their discriminatory power was analysed separately, the two types of information were combined, obtaining the individual relative information coefficient (α_i), which measures the contribution made by each variable, in relative terms, to the synthetic indicator DP2. The individual contributions made by each variable range from 0 to 1, and together, they add up to unity. Therefore, variables with high correction factors and high discriminatory power make high individual contributions of information to the SIFR, which means that they are decisive in measuring interregional differences in the degree of attractiveness of tourism companies to attract financing, which is the objective of this study.



Source: created by the authors.

Figure 2. Relative Information Coefficient (α_i) for Key Variables

As shown in Figure 2, the variable “Percentage of tourism companies using Blockchain technology from the total” alone contributes 40% of the information to the SIFR. Next, the variable “Funding obtained per employee” stands out for its high individual relative contribution of 28.65%, which highlights the importance of raising financial resources in proportion to the size of the company. This variable, together with the previous one, explains almost 70% of the inter-regional differences in the financial attractiveness of tourism enterprises. The remaining three variables have less impact on the final results, contributing to a lesser extent to determining the position of the different regions with respect to the capacity of their tourism companies to attract private financing.

3.3 Regional Ranking according to Financial Attractiveness in Tourism Enterprises

After identifying the variables that determine, to a greater extent, the financial attractiveness of tourism companies, the position achieved by the tourism regions was analysed according to the synthetic indicator constructed. As shown in *Table 5*, the top-ranked regions are Northern Europe, North America and Australasia, with values above 11 points on the SIFR, which means that their tourism companies have greater power to attract private financing. At the opposite end of the spectrum are Eastern Mediterranean Europe, Africa, and North East Asia, with SIFR values below 7 points.

Table 5. Classification of tourist regions according to the Synthetic Indicator of Fund Raising (SIFR)

Region	SIFR
Northern Europe	12.8450
North America	12.8438
Australasia	11.1027
South East Asia	9.8883
Latin America	9.7529
South Asia	9.5118
Central/Eastern Europe	8.4737
Southern Europe	7.4065
Western Europe	7.2690
North East Asia	6.7124
Africa	6.6074
Eastern Mediterranean Europe	5.4574

Source: own calculations.

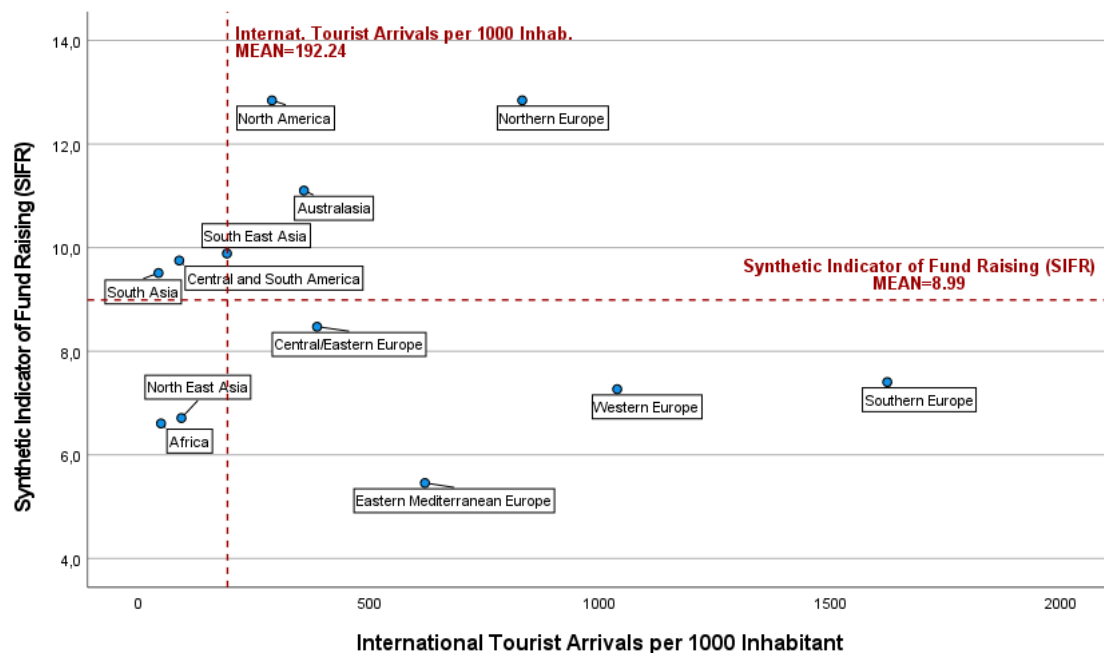
As can be seen, the distance between the best and worst placed region in the SIFR is 7.4 points, revealing regional disparities in the degree of financial attractiveness of tourism enterprises. Moreover, it is significant that the companies located in the Eastern Mediterranean region are only slightly more than five points away from the imaginary region that was established as a reference base, which would be the one with the lowest value in the five variables or partial indicators considered, thus taking a value of zero in the synthetic indicator.

3.4 Relationship between SIFR and the Capacity to Attract International Tourists at a Regional Level

Given that these are companies in the tourism sector, and their degree of attractiveness for potential investors can be related, to a certain extent, to business competitiveness and future business prospects, it would be interesting to relate the synthetic indicator to the capacity of each region to attract international tourists. In this way, it can be determined whether the regions that occupy the top positions in the SIFR are also the regions that attract important tourist flows or, on the contrary, whether there is a discrepancy between the regions that occupy the lowest positions in the SIFR and their tourist profile.

Figure 3 shows the values of the synthetic indicator DP2 and the ratio of the number of international travellers per thousand inhabitants, according to the tourist regions considered. On both axes, a dividing line was drawn on the average value of each variable represented to define four quadrants in which to position the regions, depending on whether they reach values above or below the average. As can be seen, the regions located in the upper right quadrant are the optimal ones, as they bring together tourism companies that are most attractive to investors and, at the same time, manage to attract a greater flow of

international tourists in relation to their population. In this quadrant are the regions of Northern Europe, North America and Australasia.



Source: created by the authors.

Figure 3. Comparison between the Synthetic Indicator of Fund Raising (SIFR) and the Number of International Travellers per Thousand Inhabitants according to Tourist Regions

In the lower left quadrant are regions that are not noted for the financial attractiveness of their tourism businesses and for attracting a significant volume of international tourists, such as Africa and North East Asia. On the other hand, in the upper left quadrant are regions that, although not characterised by attracting significant tourism flows, do have tourism businesses with a relative ability to raise finance (the SIFR reaches a value slightly above the average).

However, the worst scenario is represented in the lower right quadrant, as these are regions that manage to attract large flows of international travellers, but their tourism businesses are less attractive to private investors in raising financing. This quadrant includes almost all European countries (with the exception of those in the north), specifically Southern Europe, including Spain and the rest of the main tourist destinations in the Mediterranean. This finding is a wake-up call for European tourism companies, which reveals a loss of investor confidence in their business models, possibly affected by reduced competitiveness and the maturity of their tourism sector. Additional data are provided in Supplementary Table S1.

4. Discussion

This study provides a detailed analysis of financial attractiveness and its relationship with the ability to attract financing in tourism companies by constructing a novel synthetic indicator called SIFR. The indicator was constructed by combining elements from the existing literature and specific theoretical

frameworks, even though there are research gaps in several of the selected variables, as far as the authors have ascertained. Based on the analysis conducted in this study, several relevant aspects are worth highlighting:

Relevance of Blockchain technology

This work confirms the relevant role of Blockchain technology as a differentiating element in acting as a financial attraction for the tourism companies analysed in the sample (Baker and Werbach, 2019; Luo, 2023; Prados-Castillo *et al.*, 2023; Xie *et al.*, 2023). This technology not only influences the internal operations of the company but also has marked differences in attracting financing at a territorial level. Previous studies have also highlighted the transformative potential of Blockchain in various sectors, including tourism, by enhancing transparency, efficiency, and security in financial transactions (Nuryyev *et al.*, 2020; Prados-Castillo *et al.*, 2023). These technological transformations in business models, particularly in companies in the tourism sector, are leading to an increase in competitiveness, which indicates a greater interest of investors in financing projects driven by more technologically advanced companies.

Integration of financial variables

The synthetic indicator also integrates variables such as financing raised per employee and the volume of financing raised per financing round in which the company participates, providing a better understanding of how the financial information and dynamics of tourism companies can affect their financing and growth prospects—elements that have not been explored in previous research. This approach aligns with the findings of Vanacker and Manigart (2010) and McCalister (2012), who emphasise the importance of financial metrics in determining investment attractiveness.

Regional comparative analysis

Moreover, the regional comparative approach of the synthetic indicator provides a more detailed assessment of the geographical differences in their ability to attract finance. This has expanded knowledge about the dynamics of financial flows related to the financing of tourism projects, given that Studies by Love and Pería (2005) and Ivanovich (2014) support the significance of regional financial dynamics in attracting investment. Furthermore, the comparison carried out in our study, relating the ability of tourism companies to raise finances according to the major tourist areas and the degree of attraction of international tourists, has revealed weaknesses in the main European tourist regions, which show the worst results in the DP2 synthetic indicator, despite attracting large tourist flows. This analysis is key to detecting the geographical areas in which tourism companies show less dynamism or competitiveness in attracting private financing.

Potential applications of Blockchain technology in the tourism industry

Blockchain technology promises to transform several areas of the tourism sector. In particular, it reduces the risk of fraud and errors in reservation systems across the entire tourism value chain. It also seeks to provide solutions for corporate loyalty programs by creating more secure and personalised reward mechanisms. Blockchain-based payment systems offer secure, efficient, and low-cost transactions. These potential applications have been discussed in depth by Rashideh (2020) and Vovchenko *et al.* (2018).

Deeper insights into financial dynamics

The implementation of Blockchain aims to alter the financial strategies of companies belonging to the tourism sector, providing a more efficient allocation of resources and acting as a polariser in the attraction of capital. alters the financial strategies of tourism companies, promoting a greater attraction for investments and better allocation of resources. This can lead to a more resilient financial structure within the tourism sector that can withstand market fluctuations and economic downturns (Forliano *et al.*, 2024; Nobanee *et al.*, 2024). Johan (2021) and Xie *et al.* (2023) emphasise how technology adoption can lead to more robust financial structures.

Broader implications for regional economic development

The increased financial attractiveness of tourism businesses can develop regional economic growth potential, including job creation and infrastructure development. Regions that successfully integrate Blockchain into their tourism sectors have the potential to improve their competitiveness on a global scale, attracting more tourists and generating additional revenue for local economies. The economic benefits of technological integration are supported by studies such as Martín-Martín *et al.* (2020) and Prados-Castillo *et al.* (2023).

Focusing on the research questions (RQs), this study revealed the existence of several key factors in determining the financial attractiveness of tourism enterprises in terms of attracting finance (RQ1). As shown, the five variables used to construct the Synthetic Indicator of Fund Raising (SIFR) proved to be relevant to the study of this issue, as they provided a high volume of useful, non-redundant information when integrated into the synthetic indicator. In particular, the variables with the highest correction factors relate to the ability of firms to attract financing on a regular basis throughout their life and in line with their size, specifically: 1) "Number of years since last financing raised", 2) "Financing raised per employee" and 3) "Average number of financing rounds by firm's age".

To answer RQ2, which examines how Blockchain technology influences interregional differences in the financial attractiveness of tourism firms, the correction factors and the discriminatory power of the variables analysed were combined. The results confirm that the use of Blockchain technology is a determining factor in explaining the different capacities of the tourism companies analysed in the different regions to attract private investment. More specifically, companies belonging to regions that more actively integrate Blockchain technology into their business models demonstrate higher financial attractiveness. Therefore, they attract more funding compared to regions with lower levels of Blockchain adoption.

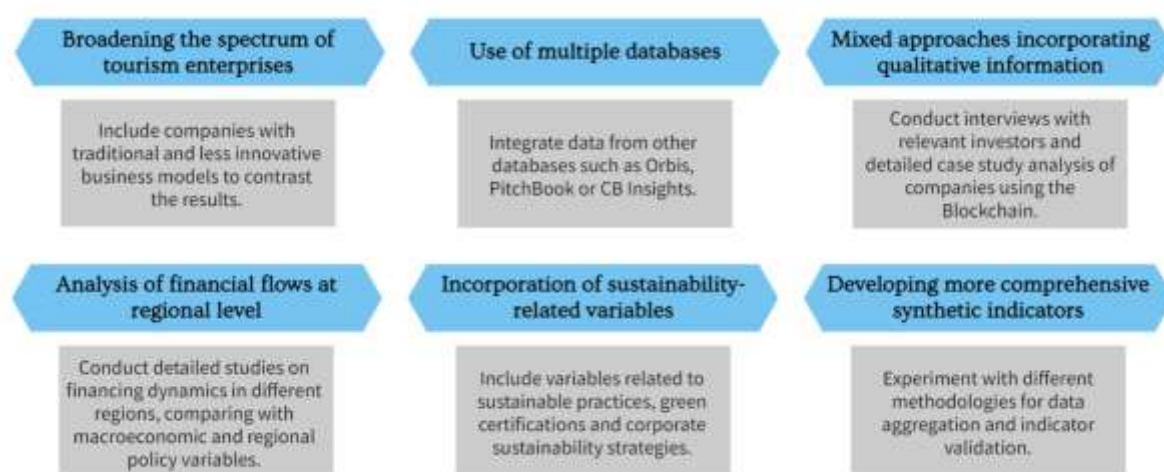
Finally, in response to RQ3, certain regions such as Northern Europe, North America and Australasia were identified as having a high degree of financial attractiveness, according to the synthetic indicator values. In contrast, Eastern Mediterranean Europe, Africa, and North East Asia show relatively low values on the synthetic indicator, revealing that tourism enterprises in these areas have lower chances of attracting private financing.

Graphically positioning tourism regions according to their SIFR values and their ability to attract international tourists per capita shows that several European regions, including the world's leading tourism destinations, have companies with lower financial attractiveness, with below-average values on the synthetic indicator. This finding should motivate European tourism companies to make decisions

aimed at improving their financial attractiveness and identifying the causes behind their poor performance in this factor.

5. Limitations and Future Research

Future research can draw attention to some of the limitations of the present work. For example, by relying on one specific database, the results may be biased towards companies and/or projects with more innovative and technologically advanced business models. This could lead to the study's interpretations being generalised to the entire tourism sector. In this sense, it would be interesting to apply the methodology of this study to a broader and more diverse spectrum of tourism enterprises.



Source: created by the authors.

Figure 4. Future Research Topics

On the other hand, the information contained in Crunchbase could be expanded with other databases that would allow us to address, in future research, mixed approaches that incorporate qualitative information from the companies analysed. This could be used to determine the type of involvement that Blockchain technology has in their business model and to conduct interviews with relevant investors, thereby enriching the synthetic indicator and providing other more global perspectives. Additionally, it is important to better understand the workings of the financing flows identified, especially at the regional level. Finally, future studies could incorporate these variables and others, such as those related to sustainability. *Figure 4* summarises all the lines of research proposed.

Conclusions

To sum up, this paper makes a novel contribution to the financial attractiveness and ability to attract financing in tourism companies, highlighting the relevance of Blockchain technology, among other financial variables, as a determining element in explaining territorial differences in the attraction of alternative financial resources compared to banking channels. Using an empirical and statistical approach, the importance of the variables analysed, some of which are discussed in the literature, is conceptually validated. In particular, the findings on regional disparities offer a relevant perspective that can support the adoption of location and business size decision-making strategies.

Apart from providing a breakthrough in the academic understanding of financial attractiveness, this work offers a number of practical implications for tourism business managers and policymakers. By adding Blockchain technology along with other financial metrics as drivers of business investment, tourism developers can align their strategies to try to attract non-traditional financing. For policymakers, understanding the disparities in financial attractiveness between tourism regions provides a relevant framework for creating policies and incentives that encourage technology adoption, seek to improve financial reporting practices, and stimulate investment. This enhances global competitiveness and supports sustainable growth in the tourism sector.

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BLOCKCHAIN IR KITI VEIKSNIAI, LEMIA NTYS TURIZMO ĮMONIŲ FINANSINĮ PATRAUKLUMĄ REGIONO LYGMENIU: SIŪLOMAS SINTETINIS LĖŠŲ PRITRAUKIMO RODIKLIS

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Santrauka. Šiame tyrime įvertinti pagrindiniai veiksniai, lemiantys netradicinį finansavimą turizmo pramonėje kaip alternatyvą tradiciniam finansavimui. Tirta, ar įmonės, naudojančios *Blockchain* technologiją arba integruojančios ją į savo procesus, turi didesnę tikimybę užsitikrinti investicijas. Pasiūlyti kintamieji, didinantys finansinį patrauklumą turizmo sektoriuje. Taip pat nagrinėta, ar *Blockchain* technologiją taikančios įmonės pritraukia daugiau investicijų. Pasitelkus 1327 turizmo įmones iš *Crunchbase*, sukurti penki rodikliai ir sukonstruotas sintetinis rodiklis taikant P2 atstumo metodą. Rezultatai atskleidė, kad turizmo įmonės, taikančios *Blockchain*, turi realesnę tikimybę užsitikrinti finansavimą ir taip veikti regiono finansavimo galimybes bei didinti patrauklumą privatiems investuotojams. Sintetinis finansavimo pritraukimo rodiklis yra nauja priemonė, leidžianti vertinti investicinį potencialą visame pasaulyje, taip pat įžvelgti finansinį patrauklumą įvairiuose regionuose ir išryškinti pažangiųjų technologijų, tokių kaip *Blockchain*, vaidmenį užtikrinant privačias investicijas.

Reikšminiai žodžiai: turizmo finansavimas ir konkurencingumas; *Crunchbase*; regioninė analizė; sintetinis lėšų pritraukimo rodiklis; DP2.