

GEOGRAPHICAL INDICATIONS IN SPIRITS: A COMPARATIVE ANALYSIS BETWEEN CACHAÇA (BRAZIL) AND TEQUILA (MEXICO)

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Article History	Abstract
Original Research Article	<i>Geographical Indications (GIs) are strategic instruments for territorial valorization, product differentiation, and the promotion of regional development. This study aims to comparatively analyze the application of GIs to cachaça (Brazil) and tequila (Mexico), considering institutional, productive, historical, and marketing aspects. The methodology is based on qualitative research of a descriptive and analytical nature, supported by bibliographic and documentary surveys. The results show that Mexico has a consolidated and export-oriented model, whereas Brazil has an expanding system with a strong focus on regional development. It is concluded that, although both beverages have significant potential for value addition through GIs, cachaça still requires more robust internationalization strategies.</i> Keywords: Emblematic drink. Intellectual Property. Regional development.
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INTRODUCTION

Globalization is a factor that contributes to the commoditization of the economy, promoting the standardization of products as a way of entering the markets [1-8].

In this context, a strategy for small producers to gain competitive advantages consists in product differentiation through quality and collective action, guided by specific objectives aimed at strengthening their position and increasing their bargaining power vis-à-vis large conglomerates. Elements such as brand and packaging also play an important role, as they contribute to the identification and appreciation of the product before the consumer [5-7; 9].

In addition, consumers have increasingly sought products derived from production processes that incorporate environmental concerns and sustainability principles, such as reducing pesticide use, lowering pollutant emissions, and

adopting practices such as reverse logistics and environmental preservation programs [6-7; 10].

Several products are developed based on traditional knowledge, which is often transmitted orally across generations and constitutes part of a community's cultural heritage. In this sense, preserving this knowledge is essential to prevent its loss or disappearance and to ensure its transmission to future generations. Therefore, such knowledge requires legal protection, as it is closely linked to a community's history and cultural identity and must be safeguarded against misappropriation by actors outside the territory [7; 11-15].

The transformations in global markets have intensified the valorization of differentiated products, whose quality is associated with geographical origin and traditional know-how, making them increasingly prominent within the field of intellectual property. In this scenario, Geographical Indications (GIs) have emerged as important instruments

for differentiating products based on their origin, quality, and reputation, thereby contributing to the appreciation of typical products, especially in the spirits sector, and well as to regional development [16-18].

GIs are internationally recognized under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the Lisbon Agreement (1958), and are regarded as important instruments for economic and cultural valorization [7; 19].

In Brazil, GI is regulated by Law No. 9,279/1996, which establishes two modalities: Indication of Origin (IP) and Denomination of Origin (DO). An IP refers to a geographical name that has become known as a center of production, extraction, or manufacturing of a certain product or the provision of a specific service, with its reputation being closely associated with that location. Its continued recognition depends on preserving this reputation through the consistent fulfillment of quality requirements that distinguish it from similar products. These requirements must meet consumer expectations and contribute to the protection and enhancement of GIs, thereby preventing the loss of credibility over time [7; 20].

In turn, DO represents a higher level of recognition, requiring that the product's qualities or characteristics be essentially attributable to its geographical environment, including both natural and human factors. It is, therefore, a more stringent form of protection, as it establishes a causal relationship between the territory and the product's distinctive characteristics. Elements such as soil, climate, vegetation, and production practices, combined with traditional know-how, directly influence the product's quality and typicity [2; 20-23].

GIs are distinctive signs used to identify products or services originating from a specific geographical region, whose characteristics are associated with both natural and human factors [7; 24-26]. In Mexico, GIs are governed by industrial property law. The current legal framework is the Federal Law of the Protection of Industrial Property (LFPP), which entered into force in November 2020.

Brazilian and Mexican legislation on GIs contributes to the valorization of territories, protection againsts unfair competition, value addition to products, and the strengthening of cultural identity [7; 27-28].

In Brazil, the body responsible for regulating industrial property is the National Institute of Industrial Property (INPI), a federal agency linked to the Ministry of Development, Industry and Foreign Trade (MDIC). Its activities include the granting of patents, the registration of trademarks and the recognition of GIs, among other attributions [20].

In Mexico, there is a consolidated tradition in the protection of renowned products, which are mainly recognized as Denomination of Origin (DO) and Collective Trademark. Although these forms of protection share similarities, they differ in their purposes: DO emphasize the geographical origin of products, whereas collective trademarks identify products and services associated with a specific entity or association [7; 29].

The products associated with a GI have intrinsic characteristics or acquired throughout the production process, resulting from the interaction between natural and human factors. This relationship between product and territory is historically recognized, as in the cases of Corinthian wines and Carrara marble. The cultural dimension, expressed through traditional know-how, plays a central role in adding value and shaping the identity of products [2; 20; 22; 30-32].

In developing countries, the recognition of GIs is still at an early stage, requiring greater dissemination and the implementation of supportive public policies. The consolidation of this instrument occurred mainly in Europe, throughout the twentieth century, driven by the need to protect local products and prevent practices such as counterfeiting and the misuse of geographical names [22; 33].

Historically, the association between products and their geographical origins dates back to Antiquity and has been documented in both the Roman era and in biblical texts [11; 22; 24; 34-35].

In Brazil, the first GI registration occurred in 2002, with the Indication of Origin (IP) Vale dos Vinhedos. Later, in 2012 it was recognized as a Denomination of Origin (DO).

Currently, the country has nine GIs of cachaça, seven of which in the IP modality (Salinas, 2012; Microregion of Abaíra, 2014; Morretes, 2023; Viçosa do Ceará, 2024; Areia, 2025; Orizona, 2025, and Circuito das Águas Paulista, 2026) and two as DO (Paraty, 2024; and Luiz Alves, 2024), evidencing the growing appreciation of the product [36].

Cachaça and tequila stand out as emblematic beverages of their respective countries, presenting strong cultural, historical, and territorial connections. However, their trajectories of institutionalization differ significantly. While Mexico began protecting tequila in the 1970s, Brazil consolidated its GIs framework only from the 2000s onwards, with greater intensity after 2010 [7; 37-38].

Cachaça is the second most consumed alcoholic beverage in Brazil and the third most consumed spirit in the world, demonstrating its potential for expansion, especially through the strengthening of GIs [39-40].

In addition, GIs can reduce information asymmetries, promote trust between producers and consumers, and contribute to local socioeconomic development by adding value and ensuring product traceability.

In view of this, this article aims to comparatively analyze the application of GIs in cachaça and tequila, considering institutional, production, marketing, and strategic aspects.

METHODOLOGY

The present study is characterized as an applied research, with a qualitative approach, of exploratory and descriptive character, with the objective of comparatively analyzing the application of GIs in cachaça (Brazil) and tequila (Mexico) under institutional, productive, marketing, and strategic dimensions. The main objective of descriptive research is to detail the characteristics of a given population or phenomenon, as well as to establish relationships between variables, using, as one of its attributes, standardized data collection techniques [41].

The exploratory character of the study allows for a deeper understanding of the benefits arising from the recognition of cachaça and tequila as GI, using bibliographic research as an instrument, in order to identify relevant attributes capable of generating benefits for the holders of the registration, the community in its surroundings and the users of the protected service or product.

As for the technical procedures, the research was developed through documentary and bibliographic analysis, based on secondary sources from institutional reports, legislation, official databases and national and international scientific literature. Documents from agencies such as the National Institute of Industrial Property (INPI), the Mexican Institute of Industrial Property (IMPI), and World Intellectual Property Organization (WIPO) were used, as well as reports from entities such as the Brazilian Micro and Small Business Support Service (Sebrae), the Brazilian Agricultural Research Corporation (EMBRAPA), and other relevant organizations.

The bibliographic research used previously published materials in the public domain, including digital and printed sources such as books, scientific articles, academic works (theses, dissertations, and monographs), and conference proceedings. The main advantage of this type of research lies in the fact that it allows the researcher to cover a much broader range of phenomena than that which could be investigated directly, in addition to enabling the use of already consolidated theoretical frameworks and widely recognized techniques, favoring the construction of consistent conceptual bases [41].

Data collection involved gathering information on the following aspects: the temporal evolution of GI

registrations in Brazil and Mexico; the institutional characteristics of protection systems; technical aspects of the production processes of cachaça and tequila; market indicators, such as production, exports, and value added, and strategic elements associated with territorial valorization and competitiveness.

For the development of the study, data were collected from secondary sources, using tools such as Google Scholar, Capes Journal Portal, SciELO (Scientific Electronic Library Online), and Brazilian Digital Library of Theses and Dissertations (BDTD), in addition to Brazilian and Mexican government websites. Secondary data refer to information previously collected for purposes other than the specific research problem and are widely used in studies of an exploratory and descriptive nature [42].

The data were organized into tables and graphs, enabling the construction of time series and the identification of patterns related of growth, inflection points, and consolidation of GIs in both countries.

The search terms used in the research, in Portuguese and English, included: cachaça, tequila, brandy, fermentation, distillation, must, agave, sugarcane, cachaça, and tequila production chains, local productive arrangements, Geographical Indication, Denomination of Origin, Indication of Origin, innovation, sustainability, territorial development, Abaíra, Salinas, Paraty, Areia, Luiz Alves, Morretes, Orizónia, Viçosa, LPI, among others.

For data analysis, complementary techniques were employed: descriptive analysis, with the objective of characterizing the behavior of the indicators over time; comparative analysis, applied to the institutional, production, and market dimensions, allowing the identification of similarities and structural differences between Brazil and Mexico; temporal analysis, used to assess the evolution of GI registrations and identify distinct phases in the development of GI systems; and interpretative analysis, based on the literature, to discuss the results in light of theoretical approaches related to intellectual property, territorial development, and the economics of quality.

In addition, data triangulation was performed by combining quantitative and qualitative information to enhance the analytical robustness and reliability of the results.

As a limitation of the study, the time frame adopted (until 2026) and the focus on two emblematic beverages should be highlighted. This approach allows for greater analytical depth but limits the generalizability of the results to other products or global contexts.

Finally, it is acknowledged that the use of secondary data may involve limitations regarding the timeliness, standardization, and level of detail of the available

information. This reinforces the need for future studies involving primary data collection and the application of more robust quantitative methods.

RESULTS AND DISCUSSION

The production of artisanal cachaça has a strong cultural and historical significance in the municipalities where it is carried out, being recognized for the intrinsic quality of the product and the existence of a consolidated consumer market. In addition, it plays an important economic role in the producing regions. Its recognition as a GI provides distinctive characteristics compared to similar products, contributing to increased competitiveness in both domestic and international markets [43-44].

Cachaça and tequila are classified as spirits and share the particularity of being GI products recognized through government decrees in their respective countries. In addition, although "cachaça" and "tequila" are not geographical denominations themselves, both have a strong territorial connotation, immediately referring to Brazil and Mexico, respectively, as established by the TRIPS Agreement [43; 45-50].

The trade agreement signed between Brazil and Mexico in 2016 included provisions for the protection of the emblematic beverages of both countries, prohibiting the import or sale of products that do not originate from these territories, as well as the misuse of the denominations. These measures aim to curb unfair competition and protect both the industry and small-scale artisanal producers. Consequently, commercial agents are now required to market only recognized products with certified origin.

Cachaça and tequila can also be associated with cuisine, which contributes to the strengthening of gastronomic tourism. As they are considered ethnic products, they represent important tools for attracting tourists [39-40; 51].

Among the main benefits resulting from the recognition of a GI, the following stand out: the strengthening of cooperation among producers in favor of maintaining the quality of the product, with positive impacts on the development of the business; the promotion of trade; the aggregation of value along the entire production chain; the reduction of production costs; the stimulation of regional and sustainable development, with a consequent reduction of regional inequalities; the retention of populations in rural areas, contributing to the reduction of the rural exodus; the preservation of biodiversity, genetic heritage, and natural resources; the valorization of traditional knowledge, local identity, and cultural heritage; the benefits arising from legal protection; the strengthening of rural development; improved access to international markets; and local and regional development, with the potential to boost tourism, as well as the hospitality, gastronomy, and transportation

sectors. Furthermore, GIs contribute to job creation, increased income generation, and the promotion of technological development, among others socioeconomic benefits [2; 7; 22; 31; 52-56].

In Brazil, as of July 22, 2026, one foreign Indication of Origin (IP) and 133 national IPs had been recognized. Regarding Denominations of Origin (DOs), there were 34 national registrations and 10 foreign registrations [36].

These national recognitions are the result of the involvement of various institutional actors that promote the recognition of products and services and support producers throughout the registration process, such as the Brazilian Agricultural Research Corporation (EMBRAPA), the Brazilian Micro and Small Business Support Service (Sebrae), and Higher Education Institutions (HEIs). These institutions act as facilitators and coordinators by promoting the collective organization of producers, encouraging the establishment of associations, and fostering collaboration through representative organizations. This process helps overcome resistance to changes in production practices and in the relationships among producers, who shift from competing with one another to cooperating toward common objectives [7]. HEIs also play an important role in the dissemination of knowledge and in the valorization of products and territories.

In Mexico, the first GI registration occurred in 1974 with the Tequila Denomination of Origin (DOT). However, it took more than 20 years for the second product to be registered, in 1995, with the Mezcal Denomination of Origin (DOM). Mezcal is another spirit produced from agave and can be made from approximately 30 different varieties of this succulent plant native to the country [4; 56].

Research conducted in developed countries indicates that approximately 54% of consumers are willing to pay between 10% and 30% more for products recognized as GI, highlighting their potential to generate competitive advantages, especially for micro, small, and medium-sized enterprises [57].

Regarding the notoriety associated with a product or service recognized as an IP, which derives from its geographical origin, its continued recognition is intrinsically linked to the consistent compliance with quality requirements. These requirements should preserve the product's distinctive characteristics in relation to similar products, regardless of their place of production, while meeting consumer expectations and serving as a benchmark for the protection and enhancement of GIs, thereby preventing the erosion of the reputation and credibility built over time.

The recognition of beverages as GIs contributes to the preservation of traditional know-how and cultural heritage,

as such knowledge is often transmitted orally from one generation to the next, increasing the risk of its loss over time.

One of the main tools used for the standardization of the product and regulation of GI is the Technical Specifications Notebook (CET), which aims to formalize and perpetuate the historical, cultural and traditional legacy [20; 23]. However, this instrument can also allow the appropriation of traditional knowledge by agents outside the community. Still, it plays a key role in maintaining and strengthening the product's reputation.

According to the World Intellectual Property Indicators 2024 report published by the WIPO, approximately 58,600 GIs are protected worldwide. The countries with the largest number of protected GIs are: China (9,785), Germany (7,586), Hungary (7,290), and the Czech Republic (6,357). In addition, the European Union maintains 5,376 active GIs

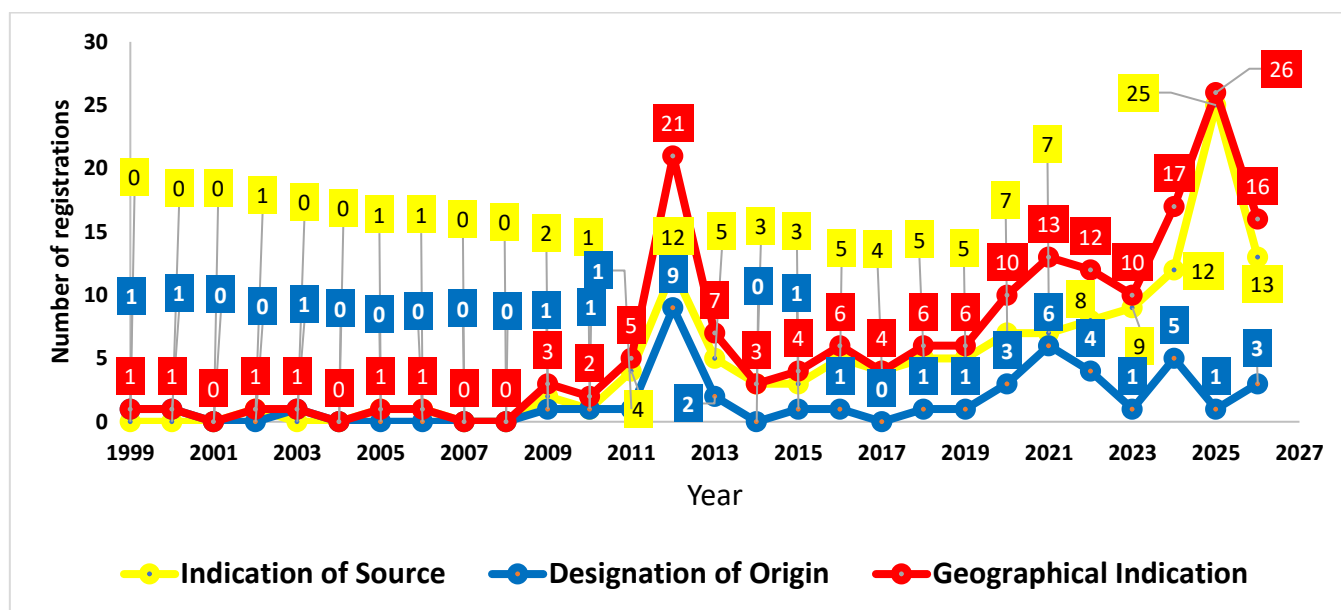
under its regional protection system, highlighting the economic significance of these intellectual property rights.

The first legal text concerning a DO was drafted in 1666 in France for Roquefort cheese by the Parliament of Toulouse [2; 58]. In turn, the first formally recognized GI was Port Wine, established in 1756 for wines produced in the Douro Region of Portugal under the authority of the Marquis of Pombal. Its purpose was to prevent the indiscriminate use of the denomination by producers outside the delimited area who did not employ the same traditional know-how or raw materials and whose products did not meet the same quality standards [31].

EVOLUTION OF GIS: BRAZIL AND MEXICO

Brazil has show significant growth since 2010 with a significant increase in the number of records, reflecting greater institutional mobilization, as Illustrated in Figure 1.

Figure 1 – Temporality of GIs in Brazil



Source: Authorship (2026)

Figure 1 illustrates the temporal evolution of GI registrations in Brazil, showing a nonlinear growth process characterized by distinct phases of introduction, expansion, and consolidation.

During the initial period (1999-2008), there was limited dynamism in GI registrations, with sporadic occurrence of GIs and years without any concession (2001, 2004, 2007, and 2008). The annual number of registrations remained between zero and one GI, characterizing an incipient phase marked by limited dissemination of the instrument and reduced producer engagement.

From 2009 onwards, the beginning of a growth trajectory can be observed, although still moderate, with a gradual increase in the total number of registrations. This trend

greater intensity between 2011 and 2013, with emphasis on 2012, which showed a significant increase, reaching 21 registration (12 IP and 9 DO), representing a turning point in the development of GIs in the country. This growth can be associated with the expansion of public policies, increased institutional support, and the strengthening of territorial valorization strategies.

Between 2014 and 2019, there was relative stability, with moderate variations in the number of registrations (ranging from 3 and 6 per year), indicating a consolidation phase for the instrument, although without significant expansions.

From 2020 onwards, a new phase of accelerated growth can be observed, with emphasis on the years 2023 (13 registrations), 2024 (17 registrations) and, above all, 2025,

which presents the highest value in the time series, with 26 recognized GIs. This trend suggests institutional maturation and greater producer adherence, possibly driven by incentive policies, increased market recognition, and strengthening of local production chains. During this period, the incorporation of new staff members into the BPTO may also have contributed to this outcome.

In structural terms, IPs predominate throughout the series, representing the main gateway to the recognition of GIs, due to their lower complexity in relation to DOs. On the other hand, the DOs, although fewer in number, show relevant growth in specific periods, such as 2012 and 2021, indicating qualitative advances in the system and greater capacity to prove the link between product and territory.

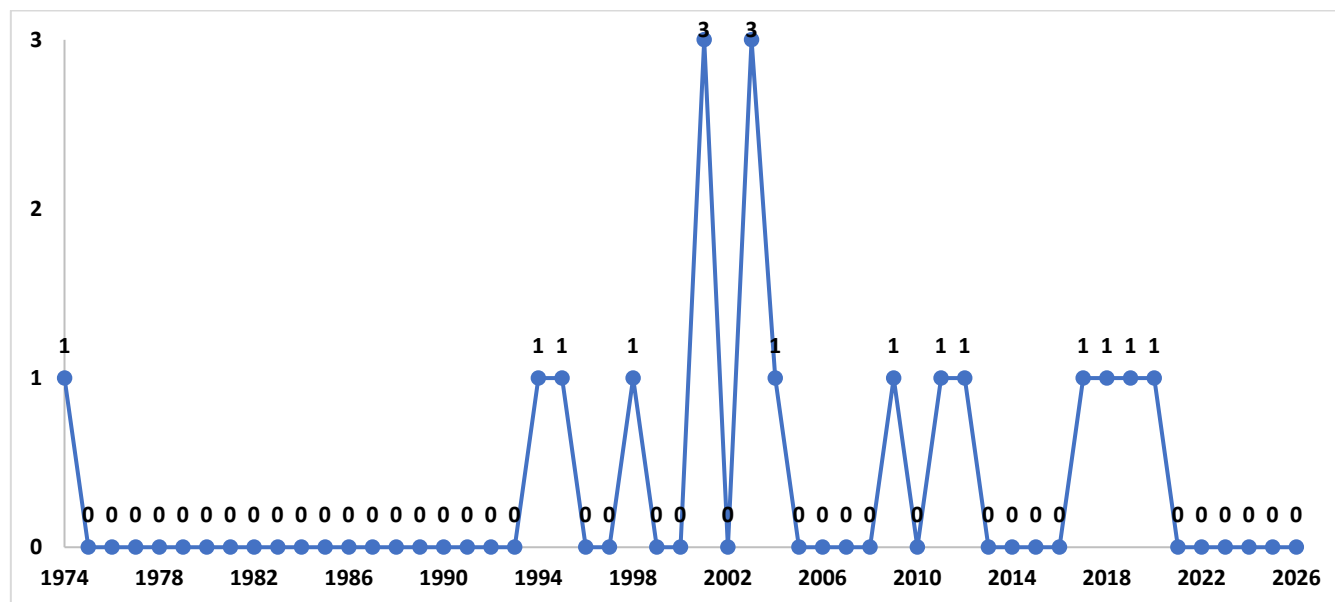
In summary, the observed trajectory demonstrates the transition from an initial stage of low adoption to a scenario

of expansion and consolidation of GIs in Brazil, with significant acceleration over the last decade. This evolution reflects greater institutional maturity, the strengthening of public policies, and the growing appreciation of products with territorial identity.

Mexico is a pioneer in the protection of GIs, with the registration of tequila as a DO in 1974. However, subsequent developments occurred slowly and selectively. Currently, there are 18 approved DOs and 174 collective trademark registrations related to agri-food products, handicrafts, hats, clothing, furniture, among others [56; 59].

The trajectory of GI in Mexico is characterized by gradual and irregular growth, focused primarily on the recognition of DOs over time. This pattern allows the identification of different phases of institutional and strategic evolution, as illustrated in Figure 2.

Figure 2 – Temporal evolution of DC in Mexico (1974-2026)



Source: own authorship (2026)

Figure 2 illustrates the temporal evolution of GIs in Mexico, highlighting distinct phases, as described below.

Initial phase (1974-1993): origin and stagnation

The first registration occurred in 1974 (tequila), marking the beginning of DO protection in the country. However, a long period without new registration followed until 1994, indicating low levels of institutionalization and limited expansion of the system during the initial decades. From this first registration, an interval of more than 20 years elapsed before the second recognition.

Resumption and first advances (1994-2004)

Between 1994 and 2004, there were specific registration (1994, 1995, 1998, 2001, 2003, and 2004), with emphasis on the years 2001 and 2003, which had the highest number of registration (three each). This period suggests a gradual

strengthening of the protection policy, possibly associated with legal reforms and the growing economic valorization of DO.

New phase of stagnation (2005-2010)

After 2004, another period of low dynamism can be observed, with few isolated registrations (such as in 2009), indicating institutional discontinuity or limited prioritization of the DO agenda.

Moderate and continued growth (2011-2020)

From 2011 onwards, greater regularity in registration can be observed, occurrences distributed across the years 2011, 2017, 2018, 2019, and 2020. Although the numbers remained low (usually one per year), there was a trend towards greater institutional stability and consolidation of the instrument.

Recent stagnation (2021-2026)

Between 2021 and 2025, no registrations were recorded, which may indicate possible saturation of the system, the prioritization of the management of existing DOs, or difficulties in expanding the recognition of new products. As the survey was conducted in mid-2026, it is not possible to determine whether this condition will persist until the end of the year.

In summary, Mexico has a highly selective and restrictive DO model, with few registrations over more than 50 years. Its evolution is characterized by occasional Peaks Rather than continuous growth. Unlike Brazil, which significantly expanded its GIs system from 2010 onwards, Mexico appears to prioritize quality, consolidation, and international recognition over the number of registrations. The strong initial concentration around tequila and the low frequency of new registrations suggest a strategy focused on emblematic products with high added value.

In general, the data indicate that Mexico's DO policy follows a conservative and strategic logic, characterized by low quantitative expansion and high selectivity. Such behavior reinforces the hypothesis that the country favors international appreciation, rigorous protection, and quality control of its distinctive products, instead of the massive expansion of registrations.

Considering Mexico's territorial extension, history, and culture diversity, it can be observed that the number of registrations remains relatively small, especially when compared with Brazil.

This difference reveals two distinct models:

- **Mexico:** qualitative consolidation;
- **Brazil:** recent quantitative expansion.

INSTITUTIONAL COMPARISON

There are important structural differences between the GI systems of Brazil and Mexico, revealing distinct levels of institutional maturity, regulatory scope, and protection strategy, with direct implications for the forms of protection, management, and valorization of products.

Brazil adopts a more diversified and comprehensive model, whereas Mexico has a more concentrated and consolidated system. The Brazilian system is managed by the National Institute of Industrial Property (INPI), while in Mexico, this responsibility lies with the Instituto Mexicano de la Propiedad Industrial (IMPI). Both institutions perform equivalent functions; however, the Mexican model has a longer tradition in the international recognition of products, particularly spirits.

Regarding the types of GI, Brazil adopts a more inclusive model, with two types – Indication of Origin (IP) and Denomination of Origin (DO) – which provides greater flexibility to the system by allowing the classification of products according to different levels of territorial linkage. In contrast, Mexico predominantly adopts the DO system, making it more restrictive but also more robust in terms of recognition and quality requirements.

With regard to the legal framework, both countries have specific and consolidated legislation. Brazil bases its system on Law No. 9,279/1996 (Industrial Property Law), whereas Mexico relies on its own Industrial Property Law. Although both systems are aligned with international agreements, such as the TRIPS Agreement, Mexico stands out for its more consolidated application in the agri-food sector [60].

Regarding technical regulations, there is a significant difference between the two countries. In Brazil, the Technical Specifications Documents (CET) is mandatory and provides details on the entire production process, defines the geographical area, ensures standardization, and establishing control and traceability criteria [20]. In Mexico, technical standards are established through Mexican Official Standards (NOM), which function as strict and widely recognized regulations, especially for products such as tequila [60].

Finally, regarding the scope of protection, Brazil has a relevant differential by allowing the recognition of GIs for both products and services, thereby expanding the scope of application of the instrument. Mexico, on the other hand, is restricted to products, which makes its system more focused but less comprehensive.

In general, the analysis indicates that Brazil has a broader and more flexible system, with greater potential for expansion. On the other hand, Mexico has a more consolidated and internationally recognized system, especially in traditional products. Both systems are effective, but reflect different strategies: scale-up and diversification (Brazil) versus specialization and intensive valorization (Mexico) [60].

This difference helps explain why tequila has achieved greater global recognition, whereas cachaça is still in the process of consolidating its position in the international market.

The institutional comparison is presented in Table 1.

Table 1 – Institutional and normative comparison

Aspect	Brazil	Mexico
Responsible body	National Institute of Industrial Property (INPI)	Mexican Institute of Industrial Property (IMPI)
Types of GIs	IP and DO	DO and Collective Trademark
Legal basis	Law No. 9,279/1996 (Industrial Property Law – LPI)	Industrial Property Law (LPI) of 1942, reformed in 1973, 1994, and subsequent updates
Protection focus	IP: territorial association DO: direct link between quality and territory	DO: strong link between product and territory Collective Trademark: associative identification
First registration	Vale dos Vinhedos (IP – 2002; DO – 2012)	Tequila (DO – 1974)
Technical instrument	Technical Specification Document (CET) mandatory	Official Mexican Standards (NOM)
Scope of protection	Products and services	Products
System maturity time	Relatively recent	Consolidated and internationally recognized
International market integration	Expanding, with a smaller global presence	High level of international integration
Valorization strategy	Increasing focus on territorial development and cultural enhancement	Strong articulation among legal protection, market strategies, and cultural identity
Cultural recognition	Under consolidation	Highly consolidated and institutionalized
Integration with foreign markets	Still limited, with a predominance of domestic consumption	Extensive presence in international markets

Source: Authorship (2026)

The comparison reveals relevant structural differences between the GI systems of Brazil and Mexico. While the Brazilian model represents a more recent approach and is in the process of consolidation, the Mexican system demonstrates greater institutional maturity, especially with regard to DOs.

Mexico has a more robust and consolidated system, with a strong articulation between legal protection, cultural identity, and market insertion. Tequila, as an emblematic example, highlights the success of DO in building an international reputation, underpinned by strict technical standards (NOMs) and global promotion strategies. This has consolidated GI as a strategic export asset and reinforced its presence in international trade.

Although both countries have relevant institutional frameworks, the degree of maturity, market integration, and international recognition of GIs is significantly more advanced in the Mexican context. This reinforces the need to strengthen public policies and strategies aimed at the valorization of GIs in Brazil.

HISTORY AND IDENTITY OF DRINKS

Cachaça has a colonial origin and has historically been associated with popular classes, undergoing a recent process of valorization. The first mention of the term "cachaça" occurred in a letter written by Sá de Miranda to Antônio Pereira in the first half of the sixteenth century. The drink was associated with the enslaved population, who consumed it as a form of stimulus to endure the adverse conditions imposed by the slave system. In 1649, the prohibition of its production triggered several revolts, highlighting the Cachaça Revolt, also known as the Bernarda Revolt, which was motivated by the increase in taxes on the Beverage and resulted in the deposition of Governor Salvador de Sá and the revocation of the prohibition [40; 51; 61-64].

Tequila, in turn, has consolidated itself as a Mexican national symbol with strong international recognition. Its popularity increased during the Mexican War of Independence (1810-1821), as a result of the reduction in the consumption of Spanish beverages, especially due to difficulties in importing these products [65-66]. Initially, there was resistance to its consumption among the privileged classes. The incentive to consume national products was intensified during the Mexican Revolution of

1910, aiming to strengthen the sense of belonging, identity, and nationalism. Tequila was also consumed by women who participated in the war, with the purpose of alleviating fatigue, reducing feelings of nostalgia, and promoting

physical and mental relaxation, in addition to encouraging decision-making [65-66].

The historical summary of tequila and cachaça can be seen in Table 2.

Table 2 – Historical and identity comparison of tequila and cachaça

Aspect	Tequila	Cachaça
Origin of the name	It refers to the indigenous Tequilis, interpreted as "Mountain of Fire" (a region close to a volcano)	Derived from the Spanish term "cachaza" (low-quality bagaceira) or from the term "cachaço" (related to tenderizing meat)
First historical record	Foundation of the first distillery in 1600 by D. Pedro Sánchez de Tagle, Marquis of Altamira, in Santiago de Tequila	Production dates back to 1554 in Bahia (undetermined origin). The first mention of the term appeared in a letter from Sá de Miranda (sixteenth century)
Initial association	Initially rejected by the privileged classes	Associated with the enslaved population as a stimulant to endure the conditions imposed by the slave system
Bans / revolts	Export ban between 1785 and 1793 imposed by King Charles III of Spain	Banned in 1649; the Cachaça Revolt (1660-1661) in Rio de Janeiro became a symbol of resistance to Portuguese rule. In 1743, a new ban was imposed in Bahia
Period of national appreciation	Mexican Revolution (1910): promotion of national products to strengthen identity and nationalism	Modernist Movement (from 1922 onwards): recovery of Brazilian cultural identity
Cinema / popular culture	1930s-1940s: associated with joy, sadness, celebration, and the stereotype of the "Mexican macho"	Present in artistic and folkloric manifestations, associated with Brazilian culture and identity
International expansion	World War II (1939-1945): replaced European whiskey in the US market; Post-war period: the Mexican government strengthened the domestic market and expanded exports to Europe and South America	Focused primarily on the domestic market and associated with colonial resistance
Quality improvement	1950s: significant improvements, greater international acceptance, and increased exports	1980s: development of specific technologies, greater appreciation, and social acceptance
Forgery / imitation	1960s: counterfeiting by other countries increased global visibility	Mainly associated with non-registered producers, particularly producers of cachaça not recognized as GI products
Legal protection	DOT since 1974 (Mexican standards - NOMs): recognized by the European Community (1997), the USA, and Canada (1994). Currently recognized in 49 countries	GI protection since 2007. Other GIs recognized 2012, 2014, 2023, 2024, 2025, and 2026. Only three countries recognize the protection of cachaça as a GI: Colombia (2012), the USA (2013), and Mexico (2014).
Commemorative date	Mexico: Third Saturday of March. International: July 24 (UNESCO declared the Blue Agave Landscape as a World Heritage Site in 2006)	September 13 – National Cachaça Day (related to the Cachaça Revolt of 1661)
Main producers	Jalisco (125 municipalities), Nayarit (8), Guanajuato (7), Michoacán (30), and Tamaulipas (11) 181 municipalities	Main producing states Bahia, Ceará, Goiás, Minas Gerais, Paraíba, Paraná, Pernambuco, Rio de Janeiro, and São Paulo

Consumption / historical users	Consumed by soldiers and women during the Mexican Revolution (for relief from fatigue, nostalgia, relaxation, and encouragement)	Initially consumed by the enslaved population, later by plantation owners and Portuguese families; subsequently stigmatized as a beverage associated with Black people and the poor
Associated symbols	Sombrero, zarape, calaca, ball bearing, and piñata	No specific Symbol is associated with cachaça
Popular denominations	None	Hopscotch, goró, pinga, água-que-passarinho-não-bebe, birinaite, branquinha, marvada, purinha, and saideira

Source: Authorship (2026)

TECHNICAL COMPARISON OF THE PRODUCTION PROCESS

There are significant technical and production-related differences between cachaça and tequila, which directly influence the standardization, sensory quality, and market positioning of these beverages.

The raw material represents a fundamental distinction between the two beverages. Cachaça is produced from sugarcane, a raw material that is widely available in Brazil, favoring greater production diversity. Tequila, on the other hand, uses exclusively Blue Agave, a more specific raw material with a longer production cycle, which contributes to greater production control and standardization.

Aging represents an important strategic differentiator between the two beverages. For cachaça, aging is optional, allowing both unaged and aged products to be marketed. In contrast, tequila is classified according to aging categories (such as joven, reposado, and añejo), which add value, segment the market, and shape consumers' perception of quality.

With regard to the form of production, cachaça can be elaborated both in an artisanal and industrial way, reflecting great heterogeneity of quality and production scale. Tequila, on the other hand, is predominantly industrial, which favors standardization, scale, and insertion in the international market.

As for alcohol content, both beverages have relatively close ranges, although tequila has a greater amplitude (36% to 55%), allowing for greater product diversity in the market.

Cachaça, with a more restricted range (38% to 48%), has greater regulatory uniformity.

Regarding the production process, cachaça has a more direct flow, based on fermentation followed by distillation. Tequila, on the other hand, has an additional hydrolysis step, which is necessary to convert the complex carbohydrates in the Blue Agave into fermentable sugars. This more complex process contributes to specific sensory characteristics and enables greater technical control over production.

This comparison highlights two key differences:

- **Greater productive diversity in cachaça**, resulting from the use of both artisanal and industrial production methods and the flexibility of its production process.
- **Greater standardization in tequila**, achieved through stricter technical regulations, the exclusive use of Blue Agave, and standardized production procedures.

In a synthetic way, cachaça has greater productive flexibility, but with greater heterogeneity; Tequila has greater standardization and technical control, favoring its international competitiveness. These structural differences are directly reflected in market strategies, with tequila being more consolidated globally, while cachaça still has a strong orientation to the domestic market, with potential for expansion through GI.

The technical and production-related comparison is presented in Table 3.

Table 3 – Productive and technical comparison

Aspect	Cachaça	Tequila
Raw material	Sugarcane (<i>Saccharum</i> spp)	Blue Agave (<i>Agave tequilana</i> Weber)
Production process	Fermentation + distillation	Hydrolysis + fermentation + distillation
Production method	Distillation of fermented must from sugarcane juice, with the addition of sugars up to 6g/L	Obtained from agave distillate or distillation of fermented agave must
Fractions	Head (improper), heart (main fraction), and tail (discarded)	Head (improper), heart (premium fraction), and tail (reused)

Production scale	Artisanal and industrial	Predominantly industrial
Alcohol content	38-48%	36-55%
Aging	Optional	Classified according to aging categories
Bottling	100% in the delimited geographical area	It can occur outside the delimited area
Export	Exported to 98 countries	Exported to 120 countries

Source: Authorship (2026)

SIMILARITIES

There are several similarities between these emblematic beverages:

- **Fundamentals:** association of the name with the country of origin and the intrinsic quality of the product;
- **Factors:** influence of natural and human factors on product characteristics;
- **Uniformity:** existence of regulations of use (CET and technical standards) and minimum quality criteria;
- **Control:** presence of regulatory and inspection bodies;
- **Raw material, extraction, elaboration and aging:** processes linked to the delimited geographical area;
- **Institutional challenges:** influence of factors such as exchange rate, interest, rates, taxation, trade barriers, environmental legislation, tradition, and government policies;
- **Competitive environment:** influence of industrial structure, competition patterns, product characteristics, market access challenges, and competition with informal producer;
- **Infrastructure:** performance of representative entities and differentiation strategies based on quality and origin;
- **Financial aspects:** joint investments in marketing, formalization processes, and participation in events;
- **Technological development:** sharing of know-how and exchange of information;
- **Purchasing power:** greater bargaining power with suppliers;
- **Production:** standardization and traceability;
- **Marketing and sales:** participation in fairs and events, integration with tourism, and the need for adequate public infrastructure.

COMMON CHALLENGES

- Trade and regulatory barriers;
- High tax burden;
- Unfair competition (informality / falsification);
- Logistics and export costs;
- Environmental and labeling requirements;
- Access to international markets;
- Exchange rate fluctuations and economic variations.

MARKET, EXPORTS, AND ADDED VALUE

There is a marked contrast between the market models of cachaça and tequila, highlighting structural differences in terms of production scale, international market integration, and value addition.

For insertion in the international market, these beverages require tax incentives and public policies that strengthen the sector. It is essential that government entities defend the interests of the production chain, promote protection agreements, and act to reduce trade barriers that hinder the entry of these products into foreign markets. In addition, legislation aimed at environmental preservation should be implemented, as well as actions to raise awareness among stakeholders in the production chain about sustainable practices, such as the reduction of fires in sugarcane cultivation.

Other measures include reduction interest rates for financing aimed at expansion and innovation, as well as reducing the tax burden, in order to increase the competitiveness of companies and enable the practice of more affordable pricing without compromising the sector's profitability.

Public policies should also encourage the formalization of enterprises that have not yet been regularized, highlighting the benefits of this transition, such as improved product quality, reduced unfair competition, expanded market access, and the generation of employment and income throughout the production chain.

In terms of annual production, cachaça has a significantly higher production volume (~1.4 billion liters), indicating strong production capacity and ample availability of raw materials. Tequila, with about 583.53 million liters, has a lower production, but is more oriented to the foreign market and with greater control over the production chain [67].

The main difference is in exports. While cachaça exports less than 1% of its production, demonstrating a strong dependence on the domestic market – this performance being influenced by the high rate of informality and the difficulty in meeting the regulatory and quality control requirements required by importing countries -, tequila destines approximately 70% of its production to the international market [67]. This data indicate that tequila is a globalized beverage, whereas cachaça still has a low international insertion.

This dynamic is reflected in the main markets: cachaça is consumed mostly in Brazil, whereas tequila has the USA as its main Destination market. This pattern reveals a consolidated internationalization strategy, although it also indicates a certain degree of dependence on a single market.

This difference highlights two distinct strategies:

- Mexico: global orientation;
- Brazil: domestic focus with internationalization potential.

As for the added value, cachaça is classified as a médium-value product, which is related to productive heterogeneity, informality, and lower levels of standardization. Tequila, on the other hand, has high added value, as a result of factors

such as a consolidated DO system, strong regulation, marketing strategies, and premium positioning.

In summary, cachaça has high production but low international insertion, with potential that is still underexplored. Tequila has a lower volume but greater economic efficiency and global competitiveness. Thus, the differential is not in the quantity produced, but rather in market strategy, governance, and product valorization.

These results reinforce that strengthening GIs and internationalization policies can be a strategic way to increase the competitiveness of cachaça in the global scenario.

The market comparison is presented in Table 4.

Table 4 – Market comparison

Indicator	Cachaça	Tequila
Annual production	~1.4 billion liters	583.53 million liters
Exports	<1%	~90%
Main market	Brazil	USA
Added value	Medium	High

Source: Authorship (2026)

Registration as a GI contributes to increased added value, improved product image, and market expansion

The strategy for adding value through GIs includes origin certification, product quality differentiation, strengthening of territorial branding, promotion of associated tourism, public support policies, territorial marketing, and traceability.

FINAL CONSIDERATIONS

The comparative analysis of the Geographical Indications (GIs) applied to cachaça and tequila reveals the existence of two distinct models of structuring, governance, and market integration. While Mexico has a consolidated and selective system strongly oriented toward the international market, Brazil presents an expanding model characterized by greater institutional flexibility and increasing mobilization of the actors involved.

The results indicate that the success of tequila in the global scenario is not solely associated with its Denomination of Origin (DO), but also with the effective articulation among strict regulation, production standardization, territorial marketing strategies, and strong international insertion. In contrast, cachaça, although it has a high production capacity and relevant cultural value, still faces structural challenges that limit its external competitiveness, such as production heterogeneity, informality, and low levels of standardization.

From a theoretical point of view, the study contributes to advancing discussions on intellectual property and territorial development by demonstrating how different institutional arrangements directly impact economic performance and the valorization of traditional products. From a practical perspective, the findings reinforce the need to strengthen public policies aimed at consolidating GIs in Brazil, especially with regard to production standardization, producer formalization, and the expansion of international insertion.

However, this study has some limitations. First, the analysis is predominantly based on secondary and aggregated data, which may restrict the understanding of specific local dynamics and regional heterogeneities. In addition, econometric analyses or quantitative models capable of accurately measuring the impact of GIs on variables such as income, employment, and export performance were not incorporated. Another limitation is the absence of in-depth case studies involving producers, which could provide a deeper understanding of the operational and institutional challenges faced in practice.

Given these limitations, future research may move in different directions. Empirical studies with a quantitative approach are recommended, using econometric models to assess the impact of GIs on socioeconomic indicators. It is also suggested the broader comparative studies be developed, including other countries and products with

international recognition, in order to identify patterns and good practices that can be replicated. In addition, qualitative investigations involving actors in the production chain may contribute to a better understanding of the challenges related to GI governance, coordination, and implementation.

Another relevant research agenda concerns the analysis of the role of GIs in promoting environmental sustainability and supporting the transition toward more sustainable production models, as well as their integration with territorial tourism and creative economy strategies. Finally, the importance of studies focused on the internationalization of cachaça is highlighted, particularly regarding market diversification, reducing dependence on domestic consumption, and strengthening the product's global positioning.

In summary, GIs are strategic instruments for economic, cultural, and territorial valorization. However, their potential depends directly on the capacity for institutional articulation, collective governance, and integration into competitive markets. In this context, strengthening GIs in Brazil represents not only an opportunity for economic development but also a pathway for preserving cultural heritage and promoting territorial identity.

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