

CASE STUDY

Synergy between the Business Model Canvas and the Marketing Mix: A Methodology Applied to Products Derived from Pulque Agave (*Agave salmiana*)

Sinergia entre el modelo Canvas y la mezcla de marketing: metodología aplicada a productos derivados del maguey pulquero (*Agave salmiana*)

María Eugenia Estrada Chavira,^{*†} María Juana Hernández Flores,^{*‡} y Eduardo Nieves Alegre^{*¶}

[†]Tecnológico Nacional de México/ Tecnológico de Estudios Superiores de Ixtapaluca, Ixtapaluca, Estado de México; ORCID: [0000-0001-6190-0107](https://orcid.org/0000-0001-6190-0107)

[‡]Tecnológico Nacional de México/ Tecnológico de Estudios Superiores de Ixtapaluca, Ixtapaluca, Estado de México; ORCID: [0000-0002-1179-1966](https://orcid.org/0000-0002-1179-1966)

[¶]Tecnológico Nacional de México/ Tecnológico de Estudios Superiores de Ixtapaluca, Ixtapaluca, Estado de México; ORCID: [0009-0005-1811-2953](https://orcid.org/0009-0005-1811-2953)

*Correspondence to email: maria.ec@ixtapaluca.tecnm.mx; maria.hf@ixtapaluca.tecnm.mx; eduardo.na@ixtapaluca.tecnm.mx

(Received November 26, 2025; accepted May 13, 2026)

Abstract

In this research, the objective was to analyze the synergy between the Canvas Model and the marketing mix of the 4Ps, applied to products derived from the maguey, such as honey syrup and the distillate of Maguey Pulquero *Agave salmiana*, with the purpose of strengthening the value chain and promoting economic and social development in Coatepec. Ixtapaluca, State of Mexico. This is done through a union of the marketing mix methodology of the 4P and the Canvas model. The sampling method was a completely random method interviewing 25 industrializing producers and 80 consumers, resulting in strategies for positioning maguey-derived products as a competitive, culturally valuable and sustainable alternative in the region.

Keywords: Maguey pulquero, marketing mix, Canvas Model, the 4P.

JEL Classification: M200

Resumen

En esta investigación el objetivo fue analizar la sinergia entre el modelo Canvas y el marketing mix de las 4P, aplicado a productos derivados del maguey, como el jarabe de miel y el destilado de maguey pulquero (*Agave salmiana*), con el propósito de fortalecer la cadena de valor y fomentar el desarrollo económico y social en Coatepec, Ixtapaluca, Estado de México. Lo anterior mediante una unión de la metodología de marketing mix de las 4P y el modelo Canvas. El método de muestreo fue un método aleatorio completamente al azar entrevistándose 25 productores industrializadores y 80 consumidores, obteniendo como resultado estrategias de posicionamiento de los productos derivados del maguey como una alternativa competitiva, culturalmente valiosa y sostenible en la región.

Palabras clave: Maguey pulquero, marketing mix, modelo Canvas, las 4P.

Clasificación JEL: M200

1. Introduction

In Mexico there are 4.7 million micro, small and medium-sized enterprises (MiPymes) which are the engine of the Mexican economy, generate 52% of the country's income, and employ 27 million people, which represents 68.4% of the people employed in the business sector. 95% are microenterprises, 4% small and 0.8% medium-sized. Most are concentrated in the southern region of Mexico, mainly dedicated to commerce, in the north the number is smaller but they are dedicated to industrial activity. The State of Mexico concentrates 13.02% of MiPymes in the country, (Gobierno de México / Secretaría de Economía, 2024).

In this context, microenterprises dedicated to the production and marketing of products derived from the maguey for pulque are being developed in Coatepec, Ixtapaluca, State of Mexico. The maguey is a plant native to Mexico used by pre-Hispanic cultures, with by-products of natural origin such as: mead and pulque. The maguey has more than 150 registered species, however, due to the poor management of the plant, indiscriminate exploitation, clandestine logging have been some of the causes why this plant is increasingly threatened in its disappearance. Agaves are perennial plants, with leaves arranged in a spiral and arranged in rosettes at the apex of a stem, which can be short and barely more than a few centimeters from the ground or be long and erect, (Higuera-Orbe, 2025).

The maguey is harvested at maturity when it has its floral scape or qurote, which is cut to stop growth and stimulate the accumulation of sugars in the pineapple. Subsequently, it is left to rest for six months to a year, then the maguey is cleaned and scraped, thus the obtaining of mead for the production of maguey products and by-products begins. The plant is used for three months, the quantity and quality will depend on the variety and the content of accumulated sugars and the production can be from 150 to 300 liters, (Instituto de Investigación y Capacitación Agropecuaria, Acuícola y Forestal del Estado de México, 2024).

The production of maguey pulquero in Mexico accumulated as of September 2025 amounts to 152,992.34 tons, distributed in the main maguey producing states that are in order of importance: Hidalgo (72,413.32 tons); Tlaxcala (35,864.55 tons); State of Mexico (28,402.16); Puebla (8,588.45) and Guanajuato (5,615.73), (Servicio de Información Agroalimentaria y Pesquera, 2025).

In the community of Coatepec, Ixtapaluca, State of Mexico, there is the Association of Producers of Maguey Pulquero, its Derivatives and Peasants of the Eastern Zone (A.P.M.P.C.A.C.), with 25 member producers, who are producers, industrializers and merchants of the maguey. In addition to the productive problems of the nature of the maguey. The maguey is attacked by a pest known colloquially as the maguey weevil whose scientific name is: *Scyphophorus acupunctatus*. The adult deposits its eggs and the larva bores the stem until it reaches the heart of the agave, which brings productive losses. Likewise, there is little commercialization of agave products among the consumer population, due to loss of interest in typical products of the region, changes in consumption patterns. There is no follow-up of traditional practices, fewer and fewer young people are integrated into the production and marketing of pulque.

However, with the purpose of supporting the positioning for maguey products and by-products, this research was carried out with the objective of creating a market synergy between the Canvas Model and the marketing mix: product, market price, and promotion, for two maguey by-products: distillate and agave honey. Under the hypothesis that a synergy between the two models strengthens the artisanal trade of the products under study, and establishes strategies of: product, price, place and promotion.

2. Materials and methods

A. Research Approach

For this research, a mixed approach (qualitative–quantitative) with a descriptive–propositional scope was used, since it seeks to diagnose the current situation of the production and commercialization of by-products of the maguey pulquero, as well as to propose comprehensive strategies for its promotion, based on measurable and verifiable information.

B. Type and design of research

The study is non-experimental and cross-sectional, since variables are not manipulated, but data are collected at a specific moment in time. The design is descriptive, seeking to identify the sociodemographic, productive and commercial characteristics of the actors involved, as well as to analyze the relationship between the commercialization of the product and the economic and social development of the community.

C. Population and sample

The target population is made up of maguey pulquero producers and distillate and maguey honey processors located in the community of Coatepec, municipality of Ixtapaluca, State of Mexico. Potential consumers and key actors such as traders, representatives of cooperatives or rural institutions were also included. A simple random sampling was used for convenience, where all the elements of the population that would be chosen for the sample were randomly selected in the same way each element had the same probability of being selected. Producers who agreed to participate and who had a direct relationship with the production or marketing of the by-products were considered. 25 people and 80 consumers were interviewed for market validation, (Universidad del Istmo, Campus Ixtotec, Oaxaca, 2017).

D. Data collection techniques and instruments

The following instruments were used: – Structured surveys applied to producers and consumers, which included closed questions on product characteristics, distribution channels, prices, promotion strategies, and income level. Validated with Cronbach's Alpha level of reliability. A documentary review was also carried out on the background of the maguey in the region, public policies and rural development programs.

E. Data analysis techniques

The quantitative data obtained through surveys were processed and analyzed using descriptive statistics (frequencies, percentages, means). Qualitative data analyzed according to their usefulness.

F. Base theories

Business marketing includes external factors that affect marketing management's ability to establish and preserve relationships that impact marketing management's ability to establish and sustain beneficial links with its target customers.

The company's micro-environment

It is made up of forces close to the company: company, suppliers, marketing intermediaries, customer markets, competitors and audiences that affect its ability to serve the customer.

The macro environment of the company

They are great forces in society: demographic, economic, natural, technological, political and cultural that affect the microenvironment. Likewise, companies carry out market segmentation, since they cannot serve all consumers since today there is a lot of variety and market segmentation must be carried out according to the characteristics of the selected consumers.

Market segmentation

It consists of dividing a market into established groups with different needs, attributes or behaviors, which may need different products or marketing combinations.

2.1 Canvas Model

The Canvas model used in this research corresponds to the one developed by Alexander Osterwalder and Yves Pigneur in 2010. The Business Model Canvas applies to both the entrepreneur and the entrepreneur and helps determine what factors you need to generate a business idea or strengthen an established one.

It is based on a visual representation of nine quadrants which facilitate the definition of a business model, while helping to communicate the business model to all stakeholders, who could be business partners, employees or even customers, (García Puga, 2022).

Figure 1. CANVAS Model

Key Partners	Key activities	Value proposition	Customer Relations	Customer segments
	Key Resources		Channels	
Cost Structure		Sources of income		

Source: Prepared based on the structure of the Canvas Model, 2008.

2.2 Marketing mix (Product, Price, Place and Promotion)

A product is anything that can be offered to a market for attention, acquisition, use or consumption, and that could satisfy a desire or a need. By one side, services are a form of product that consists of activities, benefits or satisfactions offered for sale and are intangible since they do not result in obtaining ownership of something.

On the other hand, the marketing mix integrates tools and variables that help companies meet the planned objectives and their target audience, it is executed through the 4P, which are product, price, place and promotion, (Red Universitaria Virtual Internacional, 2025).

Individual product and service decision-making is based on the following characteristics:

Product Quality: : A product's ability to perform its functions; includes the product's overall durability, reliability, accuracy, ease of operation and repair, among other valuable attributes

Product Features: A product can be offered with variable features. The starting point is an "austere" model, without any extras.

Product style and design: Another way to add value for the customer is to craft products with distinctive design and style.

Trademark: Name, term, sign, symbol, design, or combination of these elements, which seeks to identify the goods or services of a seller or group of sellers and differentiate them from those of its competitors.

Packaging: Design and production activities of the container, or wrapper, necessary to transport a product, therefore:

Product: refers to the good or service that is offered to satisfy the needs or desires of the customer, its characteristics, quality, brand, packaging, etc.

Price: determine the monetary value that the consumer must pay and the pricing strategy, considering costs, competition, perceptions of value.

Plaza: the channels through which the product reaches the customer, the points of sale, logistics, coverage, physical or online distribution.

Promotion: Communication, advertising, public relations, personal sales, sales promotion: everything related to how the product is made known and customers are persuaded, (Kotler, 2008).

2.3 Synergy between the Canvas Model and the market mix

In the framework of research proposed in this article, the maguey pulquero constitutes the central productive good: both as a raw material and as a business opportunity for derived products. This context requires a model that allows the business to be structured to analyze how it is generated and achieve value and a marketing strategy oriented to these products.

Identifying the relationship points where activities, resources and value propositions intersect facilitates the articulation between business logic and operational strategy. Therefore, in the case of products derived from the maguey pulquero, the Canvas business model allows you to define: what value does the product provide?, which segments is it aimed at?, how is it delivered?, what are the revenues and costs?, who are the key allies?, etc.

The synergy between the Canvas business model and the marketing mix is manifested in the fact that while CANVAS provides the structural framework of the business, that is, how value is created, delivered and captured, and the marketing mix tactically specifies the market variables with which the product will operate within that business model.

The marketing mix allows this model to be operationalized: what derivatives will be offered? How will the price be set considering the costs of cultivation, processing, added value and customer perception? Through which channels will these products be sold (plaza)? What communication, branding or promotion strategies will be used to disseminate its benefits?, the combination of both models allows for an integrated methodology: first it configures or diagnoses the business model using the CANVAS business model, then it aligns the marketing mix so that the market variables support the defined model, generating strategic and operational coherence.

In the context of the maguey pulquero, this implies that the analysis of the CANVAS business model is not isolated from marketing decisions, and vice versa: marketing decisions must be linked to business logic. In addition, such synergy can facilitate the identification of product innovation opportunities. Finally, from the methodological point of view, the articulation of both models reinforces applied business research: it allows the design of a methodology that visualizes both aspects of the tools, which allows more objective decisions to be made, starting from the cultivation and use of the maguey pulquero, allowing it to generate a viable business model and an adequate marketing strategy for its derived products.

The synergy between the CANVAS business model and the marketing mix offers a strategic methodological approach for research applied to the development of products derived from the maguey pulquero. This approach allows the design and evaluation of business models and market strategies that respond to the specific characteristics of the product, the customer, the value chain and the competitive environment of the products derived from the maguey pulquero, (Microsoft, 2025).

A model that finds points of compatibility, which reinforce the internal and the external environment by having the two visions in a single figure:

Table 1. Descriptive synergy between the 4Ps of marketing and the Canvas business model

Marketing 4P	Canvas Model Blocks	Relationship/Explanation
Product	- Value proposition - Customer segment	The product must respond to the customer's needs and offer a clear value proposition.
Price	- Cost structure - Sources of income	Price has a direct impact on revenue and must be aligned with the customer's perception of value.
Square	- Channels - Key Resources	The way the product reaches the customer and the resources needed to distribute it.
Promotion	- Customer relations - Channels - Key activities	Communication and promotion strategies are reflected in how the customer is interacted with and value is disseminated.

Source: Prepared with information from: (Microsoft, 2025).

Schematically represented in a blended business model:

Figure 2. Tie of Canvas model and 4P Marketing

1 Product	2 Price	3 Promotion	4 Customer segment
1 Pitch	2 Value proposition		4 Customer Relations
1 Channels		1 Key Resources	

Source: Prepared with information from: (Microsoft, 2025).

According to the diagram above, the following distribution is suggested:

- Product/Place/Channels (Define what is offered and how it is delivered)
- Price/Value Proposition (Establish Value and Revenue Strategy)
- Promotion (Communicate and attract customers)
- Customer Segment / Customer Relations (Identify and maintain the relationship with your target market.

3. Results

3.1 Canvas model application for the commercialization of maguey pulquero distillate (*Agave salmiana*)

The structure of the Canvas model is a strategic tool for the commercialization of the distillate made of maguey pulquero (*Agave salmiana*), a product that represents a sustainable and culturally significant alternative within the artisanal distillate market.

Essential elements involved in the business model are identified, from key resources and activities to customer segments and revenue streams. Through the analysis of the nine components of the Canvas, it seeks to strengthen the value proposition based on responsible production, the sustainable use of agave and the promotion of the cultural heritage associated with its elaboration.

Figure 3. Canvas Model

Key Partners - Universities - Cooperatives - Environmental NGOs - Local Government	Key activities - Production - Fermentation - Branding - Marketing - Storage	Value proposition Sustainable artisanal with the cultural identity of Agave <i>salmiana</i> .	Customer Relations - Tastings - Workshops - Social Media	Customer segments - Superior Consumers - Tourists - Gourmet distributors - Organic market
	Key Resources - Agave plantations - Distillery - Brand - Local Agricultural Community		Channels - Physical store - Fairs - Social Media - Distributors	
Cost Structure - Cultivation - Inputs - Distillation - Marketing - Certifications - Logistics		Sources of income - Sale of distillate - Maguey by-products - Tourist experiences		

Shaft: Made based on the structure of the Canvas Model.

In this way, the Canvas model allows the relationships between actors, processes and market opportunities to be visualized in a comprehensive way, contributing to the design of a competitive, innovative model aligned with the principles of sustainable rural development.

3.1.1 *Key Partners*

The business model contemplates collaboration with various strategic actors that add value to the production chain and strengthen the sustainability of the project, among them are:

- Cooperatives: They facilitate collaborative work and local distribution.
- Universities: They contribute with research, innovation and technological development applied to the process of distillation and conservation of agave.
- Local government: Determined as institutional support for the management of permits, incentives and programs to promote rural entrepreneurship.
- Environmental Non-Governmental Organizations (NGOs): Support sustainable practices and obtaining green certifications.

3.1.2 *Key Activities*

The essential activities of the model focus on guaranteeing the quality, authenticity and sustainability of the product, these include:

- The production of artisanal distillate.
- The fermentation of agave under traditional methods.
- Brand management is oriented to the positioning of the brand with cultural identity.
- Marketing is carried out with diversified strategies in different channels.
- The conservation of the environment is carried out through the care of the ecosystem and the cultivation of Agave salmiana.

3.1.3 *Key Resources*

Key resources represent the fundamental elements that enable business development:

- Agave plantations are the productive base of the distillate.
- The distillery is the infrastructure for artisanal production.
- The brand incorporates the cultural identity and symbolic value of the product.
- The local farming community is actively involved in the process and promotes social and economic sustainability.

3.1.4 *Value Proposition*

The value proposition of the project is based on offering a sustainable artisanal distillate, made from the Agave salmiana, preserving its cultural identity and regional tradition. This differentiating value combines authenticity, environmental responsibility and premium quality, attributes that respond to the new trends in the gourmet and organic market.

3.1.5 *Customer Relations*

The model proposes a close, experiential and personalized relationship with consumers, key actions include:

- Tastings and workshops that promote sensory education and appreciation of the distillate.
- Social networks are used as a means of communication, promotion and loyalty.
- Personalized attention is aimed at strengthening customer trust and satisfaction.

3.1.6 *Distribution Channels*

To guarantee the presence of the product in different markets, both physical and digital distribution channels are proposed:

- The physical store that offers direct sales and face-to-face experiences.
- Fairs and gastronomic events that help to position the product in the gourmet field.
- E-commerce is used as a platform for digital sales and promotion.
- Social networks are used for dissemination and direct contact with the end consumer.
- Specialized distributors can expand the product's reach into new niche markets.

3.1.7 *Customer Segment*

The model is aimed at consumers who value the quality, authenticity and sustainability of the product. The main segments identified are:

- Mainstream consumers who are interested in high-value artisanal products.
- Tourists looking for cultural and wine tourism experiences.
- Gourmet distributors looking for care in specialized markets.
- The organic market that is focused on sustainable and natural products.

3.1.8 *Cost Structure*

Costs are mainly related to the production, certification and distribution of the product, they are:

- The agave cultivation
- The acquisition of inputs and materials for agave by-products
- The distillation and fermentation processes for agave distillation
- Marketing and positioning strategies for agave by-products
- Ecological and quality certifications for agave by-products
- Logistics and distribution of agave by-products

3.1.9 *Sources of Income*

The main sources of income are derived from:

- The direct sale of artisanal distillate
- The commercialization of maguey by-products (syrops).
- Tourist experiences linked to agave, such as tours, tastings or workshops.

The analysis of the Canvas model applied to the distillate of maguey pulquero (*Agave salmiana*) shows a solid business model, with sustainable bases and a comprehensive approach that combines cultural preservation with commercial innovation. The value proposition is distinguished by offering a high-quality artisanal product, made through responsible processes and with regional identity, which gives competitive advantages over other distillates on the market.

Likewise, the articulation between local producers, universities, cooperatives and environmental organizations consolidates a network of collaboration that promotes both economic development and the conservation of agave ecosystems. The marketing strategy, supported by digital channels, specialized fairs and tourism experiences, expands the reach of the product to higher segments and consumers committed to sustainability.

This model not only contributes to the positioning of maguey distillate as an emblematic product, but also promotes an inclusive and sustainable local economy scheme, capable of generating long-term economic, social and environmental value.

3.2 *4P application for the distillate of maguey pulquero (Agave salmiana) commercialization*

The marketing mix, represented by the 4Ps: product, price, place and promotion, constitutes a methodological framework that allows structuring strategic decisions around the supply, communication and distribution of the distillate of maguey pulquero (*Agave salmiana*).

This approach makes it possible to articulate the values of sustainability, cultural identity and artisanal quality of the product with the demands of the contemporary market, thus achieving a balanced proposal between tradition and competitiveness. Through the 4Ps, the foundations are established to guide commercial management towards differentiation, customer loyalty and the consolidation of the distillate within the superior spirits segment.

3.2.1 *Product*

The distillate of maguey pulquero (*Agave salmiana*) is conceived as an artisanal product, sustainable and with cultural identity, which seeks to position itself within the market of national and international premium spirits. Its essence lies in the combination of tradition, innovation and environmental responsibility, which gives it a differentiating character compared to other distillates such as mezcal or tequila.

Product-linked strategies focus on:

- The artisanal quality and controlled origin in the elaboration of the distillate through traditional processes, respecting the natural times of the agave and ensuring the traceability of the product.
- Certifications and authenticity are the incorporation of ecological seals, sustainable production certifications and regional origin badges.
- The design and presentation is proposed in recyclable glass bottles with a distinctive design, labels that narrate the origin and process of the distillate, and biodegradable packaging that reinforces the environmental commitment.
- Innovation and diversification of the development of complementary lines (limited editions, distillates with natural macerations or aged), as well as products derived from the maguey to expand the portfolio.
- The cultural experience must integrate the consumption of the distillate into a sensory and educational experience that connects the consumer with the history, territory and culture of the maguey

The product, therefore, is consolidated as a symbol of identity and sustainability, rather than as a simple alcoholic beverage.

3.2.2 *Price*

Price represents a strategic factor that reflects the perceived value of the product, beyond the cost of production. Given its artisanal nature and sustainable approach, a value-based pricing strategy is adopted, aimed at consumer segments that value the quality, authenticity and social impact of the product.

Key actions for this strategy include:

- The determination of the premium price to position the distillate within a competitive range with other high-end spirits, such as artisanal mezcal or boutique whiskey.
- The segmentation of the market to set different prices for specific channels: gourmet stores, experiential tourism, export, and online sales.
- The justification of added value by clearly communicating the elements that underpin the price – artisanal process, sustainability, exclusivity and community benefits.
- Promotional pricing strategies by implementing seasonal discounts, loyalty programs, and tastings with special prices to encourage repeat purchases.

Price must be consolidated as a symbol of quality and ethical commitment, generating trust and brand recognition among consumers.

3.2.3 *Square (Distribution)*

The place or distribution of the distillate seeks to guarantee that the product reaches the final consumer through efficient, ethical and sustainable channels. The strategy is based on the combination of direct and indirect channels, leveraging both local sales and digital media to expand its reach.

The main actions are:

- Direct channels through sales at points of origin (distillery, cooperative, regional fairs), which reinforces cultural connection and allows a higher profit margin to be captured.
- Digital channels with the implementation of an online store and presence on platforms specialized in gourmet or sustainable products.
- Selective distribution through alliances with premium beverage distributors, boutique hotels, fine dining restaurants and organic stores.
- Export through the development of marketing routes to international markets interested in Mexican artisanal distillates, especially in North America and Europe.
- Tourism and its experiences through the integration of the product in agave routes, guided tours and tourist experiences where knowledge of the process and responsible tasting are promoted.

The distribution strategy is based on the principles of fair trade, logistics sustainability and traceability, ensuring consistency between the values of the product and its presence in the market.

3.2.4 *Promotion*

The promotion of the distillate of maguey pulquero (*Agave salmiana*) is aimed at strengthening the brand's positioning through communication that highlights its origin, authenticity and environmental commitment. It seeks to connect emotionally with the consumer and build a community around the culture of the maguey and artisanal production.

The main promotional strategies include:

- Brand management and brand narrative through the construction of a visual and conceptual identity based on the territory, history and values of the producing community.
- Digital marketing by carrying out campaigns on social networks, audiovisual content on the distillation process, segmented advertising and e-mail marketing for consumers interested in artisanal and sustainable products.
- Public relations and partnerships in collaboration with chefs, sommeliers and spirits experts to promote tastings, pairings and recommendations.
- Fairs and specialized events with participation in national and international exhibitions of spirits, gastronomy and sustainability.
- Experiential tourism through the integration of educational and cultural activities (guided tours, workshops and tastings) that strengthen the connection between consumer and product.
- Implement social responsibility through campaigns that promote responsible consumption, the preservation of the maguey and the development of producing communities.

Promotion is conceived as a comprehensive communication strategy that not only seeks to sell a product, but also to convey a purpose, generating symbolic and emotional value in the consumer.

The development of the 4Ps of the marketing mix applied to the distillate of maguey pulquero (*Agave salmiana*) demonstrates that the strategic integration between the product, price, distribution and promotion is essential to achieve successful commercialization. Each component plays a specific role in value creation: the product communicates authenticity, the price reflects its quality and sustainability, the plaza ensures responsible market access, and promotion builds a strong cultural narrative.

The product stands out for its authenticity and commitment to sustainability; the price reflects its cultural and ecological value; distribution ensures responsible access and selective presence; and promotion builds a brand with identity, coherence and international projection.

Together, these strategies position the distillate as an emblematic product of Mexican culture, capable of generating local economic development, preserving the heritage of the agave and consolidating itself within the segment of superior artisanal spirits at a global level.

3.3 Synergy between the Canvas model and the marketing mix: methodology applied to the distillate of maguey pulquero (Agave salmiana)

Building a solid business strategy requires integrating tools that allow analyzing both the internal structure of the business model and the tactical actions of the market. In this sense, the combination between the Canvas model and the marketing mix (4P) generates a methodological synergy that facilitates the planning, management and execution of strategies aimed at the commercialization of the distillate of maguey pulquero (Agave salmiana).

While the Canvas model offers a structural vision of the business, identifying the value proposition, key resources, alliances, channels and customer segments, the marketing mix translates these elements into concrete actions on the product, price, distribution and promotion. The interrelationship between both models allows innovation, sustainability and cultural identity to be articulated in a comprehensive strategy that strengthens the competitiveness of the distillate within the craft spirits market.

The synergy between the Canvas model and the 4Ps is expressed in the way in which the strategic components of the Canvas underpin the operational decisions of the marketing mix. Each block of the business model translates directly into product, price, place or promotion actions, creating coherence between business planning and commercial implementation.

In this way, the Canvas provides the conceptual framework that organizes internal resources and processes, while the marketing mix translates that structure into tactical strategies, aligned with the positioning and growth objectives of the distillate.

Market Strategies for Maguey Pulquero Distillate

The synergy between both models is materialized in a comprehensive marketing strategy that combines identity, sustainability and competitiveness:

1. For strategic product synergy, the Canvas model defines a value proposition based on artisanal authenticity and agave conservation; The marketing mix translates this into tangible attributes of the product (design, certifications, cultural narrative).
2. Through strategic price synergy, the Canvas's cost structure and revenue streams support premium pricing that reflects cultural and ecological value.
3. The strategic synergy of the market in the channels identified in the Canvas are: direct sales, tourism, e-commerce; they are operationalized in sustainable logistics strategies.
4. With the Strategic Promotion Synergy, relationships with customers and key partners become communicative actions (events, tastings, digital marketing) that strengthen the positioning of the distillate.

The complementarity between both models ensures that the tactical decisions of the marketing mix are based on a coherent business structure, avoiding the dispersion of efforts and enhancing commercial effectiveness.

Therefore, the synergy between the Canvas model and the marketing mix applied to the Maguey Pulquero Distillate (Agave salmiana) constitutes a comprehensive methodology that combines strategic planning with the operational execution of marketing. The Canvas provides the conceptual structure of the business model, while the 4P's translate that vision into concrete commercial strategies that ensure coherence, positioning and sustainability.

Table 2. Synergy between the Canvas Model and the marketing mix for maguey distillate

Canvas Model	Marketing mix				Strategic synergy
	(The 4P's)				
	Product	Price	Square	Promotion	
Value proposition	X				Value proposition Distinguishable attributes of the distillate (artisanal quality, sustainability, origin and culture), which become the central axis of the product strategy.
Customer segment		X		X	Establish pricing strategies by segment (premium, tourist, organic) and design communication messages adapted to the values of each target audience.
Distribution channels			X		It guides the selection of channels (digital, tourism and gourmet) to guarantee the availability of the product and its coherence with the values of the business model.
Customer Relations				X	It determines the forms of interaction with the consumer (events, tastings, cultural experiences), strengthening loyalty and the perception of brand value.
Key Re-sources	X			X	It establishes the human, natural and cultural resources that support the authenticity of the product and nurture the brand narrative used in communication.
Key activities			X	X	They include artisanal production, sustainable logistics and marketing management, articulated to ensure operational efficiency and commercial coherence.
Key Partners			X	X	Define alliances with cooperatives, universities and distributors strengthen the marketing network and expand the reach of the product in new markets.
Cost Structure		X			It establishes sustainable prices that reflect both the added value and the profitability of the artisanal model.
Sources of income	X	X			It relates direct sales, exports, and experiential tourism as diversified ways of generating income.

Source: Prepared based on components of the Canvas model and the 4Ps of the marketing mix.

This integration strengthens the competitiveness of the distillate by aligning its values, authenticity, sustainability and tradition with the demands of the contemporary market, promoting a development model that balances economic value with cultural and environmental commitment.

3.4 Canvas model application for the commercialization of honey by-product of maguey pulquero (*Agave salmiana*)

Next, the Canvas model is presented as a 9-quadrant visual tool for the business model of honey as a by-product of the maguey, in a structured way, which facilitates the value proposition, clarifies the customer segment and the relationship between them, as well as the key resources, key activities, and shows what the costs and revenues of a product or service will be.

3.4.1 Key Partners

The main key partners that contribute to the value proposition of this research are the following:

- The producer, who is in charge of the maguey production process
- The tlachiquero who is the person who extracts the mead from the maguey
- The government is the one that provides technical and economic support to producers.
- Universities that are linked to the productive sector to have an exchange of technical and academic knowledge.
- Local associations that allow healthy competition between producers of the same product.

Table 3. Tie of the Canvas model and the 4Ps of marketing for maguey pulquero distillate.

The 4P of Marketing	Canvas Model Blocks	Relationship/Explanation
Product	- Value proposition - Customer segment	Value proposition based on artisanal authenticity and agave conservation; handling tangible attributes of the product (design, certifications, cultural dissemination).
Price	- Cost Structure - Sources of income	The structure supports the pricing as well as the range in the premium (ancestral) product, which reflect cultural and ecological value.
Square	- Channels - Sources of income	It is reached to the customer through direct sales, tourism, e-commerce, applying sustainable logistics strategies by operationalizing distribution strategies.
Promotion	- Customer Relations - Channels	The communicative interaction with customers is based on actions such as: events, tastings, digital marketing, which strengthens the positioning of the distillate.

Source: Prepared based on the structure provided through the Software platform.(Microsoft, 2025)

Figure 4. Canvas model for the commercialization of maguey by-product honey

Key Partners • Agave producers • Tlachiqueros • Environmental NGOs • Local Government • Universities	Key activities • Artisanal production • Sales in self-service stores • Sale in fairgrounds Key Resources • Maguey mead from the region • Ancestral knowledge of elaboration	Value proposition Artisanal agave by-product honey in sterilized plastic bottle.	Customer Relations • Communities of different age groups • Diabetic people • Tourists • Social Media Channels • One-level indirect channel • Small industrial-consumer	Customer segments • Local consumer from Coatepec and surrounding areas										
Cost Structure <table><tr><td>Variable Cost</td><td>Fixed Cost</td></tr><tr><td>• Labor extraction</td><td>Honey</td></tr><tr><td>• Inputs</td><td></td></tr><tr><td>• Tags</td><td></td></tr><tr><td>• Packaging</td><td></td></tr></table>		Variable Cost	Fixed Cost	• Labor extraction	Honey	• Inputs		• Tags		• Packaging		Sources of income • Retail in self-service stores and fairgrounds		
Variable Cost	Fixed Cost													
• Labor extraction	Honey													
• Inputs														
• Tags														
• Packaging														

Source: Prepared with information from the components of the Canvas model, 2008.

- The environmental associations that regulate that there is no ecological damage.

3.4.2 Key Activities

These comprise the productive and market support of the product.

- Artisanal production of the product, since it is extracted by methods still of ancestral heritage.
- Sales in self-service stores and distribution in fairgrounds allow small entrepreneurs to have their product presence, quality and visibility.

3.4.3 Key Resources

The main key resources for the marketing of agave honey are:

The mead that is produced and extracted in the locality, as well as the ancestral knowledge of the elaboration process, which gives it the added value of being handmade.

3.4.4 *Value proposition*

The value proposition of this product lies in the fact that honey is a by-product of *Agave salmiana*, handmade in a sterilized plastic bottle.

3.4.5 *Customer Relationship*

The clients viewed for the commercialization of honey are projected to communities of different age groups, among which may be:

- Tourists
- People looking for wellness alternatives
- Local and regional consumers

3.4.6 *Distribution channels*

For the distribution of *Agave salmiana* honey, it will be carried out through an indirect marketing channel of one level, where they participate

-Producer -Small industrial-Consumer

3.4.7 *Customer segment*

The customer segment is made up of the local consumer of Coatepec and the regional consumer of Ixtapaluca and the State of Mexico.

3.4.8 *Cost Structure*

It is composed of variable costs that are directly related to the production of a product or service and fixed costs that are necessary for the production of the product, they are:

- Labor
- Inputs
- Labels and packaging
- Fixed costs: The artisan house where the honey is extracted for later sale.

3.4.9 *Sources of income*

The main sources of income considered are artisanal sales in self-service stores and fairgrounds. Obtaining a profitability of the product under investigation.

Marketing Strategy

The Canvas model of the production and commercialization of agave honey represents honey as a product that MSMEs in Coatepec, Ixtapaluca, can have a profit margin higher than their extraction costs. Highlighting that it is a unique product in the region of artisanal type which sustains its attractiveness that it is an alternative product for people who seek to consume products of natural origin, packaged in a recyclable container that can be reused once sterilized. The closeness of its key partners represents an opportunity for bonding between them, which brings economic and social development to the community of Coatepec. Marketing channels without intermediaries allow local and neighboring consumers to obtain a quality product at a low cost. Finally, given the ease of production of the product, it does not bring with it environmental damage that could harm the population of the town.

3.5 4P application for the commercialization of artisanal honey a product of (*Agave salmiana*)

3.5.1 Product

Artisanal honey by-product of maguey of the salmian species; obtained from the application of an ancestral process starting with mead as the base of the product. Honey is a product suitable for human consumption, which is attributed properties such as low glycemic index, contains antioxidants, is low in caloric value, is rich in nutrients and has digestive benefits.

Its sales strategy is focused on publicizing the artisanal production process of the product, its nutritional properties and its quality suitable for human consumption.

3.5.2 Price

The optimal price range is in the range of \$100–130 pesos per 250 ml bottle. Which is established as a starting point for local marketing. There is a small portion of the population that for its added nutritional value would be willing to pay up to \$150 pesos, since it is a natural product with cultural origin.

A dual market strategy is proposed, setting the base price at \$120 pesos for the general market and making a premium presentation (with differentiated packaging) at a cost of \$150 pesos for more specialized consumers. Likewise, brochures can be made to publicize the nutritional value of honey and stagger prices and presentations for weekly, biweekly or monthly users.

3.5.3 Square

The honey marketing channel follows an indirect channel of one level, since only the producer of the maguey intervenes, the small industrializer who is generally the merchant of the product to the consumer, there are no intermediaries which generates a low price of the product. Guaranteeing a natural, artisanal and traditional marketing channel.

The strategic market axis can contemplate community channels: fairs, local markets, health food stores, which allow building relationships of trust between producers and consumers. Carrying out participatory marketing networks.

Likewise, there is the opportunity of an unexplored market channel that is the digital way, which can be established as a future market strategy, to make the product more visible and reach potential consumers such as young people who use social networks, etc.

3.5.4 Promotion

Currently, the only advertising carried out is by word of mouth from honey consumers and who recommend it among themselves.

The sales strategy, cultural narrative, stories of entrepreneurs who produce the product, making traditional recipes known and highlighting their nutritional properties are recommended. This can strengthen an emotional connection with the consumer. Another strategy, which has not been explored, is to educate about the value of maguey honey as a sustainable and heritage-based product, which opens the door to collaborations with schools, local fairs, and even educational social networks.

3.6 Synergy between the Canvas model and the marketing mix in artisanal honey by-product of the maguey (*Agave salmiana*).

By creating the synergy between the Canvas model and the marketing mix, companies can carry out strategies that are not only of internal origin but can also be extrapolated to the external environment. Such is the case study of artisanal agave honey, which can be represented by the following figure:

The reliability of the applied instrument was validated with Cronbach's Alpha coefficient that evaluates the internal consistency of an instrument. An acceptable value should be between 0.7 and 0.9, . In this research, a value of 0.729 was obtained by means of the free statistical software Jamovi,

Table 4. Synergy of Canvas model and the 4Ps of marketing for artisanal agave honey

The 4P of market- ing mix	Canvas Model Blocks	Relationship/Explanation
Product	- Value proposition - Customer segment	Value proposition based on its natural, artisanal origin with nutritional properties aimed at local consumers and those of the surrounding areas.
Price	- Cost Structure - Sources of income	Price accessible to the consumer set at \$120 pesos for the 250 ml container, with the option of differentiating the price according to the consumer and the type of container offered. Opportunity for MSMEs of a constant source of income with little investment and high profitability.
Square	- Channels - Sources of income	The channel is indirect with only one level since only the producer-small industrializer intervenes, which is the marketer and the consumer. By cutting down intermediaries, generating a higher level of profitability.
Promotion	- Customer Relations - Channels	The relationship with customers is in self-service stores, and fairgrounds. This brings visibility to the product.

Source: Prepared with structure provided through the software platform.(Microsoft, 2025)

(Roco-Videla, 2024)which indicates that it has an acceptable reliability, since it exceeds the minimum threshold of 0.70 established by the methodological literature for exploratory and social studies.

Figure 5. Instrument reliability

Scale Reliability Statistics	
Cronbach's alpha	
Scale	0.729

Source: Retrieved from, (Love, 2017).

3.7 Discussion

The cultivation of the maguey plant has great economic and social importance for the population of Coatepec, and surrounding communities, since different by-products can be extracted from the maguey, including: pulque, pulque distillate, artisanal honey, making pulque-flavored popsicles, pulque bread, pulque cake, tamale leaves, among others.

Various studies have been carried out on the maguey for pulque, such as: the revaluation of pulque by the XOCHICUAHUITL working group, which considers it of utmost importance to generate a business model that allows improving the conditions of insertion into the market of pulque maguey by-products, focusing on the creation of a new product that was the pulque-flavored ice popsicle. Coinciding with this research in that there are short marketing circuits, likewise, production is carried out in rural production units, (Fernández Galicia Y. V., 2018)

On the other hand, the by-products of the maguey represent a high profitability because they are artisanal products that have a unique value chain since the producers are the marketers and the industrializers so they do not incur high transaction costs and have short marketing channels, which gives the inhabitants of Coatepec the incentive to enter the production of the maguey and wait for the time to The production of the maguey estimated between 8-10 years, in accordance with what is established by (Fernández Galicia Y. V., 2025).

4. Conclusions

The synergy between the CANVA and 4P business model establishes an artisanal and sustainable value proposition of the by-products: honey and distillate, which allows aligning the supply with the market demand, positioning the by-products as superior ancestral products that combine tradition, authenticity and environmental responsibility.

The collaboration between local producers, universities, cooperatives and environmental organizations, together with a diversified marketing strategy that includes physical and digital channels and tourism experiences, strengthens the economic, social and environmental sustainability of the studio, which contributes to the consolidation of the distillate as a cultural symbol and an engine of inclusive and sustainable rural development.

The honey of maguey pulquero (*Agave salmiana*) represents an underutilized resource with high economic, social and ecological potential in Coatepec, Ixtapaluca since it is only sold locally. Its commercial impulse can transform local productive dynamics and promote sustainable development. The responsible use of this honey contributes not only to the economic income of the producing families, but also to the rescue of traditional practices, the strengthening of rural identity and community roots, thus generating a positive impact on the social fabric.

The link between producers, local authorities, academic institutions and consumers is key to consolidating an effective, ethical and long-term marketing model, capable of positioning maguey pulquero honey as an emblematic product of the State of Mexico. In general, the comprehensive promotion of this resource can become a catalyst for economic and social development in Coatepec, Ixtapaluca, setting precedents that can be replicated in other regions with an agave vocation.

Contribución del autor

María Eugenia Estrada Chavira: Investigation, conceptualization, validation, visualization, writing—original draft, revision and edition. **María Juana Hernández Flores:** conceptualization, methodology, visualization, revision. **Eduardo Nieves Alegre:** Investigation, conceptualization, validation, visualization, writing—original draft, revision and edition.

Funding

Self-financing.

Conflict of interest

Authors declare that they have no conflict of interest.

Acknowledgments

Thanks are given to the authorities of the Tecnológico de Estudios Superiores de Ixtapaluca, as well as to the producers who are members of the Association of Producers of Maguey Pulquero, its Derivatives and Peasants of the Eastern Zone (A.P.M.P.C.A.C.).

References

- Fernández Galicia, Y. V. (2018) Revalorización del pulque: Análisis del grupo de trabajo Xochicuauhtl. *ResearchGate*. https://www.researchgate.net/publication/326655356_Revalorizacion_del_pulque_Analisis_del_grupo_de_trabajo_Xochicuauhtl
- Fernández Galicia, Y. V. (2025) El pulque: una perspectiva desde los agronegocios. *Revista mexicana de ciencias agrícolas*.
- García Puga, Y. (2022) El lienzo de modelo de negocios o modelo Canvas: herramienta para emprendedores. *Revista FAECO SAPIENS*. https://revistas.up.ac.pa/index.php/faeco_sapiens/article/view/3530
- Gobierno de México / Secretaría de Economía (2024) *Mipymes mexicanas: Motor de nuestra economía*. https://www.gob.mx/cms/uploads/attachment/file/923851/20240626_Dosier_MIPYMES_SALIDA_Interactivo_5_.pdf
- Higuera-Orbe, C. L.-B.-V. (2025) *La importancia del maguey pulquero (Agave salmiana) en la alimentación y soberanía alimentaria*. 388274483_La_importancia_del_maguey_pulquero_Agave_salmiana_en_la_alimentacion_y_soberania_alimentaria
- Instituto de Investigación y Capacitación Agropecuaria, Acuícola y Forestal del Estado de México (2024) *Manejo agronómico de maguey pulquero*. <https://icamex.edomex.gob.mx/sites/icamex.edomex.gob.mx/files/files/publicaciones/2024/MANEJO%20AGR%C3%93NOMICO%20DE%20MAGUEY%20PULQUERO%202024.pdf>
- Kotler, P. (2008) Fundamentos de marketing. PEARSON.
- Love, J. D. (2017) *jamovi open statistical software for the desktop and cloud*. <https://www.jamovi.org/>
- Microsoft (2025) *M365 Copilot*. https://m365.cloud.microsoft/chat?FORM=undexpand&fromcode=edge_sidebar&redirectid=60a24e76-65f7-4b0a-a522-bb785041a4f5&auth=2
- Red Universitaria Virtual Internacional (2025) *Marketing mix*. https://campusvirtual.iep.edu.es/recursos/recursos_premium/programa-habilidades/pdf/marketing/pdf4.pdf
- Roco-Videla, A. V.-B.-C. (2024) *Alpha de Cronbach y su intervalo de confianza*. https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S0212-16112024000100033
- Servicio de Información Agroalimentaria y Pesquera (2025) *Avance de siembras y cosechas*. https://nube.agricultura.gob.mx/avance_agricola/
- Universidad del Istmo, Campus Ixtepec, Oaxaca (2017) *Muestreo probabilístico y no probabilístico*. <https://www.gestiopolis.com/wp-content/uploads/2017/02/muestreo-probabilistico-no-probabilistico-guadalupe.pdf>