



## Perception of the Purchasing Process for Cost Reduction in Raspberry Agribusiness in San Quintin

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### ABSTRACT

The purchasing process in raspberry production, a high-value crop, is a determining factor in operating costs and agribusiness competitiveness. This study aimed to determine the perceptions of decision-makers in raspberry-producing companies in the San Quintin Valley regarding the relationship between purchasing process management and cost reduction. An explanatory, mixed-methods, cross-sectional study was conducted, using a structured questionnaire to 17 industry professionals. Nonparametric analysis techniques, specifically Spearman's correlation, were used to evaluate the relationships between key variables such as purchasing organization, prices, quality, purchasing frequency, and perception of final cost. The results showed significant correlations ( $p < 0.05$  and  $p < 0.01$ ), highlighting a strong relationship between purchasing organization and prices paid ( $\rho = 0.852$ ), as well as between the perception of the influence of the purchasing system on the final price and total operating costs ( $\rho = 0.633$ ). This evidence supports the hypothesis that the implementation of structured, planned, and strategic purchasing processes has a positive impact on cost reduction. It is concluded that fostering an organizational culture focused on professionalized purchasing management is essential for the sustainability and profitability of raspberry agribusinesses in the region.

### INTRODUCTION

The San Quintin Valley in Baja California has established itself as one of Mexico's most dynamic agricultural hubs, especially in berry production, where raspberries stand out for their high unit value and growing international demand (USDA, 2025; Vázquez Aguilar, 2023). However, despite potentially profitable margins, many agribusinesses operate under informal systems inherited from family management, where decisionmaking, especially in purchasing, responds to urgency rather than strategic planning (Aguilar & Gómez, 2022).

This informality leads to inefficiencies: overpricing, lack of quality standardization, disruptions in the supply chain, and, ultimately, inflated operating costs that erode profitability (Mercado, 2012). In a context of global competition and tight margins, optimizing each link in the value chain—especially sourcing—becomes a strategic necessity, not an option (Aldas-Manzano & Cervera-Taulet, 2019; Bravo-Ureta & Solís, 2021).

This research is framed within this need. Its purpose is to analyze, from the perspective of key stakeholders, how their perception of their own purchasing process influences—or can influence—cost reduction. The goal is not just to measure costs, but to understand the underlying beliefs, attitudes, and practices that determine how inputs and services are acquired.

This thesis contributes to the field of agribusiness by integrating theories of purchasing management, behavioral economics, and berry-specific value chains, applied to a specific regional context of high economic relevance. The findings seek not only to generate academic knowledge but also to provide practical tools for San Quintin producers to transform their operations, shifting from a reactive approach to proactive and strategic purchasing management.

## THEORETICAL FRAMEWORK

### Agribusiness: Conceptual Evolution and Economic Relevance

The term "agribusiness" was coined by Davis and Goldberg (1957) to describe the systemic integration of all activities related to the production, processing, and distribution of agricultural products. Far from being limited to the farm, agribusiness encompasses everything from input manufacturing to marketing to the final consumer, forming an interconnected value chain.

Correa Assmus (2017) expands on this concept, emphasizing its role in food security and capital formation in rural communities. More recently, Morales-Zamorano et al. (2024) define it as "any type of exchange of value with agricultural products, byproducts, and derivatives... carried out along the value chain to meet market needs in a sustainable manner." This contemporary definition is crucial for this study, as it positions agribusiness not as an isolated activity, but as a complex system where efficiency in one link—such as purchasing—impacts the entire chain.

In Baja California, the primary sector generated a production value of 14.6 billion pesos in 2021, of which 28.3% (4.131 billion) came from berries, demonstrating its strategic economic importance (Vázquez Aguilar, 2023).

### The Berry Value Chain in Mexico and San Quintin

Berries (strawberry, raspberry, blackberry, and blueberry) represent one of the fastest-growing agricultural segments in Mexico. National raspberry production is forecast to reach 219,000 metric tons in 2025, a 7% increase compared to 2024 (USDA, 2025). This expansion is due to factors such as efficient water management, the adoption of technology (macro tunnels cover 70.7% of the area), and the comparative advantage of the harvest season, which complements the US supply (USDA, 2025).

San Quintin plays a key role in this chain. Its production season (August-October) fills a gap in the North American market, allowing for a nearly continuous supply throughout the year. With a potential 17% of national production, the region contributes approximately 37,000 tons annually (SIAP, 2025).

However, the competitiveness of this chain does not depend solely on field production. As Barrientos and Smith (2019) point out, cost pressures in global berry chains demand efficiencies throughout the logistics chain, where supply and transportation costs can represent up to 35% of the product's final value (MoralesZamorano et al., 2024). Therefore, optimizing the purchasing process—from supplier selection to price and terms negotiation—is a critical success factor.

### Purchasing Management in the Agricultural Sector

The purchasing function has evolved from a purely transactional activity to a strategic pillar of business management. Mercado (2012) defines it as "acquiring goods and services of the right quality, at the right price, and from the most appropriate supplier." Palacios & Rodríguez (2021) reinforce this idea with the commercial axiom: "Whoever buys well, sells well."

In the agricultural context, purchasing management faces unique challenges: seasonality, useful life of inputs, price volatility, and dependence on weather factors. An effective purchasing system must, therefore, be proactive, flexible, and data-driven. As Aguilar and Gómez (2022) point out, in northern Mexico, companies that have adopted strategic purchasing report improvements in input quality, reduced logistics costs, and greater negotiating power with suppliers.

The stages of the administrative process—planning, organization, direction, and control (Mendoza and Mendoza, 2019)—are perfectly applicable to the purchasing function. Planning involves anticipating needs and budgets; organization involves defining roles and approval flows; direction involves executing purchases and managing relationships with suppliers; and control involves monitoring performance and costs (Ponce et al., 2021).

### Cost Reduction Strategies in Agribusiness

Cost reduction in agriculture is no longer limited to cutting expenses, but rather to optimizing resources and processes to generate more value with less investment. Rivera Rodríguez et al. (2022) argue that in the era of globalization and sustainability, cost management is a cross-cutting skill, applicable from healthcare to agriculture.

- ✓ Centralized or collaborative purchasing: Small producers can group together to achieve economies of scale and better conditions (Castillo & Díaz, 2019; Juárez & Torres, 2019).
- ✓ Data-driven negotiation: Use historical price and quality information to strengthen the negotiating position (Gallardo & Thompson, 2022).
- ✓ Supplier diversification: Reduce dependence on a single supplier to mitigate risks and foster competition (Delgado & Muñoz, 2023).
- ✓ Technology adoption: Digital platforms to compare prices, manage inventories, and automate orders (Fernández & García, 2023; Zepeda & Contreras, 2022).
- ✓ Just-in-time (JIT) inventory management: Minimize storage costs and losses, especially in perishable inputs (Cortés & Ruiz, 2022).

### Key strategies identified in the literature include:

As De Paredes (2017) points out, cost should be viewed as a management tool, not an accounting metric.

An organizational culture that understands this is fundamental to the sustainability of agribusiness.

## Buyer Perception: A Behavioral Approach to Agricultural Decision-Making

Perception is a psychological construct that directly influences behavior. In the purchasing field, the buyer's perception of the importance of quality, price, the supplier, or the process itself will determine their decisions and, consequently, their economic results.

Baeza and Silva (2020) demonstrate that farmers often make purchasing decisions based on risk perception rather than rational cost-benefit analysis. For example, they may pay a premium for an input from a "reliable" supplier to avoid the risk of a poor harvest.

Ibarra and Ramírez (2022) apply behavioral economics to agriculture, showing that cognitive biases such as loss aversion or overreliance on past experience can lead to suboptimal decisions. Similarly, Contreras and Paredes (2021) find that producers perceive a trade-off between quality and price, but often underestimate the long-term impact of lower quality on total costs (e.g., lower yield or greater application requirements).

In the case of San Quintin, understanding this perception is key. If producers do not perceive the purchasing process as strategic, no tool or policy will be effective. As Carmona and Acosta (2023) point out, changing behaviors first requires changing beliefs. This study focuses precisely on measuring these beliefs to lay the groundwork for an effective intervention.

## PROBLEM STATEMENT

Despite the high economic value of raspberries and the growing professionalization of the sector in San Quintin, a significant gap persists in purchasing management. Many companies, even large ones, operate with informal, reactive processes centralized by the owner or general manager. This informality translates into:

Purchases are made based on urgency, not planning, leading to overpricing.

- Lack of systematic supplier evaluation, affecting quality consistency.
- Absence of clear negotiation, credit, or discount policies.
- Difficulty measuring the real impact of purchasing decisions on profitability.

This problem is exacerbated by a deep-rooted perception: many decision-makers do not view the purchasing function as a strategic area, but rather as an operational and secondary activity. This perception limits investment in systems, training, and specialized personnel, perpetuating a vicious cycle of inefficiency and high costs.

The central question guiding this research is: *How do decision-makers in San Quintin raspberry agribusinesses perceive the relationship between managing their purchasing process and reducing operating costs?*

## RESEARCH QUESTIONS

General: Can production costs be reduced by improving the purchasing and payment process for services?

Q1: Can implementing a structured input purchasing process reduce production costs?

Q2: Can implementing a structured payment process for services reduce production costs?

## OBJECTIVES

General Objective: To determine the perceptions of decision-makers in raspberry agribusinesses in San Quintin regarding the relationship between improving the purchasing process and reducing production costs.

Specific Objective 1: To quantify perceptions of the impact of an input purchasing process on production costs.

Specific Objective 2: To estimate perceptions of the impact of a contracting and payment process for services on production costs.

## JUSTIFICATION

The justification for this study is both theoretical and practical.

Theoretically, it contributes to filling a gap in the literature. As noted, there are no previous studies that comprehensively address perceptions of the purchasing process, cost reduction, and specific raspberry cultivation in San Quintin. This work provides local empirical evidence that enriches the theoretical frameworks of agricultural purchasing management and behavioral economics applied to agriculture.

Practically, the results are immediately useful for producers in the region. By identifying which aspects of the purchasing process are perceived as most influential on costs (e.g., organization or price), targeted interventions can be designed. For example, if organization is confirmed to be the factor most correlated with cost reduction, a training program in purchasing planning and inventory management could be developed.

Furthermore, given that the berry sector is a key economic driver for Baja California, any improvement in its efficiency has a multiplier impact on the regional economy, generating employment, attracting investment, and strengthening the trade balance.

## HYPOTHESIS

Null hypothesis (H0): There is no significant relationship between the perception of an improved purchasing process and reduced production costs.

Working hypothesis (H1): There is a significant relationship between the perception of an improved purchasing process and reduced production costs.

Specific hypothesis 1 (HP1): Improvements in the input purchasing process are significantly related to the perception of reduced production costs.

Specific hypothesis 2 (HP2): Improvements in the payment process for services are significantly related to the perception of reduced production costs.

## METHODOLOGY

### Type of Research

An explanatory study was conducted using a mixed-methods approach (although with a quantitative emphasis in this phase) and a cross-sectional design. The objective was to establish cause-and-effect relationships (or at least strong correlations) between variables, based on the perceptions of the stakeholders.

### Population and Sample

The target population consisted of decision-makers (owners, managers, administrators, purchasing managers) in raspberry-producing companies in the San Quintin Valley. A non-probability convenience sampling method was used, contacting 17 professionals who met the profile and agreed to participate.

There was no segmentation by company size, seeking a general overview of the sector.

### Data Collection Instrument

A structured questionnaire was designed using Google Forms, consisting of:

6 Demographic Questions: Gender, age, position, experience in the position, and years of operation of the company.

17 closed-ended perception questions: 5-point Likert scale (1 = Very important, 5 = Not important at all) on key aspects of the purchasing process (price, quality, organization, suppliers, frequency, etc.).

Content validity was reviewed by agribusiness experts. Instrument reliability was measured using Cronbach's alpha coefficient, yielding a value of 0.89, indicating high internal consistency.

### Data Analysis

The data were analyzed using IBM SPSS Statistics v.28 software. Since the variables are ordinal (Likert scale) and the sample size is small ( $n=17$ ), nonparametric techniques were chosen.

Descriptive statistics: Frequencies and percentages were used to characterize the sample and overall perceptions.

Spearman's rank correlation coefficient ( $\rho$ ): Used to measure the strength and direction of the relationship between perception variables (e.g., "purchasing organization" vs. "perception of final cost").

Significance levels were set at 95% ( $p < 0.05$ ) and 99% ( $p < 0.01$ ).

## RESULTS

### Sample Characterization:

- ✓ Gender: 82% male, 18% female.
- ✓ Age: 65% between 36 and 50 years old.
- ✓ Position: 47% owners, 29% managers, 18% administrators, 6% other.
- ✓ Experience in the position: 53% with more than 7 years of experience.
- ✓ Company age: 41% with more than 10 years in operation.

### Key Perceptions (Descriptive Statistics)

- ✓ 94% of respondents considered the organization of their purchases "Very important" or "Important." ✓ 100% considered the price of supplies "Very important" or "Important" in their purchasing decisions.
- ✓ 88% considered the quality of the products purchased "Very important."
- ✓ 82% believe that implementing a formal purchasing system has a "Significant" or "Considerable" influence on the final price of products and services.
- ✓ 76% perceive that the quantities purchased have a "High" or "Medium-High" impact on their final operating costs.

### Spearman's Rank Correlation Analysis

The most relevant results are presented in Table 1 (see table 1).

Table 1. Most significant Spearman's rank correlation coefficients

VARIABLE A	VARIABLE B	COEFFICIENT $\rho$	SIG. (Two-Way)	INTERPRETATION
Product purchasing organization	Price paid for products	0.852	0.001	Very strong positive correlation and significant at the 99% level
Product purchasing organization	Frequency of service purchases	0.834	0.001	Influence of the purchasing system on final price
Influence of the purchasing system on final price	Final operating cost	0.633	0.015	Moderate positive correlation and significant at the 95% level
Quality of purchased products	Final operating cost	0.587	0.022	Moderate positive correlation and significant at the 95% level
Importance of suppliers	Final operating cost	0.525	0.038	Moderate positive correlation and significant at the 95% level

Source: Prepared by the author based on SPSS (2025).

#### Interpretation:

- There is a very strong and highly significant relationship between having an organized purchasing process and paying better prices. This suggests that planning and structure allow companies to negotiate from a position of strength.
- There is also a very strong correlation between purchasing organization and the frequency with which services are acquired, which could indicate that better management allows for greater operational agility and adaptability.
- The perception that a purchasing system influences the final price is moderately correlated with the perception of the final operating cost. This validates the central hypothesis: respondents do believe that improving purchasing reduces costs.
- Quality and supplier management also show significant positive correlations with the final cost, reinforcing the idea that strategic purchasing considers multiple dimensions, not just price.

## DISCUSSION

The results of this study strongly support the reviewed literature. The strong correlation between “purchasing organization” and “price paid” ( $\rho = 0.852$ ) confirms the findings of Mercado (2012) and Palacios and Rodríguez (2021): buying well, in a planned and strategic manner, allows for obtaining better conditions. It is not about haggling, but about having clarity regarding needs, timelines, and alternatives, which strengthens the negotiating position.

The correlation between the perceived influence of the purchasing system and the final cost ( $\rho = 0.633$ ) is particularly relevant. It demonstrates that producers *are indeed aware* of the strategic impact of this function. This is a valuable finding, as it suggests that the main obstacle to improvement is not a lack of awareness, but rather a lack of tools, training, or willingness to change entrenched processes.

This finding aligns with the studies by Carmona and Acosta (2023) and Ibarra and Ramírez (2022), who argue that, in the agricultural sector, behavioral change is possible when there is a clear perception of the benefit. In this case, the producers perceive the benefit (cost reduction), which opens a window of opportunity for training and consulting interventions.

Furthermore, the fact that “quality” and “supplier management” are also correlated with the final cost reinforces a modern purchasing principle: the total cost of ownership (TCO). As Gallardo and Thompson (2022) point out, a cheaper input can be more expensive in the long run if its quality is inferior and reduces crop yield. The producers in San Quintin seem to understand this intuitively.

Finally, the high level of experience of the respondents (more than half with 7+ years in their position) suggests that these perceptions are not naive, but rather the result of years of experience in the field. This lends even more weight to the findings.

## CONCLUSIONS AND RECOMMENDATIONS

### CONCLUSIONS

1. There is a significant and positive relationship between the perception of an improved purchasing process (especially in its organizational dimension) and the perception of reduced operating costs in raspberry agribusinesses in San Quintin.
2. Decision-makers recognize the strategic importance of purchasing. They perceive those aspects such as organization, price, quality, and supplier management directly impact their profitability.
3. The organization of the purchasing process is the factor most strongly correlated with achieving better prices, making it the ideal starting point for any cost-reduction strategy.
4. Stakeholder perception is a valuable asset. Given that there is already an awareness of the problem and the potential solution, the barriers to implementing improvements are more operational (lack of tools, time, training) than cultural.



## RECOMMENDATIONS

For Agribusinesses:

1. Implement a basic purchasing management system: Start with an annual procurement plan, a list of qualified suppliers, and a standardized purchase order form.
2. Train staff: Offer practical workshops on negotiation, supplier evaluation, and total cost of ownership calculation.
3. Encourage collaboration: Explore the possibility of making joint purchases with other producers to obtain better prices and terms.

For Academia:

1. Develop extension programs: Create a “Purchasing Management Consulting Center for Agribusinesses” that offers diagnostics and support to companies in the region.
2. Incorporate the topic into the curriculum: Include mandatory modules on strategic purchasing management in the Master's program in Agribusiness and other related degrees.
3. Expand the research: Conduct a longitudinal study that measures the actual impact (not just the perception) of implementing a purchasing system on the profitability of a sample of companies.

For the Government and Associations:

1. Promote supplier clusters: Facilitate the creation of regional directories of certified agricultural input suppliers.
2. Offer tax incentives: For companies that implement certified management systems (such as ISO or basic ERP systems).
3. Fund improvement projects: Through competitive grant programs for modernizing administrative management in the agri-food sector.

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