

A QUALITY MODEL FOR CHICHACORN INDUSTRY IN CANDON CITY, ILOCOS SUR

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Abstract

This study assessed the operational efficiency, production and marketing management practices, and service quality of the chichacorn industry in Candon City, Ilocos Sur, with the goal of formulating a quality improvement model. Using a descriptive-comparative research design, data were gathered from industry owners, workers, sellers, and customers through validated survey instruments. Results showed that the overall extent of resource efficiency, production practices, marketing strategies, and service quality were rated as very high by all stakeholder groups. T-test analyses revealed no significant differences in perceptions between owners and workers or sellers and customers, except for service quality, where customers expressed significantly higher satisfaction levels. Based on these findings, a quality model integrating Deming's PDCA cycle was proposed, focusing on continuous improvement across resource management, production, marketing, and customer service. The model also considers external factors such as policy, market trends, and natural disruptions. The study highlights the industry's strengths and offers a strategic framework for sustained competitiveness and quality enhancement.

INTRODUCTION

Corn remains a crucial agricultural commodity globally, playing a vital role in food security, economic development, and agro-industrial production. In the Philippines, corn is second only to rice as a staple crop and is cultivated in various forms, including sweet corn, wild violet corn, white lagkitan, Visayan white corn, and purple corn. A significant portion of corn production is processed for both domestic consumption and export, such as maize seeds and frozen sweet corn (Balita, 2023). Among its many uses, corn is the primary ingredient in *chichacorn*, a popular Ilocano snack that merges the concepts of *chicharon* and *cornnick*, combining fried texture with savory flavoring (DAR, 2021; Nortegastronomy, 2017). Candon City which is situated in the Second District of Ilocos Sur is a notable hub for chichacorn

production, where the industry contributes to both agricultural and agro-industrial economic activity.

Past research has addressed individual components of the chichacorn industry. Studies by Almachar (2014) and Alon (2018) explored production and quality practices, while others focused on the cultural and familial strategies involved in local enterprises. However, these studies fall short of presenting a holistic quality model for the industry. Specifically, there remains a gap in examining operational management practices, such as resource efficiency, marketing strategies, and customer service quality. Alon (2018) explicitly recommended further research into marketing management practices to better assess the development trajectory of the chichacorn industry in Ilocos Sur.

International studies have likewise emphasized the importance of operational efficiency in corn-based industries. In Ecuador, the modernization of production processes, effective cost control, and resource optimization are recognized as essential for profitability (Miranda et al., 2022). Conversely, in South Africa, the lack of knowledge in irrigated crop production is linked to poor productivity and unmet development goals (Fanadzo, 2010). These global insights underscore the relevance of efficiency and innovation in the corn value chain.

Moreover, marketing remains a vital component of any product-based enterprise. Contemporary models such as the 8 Ps, namely product, price, place, promotion, people, positioning, processes, and performance highlighted the integration of digital and traditional strategies (James, 2021; Mannaa, 2024). Likewise, service quality and customer satisfaction continue to be central to purchase behavior and brand loyalty (Archakova, 2013; Duy, 2021).

This study seeks to fill the identified research gaps by developing a quality model for the chichacorn industry in Candon City, Ilocos Sur. It aims to assess the extent of operational efficiency in terms of resources, marketing practices, and service quality. Specifically, the research evaluates efficiency based on adapted frameworks by Moreno (2001), Alon (2018), and Almachar (2014), and investigates how service quality dimensions such as tangibility, reliability, responsiveness, assurance, and empathy influence product quality and customer satisfaction. By integrating these components into a comprehensive quality model, the study hopes to offer meaningful contributions to both academic discourse and local industry development.

Framework of the Study

This study is anchored in several key theories and models that support the analysis of operational efficiency, production and marketing management, and service quality of the chichacorn industry in Candon City, Ilocos Sur.

Total Quality Management (TQM). The study aligns with the principles of *Total Quality Management (TQM)* which emphasize continuous improvement, customer satisfaction, and involvement of all employees in quality initiatives (Deming, 1986). TQM's foundation in improving organizational processes, reducing waste, and satisfying customers are crucial for small agro-industrial businesses like the chichacorn industry. The use of quality standards and feedback from both internal (owners, workers) and external (customers) stakeholders follows TQM's participative approach.

SERVQUAL Model. Service quality is examined using the *SERVQUAL* model developed by Parasuraman, Zeithaml, and Berry (1988), which identifies five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. These are widely accepted indicators in

measuring service quality in various sectors and are applied here to understand customer satisfaction in the chichacorn industry in Candon City.

8Ps of Marketing Mix. The study uses the expanded marketing mix framework, namely *Product, Price, Place, Promotion, People, Positioning, Processes, and Performance* as outlined by James (2021) and Mannaa (2024). This model is especially relevant in analyzing how micro-enterprises like chichacorn producers adapt traditional marketing principles to evolving consumer demands and digital platforms.

Resource-Based View (RBV). Operational efficiency is studied through the lens of the *Resource-Based View (RBV)* theory, which emphasizes that firm resources whether tangible or intangible are key to gaining competitive advantage (Barney, 1991). By assessing the use of marketing processes, manpower, physical capital, and human resources, the study evaluates how well the chichacorn industry in Candon City leverages its internal entrepreneurial competencies.

Framework on Micro-Enterprise Efficiency. The efficiency dimensions used in this study are adapted from Moreno (2001), who provided a framework to evaluate micro-enterprise performance in terms of inputs (capital, labor) and processes (marketing, production). This localized framework makes it particularly relevant for evaluating the unique dynamics of small food-processing enterprises in the Philippines like chichacorn producers.

Similar studies in agricultural and food industries reinforce the importance of modernizing production and marketing systems to improve profitability and competitiveness (Fanadzo, 2010; Miranda et al., 2022). Meanwhile, Alon (2018) and Almachar (2014) emphasized the need for further research into marketing and operational practices in the chichacorn industry, underscoring the existing research gap this study aims to fill.

Conceptual Framework

The context of this study is grounded on the Input-Process-Output (IPO) model and integrates the principles of Total Quality Management (TQM) illustrated in Figure 1. The study focuses on examining the efficiency of resources, production and marketing management practices, and service quality of the chichacorn industry, considering multiple viewpoints, namely the owners, workers, sellers, and customers. It aims to propose a Quality Model that strengthens the competitiveness and sustainability of the chichacorn industry in Candon City, Ilocos Sur.

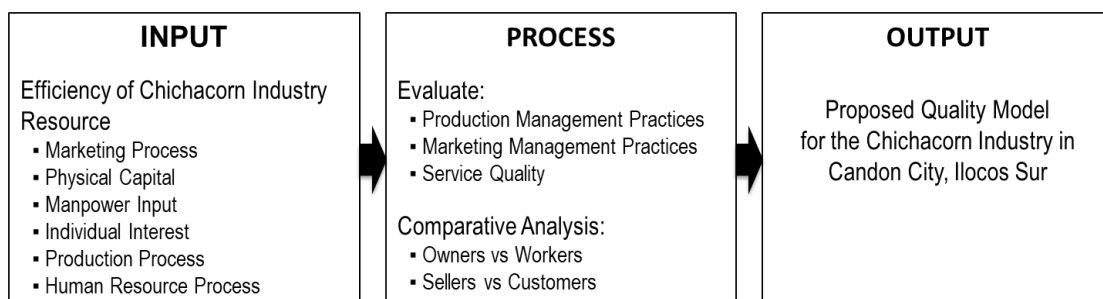


Figure 1. The Research Paradigm

Statement of the Problem

This study investigated the operational management practices and service quality of the chichacorn industry in Candon City, Ilocos Sur as an input in the formulation of a Quality Model. Specifically, it sought to answer the following questions:

1. What is the extent of efficiency of the chichacorn industry's resources in Candon City in terms of:
 - a. marketing process,
 - b. physical capital,
 - c. manpower input,
 - d. individual interest,
 - e. production process, and
 - f. human resource process?
 - 1.1. Is there a significant difference in the extent of efficiency of the chichacorn industry's resources as perceived by the owners and workers?
2. What is the level of production management practices of the chichacorn industry as perceived by the owners and workers in terms of:
 - a. production capability,
 - b. purchasing of raw materials,
 - c. quality standard,
 - d. inventory,
 - e. supplies, and
 - f. time management?
 - 2.1. Is there a significant difference in the level of production management practices of the chichacorn industry as perceived by the owners and workers?
3. What is the level of marketing management practices of the chichacorn industry as perceived by the sellers and customers in terms of:
 - a. product,
 - b. price,
 - c. place,
 - d. promotion,
 - e. people,
 - f. positioning,
 - g. processes, and
 - h. performance?
 - 3.1. Is there a significant difference in the level of marketing management practices of the chichacorn industry as perceived by the sellers and customers?
4. What is the level of service quality of the chichacorn industry as perceived by the sellers and customers in terms of:
 - a. tangibles,
 - b. reliability,
 - c. responsiveness,
 - d. assurance, and
 - e. empathy?

- 4.1. Is there a significant difference in the level of service quality as perceived by the sellers and customers?
5. What quality model can be proposed for the chichacorn industry in Candon City, Ilocos Sur?

METHODS

Research Design

This study employed a descriptive-comparative research design to assess the operational management practices and service quality of the chichacorn industry in Candon City, Ilocos Sur. This design is appropriate because it aims to describe current conditions and compare the perceptions of different stakeholders namely owners, workers, sellers, and customers regarding various aspects of production, marketing, and service delivery within the chichacorn industry in Candon City, Ilocos Sur.

The descriptive component of the design was used to capture the extent of efficiency of the chichacorn industry's resources, the level of production and marketing management practices, and the perceived service quality. Descriptive research is commonly used in business and social sciences to systematically present facts and understand prevailing conditions (Creswell & Creswell, 2018).

The comparative component involved determining whether significant differences exist in perceptions between stakeholder groups such as owners vs. workers; and sellers vs. customers. This component is essential for identifying possible gaps in perception and practice that may hinder the industry's quality performance. The use of comparative analysis supports the development of a relevant and evidence-based quality model for the chichacorn industry.

The study integrated both quantitative and qualitative approaches. Quantitative data were gathered through structured survey questionnaires, which allowed for the measurement and statistical comparison of responses. Qualitative insights were also collected through interviews with key industry stakeholders in the development of the proposed quality model for the chichacorn industry in Candon City. The contextual data from the interview supports the proposed quality model. The lived experiences, operational challenges, and innovative suggestions provided by stakeholders ensured the proposed quality model was not only systematic and aligned with the PDCA framework but also grounded in local realities. This approach enhanced the quality model's relevance, acceptability, and potential for successful implementation in Candon City's chichacorn industry.

Overall, this mixed-method approach and descriptive-comparative design provided a comprehensive basis for proposing a practical and context-specific quality model aimed at improving the chichacorn industry's efficiency, competitiveness, and customer satisfaction.

Respondents and Locale of the Study

The respondents of this study involved six owners, 30 workers, 48 sellers, and 300 customers and it was conducted in Candon City, Ilocos Sur.

Research Instrument

A survey checklist instrument was utilized in this study. Part I dealt with the extent of efficiency of the chichacorn industry's resources in terms of the marketing process, physical capital, manpower, individual interest, production process, and human resource process which

is adopted from Moreno (2001). Part II focused on the level of production management practices of the chichacorn industry in Candon City in terms of production capability, purchasing of raw materials, quality standards, inventory, supplies, and time management that is adopted from Alon (2018). Part III measured the level of marketing management practices as perceived by the sellers and customers in terms of product, price, place, promotion, people, positioning, processes, and performance and was adapted from Guitba (2017) and Bugtong (2023). Part IV assessed the level of service quality of the chichacorn industry in terms of tangibles, reliability, responsiveness, assurance, and empathy and was adapted from Joung (2023).

The questionnaire was validated by three experts which include a faculty from the ISPSC-College of Business Management & Entrepreneurship; the Provincial Director of DTI Ilocos Sur; and the President of Pasalubong Center in Candon City. Likewise, the questionnaire was pilot-tested in Vigan City composed of 20 respondents comprised of owners, workers, sellers, and customers with a computed Cronbach alpha of 0.94.

Data Gathering Procedure and Analysis

The researchers sought permission from the Office of the City Mayor for the conduct of the study following a face-to-face distribution of questionnaires to the four groups of respondents as well as follow-up interviews. The mean and t-test for Independent Samples were utilized in the treatment of data.

Ethical Considerations

To ensure adherence to ethical research standards, the researchers secured permission from the City Mayor of Candon City before the conduct of the study. The research instrument was reviewed and evaluated by the adviser, language editor, statistician, and members of the defense panel for clarity, accuracy, and face validity to ensure that respondents could easily comprehend the items. Informed consent was obtained from all participants, who were all of legal age and not part of any vulnerable population. Participation in the study was voluntary, with no form of monetary compensation provided. Confidentiality of the data was strictly maintained, and all information gathered was used solely for academic purposes. Completed questionnaires were stored in a secured, locked location accessible only to the researchers.

RESULTS AND DISCUSSION

Extent of Efficiency of Chichacorn's Resources

Table 1 presents the extent of efficiency of the chichacorn industry's resources as perceived by the owners and workers. The evaluation covered six indicators namely: marketing process, physical capital, manpower input, individual interest, production process, and human resource process.

The findings reveal that both owners ($\bar{x} = 4.61$) and workers ($\bar{x} = 4.53$) perceived the overall efficiency of resources in the chichacorn industry in Candon City, Ilocos Sur to be very high, with a combined grand mean of 4.54. This suggests that the industry is performing well across various operational dimensions, particularly in production and manpower utilization.

Among all indicators, the production process received the highest rating from owners ($\bar{x} = 4.97$) and was also highly rated by workers ($\bar{x} = 4.52$). This affirms the view that production activities are functioning efficiently. Singh, Sharma, and Dahiya (2020) support this finding,

stating that efficient production systems, supported by proper equipment and planning, significantly contribute to sustainability and profitability in small-scale food enterprises.

Table 1. Extent of Efficiency of Chichacorn Industry's Resources in Candon City

INDICATORS	RESPONDENTS				As a Whole	
	Owners		Workers			
	$\bar{x}$	DL	$\bar{x}$	DL	$\bar{x}$	DL
Marketing Process	4.90	VH	4.73	VH	4.76	VH
Physical Capital	4.50	VH	4.33	VH	4.36	VH
Manpower Input	4.67	VH	4.69	VH	4.69	VH
Individual Interest	4.80	VH	4.64	VH	4.67	VH
Production Process	4.97	VH	4.52	VH	4.59	VH
Human Resource Process	3.80	H	4.25	VH	4.18	H
Grand Mean	4.61	VH	4.53	VH	4.54	VH

Legend: 4.91 – 5.00 – Very High (VH) 3.41 – 4.20 – High (H)

The marketing process was also rated very highly, indicating effective strategies in promoting and distributing chichacorn products. This aligns with the view of Kotler and Keller (2016), who emphasized that strategic marketing elements such as product positioning, pricing, and placement can enhance competitive advantage, particularly in niche markets like traditional foods.

In terms of manpower input and individual interest, both groups gave very high ratings. This supports the findings of Austria and Serrano (2018), who noted that motivated, skilled, and committed labor is essential for the success of Philippine small and medium-sized enterprises (SMEs).

However, the human resource process was the lowest-rated indicator by owners ($\bar{x}$ = 3.80, high), while workers still rated it as very high ($\bar{x}$ = 4.25). This slight discrepancy may indicate that while employees perceive HR efforts as supportive, management may recognize the need for improvement in areas like staff development, communication, and performance management. Baron and Armstrong (2021) emphasize that even informal HR systems in small businesses greatly impact motivation, cohesion, and overall productivity.

In conclusion, the industry's strong performance in multiple efficiency areas confirms Porter's (1998) argument that both tangible (e.g., capital, manpower) and intangible resources (e.g., skills, coordination) are crucial in building sustainable competitive advantage at the regional industry level.

Differences in the Extent of Efficiency of Chichacorn Industry's Resources between Owners and Workers

Table 2 shows the result of the t-test conducted to determine whether there is a significant difference in the perceived extent of resource efficiency between owners and workers in the chichacorn industry in Candon City, Ilocos Sur.

The computed mean difference was 0.08, with a p-value of 0.687. Since the p-value is greater than the 0.05 significance level, the null hypothesis is not rejected. This means that there is no statistically significant difference between the perceptions of owners and workers regarding the efficiency of the industry's resources.

Table 2. Result of T-test Analysis in the Extent of Efficiency of Chichacorn Industry's Resources between Owners and Workers

Respondents	Mean Difference	p	Decision	Remarks
Owners	0.08	0.687	Do not Reject H_0	There is no significant difference
Workers				

The closeness in their perceptions implies a shared understanding and alignment between management and labor with respect to the organization's operational strengths. This result is consistent with the findings of Baron and Armstrong (2021), who emphasize that when communication, involvement, and goal-setting are well-coordinated even in microenterprises where employees and owners often exhibit shared perceptions about organizational effectiveness.

Similarly, Austria and Serrano (2018) found that in small and medium-sized enterprises (SMEs), particularly in the Philippines, harmony between employers and workers in evaluating business operations often leads to improved organizational trust and productivity. The minimal mean difference (0.08) in this study reinforces the notion that a collaborative work culture exists within the chichacorn industry, where both groups recognize and appreciate the efficient use of resources.

This agreement also reflects a level of maturity and transparency in local food industries, where roles may overlap and communication tends to be direct and informal. According to Porter (1998), alignment of perceptions between stakeholders can enhance strategic execution by reducing internal conflict and fostering operational coherence.

Therefore, the result of the t-test analysis suggests that both owners and workers have similar assessments of resource efficiency in the chichacorn industry. The absence of a significant difference may indicate positive internal relations, shared goals, and effective communication, which are essential components of sustainable organizational development.

Level of Production Management Practices of Chichacorn Industry

Table 3 shows the assessment of production management practices in the chichacorn industry as perceived by both owners and workers.

Table 3. Level of Production Management Practices of Chichacorn Industry in Candon City

INDICATORS	RESPONDENTS				As a Whole	
	Owners		Workers			
	$\bar{x}$	DL	$\bar{x}$	DL	$\bar{x}$	DL
Product Capability	4.90	VH	4.74	VH	4.77	VH
Purchasing of raw materials	4.47	VH	4.32	VH	4.34	VH
Quality standard	5.00	VH	4.66	VH	4.81	VH
Inventory	4.83	VH	4.61	VH	4.72	VH
Supplies	4.27	VH	4.50	VH	4.40	VH
Time Management	4.97	VH	4.31	VH	4.64	VH
Grand Mean	4.74	VH	4.52	VH	4.61	VH

Legend: 4.91 – 5.00 – Very High (VH)

The overall grand mean score was 4.61 (VH). This suggests that the industry is highly effective in managing its production operations. Among the specific indicators, the quality standard received the highest overall rating ($\bar{x} = 4.81$), with owners rating it at a perfect 5.00. This reflects a strong emphasis on maintaining consistent product quality, which is essential in building customer loyalty and meeting food safety regulations. According to Singh et al. (2020), adherence to quality standards is critical in ensuring long-term viability in small-scale food industries, where customer trust plays a major role in repeat sales and market reputation.

Product capability and time management also received very high ratings, with a grand mean of 4.77 and 4.64, respectively. These findings imply that the industry has a solid production capacity and efficient scheduling practices. Kotler and Keller (2016) emphasize that production capability particularly the ability to produce goods efficiently and on time that is directly affects competitiveness and supply chain responsiveness.

In terms of purchasing raw materials and inventory management, both indicators were rated very high, with grand means of 4.34 and 4.72, respectively. This indicates that the industry has robust systems in place for sourcing and managing inputs. As noted by Chopra and Meindl (2019), effective procurement and inventory control reduce costs, prevent shortages, and improve overall operational flow, particularly in food manufacturing industries.

Interestingly, supplies management received the lowest rating among the indicators ($\bar{x} = 4.40$), although it still falls under the very high category. This may point to minor logistical challenges in ensuring continuous availability of production materials. Baron and Armstrong (2021) argue that supply and resource coordination, even in small enterprises, plays a significant role in avoiding delays and maintaining output quality.

As a whole, both owners ($\bar{x} = 4.74$) and workers ($\bar{x} = 4.52$) gave high evaluations of the industry's production practices, suggesting shared confidence in the efficiency and quality of operations. This consistency in perception also aligns with Austria and Serrano (2018), who found that close collaboration and mutual understanding between management and labor improve overall production performance in Philippine SMEs.

In general, the findings demonstrate that the chichacorn industry in Candon City exhibits very high levels of production management practices, especially in terms of quality assurance, production capacity, and inventory control. The alignment in owner and worker perceptions reflects effective internal communication and operational discipline. Continued focus on supply management and raw material procurement can further enhance production sustainability and output consistency.

Differences in the Level of Production Management Practices of the Chichacorn Industry between Owners and Workers

Table 4 displays the result of the t-test analysis conducted to determine whether there is a significant difference in how owners and workers perceive the production management practices in the chichacorn industry in Candon City, Ilocos Sur.

Table 4. Result of t-test Analysis in the level of Production Management Practices of the Chichacorn Industry between Owners and Workers

Respondents	Mean Difference	<i>p</i>	Decision	Remarks
Owners	0.22	0.159	Do not Reject H_0	There is no significant difference
Workers				

The analysis shows a mean difference of 0.22 with a p-value of 0.159. Since the p-value is greater than the 0.05 significance level, the null hypothesis is not rejected, indicating that there is no statistically significant difference in the perceptions of owners and workers regarding production management practices.

This statistical outcome suggests that both groups have a generally consistent evaluation of the production systems in place, which implies that there is a shared understanding of operational strengths and practices within the organization. According to Baron and Armstrong (2021), when management and employees share similar views on production-related matters, it often reflects transparent communication, participatory decision-making, and inclusive organizational culture as the key features of effective small enterprises.

Moreover, Austria and Serrano (2018) found that Philippine SMEs with strong internal alignment between employer and employee perceptions tend to perform better in areas such as production planning, quality assurance, and workflow management. The absence of significant perceptual gaps in this study supports the idea that the chichacorn industry in Candon City, Ilocos Sur has built a collaborative working environment, which can enhance productivity and reduce operational friction. Kotler and Keller (2016) also emphasize that the alignment of internal processes and perceptions contributes to smoother execution of production strategies and greater responsiveness to customer demands. When employees and management agree on operational standards, adjustments, and innovations can be implemented more effectively.

The conclusions indicate that there is no significant difference between the perceptions of owners and workers regarding production management practices in the chichacorn industry. This agreement suggests a harmonious organizational culture, characterized by consistent expectations and shared commitment to operational excellence. Such alignment supports more coordinated production activities and long-term enterprise sustainability.

Level of Marketing Management Practices of Chichacorn Industry

Table 5 presents the assessment of the marketing management practices of the chichacorn industry based on the perceptions of both sellers and customers.

Table 5. Level of Marketing Management Practices of Chichacorn Industry in Candon City

INDICATORS	RESPONDENTS				As a Whole	
	Sellers		Customers			
	$\bar{x}$	DL	$\bar{x}$	DL	$\bar{x}$	DL
Product	4.65	VH	4.55	VH	4.62	VH
Price	4.38	VH	4.48	VH	4.41	VH
Place	4.51	VH	4.85	VH	4.61	VH
Promotion	4.35	VH	4.57	VH	4.41	VH
People	4.75	VH	4.77	VH	4.76	VH
Positioning	4.72	VH	4.82	VH	4.75	VH
Processes	4.65	VH	4.67	VH	4.65	VH
Performance	4.66	VH	4.73	VH	4.68	VH
Grand Mean	4.58	VH	4.68	VH	4.61	VH

Legend: 4.91 – 5.00 – Very High (VH)

The results indicate that all indicators received a descriptive level of very high, with a grand mean of 4.61, suggesting that the industry maintains a strong and effective marketing strategy across all elements of the marketing mix.

The highest-rated indicators were People ($\bar{x} = 4.76$), Positioning ($\bar{x} = 4.75$), and Performance ($\bar{x} = 4.68$). These scores reflect a high level of customer satisfaction and engagement with staff, effective brand differentiation, and overall success in meeting market expectations. This is consistent with the view of Kotler and Keller (2016), who stress the importance of human interaction and strategic market positioning as key drivers of brand loyalty and product differentiation, especially in consumer-based food businesses.

The Product indicator also scored highly ($\bar{x} = 4.62$), indicating that the chichacorn offered by local producers meets the expectations of both sellers and customers in terms of quality, taste, and packaging. Singh et al. (2020) highlight that product innovation and maintaining high quality are essential for the sustained competitiveness of traditional food products in regional markets.

Price and Promotion received slightly lower, though still “Very High” ratings ($\bar{x} = 4.41$ for both). This suggests that while the pricing strategy is generally acceptable to customers, and promotional efforts are visible, there may still be room for improving affordability and broadening market outreach. Porter (1998) emphasized that competitive pricing combined with effective promotional tactics can help small-scale industries maintain or expand market share.

The Place dimension ($\bar{x} = 4.61$) and Processes ($\bar{x} = 4.65$) also rated very high, indicating efficient distribution strategies and customer-centered service delivery. According to Chopra and Meindl (2019), effective placement and streamlined processes ensure that customers receive products conveniently, enhancing the buying experience and repeat patronage.

Furthermore, there is a strong alignment between the perceptions of sellers ($\bar{x} = 4.58$) and customers ($\bar{x} = 4.68$), indicating a shared appreciation of the industry’s marketing strengths. This consistency supports the findings of Austria and Serrano (2018), who argued that alignment between supply-side and demand-side stakeholders leads to higher service quality, brand trust, and customer loyalty in Philippine SMEs.

In summary, the analysis reveals that the chichacorn industry in Candon City, Ilocos Sur demonstrates very high levels of marketing management practices, particularly in terms of customer service, market positioning, and performance. The consistency of perceptions between sellers and customers suggests a well-integrated and customer-responsive marketing strategy. Growth opportunities lie in enhancing promotional strategies and pricing flexibility to further expand market reach and competitiveness.

Differences in the Level of Marketing Management Practices of the Chichacorn Industry between Sellers and Customers

Table 6 presents the results of a t-test analysis conducted to examine whether a significant difference exists between the perceptions of sellers and customers regarding the marketing management practices of the chichacorn industry in Candon City, Ilocos Sur.

The analysis shows a mean difference of 0.17 and a p-value of 0.203. Since the p-value is greater than the standard significance level of 0.05, the null hypothesis is not rejected. Therefore, it is concluded that there is no significant difference between the two groups' assessments.

Table 6. Result of t-test Analysis in the level of Marketing Management Practices of the Chichacorn Industry between Sellers and Customers

Respondents	Mean Difference	p	Decision	Remarks
Sellers	0.17	0.203	Do not Reject H_0	There is no significant difference
Customers				

This result suggests a mutual understanding and shared perception between sellers and customers concerning the effectiveness of the chichacorn industry's marketing strategies. Both groups recognize the consistent application of key marketing elements like product, price, place, promotion, people, positioning, processes, and performance each of which was rated very high.

According to Kotler and Keller (2016), customer-oriented marketing efforts that involve clear communication, consistent product quality, and personalized service tend to align stakeholder perspectives and strengthen customer relationships. The agreement observed in this study reflects effective marketing communication and value delivery by the chichacorn sellers, resonating well with customers.

Furthermore, Austria and Serrano (2018) emphasize that in Filipino SMEs, a high level of coherence between business operators and consumers is often indicative of community trust and localized loyalty. This alignment also promotes brand identity, as customers feel their expectations are met and validated by consistent service delivery. The findings are also supported by Baron and Armstrong (2021), who noted that shared perceptions among internal and external stakeholders are often the result of transparent practices, engaged customer feedback systems, and adaptive marketing techniques, especially in small-scale, community-based industries like the chichacorn industry.

It can be concluded that the absence of a significant difference in the perception of marketing management practices between sellers and customers suggests that the chichacorn industry in Candon City has successfully implemented a customer-responsive marketing approach. This shared perspective contributes to brand consistency, market trust, and sustainable customer satisfaction.

Level of Service Quality of Chichacorn Industry

Table 7 reveals the assessment of the service quality of the chichacorn industry in Candon City, Ilocos Sur as perceived by sellers and customers.

Table 7. Level of Service Quality of Chichacorn Industry in Candon City

INDICATORS	RESPONDENTS				As a Whole	
	Sellers		Customers			
	$\bar{x}$	DL	$\bar{x}$	DL	$\bar{x}$	DL
Tangibles	4.51	VH	4.79	VH	4.60	VH
Reliability	4.54	VH	4.59	VH	4.56	VH
Responsiveness	4.52	VH	4.77	VH	4.59	VH
Assurance	4.69	VH	4.81	VH	4.73	VH
Empathy	4.59	VH	4.73	VH	4.63	VH
Grand Mean	4.57	VH	4.74	VH	4.62	VH

Legend: 4.91 - 5.00 - Very High (VH)

The results show a grand mean of 4.62, with all individual indicators rated as very high. This validates that the chichacorn industry delivers service quality at an excellent level across all dimensions of the SERVQUAL model: tangibles, reliability, responsiveness, assurance, and empathy.

Among the indicators, Assurance received the highest combined rating ($\bar{x} = 4.73$), suggesting that customers and sellers both believe the industry communicates confidence, competence, and credibility in its service interactions. This is aligned with the findings of Parasuraman, Zeithaml, and Berry (1988), who identified assurance as a critical component in building customer trust, particularly in service-oriented industries where product differentiation is minimal.

Tangibles and Responsiveness were also highly rated ($\bar{x} = 4.60$ and 4.59 , respectively), reflecting satisfaction with the physical appearance of products, facilities, and the ability of staff to provide prompt and helpful service. Kotler and Keller (2016) stress that tangible cues (such as packaging, cleanliness, and presentation) significantly impact consumer perception in food-based businesses, while responsiveness contributes to repeat patronage and brand loyalty.

Interestingly, while both sellers and customers rated each indicator very high, customers tended to rate service quality slightly higher than sellers, especially for Tangibles ($\bar{x} = 4.79$) and Responsiveness ($\bar{x} = 4.77$). This may indicate that customers are highly satisfied with the service experience, possibly exceeding their expectations. According to Grönroos (2007), when perceived service exceeds expected service, it leads to customer delight, which strengthens customer retention and word-of-mouth promotion.

Empathy, though slightly lower than other indicators ($\bar{x} = 4.63$ overall), still received a very high rating, indicating that sellers are perceived to be caring and attentive to individual customer needs. This aligns with the study of Ladhari (2009), who highlighted empathy as essential in building personal connections and loyalty in small, localized markets. The strong agreement between sellers and customers across all indicators also supports the findings of Baron and Armstrong (2021), who emphasized that shared service quality standards between providers and consumers lead to improved operational effectiveness and customer experience.

To conclude, the chichacorn industry in Candon City, Ilocos Sur reveals very high service quality, particularly in assurance, responsiveness, and tangible presentation. The alignment of perceptions between sellers and customers reflects a customer-centric culture that promotes trust, satisfaction, and loyalty. Continued focus on maintaining personal connection and prompt service delivery will further enhance the industry's reputation and competitiveness.

Differences in the Level of Service Quality of the Chichacorn Industry between Sellers and Customers

Table 8 presents the result of a t-test analysis used to determine whether a statistically significant difference exists in the perception of service quality between sellers and customers of the chichacorn industry in Candon City, Ilocos Sur.

This result implies that customers rated the service quality significantly higher than the sellers did. The negative mean difference of -0.17 indicates that, on average, sellers rated the level of service quality lower than customers did. With a p-value of 0.011 , which is less than the conventional significance level of 0.05 , the result is statistically significant, leading to the

rejection of the null hypothesis. This implies that a real and meaningful difference in perception exists between the two groups.

Table 8. Result of t-test Analysis in the level of Service Quality of Chichacorn Industry between Sellers and Customers

Respondents	Mean Difference	<i>p</i>	Decision	Remarks
Sellers	-0.17	0.011	Reject H ₀	There is a significant difference
Customers				

The negative mean difference suggests that while both parties consider the service quality to be high overall, customers perceive it more positively than sellers do. This discrepancy may stem from sellers' insider perspective, where they are more aware of the service delivery limitations or internal challenges that are not apparent to customers.

According to Parasuraman, Zeithaml, and Berry (1988), discrepancies between service provider and customer perceptions may arise when internal service processes are not fully aligned with customer expectations or when providers are overly critical of their performance. This is especially common in small and micro-enterprises where limited resources may affect perceived service efficiency from the provider's point of view.

Grönroos (2007) similarly points out that service quality is inherently subjective and can be evaluated differently by those who deliver it versus those who receive it. Providers may focus on technical quality (how the service is delivered), while customers emphasize functional quality (how the service experience feels), leading to differing judgments.

Moreover, Ladhari (2009) emphasized that even minor inconsistencies in tangibles or responsiveness can cause providers to be more cautious or critical in their self-assessment, while customers may remain satisfied, especially in industries built on familiarity and local relationships, such as the chichacorn industry.

From a human resource management perspective, Baron and Armstrong (2021) argued that discrepancies in service quality perception can also result from a lack of systematic feedback mechanisms, training, or performance evaluation within small businesses, leading employees to undervalue their actual service contributions.

It can be concluded that a statistically significant difference in perceptions of service quality between sellers and customers, with customers expressing greater satisfaction. This highlights the need for chichacorn producers to recognize and affirm their service performance, while also exploring internal improvements to reduce self-critical gaps in perception. Aligning internal assessments with external feedback can help optimize service quality and reinforce customer satisfaction.

The Proposed Quality Model for the Chichacorn Industry in Candon City

The proposed quality model is a cyclical framework designed to promote continuous improvement in the chichacorn industry of Candon City, Ilocos Sur. The variables in the proposed quality model for the chichacorn industry in Candon City, Ilocos Sur were identified and derived through a combination of practical data analysis and stakeholder interviews. Quantitative data from surveys assessed key operational areas: efficiency of resources, production management practices, marketing management practices, and service quality that reveal consistently high-performance levels and specific areas for improvement. In addition,

qualitative insights from interviews with owners, workers, sellers, and customers highlighted recurring themes such as internal communication, customer satisfaction, and marketing strategies. These inputs were synthesized and aligned with the Plan-Do-Check-Act (PDCA) framework, resulting in a cyclical model that reflects real-world practices and supports continuous quality enhancement across the identified variables.



Figure 2. The Proposed Quality Model

The proposed quality model for the chicharron industry in Candon City, Ilocos Sur integrates the Plan-Do-Check-Act (PDCA) cycle by Deming, ensuring systematic quality enhancement across key areas: resources, production management, marketing, and service quality (Rohn, 2022; Hargrave, 2024).

The model consists of four steps:

1. Prioritize Areas for Improvement. Identify weaknesses based on study results (e.g., HR processes, marketing efforts) (Plan phase) (Hanna, 2024).
2. Formulate a Course of Action. Develop strategies (e.g., training, bulk purchasing) (Do phase) (Martins, 2024).
3. Implement Activities. Execute planned improvements (e.g., promotions, supplier negotiations) (Check phase) (Sydle, 2023).
4. Optimize Processes. Monitor results and adjust strategies as needed (Act phase) (Reyes, 2024).

External factors such as government policies, market trends, and natural events are considered, though beyond direct control. This quality model ensures feedback-driven improvement aligned with strategic goals (Millard, 2024). It encourages collaboration among business owners, HR teams, marketers, and service staff.

CONCLUSION AND FUTURE WORKS

The chichacorn industry in Candon City, Ilocos Sur demonstrates a very high level of resource efficiency with no significant difference between groups.

1. There is a very high level of production management practices in the chichacorn industry in Candon City, as evidenced by a non-significant mean difference, suggesting harmonious organizational culture and effective internal communication.
2. There is a very high level of marketing management practices in the chichacorn industry in Candon City and the absence of a significant difference in perceptions between sellers and customers indicates a shared understanding and appreciation of the industry's marketing efforts.
3. The chichacorn industry in Candon City exhibits very high service quality. A significant difference was found between sellers and customers with customers rating service quality more positively. This suggests strong customer satisfaction, while sellers may be more critical due to internal awareness.
4. The proposed quality model for the chichacorn industry in Candon City, Ilocos Sur offers a structured, PDCA-based framework for continuous improvement. By addressing key areas along resources, production, marketing, and service quality and incorporating feedback and external influences, the model fosters strategic, data-driven enhancements.

Future studies may explore the application of the proposed quality model in other local food industries, assess its effectiveness over time, and develop sector-specific tools for quality evaluation. Investigating digital marketing strategies, workforce development, and risk management frameworks can also provide deeper insights and further strengthen the industry's competitiveness and resilience.

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