

Evaluation of Key Players of *Longganisa* (Pork Sausage) Industry in Cabanatuan City, Nueva Ecija, Philippines

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Abstract

The objective of the research was to assess the major participants in the Longganisa (Pork Sausage) industry in Cabanatuan City, Nueva Ecija. The study employed direct interviews using a structured survey questionnaire, targeting input providers, growers, hog dealers/traders, processors, vendors, and consumers. These interviews helped to map out the specific value chain for Longganisa in Cabanatuan City, Nueva Ecija. Recommendations were provided to address the identified gaps and enhance the Longganisa industry in Cabanatuan City. The Longganisa industry serves as a valuable means of livelihood and income for small-scale meat processors and vendors in the city. The support provided by the Local Government Unit (LGU), Department of Trade and Industry (DTI), and Cabanatuan City Supermarket Vendors Multi-Purpose Cooperative (C2SVMPC) has proven immensely beneficial to the Longganisa industry. This support encompasses technical assistance, financial aid, promotional activities, and the provision of facilities, all aimed at enhancing the industry's adherence to Good Manufacturing Practices (GMP) and overall improvement.

Keywords

Value Addition, Meat Processing, Support

1. Introduction

An integral part of Filipino culture is our fondness for food, and among the delicacies that many Filipinos enjoy is Longganisa or pork sausage. Longganisa typically consists of sausages seasoned with local spices and flavors. In the Philippines, each region or province has its unique variations of Longganisa, showcasing the diverse culinary traditions found throughout the country.

Cabanatuan City, located in the province of Nueva Ecija in Central Luzon, is famous for its diverse range of Longganisa products. These Longganisa varieties include garlic, spicy, sweet or hamonado, and batutay flavors. The production of Longganisa serves as a means of livelihood for numerous meat processors and vendors in Cabanatuan, supporting their daily sustenance and financial needs [1].

Cabanatuan City annually commemorates its founding anniversary, which serves as an opportunity to highlight the rich history, culture, talents, and creativity of its residents. A notable festival called the “Longganisa Festival” is held during this anniversary, specifically on the 3rd day of February. The festival spans a week-long celebration, taking place near the public market along Paco Roman Street. In addition to the participation of local meat traders and consumers, tourists from neighboring towns also eagerly partake in the festivities, further enhancing the vibrant atmosphere of the event [2].

Pork, also known as hog meat, is the primary ingredient used in Longganisa production. In the third quarter of 2022, the total hog production in the Philippines reached 436.68 thousand metric tons (liveweight), showing a growth rate of 4.5 percent compared to the previous year’s figure of 418.07 thousand metric tons (liveweight). This signifies a positive turnaround from the significant decline of –17.8 percent observed in 2021 [3].

Meat processing entails a series of steps, including animal slaughter, meat cutting, and inspection to ensure safety, packaging, and further processing into products like sausages [4]. The process of meat processing serves several purposes, such as extending the shelf life of the meat, enhancing its flavor and nutritional value, and improving its marketability [5].

The objective of the study was to assess the Longganisa industry in Cabanatuan City, Nueva Ecija. The specific aims were as follows: 1) To document and map out the specific value chain of the Longganisa in Cabanatuan City; 2) To identify the key participants, their roles, and specific activities within the Longganisa value chain; 3) To identify the strengths, weaknesses, opportunities, and threats present in the industry; and 4) To develop policy recommendations that can enhance the overall performance of the Longganisa industry.

2. Materials and Methods

2.1. Conceptual Framework of the Study

The study utilized a conceptual framework, depicted in **Figure 1**, which was adapted from [6] agribusiness case study. The framework comprised several subsystems, including input, production, processing, marketing, consumer, and support subsystems. These subsystems formed the basis for analyzing and understanding the Longganisa industry in the study.

The input subsystem pertains to the suppliers of various inputs such as pig/piglets, feeds, and biologics. The production subsystem involves the farmers or growers responsible for raising pigs. The processing subsystem comprises the individuals or businesses engaged in the production of pork sausages. The marketing subsystem involves the marketers or vendors responsible for promoting

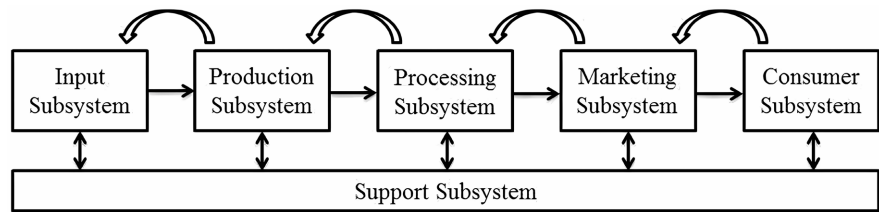


Figure 1. Conceptual framework of the study.

and selling the products. The consumer subsystem refers to the buyers or consumers of Longganisa. Lastly, the support subsystem encompasses the organizations that provide support and assistance to the Longganisa industry.

To acquire the necessary information, a comprehensive analysis was conducted on the different key players engaged in the Longganisa value chain. This analysis encompassed their distinct roles, activities, and the processes involved. Moreover, it considered the support provided by entities such as Local Government Units (LGUs), Non-Governmental Organizations (NGOs), Cooperatives, and other relevant stakeholders. Ultimately, the industry's performance was assessed to identify areas that require improvement.

2.2. Data Gathering Procedure

The primary data for this study were collected through surveys and key informant interviews using structured questionnaires. Key informant interviews were conducted to validate the primary information obtained. Participant observation was also employed as a data collection method.

Secondary information was obtained from various sources, including the City Business Permit and Licensing Office (CBPLO), Cabanatuan City Supermarket Vendors Multi-Purpose Cooperative (C2SVMPC), and other relevant institutions. These sources served as valuable references for gathering secondary information.

2.3. Methods of Data Analysis

The study commenced by establishing an overall understanding of the study area through a review and analysis of pertinent studies and literature. Subsequently, the Longganisa value chain in Cabanatuan City, Nueva Ecija was mapped out using a flowchart analysis that traced the system from downstream to upstream. This mapping involved identifying the key players, their specific roles and activities, as well as external influences. Additionally, a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was conducted, followed by the formulation of policy recommendations aimed at enhancing the overall performance of the commodity system or industry.

3. Results and Discussion

3.1. Roles of Key Players in the Longganisa Value Chain

Figure 2 provides an overview of the functions performed by each key player

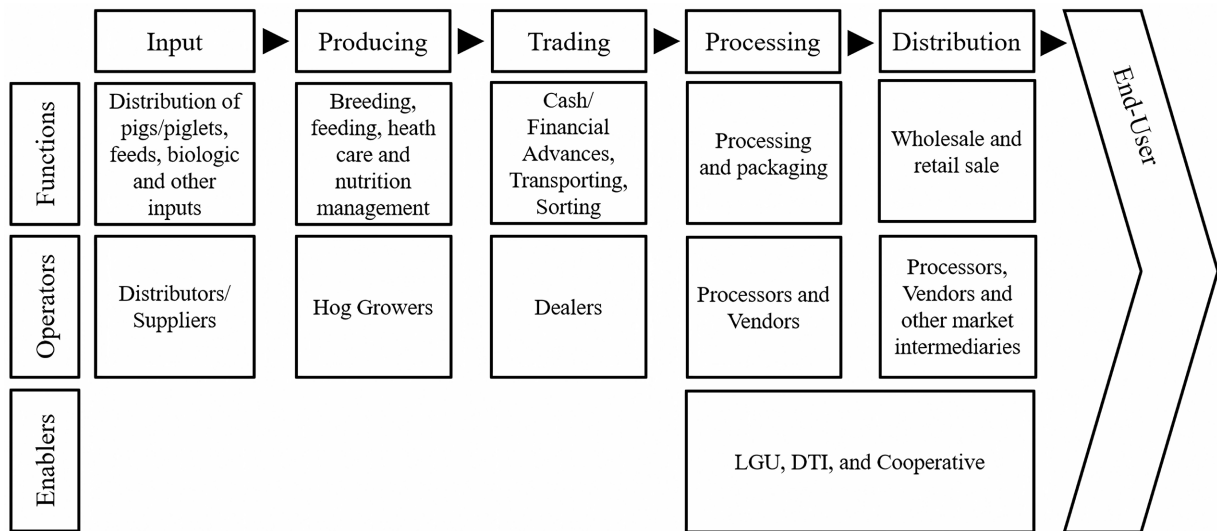


Figure 2. Functions of key players of the Longganisa value chain.

within the Longganisa value chain. The specific details regarding the function of each player will be discussed in the subsequent sections.

3.1.1. Input Subsystem

The key players (input providers) within the input subsystem of the Longganisa value chain established their business in 1998 and have been providing customers with high-quality feeds for hogs and poultry. In 2011, the Corporation attained various certifications, including Quality Management System (ISO 9001: 2008), Hazard Analysis and Critical Control Points (HACCP), and Good Manufacturing Practices (GMP). The Corporation is involved in diverse industries, encompassing the production and distribution of animal feeds, glucose and soya products, hogs and poultry farming, production and distribution of animal health products, as well as flour and sugar milling and distribution.

3.1.2. Production Subsystem

In addition to being an input supplier, the key player also operates as a hog producer (grower). They established their own piggery farm in January 1999, employing advanced hog production systems. The barns are equipped with tunnel ventilation and evaporative cooling systems to maintain a suitable climate. Automated feeding systems are utilized to ensure efficient feeding processes. Furthermore, the farm facilities include biogas systems that convert hog waste into electricity. The hog production system is organized into three separate sites: the breeder farm, nursery farm, and growing-finishing farms. Strict biosecurity measures are implemented across all farms to maintain optimal hygiene and prevent disease transmission. The farms in the Longganisa value chain sell their pigs to hog dealers. On average, around 100 heads of pigs weighing between 90 to 100 kilograms each are delivered or sold per day. The price per kilogram varies based on the pig’s classification, which can be classified as Class A, Class B, or Class C.

3.1.3. Processing Subsystem

The processors procure hogs or pork from hog dealers, while the spices and seasonings such as garlic, sugar, salt, black pepper, and soy sauce are purchased from a local supermarket in the city. During the processing stage, a mixture of various pork cuts and fats is utilized, with the exception of hog skin which is not included.

The processing of Longganisa products is typically conducted at the market. In 2014, the Department of Trade and Industry (DTI) awarded processing equipment, including a mixer, two meat grinders, a plastic sealer, a vacuum sealer, a weighing scale, and a filler, to the Cabanatuan City Supermarket Vendors Multi-Purpose Cooperative. The total value of the equipment amounted to P1.2 million. These processing equipment are made available for use by both cooperative members and non-members.

3.1.4. Marketing Subsystem

Many of the Longganisa processors in Cabanatuan City also function as vendors. They offer a variety of Longganisa products, each with its distinct taste or variation such as the sweet hamonado, salty garlic recado, and the combination of garlic and sweet known as *batutay*, utilizing beef as its primary ingredient. The pricing of these Longganisa products is determined based on the expenses incurred during processing.

The majority of vendors prefer cash transactions when selling their Longganisa products. However, they may offer credit to their regular customers with a payment term of 5 days. Processors and vendors take care of packaging and labeling their products for the market. As part of their marketing strategy, they utilize social media platforms like Facebook. Payment for orders placed through social media is typically made before shipping, with payment channels available through local remittance centers. The packaged and labeled Longganisa products are transported to customers using public utility buses.

Furthermore, processors and vendors are often invited to participate in various trade fairs and exhibits, where they offer free samples to visitors from both within and outside the region.

Like any product, Longganisa experiences peak and off-season periods. According to processors and vendors, the high demand for these products is observed during the months of May and November, coinciding with rice harvesting season until December. On the other hand, the off-season or low demand is observed in the months of March, April, and September.

3.1.5. Consumer Subsystem

A survey instrument was used to gather feedback from buyers and consumers of Longganisa products. The survey included optional fields for respondents to provide their name, address, sex, date of birth, civil status, and occupation. Participants were asked to rate their satisfaction on a scale of 1 to 5, where 1 represented “dissatisfied” and 5 represented “extremely satisfied”. The aspects evaluated included the taste of the Longganisa, factors influencing buying deci-

sions related to the store owner/vendor, price, packaging, promotions, store location, store cleanliness, and quality of the products. Additionally, respondents were asked if they would recommend Cabanatuan Longganisa to others, to which they could answer either “yes” or “no”.

The result in satisfaction with the taste of Longganisa, the respondents rated it as “very satisfied”. The factors influencing buying decisions, including the store owner/vendor, pricing, promotions, and product quality, were also rated as “very satisfied”. Packaging, store location, and cleanliness received a rating of “moderately satisfied”. Importantly, all respondents expressed their intention to recommend Cabanatuan Longganisa to others.

3.1.6. Support Subsystem

The Longganisa industry in Cabanatuan City receives support from various organizations, including the Local Government Unit (LGU) of Cabanatuan City, Cabanatuan City Supermarket Vendors Multi-Purpose Cooperative (C2SVMPC), and the Department of Trade and Industry (DTI).

The LGU of Cabanatuan acts as the coordinator and facilitator for exhibits and trade fairs within and outside the region. They provide transportation services to transport the products of Cabanatuan. Additionally, the LGU, through the City Agriculturist and Livelihood Management Office (CALMO), conducts livelihood training programs.

C2SVMPC serves as a financial resource for many processors and vendors in the city’s supermarket. It was established and registered with the Cooperative Development Authority (CDA) on May 5, 2008. The cooperative’s vision is to become the leading Supermarket Cooperative in Nueva Ecija, known for its God-fearing, self-reliant, and loyal entrepreneurs who have sufficient financial resources available to each member. Their mission is to provide excellent and high-quality products and services that promote a better life and uplift the economic condition of all its members, thereby creating a legacy for C2SVMPC.

The cooperative offers two types of loans for its members: regular and emergency loans. Regular loans range from P5000.00 to P100000.00, depending on the member’s total share capital. Emergency loans can go up to P50000.00. Both regular and emergency loans have a repayment period of 120 days with an interest rate of 3%.

The DTI granted the C2SVMPC processing equipment in October 2014, amounting to P1.2 million, under their Shared Service Facility (SSF) Project. Non-members of the cooperative can also use the equipment based on a Memorandum of Agreement with the DTI.

3.2. SWOT Analysis

This study aimed to investigate the process flow within the Longganisa industry in Cabanatuan City, covering various stages from farm inputs such as hog feeds, biologics, and stocks, to hog producers, processors, vendors, and ultimately reaching the consumers of Longganisa products. Additionally, the study sought to

examine the types of support provided by different agencies, including government and Non-Governmental Organizations (NGOs), as well as cooperatives, to the Longganisa industry.

The SWOT Analysis approach was employed in this study to assess the industry's strengths, weaknesses, opportunities, and threats. The following section provides a brief overview and discussion of the identified strengths, weaknesses, opportunities, and threats.

3.2.1. Strengths

The presence and accreditation of the Cabanatuan City Supermarket Vendors Multi-Purpose Cooperative (C2SVMPC), registered and recognized by the Cooperative Development Authority (CDA), stands out as a significant strength. Having legal status, the cooperative is empowered to obtain loans, market its goods and services, facilitate product delivery, and engage in diverse business transactions [7]. A majority of processors and vendors are members of this cooperative, which facilitates easy access to assistance from various government agencies, private sectors, and NGOs. C2SVMPC also provides its members with the opportunity to acquire loans for both business and personal purposes. Cooperatives establish bonds by maintaining a closely-knit membership of individuals within the community. As a result, a network of people with a shared objective is formed, allowing everyone to reap the benefits. This connection cultivates strong relationships among community members [8].

Another strength lies in the availability of meat processing equipment located in public supermarkets, courtesy of the Department of Trade and Industry (DTI). This infrastructure supports the efficient production and processing of Longganisa products. Food processing equipment plays a critical role in the food industry by facilitating the conversion of raw ingredients into safe, nutritious, and attractive final food products. These equipments significantly enhance food safety, improve the quality of food, boost efficiency, and increase productivity, leading to reduced labor expenses and faster production [9] [10].

Additionally, the support of the Local Government Unit (LGU) of Cabanatuan City is instrumental in coordinating and serving as a channel for participation in various exhibits and trade fairs, allowing the showcasing of Longganisa products. Participating in such activities offers a valuable opportunity to elevate your reputation, create brand awareness, and enable you to directly engage with your target customers. It presents an ideal platform to enhance your business image, garner media and social media visibility, and serves as an excellent avenue to connect with potential customers and suppliers. Additionally, it allows you to gain insights about your competitors and acquire valuable knowledge [11] [12]. The LGU's annual organization of the Longganisa festival, which started in 2008, further enhances the visibility of Longganisa products, including features in television segments.

The availability of different variations of Longganisa products contributes to the curiosity and interest of consumers, providing them with a wide range of fla-

vors to choose from. According to [13], the impact of purchasing decisions on product variation factors is substantial, it implies that when a company introduces additional product variations, it positively influences consumer purchasing decisions. The availability of a wide range of products makes it easier for buyers to make informed choices about their purchases.

Furthermore, the use of high-quality hog meats by processors ensures the production of superior Longganisa products. Hog Farms, an international multi-company, employs advanced hog production systems to produce high-quality hogs suitable for meat processing. Ensuring consumer satisfaction relies on the importance of meat quality and consistency [14]. Selecting the appropriate type of meat is crucial for obtaining its nutritional benefits as it serves as a vital protein source. Additionally, meat contains substantial amounts of vitamin B-complex, iron, phosphorus, and Omega-3 fatty acids, all of which are essential for maintaining good health [15].

3.2.2. Weaknesses

One weakness identified is the low number of cooperative memberships, which can be attributed to inadequate dissemination of information regarding the benefits and services available to members. Also, the limited benefits provided to cooperative members have resulted in reduced patronage and a failure to attract new members. The cooperative business is built upon its members, who form the foundation of its operations. The cooperative business is built upon its members, who form the foundation of its operations. The existence of the cooperative is driven by meeting the needs of its members. Their support, both through patronage and capital investment, plays a vital role in ensuring the cooperative's economic well-being [16].

Another area of concern pertains to the less-than-ideal meat handling practices employed by processors, including instances where they may neglect to wear masks and hairnets during processing. Such lapses in meat handling could potentially pose health risks to consumers [17]. Furthermore, it was noted that the cleanliness standards in the supermarket were not consistently observed.

Moreover, there is a notable issue of underutilization concerning the processing equipment provided by the DTI. This can be attributed to processors lacking awareness of the cooperative's services, particularly the availability of processing equipment.

3.2.3. Opportunities

The Longganisa industry in Cabanatuan has gained recognition and a strong reputation for its distinctive taste, particularly the "batutay" variety. These Longganisa products have the potential to capture both the local and international markets, especially with the ongoing ASEAN integration. Having a strong brand reputation brings forth multiple advantages, such as heightened customer loyalty, increased desirability, enhanced trust, and improved customer retention. Consequently, this can result in higher sales and profits for the business [18].

The presence of support from government and private institutions represents

an additional opportunity. Hog producers can access loan support from local banks such as Land Bank of the Philippines (LBP) and Development Bank of the Philippines (DBP). Additionally, private banks like Bank of the Philippine Islands (BPI) extend loans to commercial hog producers through their Sustainable Development Finance Program. Cooperatives and informal lending institutions also serve as loan sources, especially for small-scale producers. Furthermore, the Agricultural Training Institute-International Training Center on Pig Husbandry (ATI-ITCPH) offers genetically superior boars that have undergone quality testing and DNA analysis, ensuring their market readiness [19].

3.2.4. Threats

C2SVMPC primarily offers loan services as its major benefit to members. However, the ease of obtaining loans from other lenders without strict requirements has contributed to the low membership in the cooperative. Unlike these lenders, the cooperative has specific procedures and guidelines that need to be followed in order to avail of a loan.

The old supermarket facility poses a challenge in attracting more customers and consumers. This constraint can contribute to a decline in sales of Longganisa products. The consumers made a deliberate choice to avoid a store solely based on its external appearance, demonstrating the significant impact of exterior aesthetics on their shopping decisions [20].

The presence of pests and diseases in swine production poses a significant threat to the Longganisa industry. In 2019, African Swine Fever (ASF) surfaced in the Philippines, leading to the culling of a significant number of pigs and causing a notable decrease in the country's domestic hog population. This decline in the pork supply necessitated an increase in meat imports to mitigate the shortage and counter the rising local prices. As a result, the situation exerted additional pressure on the issue of inflation [21].

4. Conclusion

According to the study findings, the Longganisa industry in Cabanatuan City serves as a viable livelihood and income source for small-scale meat processors and vendors. This type of livelihood contributes to addressing Sustainable Development Goal (SDG) number one, which aims to eliminate poverty and ensure a decent standard of living for all individuals. The support provided by the Local Government Unit (LGU), Department of Trade and Industry (DTI), and Cabanatuan City Supermarket Vendors Multi-Purpose Cooperative (C2SVMPC) is instrumental in the success of the Longganisa industry. These entities offer valuable assistance in terms of technical guidance, financial resources, promotional activities, and the provision of necessary facilities to improve Good Manufacturing Practices (GMP) in the industry.

5. Recommendation

Based on the findings of the SWOT Analysis, the following recommendations

are proposed to further improve the Longganisa industry in Cabanatuan City and ensure its competitiveness in both local and international markets, particularly in light of ASEAN integration.

For the Supermarket Vendors Cooperative:

Expand cooperative programs and services to benefit a larger number of members. This can include additional loan options and the inclusion of health insurance and other relevant services.

Implement effective dissemination strategies such as distributing Information Education and Communication (IEC) materials like brochures and tarpaulins. These materials should promote cooperative programs and services to attract potential members. IEC has emerged as a highly effective medium for raising awareness and disseminating information [22].

For the Local Government Unit of Cabanatuan City:

Conduct training programs on proper meat handling for meat processors and vendors. This will help address any issues related to the mishandling of meat during processing and ensure the maintenance of high-quality Longganisa products. The implementation of training programs can significantly enhance the knowledge and skills of individuals, ultimately resulting in improvements in their practices [23].

Consider renovating the existing public supermarket or establishing a new one. This will provide a more appealing and modern shopping environment for customers. Additionally, strict implementation of waste disposal and solid waste management practices should be observed.

Develop IEC materials to disseminate information about the city government's policies and regulations regarding the cleanliness and hygiene standards of the supermarket. These materials should educate vendors and customers about their roles in maintaining a clean and sanitary shopping environment.

By implementing these recommendations, the Longganisa industry in Cabanatuan City can make significant progress and enhance its competitiveness in the market.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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