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An Analysis of Key Success Factors of Cooperative Feed Mill Enterprises in Batangas Province, Philippines

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AN ANALYSIS OF KEY SUCCESS FACTORS (KSFs) OF COOPERATIVE FEED MILL ENTERPRISES IN BATANGAS PROVINCE, PHILIPPINES

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ABSTRACT

In the Philippines, animal feed milling is dominated by commercial companies. However, a unique business model exists in the province of Batangas, the cooperative feed mill enterprises. A study on the analysis of the key success factors (KSFs) of cooperative feed mill enterprises in Batangas province was done with the following specific objectives: 1) describe the external (macro and micro) environment of the feed mill industry; 2) present the internal environment of the selected cooperative feed mill enterprises; 3) analyze the key success factors of the selected cooperative feed mill enterprises; and 4) recommend solutions for the selected cooperative feed mill businesses.

A descriptive type of research was employed in the study of the three cooperative feed mill enterprises which represented three scales of operation. These cooperative feed mill businesses were the following: Batangas Bestfeed Multi-purpose Cooperative (BBFMPC), Agro-industrial Cooperative of Mataas Na Kahoy (AICOM) and Sorosoro Ibaba Development Cooperative (SIDC). The study on the cooperative feed mill enterprises in Batangas found that the key success factors (KSFs) were the following: degree/level of vertical integration, technological capabilities, geographical/market area coverage, adequate and sound financing and professional management. A high degree or level of integration, wider geographic market coverage and good professional management were exhibited by SIDC. Meanwhile, BBFMC exhibited adequate and sound financing while AICOM showed partial integration and moderate professional management.

It was recommended that SIDC should continue implementing its current strategies that involve expansion initiatives i.e. putting up larger warehouse facility and establishing feed mill plants and aggressive contract growing (CG) arrangement for yellow corn. Moreover, it is recommended that AICOM should divest its feed mill operations due to high accounts receivables and decreasing number of backyard swine and poultry farms in Mataas Na Kahoy municipality where majority of its members are situated. Lastly, BBFMPC is suggested to implement a market penetration strategy.

Keywords: Philippine feed mill industry, cooperative feed mill enterprises, key success factors

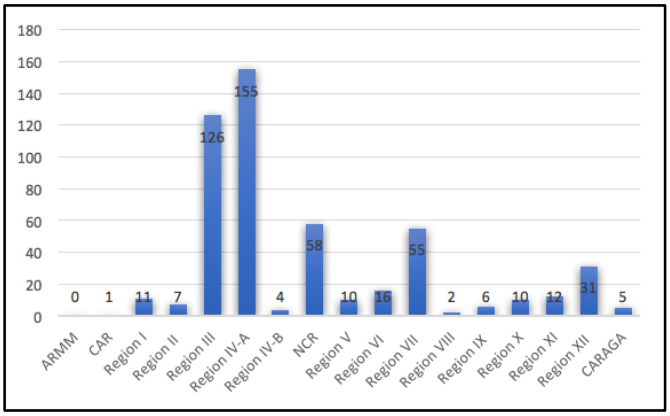
INTRODUCTION

Animal feed production is an important agribusiness intermediate industry supporting the livestock, poultry and aquaculture sectors locally and worldwide. In 2018, the global feed tonnage grew by 2.76% with feed production of 1.103B MT valued at $540B (Alltech, 2019). In the Philippines, an average growth per annum of the feed mill industry was between 5.5-6% (Esplana and Soliaban, 2004) producing 27,000MT with an estimated value of $540M (Reyes, 2018). One of the major drivers of growth in the feed mill industry is the continuous increase in population since humans depend on animal protein. Between 2020-2050, it was projected that an additional 1.305MmT of grains should be manufactured, of which 40% would be intended for livestock feeds (FAO, 2013).

Globally, the top 10 feed producing countries are China, USA, Brazil, Mexico, Spain, India, Russia, Germany, Japan and France (Alltech, 2018). These countries contributed 86% to the total feed production predominantly for livestock (swine, ruminants), poultry and aquaculture (Alltech, 2017). The Philippines, though a small island, ranked 21st among the top 30 feed mill producing countries in the world. The first feed production occurred in the National Capital Region (NCR). In early 1950s, foreign breeds of livestock and poultry were imported that necessitated the importation of mixed feeds until a number of Filipino entrepreneurs invested in the Philippines to put up feed mills in NCR (Sison, 1996). Over the years, proliferation of feed mill plants occurred in nearby provinces such as Batangas and Bulacan. The feed mill industry has evolved into becoming a multi-billion peso worth of industry valued at Php 45B in 2001 (dela Cruz). It is also one of the biggest industries in the country with the swine and poultry as its largest markets (Sison, 2014).

In the Philippines, the top 10 commercial feed mill players are the following: San Miguel Foods (B-meg), Charoen Pokphand Foods Philippines Corporation (CPF), Cargill, Sunjin, Universal Robina Corporation (URC), Unahco, CJ, Pilmico, General Milling Corporation (GMC) and Philippine Foremost Milling Corporation (PFMC), of which majority are Filipino-owned. These companies capture an estimated of more than 50% of the market share from the total domestic production. All of them are also members of the Philippine Association of Feedmillers, Inc. (PAFMI), an association responsible for ensuring production of affordable feeds to swine, poultry and other livestock sectors (Reyes, 2018).

Moreover, the Bureau of Animal Industry (BAI) in 2018 recorded a total of 486 feed mill businesses nationwide. The Luzon feed millers manufactured majority of the animal feeds contributing more than 84% of the total mixed feed produced in the country. About 94% of this come from NCR, Batangas, Bulacan, Cavite, Laguna and Quezon feed mill plants (Sison, 2014). Regions IV-A and III dominated the feed mill industry with 155 and 126 feed mills, respectively. The dominance of feed mill enterprises in the said regions is attributed to the high number of commercial and backyard swine and poultry farms present in the area. Figure 1 shows the regional distribution of the commercial feed manufacturers in the Philippines (BAI, 2018).



Source: BAI, 2018

Figure 1. Regional Distribution of Registered Commercial Feed Mill Companies in the Philippines (as of 2018)

Among all provinces in CALABARZON, Batangas recorded the highest number of feed enterprises. There are currently 89 feed mill plants registered in Batangas: 81 are commercial businesses while 8 are under the cooperative model. The reason for prevalence of feed mill enterprises in Batangas is due to the high number of commercial swine and poultry farms as well as backyard farms. In 2016, Batangas remained as the top swine and poultry producer in CALABARZON (PSA, 2017). The province is the top layer producer in the country accounting for 27.51%. Layers are good sources of chicken eggs. Hence, the province has been dubbed as the "egg capital" of the Philippines. It was estimated that about 75% of total chicken egg production come from commercial layer farms (Sison, 2014). Moreover, Batangas is the 4th top broiler producer in the country accounting for 5.78% (3, 609, 587 birds). The province is also a home to 1, 481 commercial swine farms with a total farm capacity of 695, 520 (PSA, 2017).

Despite the dominance of the commercial feed mill companies in the country, a unique model exists only in Batangas, the cooperative business model. Hence, a study on the analysis of the key success factors (KSFs) of the cooperative feed mill enterprises was conducted. The specific objectives of the study were to: 1) describe the external (macro and micro) environment of the feed mill industry; 2) present the internal environment of the cooperative feed mill enterprises; 3) analyze the key success factors (KSFs) of the selected cooperative feed mill enterprises in Batangas province, and; 4) recommend solutions for the selected cooperative feed mill businesses.

Three (3) cooperative feed mill enterprises, representing three scales of operation, were focused on in this study: Batangas Bestfeed Multi-purpose Cooperative (BBFMPC), Agro-industrial Cooperative of Mataas Na Kahoy (AICOM) and Sorosoro Ibaba Development Cooperative (SIDC). SIDC is the second oldest cooperative feed mill enterprise which was established in 1987 and is currently the known market leader among cooperative feed mill enterprises in the province and the whole country. On the other hand, BBFMPC started operating in 2008 while AICOM was established in 1991.

Review of Literature

Studies related to the key success factors (KSFs) of cooperatives were reviewed as part of this research. In 2003, Castillo conducted a study on the 4 successful cooperative feed mill enterprises in Region IV-A, namely: LIMCOMA, Sorosoro Ibaba Development Cooperative (SIDC), both based in Batangas province. CAFFMACO in Cavite province and Luntian in Quezon province. The Lipa City Multi-purpose Cooperative (LIMCOMA) is the oldest known cooperative feed mill enterprise founded on 25 March 1970. LIMCOMA attributed its success to technological advancement and high asset and inventory turnover. In 1994, LIMCOMA was the first cooperative feed mill business to utilize the automated and computerized feed mill system.

Furthermore, although the Sorosoro Ibaba Development (SIDC) was established in 1969, the cooperative only started to produce animal feeds in 1987. The success of SIDC is attributed to great leadership as exemplified by its founder, Mr. Victoriano Barte who dedicated his time, talent and treasure along with the Board of Directors (BOD). The officers, employees and members' continuous patronage, cooperation and unity in carrying out all activities contributed to what SIDC is right now (Castillo, 2003). On October 1989, PADECO operated its feed mill in a lot donated by its founder Alejandro Reyes. It struggled during the first few years but managed to earn Php 2,579,291 by the end of 1991. Meanwhile, the Cavite Farmers and Feedmillers and Marketing Cooperative (CAFFMACO) started to produce animal feeds in 1970s. CAFFMACO attributed its success to the concerted efforts of the pioneers, members, officers and management staff. The cooperative has good leadership and is composed of committed employees. Other success factors were the continuous education and training program, transparency and competent and dedicated directors and employees (Castillo, 2003). Lastly, the Luntian Multipurpose Cooperative (Luntian MPC) located in Quezon was established in 1995. It attributes its success to the good selection process of members. Members with good track record, with integrity and with capital became part of the cooperative. In another study, Castillo and Mendoza (2006) summarized the success factors for the cooperative business operations under these categories: 1) sound management; 2) sufficient volume of business; and 3) adequate and sound financing.

Meanwhile, Bruynis et. al. (2001) studied the key success factors among 52 emrging agricultural marketing cooperatives in the United States. The independent variables were longevity, member business growth, profitability and member satisfaction. The change in probability of success attributed to the independent variables was determined. Different variables such as business volume, total equity, financial statement, marketing agreement, board experience, management training, management person and feasibility study were also considered.

Further, Baseman (2012) conducted an internet survey to find globally a consensus response on the question regarding cooperative success. He found 175 success factors and grouped them according to 13 categories. These 13 categories were the following: supportive environment, sound advance planning, real economic benefits for members, skilled management, belief in cooperative concepts, grassroots development and leadership, financially self-sustaining, innovation and adaptation, effective structure and operations, networking with other cooperatives, communications, common member interests and education.

On the other hand, Pefindo (2018) asserted that the key success factors for animal feed mill companies and husbandry were: market position, vertical integration, diversification, operating management, financial policy, capital structure, cash flow protection and liquidity and financial flexibility.

The above studies related to the key success factors (KSFs) among cooperatives were general. So far, no studies yet had been conducted specific to the KSFs among cooperative feed mill enterprises and this is the area where this study hopes to make a contribution to.

Methodology

Research Design

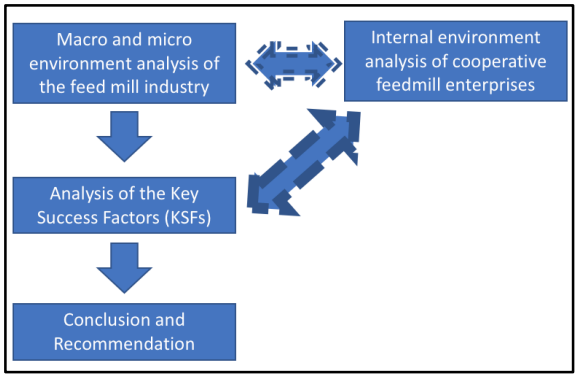
The study employed a descriptive research design. It described and analyzed the macro and micro environment of the animal feed mill industry, and the internal environment of the selected cooperative feed mill enterprises in Batangas province. Figure 2 shows the analytical framework of the study.

Methods of Data Collection

Key informant interviews (KIIs) were conducted among the production manager and key staff of the selected cooperative feed mill enterprises. The list of the cooperative feed mill enterprises in Batangas were obtained from the provincial planning and development office (PPDO) in Batangas City and the Cooperative Development Authority (CDA) Region IVA- Extension office in Calamba City, Laguna. Moreover, KIIs were done among various stakeholders- animal nutritionists, sales manager and government employees of the key institutions in-charge of the feed mill business, the director of the Bureau of Animal Industry (BAI) and also some staff from the Cooperative Development Authority (CDA). Meanwhile, secondary data came from the internal such as operating manuals of the cooperatives, their financial statements and other related documents. Meanwhile, external sources such as graduate and undergraduate theses and/or special problems were also utilized.

Methods of Data Analysis

The primary data from the interview with cooperative feed mill enterprises' production manager, general manager and employees helped in providing information on the internal environment and data on the status of the Batangas feed mill industry. Meanwhile, the collected secondary data from various reference materials and the key informant interview (KII) conducted among feed industry practitioners and government agencies such as BAI, CDA, PPDO were helpful in the assessment of the external environment. The information, aided in the external environment analysis (i.e., politico-legal, economic, socio-demographics, technological and environment/natural (PESTE). The key economic dominant forces of the Batangas feed mill industry such as the growth rate, existing cooperative feed mill enterprises, distribution channel, customers and suppliers were also discussed. The matching of the internal and the external assessment led to identification of the key success factors (KSFs). In analyzing the key success factors (KSFs), a scoring was performed between 1 to 3, with the score of 3 being the highest (Table 1).



Herrera et.al., 2019

Figure 2. Analytical Framework of the Cooperative Feed Mill Enterprises in Batangas Province, Philippines

Table 1: Summary of Scores for the Identified Key Success Factors (KSFs)

Key Success Factor	3 (High)	2 (Moderate)	1 (Low)
Degree/ level of vertical integration	Full integration (presence of backward and forward linkages)	Partial integration (presence of either backward or forward linkage)	Not integrated
Technological capabilities	Automated feed mill system	Semi-automated feed mill system	Traditional feed mill machineries
Geographical Area coverage	Calabarzon (Region IV-A) and other regions	Calabarzon (Region IV-A)	Provincial level
Sound and Adequate financing	sufficient volume of business, good cash flow management and raising capital from members	Moderate volume of business, cash flow management and raising of capital from members	-low volume of business, poor cash flow management and inability to raise capital from members
Professional Management	A well-defined organizational structure. Regular meeting of the Board of Directors (BOD) and implementation and monitoring of the cooperative's plans and programs.	Moderately professionally managed cooperative.	Poorly managed cooperative. No plans and programs implemented (no strategic direction)

The score of cooperatives involved in the study were categorized according to the following:

Category	Score
Low	1-5
Moderate	6-10
High	11-15

Results and Discussion

Macro-environment Analysis

Politico-legal Aspect

The Philippine laws identified to have the most impact on the operations of feed mill enterprises are the Livestock and Poultry Feeds Act (Republic Act 1556) and the Philippine Cooperative Code of 2008 (RA 9520). As for the environmental laws, the clean water act of 2004 (RA 9275), clean air act (RA 8749), solid waste management act (RA 9003) and hazardous waste management act (RA 6969) govern the feed mill industry, whether commercial or under the cooperative business model. Certifications and quality standards were also found to have a significant effect on feed mill enterprises. Quality standards and certifications such as ISO 9001:2008 and ISO 9001:2015 (Quality Management System), ISO 22000-2005 (Food Safety Management System), HACCP/ CODEX Alimentarius Commission, and Good Manufacturing Practices (GMP) are included. These certifications and quality standards were set to ensure the production of good quality feeds that can greatly affect the quality of meat from the livestock and poultry.

Economic Aspect

The inflation rate in the Philippines during June 2018 reached 6.7%, the highest for the past nine years (PSA, 2018). The inflation had a domino effect in increasing prices of all commodities, particularly the prices of yellow corn and other feed ingredients for the feed mill industry. This led to an increase in the cost of production among feed mill players, influencing the increase in the selling price of feeds. Along with the inflation, was the occurrence of typhoon *Ompong* (*Mangkhu*t) that occurred in September 2018 damaging about Php 8B worth of yellow corn investment in Luzon. This jacked up the yellow corn price from Php 13.50/ kilogram to Php 22/kilogram, which was almost doubled. Consequently, yellow corn farmers in Mindanao, the source of yellow corn among Batangas-based feed millers, declined to plant the crop due to the changing climate. This contributed to low volume of yellow corn produced. As such, feed mill companies were forced to import more feed wheat which was priced higher. Feed wheat is a close substitute to yellow corn but is not comparable to the latter in terms of nutritive value. As a result of the low supply of yellow corn from local producers, feed millers planned to import 2.6MmT of feed wheat by June 2019 (Miraflor, 2018).

Socio-demographic/ Cultural Aspect

Swill feeding or feeding of livestock (swine) with leftover food is still being practiced mostly by backyard farm owners to reduce expenses from buying animal feeds (Tomacruz, 2019). However, it is not advisable to practice swill feeding because the animals will not reach the desired market weight. In addition, they will be more prone to diseases and other complications. In the case of swine, diseases like foot-and-mouth and the African Swine Fever (ASF) will likely occur. The Philippines has been very vigilant because of the ASF outbreak that started in 2018.

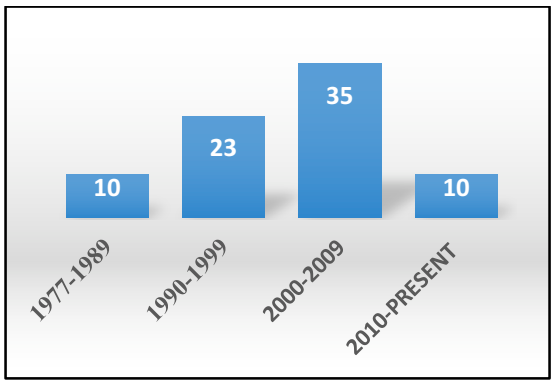
Technological Aspect
The animal feed industry is highly connected to its backward linkage, the yellow corn industry. The use of GM (genetically modified) corn is widely adopted domestically and globally to withstand the negative climate effects such as droughts, typhoons and incidence of pests and diseases.

On the other hand, commercial feed mill plants in the Philippines are utilizing automated feed mill system. Improved process technology and precision feeding can lead to cost efficiency and effectiveness in the long run as exhibited by developed nations. The use of computer-aided "least-cost" formulation and shift to customization process led to the growing demand for swine and poultry sectors. Furthermore, precision feeding can provide wide options and specifications of different feedstuffs and substitutes that can exactly target the nutritive requirements of certain animals. There will be lesser wastes utilizing the least-cost method. Nevertheless, small and medium feed producers in the country are still utilizing the traditional hammermill and machineries due to high cost of adopting the automated feed mill system.

Natural/Environment Aspect
Some of the factors that beset the feed mill industry related to natural or environmental factors are the changing climate, waste management and quality standards. Feed mill industry needs to comply especially the waste water treatment and reduction of noise and air pollution. There is also a growing concern to decrease environmental footprint from producing yellow corn, wheat, soybean and other grains as major feed ingredients. Reduction of environmental footprint from feed crops can only take place by decreasing the greenhouse gas (GHG) emission by lowering fertilizer and pesticide use. This is utterly difficult especially that high yielding varieties/ GM crops rely heavily on inorganic fertilizer and pesticides. The use of GM feed crops is inevitable since it is more sustainable. However, there is a trade-off between economics and the environment. Reduction can ecological footprint can be mitigated through precision agriculture (PA).

Microenvironment Analysis
Moreover, the microenvironmental factors found most relevant to the Batangas feed mill industry were: growth rate, existing cooperative feed mill enterprises, market distribution channel, customers and suppliers.

Growth rate of Batangas feed mill industry
Batangas feed mill industry has a steady growth (Figure 3) since it started in 1970 but most of the new feed mill enterprises were established between 2000-2009 due to the perceived lucrativeness of the industry. Between 2010 to the present, only 10 feed mills were established. The continuous increase in costs of inputs and threats of laws and policies related to animal feed milling are the major reasons for the slow growth in the industry. Despite the challenges, the Batangas feed mill industry is still positively growing at a rate of between 5-7% per annum with the increase in production capacity of existing feed mills and establishment of new feed mill plants (Reyes, 2018). The growth in the provincial feed mill industry took place due to the dominance of commercial poultry and swine farms with toll partnership from the giant companies like San Miguel Corporation, Sunjin among others (Reyes, 2018).



PPDO, 2018

Figure 3. Number of Feed Mill Enterprises Established in Batangas in Different Time Periods

Cooperative feed mill enterprises and relative size

From among the 89 feed mill plants registered in Batangas: 81 are commercial businesses while 8 were cooperatives. The cooperative feed mill businesses are categorized according to its size: 4 small (0-25MT/8hr operation); 2 medium (25-50MT/8hr operation), and; 2 large (>50MT/8hr operation). Small and medium feed mills still employ the manual hammermill and mixer machineries. In 2017, it was recorded that the total rated capacity (Table 2) per day of the 8 registered cooperative feed mill enterprises in Batangas was 524.5MT (8-hr operation) which is 13% relative to the total rated capacity of the commercial feed mill enterprises in the province. Its monthly average corn utilization is 4, 615.60MT. At present, among all cooperative feed mill businesses in Batangas, SIDC has the highest utilization rate of 96% since it employs the automated feed mill system. At present, SIDC and LIMCOMA are still the biggest producers of animal feeds in Batangas.

Table 2. List of Cooperative Feed mill Enterprises in Batangas with Corresponding Daily Rated Capacity and Corn Utilization in a Month's Time, 2017

	Cooperative	Rated Capacity (MT) per 8-hr shift	Estimated corn utilization (MT) per month
1	Buklod Unlad Multi-purpose Cooperative	10	88
2	Batangas Bestfeeds Multipurpose Cooperative	12	105.6
3	Batangas City Federation of Cooperative Federal	12.5	110
4	Lobo Agro-industrial Development Multi-purpose Coop (LADEMCO)	20	176
5	Agro-industrial Cooperative of Mataas Na Kahoy		
6	Brilliant Multi-purpose Coop	25	220
7	LIMCOMA multi-purpose cooperative	195	1,716
8	Sorosoro Ibaba Development Cooperative	225	1,980
	TOTAL	**524.5**	**4,615.60**

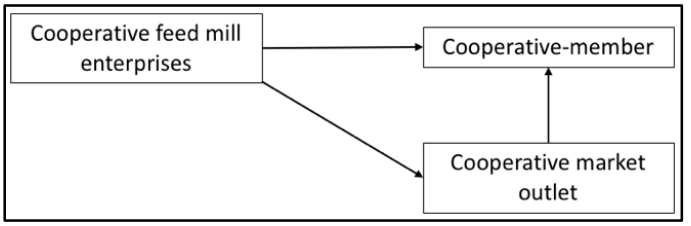
PPDO, 2018

Customers

Cooperative feed mill enterprises in Batangas employ capture marketing in which members of the cooperative are usually the customers for the animal feeds produced. The cooperative members are commonly engaged into backyard poultry and swine farming. With the reduction of backyard animal farms, cooperative feed mill enterprises need to identify other geographic markets for its animal feeds aside from Batangas. As of the moment, SIDC and LIMCOMA are the only ones serving other geographic markets outside Batangas province. It is foreseen that the growth in the Batangas feed mill industry will be for large players. For the past decade, structural changes in the swine and poultry farms are taking place favoring the establishment of more commercial farms. This trend will continue to happen in the coming years, thus, reducing the number of backyard farms. It is foreseen that the feed mill operations will continuously be integrated to the animal farms.

Market distribution

The cooperative feed mill enterprises marketing and distribution channel framework is shown in Figure 4. From the cooperative feed mill processing plants, the cooperative members either pick up the animal feeds or being delivered to the members. For the large cooperative feed mill enterprises such as SIDC and LIMCOMA, the cooperative brings the finished goods to the market outlets located mostly in Regions IV-A.



Herrera et.al., 2019

Figure 4. Marketing and Distribution Channel of Cooperative Feed Mill Enterprises in Batangas

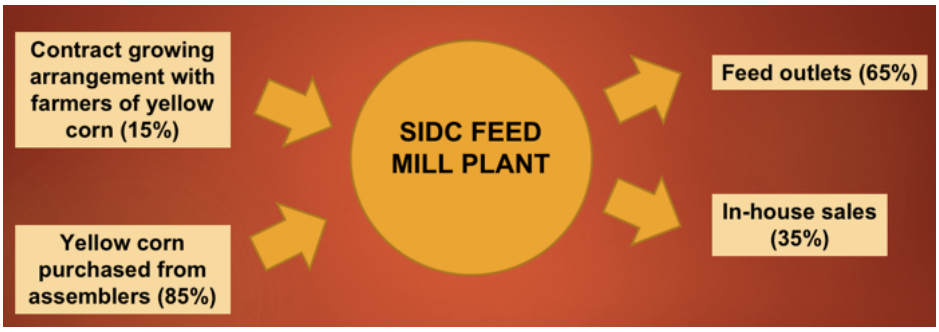
Suppliers of yellow corn and other raw materials

An estimated monthly average of 4, 615.60 MT of yellow corn is needed to supply the cooperative feed mill enterprises in Batangas. Yellow corn production in Batangas only contributes 1% (12, 354MT) relative to other 8 crops planted in the province since sugarcane is highly prioritized. The feed mill establishments in Batangas usually deal with the consolidators/ traders to meet the desired volume, cost, good quality and timeliness. About 80% of the yellow corn needs in the province, both for the commercial and cooperative feed mill businesses come from Isabela while 15% from Mindoro. The remaining 5% of yellow corn is sourced from other areas

From the macro and micro environmental analysis, the identified key success factors (KSFs) in Batangas feed mill industry were summarized according to: degree/ level of vertical integration, technological capabilities, geographic market coverage, adequate and sound financing and professional management. SIDC, AICOM and BBFMPC were evaluated based on the identified KSFs.

Degree/ Level of Vertical Integration

A feed mill enterprise can be successful in the industry if it has a high level/ degree of vertical integration. This is demonstrated by gaining control of the key participants in the supply chain. Sexton and Iskow (1996), Castillo (2003), Pefindo (2018) and Bhasin (2018) found that a highly vertically integrated organization reduce its costs by being closely linked to its suppliers and its end-users. A high vertical integration (Figure 5) is exhibited by SIDC. Hence the score of 3. About 15% of SIDC's total yellow corn needs are procured from the farmer-members from Aklan, Bicol and Palawan. The remaining 85% from the consolidators. Inclusivity has been manifested via the contract growing (CG) agreement with the farmer-members. On the other hand, SIDC is also highly integrated to its farmer-members and other members via the marketing agreement with the feed market outlet owners. About 65% of the total feeds produced by SIDC are absorbed by the market outlet owners while the remaining 35% is for the in-house sales. SIDC's competitive approach is cost leadership-best value. As a market leader, SIDC offers high quality feeds to customers at a lower price.



Note: About 15% of SIDC's yellow corn needs from farmer-cooperators under contract growing (CG) while 85% from consolidators. On the market side, 65% of SIDC's produced animal feeds go to feed outlets and 35% in-house sales.

Figure 5. SIDC's Supply Chain Management Framework

Conversely, AICOM and BBFMPC are merely integrated to its members via the marketing agreement. Both cooperatives deal with consolidators for the needed yellow corn and other macro and micro ingredients since these intermediaries can provide the required volume, quality and competitive prices. BBFMPC's competitive approach is the focus-low cost strategy while AICOM is into cost leadership-low cost strategy. For vertical integration, AICOM and BBFMPC had a moderate score of 2.

Technological Capabilities

Utilizing modern technology can achieve economies of scale. A high utilization rate would mean better production efficiency. Esplana and Soliaban (2004) declared an average of 43% utilization rate to commercial feed mill companies. Among the cooperative feed mill enterprises, only SIDC employs the semi-automated feed mill system while BBFMPC and AICOM are still using the traditional ones. BBFMPC has the least utilization rate of 50%, followed by AICOM with 60%. SIDC's utilization rate is at 96%. For technological capability score, SIDC got a score of 3 while 1 both for AICOM and BBFMPC.

Geographic Market Coverage
SIDC caters to a wider geographic market with members in Regions III, IV, V and VII but most of the members come from Region IV. BBFMPC and AICOM's market reach is only limited to those who are in Batangas. Since SIDC has a wider geographic market coverage, serving Northern and Southern Luzon, as well as Visayas, it had a score of 3. Meanwhile, AICOM and BBFMPC have both a low score of 1.

Adequate and Sound Financing
Adequate/ sound financing in the feed mill business is another key to success. To achieve adequate and sound financing, the following should be present: sufficient volume of business, good cash flow management and raising capital from members. However, it is more difficult to cooperatives because of the service over profit concept (Castillo, 2006). Among the cooperative feed mill enterprises, BBFMPC has the most sufficient capital and positive financial ratios, thus a score of 3. Meanwhile, SIDC is highly leveraged with a 75% debt ratio in 2018. The cooperative uses the loaned amount to support its agri-trading and financing program (CG agreement with the yellow corn farmers-cooperators) and expansion activities (construction of warehouse facility, newly built feed mill plant in Palawan etc). SIDC has a moderate score of 2. Lastly, AICOM showed a poorly managed collection of accounts receivables (A/R) that totaled to Php 22.5M whereas its available cash was only Php 10.3M. This represents more than 50% of the total available cash. The problem on collection of payment negatively affects the operation of the cooperative's feed mill plant. Therefore, AICOM had the least score of 1 under the adequate and sound financing.

Professional Management
Professional management is one of the key success factors of any organization. Aside from demonstrating administrative and technical skills, good leadership is important in professional management (Castillo, 2006). It can also help an organization determine its strategic directions. Many cooperatives in the Philippines do not succeed due to poor management.

SIDC prides itself for the consistent good leadership of the cooperative for several decades already. It is the BOD members' role to set the direction and craft strategies for the cooperative, especially in attracting members as it would determine the volume of business. Having quality members is the reason for SIDC's success and continued existence. Quality members mean those who are loyal members availing the cooperative's products and services. For this, SIDC got the high score of 3 being highly professionally managed. At BBFMPC, there is no clear delineation of work. The general manager of the cooperative also serves as the treasurer which can be a source of conflict of interest. Consequently, the cooperative can afford to hire an additional staff based on the analysis of its financial capability. BBFMPC had a score of 2 for professional management. AICOM was the least professionally managed, hence a score of 1. The cooperative failed to reinvent itself and craft strategies in sustaining its operations. Internally, the cooperative has a high level of account receivables (A/R) which had long been standing for several years already. Externally, the management is threatened by the announcement of LGU making the municipality as an eco-tourism site. This will dwindle the number of backyard swine and poultry farms which is the main market of the cooperative's feeds. Results of the assessment (Table 3) showed that SIDC had the highest score of 14. This was followed by BBFMPC (10), and lastly, AICOM (7).

Table 3. Summary of Scores of the Cooperative Feed mill Enterprises Relative to the Key Success Factors

Key Success Factors	SIDC	BBFMPC	AICOM
Degree/ level of vertical integration	3	2	2
Technological capabilities	2	1	1
Geographical area coverage	3	2	1
Adequate and sound financing	2	3	1
Professional management	3	3	2
Total	**14/15**	**10/15**	**7/15**

Herrera, et. al., 2019

CONCLUSION AND RECOMMENDATION

It Results of the study showed that SIDC scored highest while BBFMC and AICOM scored moderately. The cooperative feed mill enterprises in Batangas survive to meet the needs of its members for good quality yet affordable feeds. It is recommended that SIDC engages into continuous expansion (via contract growing-CF arrangements, construction of larger warehouse facility, establishing new feed mill plant among others) and the corporative business model. SIDC should also elevate its semi-automated feed mill system to automated one for economies of scale and diversified products is also suggested that SIDC adopts the new "corporative" model. It marries the concept of corporate farming and the features of cooperatives to help smallholder farmers organize themselves to become a major player in the agricultural food markets. The corporative model can be engaged into by SIDC and Monsato (Bayer). Monsanto is a private company involved into hybrid yellow corn production. SIDC, being a cooperative will be in charge of organizing the small farmers while Monsato will be in-charge of financing and technical expertise to be extended to the small farm holders.

AICOM and BBFMPC currently employ the traditional/manual-operated machineries catering mostly to small and medium swine and poultry farms in Batangas. In order for them to become relevant, joint venture agreements is suggested, if possible. It is projected that small and medium feed mill enterprises in Batangas will dwindle in number due to difficulty in complying the requirements for its major markets, the backyard swine and poultry farms. AICOM can divest due to the decrease in number of backyard livestock and poultry farms. However, to remain relevant, AICOM and BBFMPC can enhance their capabilities through market penetration (establishing cooperative-owned layer farm), market development and technology improvement among others.

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