ACIAR Project ABG/2012/109

Regional Market Analysis

for

Selected Vegetables

(Tomato, Sweet Pepper, Bitter Gourd and Eggplant)

In the Southern Philippines Markets of

Davao, Cebu and Ormoc

3 June 2016

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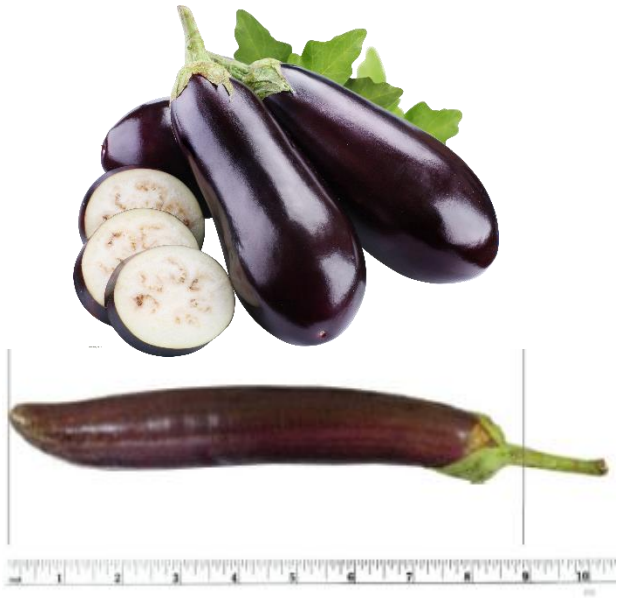
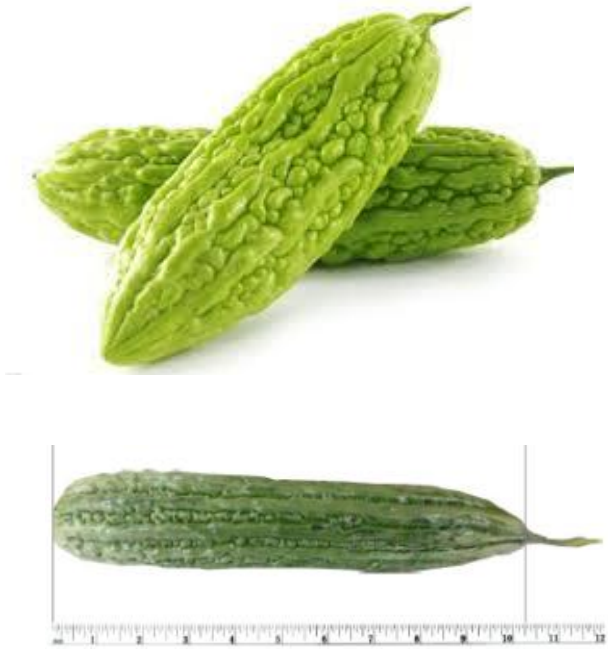
Definition of Terms

Term	Definition
Alpor	Local term for dominant wholesalers.
Awarded Supplier	The supplier who wins the bidding process of selecting a business for procurement and distribution of vegetables.
Breaker	A stage of ripeness between green and ripe.
Compradors	Local term for collectors in Leyte.
Concessionaire / Consignors	In this report concessionaires and consignors can be used interchangeably. These are businesses that sell and display its products inside the supermarkets. They are allocated with portions of the selling areas within the supermarket.
Consigned	Inventory owned by a concessionaire/consignor.
Dominant Wholesaler	Refers to largest traders that dominantly control major volume of inventories relative to a city or a municipality wet market
HRI	Hotels, Resorts and Institutions including hospitals, prisons, school and other sites where commercial catering exists.
Node	A group of businesses with similar business models operating in the distribution of vegetables used as the unit of analysis for this research.
Outright	Inventory owned by the supermarket (not managed by Concessionaire).
Purveyor	A term used by supermarkets, hotels, restaurants and other institutional buyers for select business who prepares supplies and provides them with vegetables. This can also be referred as Class A wholesaler in Cebu. Purveyors are usually selected in a bidding process.
Suki	Refers to a dedicated buyer or supplier.
Viajedor	Local term for traders that travels to other geographic markets buying or selling vegetables. They transports vegetable from a market to another market.

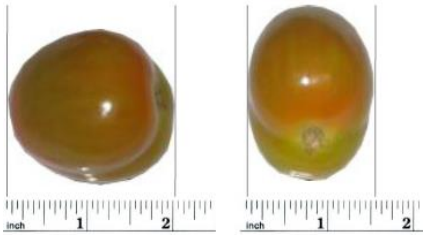
Units for mass used throughout this report are metric i.e. kilograms and metric tonnes. Different abbreviations may be used, but they all refer to metric units.

Description of vegetables

The following are the vegetables of interest to this research.

Vegetable	Images	Description
Eggplant		Eggplant or aubergine is a species of nightshade grown for its edible fruit. "Eggplant" is the common name in North American and Australian English but British English uses "aubergine". Sources: https://en.wikipedia.org/wiki/Eggplant http://pngimg.com/img/vegetables/eggplant
Bitter Gourd		Bitter gourd, also known as bitter melon is a unique vegetable-fruit that can be used as food or medicine. It is the edible part of the plant Momordica Charantia, which is a vine of the Cucurbitaceae family and is considered the most bitter among all fruits and vegetables. Sources: https://en.wikipedia.org/wiki/Momordica_charantia http://www.juicing-for-health.com/wp-content/uploads/2012/06/bittergourd.jpg

Tomato



Tomato is one of the most economically important vegetable crops in the world. In the Philippines it is an ingredient in many dishes. Tomato ranks second only to eggplant in production area in the Philippines. Tomato production is dominated by small-scale farmers who favour this crop for its relatively high cash value.

Although there may have been some confusion in some interviews and with Government statistics, tomatoes known as salad tomatoes, cherry tomatoes and other types not traditionally grown in Southern Philippines are not the subject of this research.

Sources:
http://www.absp2.cornell.edu/projects/intersect.cfm?productid=3&countryid=3

http://www.mb.com.ph/profit-in-tomatoes/

Sweet Pepper

Sweet Pepper (Capsicum annuum L.) belongs to the solanaceous family and can be grown throughout the year.

Although there may have been some confusion in some interviews and with Government statistics, bell peppers, chillies and capsicums are not the subject of this research.

Sources:
https://en.wikipedia.org/wiki/Capsicum

http://www.botanical-journeys-plant-guides.com/sweet-banana-peppers.html

1. Executive Summary

Market research in three regions of Southern Philippines has been conducted to identify the characteristics of segments for selected vegetable as a means of providing an evidence base for small-scale vegetable farmers to make informed market-led decisions. This report contributes to Research Question 1 of ACIAR Project ABG/2012/109.

An exploratory research methodology was adopted and data was collected by conducting semi-structured interviews with value chain members linking farmers and consumers. Participants were purposefully selected based on their organisation's size, with the largest actors in each segment being interviewed where possible. Farmers and consumers were not included because their needs and knowledge have been explored by other activities within this ACIAR project.

Distribution of vegetables in southern Philippines is complex and not well documented in the literature. This research may be the first substantial attempt at systematically identifying the specific characteristics of different types of actors that operate between farmers and consumers. The collection of accurate data was challenging because of the lack of prior research, the complexity of distribution channels, the stage of the industry's life cycle in the Southern Philippines and because vegetables are not a significant crop in the region. Despite the difficulties, the data collected provides a foundation on which market segment decisions can be made by farmers and can provide a framework for data collection into the future.

Traditional wet markets still dominate vegetable distribution in the locations studied. Prices are established based on supply and demand. Vegetable quality standards are driven more by seasonal conditions, traditional production and post-harvest handling methods than focused attempts to deliver vegetables that meet quality expectations of downstream customers or consumers. Whilst demand for premium quality vegetables appears to be increasing, driven by a slow move by consumers towards the convenience of shopping at supermarkets and specifications set by chefs in restaurants offering premium dining experiences, the demand for premium quality vegetables is very small. One implication of this is that farmers may find it difficult to secure profitable commercial relationships with the small number of customers seeking premium quality vegetables, but may find wholesalers that are interested in differentiating their business by offering a range of consistent and reliable quality vegetables. Wholesalers generally require larger volumes of vegetables than any of the individual users of vegetables such as concessionaires and premium dining experience restaurants, and this characteristic may make them an attractive target for farmers who can collaborate to provide the vegetables with characteristics sought by forward-thinking wholesalers.

The next step in this project is to share the information obtained through the research with farmers and facilitate their decision-making with respect to selection of market segments and alignment of farming practices, scheduling, post-harvest handling and marketing to optimise their incomes.

2. Introduction

This report is a Regional Market Analysis (RMA) for ACIAR Project ABG/2012/109 "Developing vegetable and fruit value chains and integrating them with community development in the southern Philippines". Value chains are in fact complex systems that can be difficult to understand, perhaps particularly in developing markets where the primary basis of purchase decision-making is price. As markets for vegetables mature and become more sophisticated, decision-making increasingly may include other product and service characteristics such as convenience, semi-processing, packaging, safety, production methods such as organic, specifications and quality. As markets mature, specialist business entities become established to specialise in specific products and services. This creates opportunities for businesses to differentiate and satisfy the emerging needs of industrial, commercial and retail customers which may include businesses at any point in the distribution network.

2.1. Vegetable consumption in the Philippines

This project is focused on vegetables specifically sweet pepper, eggplant, bitter gourd and tomatoes. Per capita consumption of vegetables in the Philippines is approximately 40kg which is well below the 146-182kg recommended by FAO (Batt et al. 2011b). Increased demand for vegetables, increasingly ready-to-cook and ready-to-prepare vegetables purchased by higher-income consumers is regularly reported as an emerging trend in developing nations. However, perhaps until recently, this does not appear to be the case in the Philippines, as evidenced in Table 2-1 (Gulati et al. 2007, p. 94) in which the Philippines is the only country in which the per capita consumption of vegetables did not increase in the 10 years to 2000.

Table 2-1: Average changes in per capita consumption of selected foods (annual percentage growth rate, 1990-2000) (from FAO Food Balance Database).

	Bangladesh	India	Pakistan	Indonesia	Philippines	Thailand	Vietnam	China
Cereals	0.2	–0.4	0.0	0.9	0.1	0.2	1.2	–1.3
Vegetables	0.1	2.1	2.2	3.3	0.0	0.5	4.9	8.5
Fruit	–1.5	2.9	0.5	1.9	0.2	0.3	1.7	10.0
Milk	0.2	1.9	3.0	5.9	1.5	5.0	13.5	5.0
Meat	1.0	0.9	0.2	0.4	4.7	1.5	4.3	6.8
Eggs	4.6	1.9	1.9	3.7	1.6	–0.4	5.8	9.7
Fish	4.7	2.0	1.6	3.2	–1.4	3.9	3.7	8.4

Although there appears to be less apparent increased consumption of vegetables in the Philippines compared with other Asian developing nations, the presence of pre-prepared vegetables in modern supermarkets in Cebu and Davao does demonstrate that at least some

demand exists in southern Philippines, albeit limited, and almost certainly less than other countries in the region and more urbanised areas within the Philippines. Therefore, perhaps it can be concluded that Cebu and Davao are at the very early stage of development, and that changes in consumption and supply arrangements that have occurred in other regions are yet to occur in the southern Philippines, and that identifying the changes that have occurred in other regions may be useful for this project, particularly as there may be little evidence of these changes occurring in the region of interest to this project. Evidence of consumer demand for minimally processed vegetables in Davao city was provided by Concepcion (2013) which identified that since 2009 pre-sliced, chopped and mixed vegetables have been available. This research also identified that around 62% of the sample surveyed had tried minimally processed vegetables, and 18% purchased regularly but that most of those surveyed were not prepared to pay more for them. However, those that were willing to pay more for the convenience said they would be willing to pay 10% - 15% more. The research concluded by saying that based on the sample of 300, the market for minimally processed vegetables in Davao City was fairly large, and estimated the value of that market at PhP 540,000 per week.

Gulati et al. (2007) noted that growth in consumption of perishable products including vegetables in developing nations is accompanied by:

- Increased consumer awareness of and demand for food safety and convenience.
- The development of effective cold chains and infrastructure for improved cold chain management.
- New forms of retailing including large-format supermarkets.
- Improved management of communications along the chain to better manage product requirements.

So, even though the existence of characteristics such as these may not be widespread in the region of interest to the current research, that they will become part of the future of vegetable marketing in the region appears to be assured.

2.2. The increasing role of supermarkets in vegetable distribution

The role of supermarkets in the Philippines was investigated by Digal (2015) and identified that the number of supermarkets in the Philippines is increasing and that the share of groceries sold by supermarkets has also increased in recent years. Of particular interest in the

research conducted by Digal (2015, p. 426) was the very significant increase in the sales of fruits and vegetables through supermarkets from 2000 to 2010, summarised in Table 2-2.

Table 2-2: Growth rate of fruit and vegetable sales in selected supermarkets in Philippines

Store	Sales in USDm			% Growth Rate	
	2010	**2005**	**2000**	**2010**	**2005**
SM	207	47	16	340	194
Puregold	56	3.4		1,547	
Robinsons	66	25	7	164	257
Rustans	58	30		93	
Makro		26	20		30
President Chain (7-11)	1	.4	.4	150	0
Others	25	15.4	75.8	62	(80)

Of course, the information in Table 2-2 represents supermarket sales across all of the Philippines including metropolitan Manila, and the primary data collected as part of this RMA provides additional insights into the status of vegetable sales in supermarkets in the regions of interest to this project.

2.3. Value chain considerations

This project is concerned with understanding how smallholder farmers can benefit financially by producing vegetables that meet customer needs. In a perfect scenario the quality attributes sought by consumers are communicated efficiently to growers who employ their skills and resources to ensure only vegetables that meet identified consumer requirements are supplied, and that all actors in the chain that links farmers with consumers share information and handle vegetables appropriately. According to Digal (2005), many farmers (65% of the 207 farmers in the study) in southern Philippines grade their vegetables in order to achieve a superior price, and the price achieved by grading exceeded the costs involved. However, one third of the farmers surveyed do not grade their vegetables, and as the study observed, this is because there is a market for low and variable quality, inexpensive vegetables in the traditional markets in the southern Philippines. The study also noted that margins for low quality vegetables were low and that farmers had difficulty extracting themselves from producing low quality vegetables because of a range of reasons including that their buyers,

who may also provide crop inputs credit, did not want them to grade and preferred them to supply their vegetables 'all in' at the market price at the time. Digal (2005, p. 88) also noted that "if farmers are to increase income, they must be able to tap markets other than the traditional wet markets". This further supports the current study which aims to identify financially-attractive market segments for smallholder farmers.

2.4. Non-retail markets for vegetables

The role of non-consumer markets is also of interest to this project. Markets for food may be divided into three sectors; retail (consumer), commercial (food service) and industrial (processing), and Batt et al. (2011a) and Batt et al. (2011b) noted the emerging opportunity being presented by the institutional (food service) sector. Consequently this research will investigate opportunities for vegetables in all sectors.

2.5. Vegetable safety concerns

This project is also concerned with vegetable safety. Vital et al. (2014), identified the existence of food-borne pathogens including *Escherichia Coli* (16.7% of the sample of 300) *Salmonella spp* (24.7% of the sample) and somatic phages (47% of the sample) on fresh produce (bell pepper, cabbage, carrot, lettuce, and tomato) sourced from supermarkets and open air markets in the Philippines. No significant difference was identified in the existence of contamination from supermarket or open market-sourced vegetables. The researchers concluded that Filipino consumers who are increasingly becoming aware of the benefits of consuming vegetables as part of a healthy diet, are placing themselves at unintentional increased risk of gastrointestinal illnesses from contaminated vegetables.

Another concern related to vegetable safety is the risk to consumers of pesticide residues. No prior research of vegetable residues from the regions included in the current project was identified. However, an investigation of insecticide residues in eggplant in the largest eggplant production region of the Philippines by Lu (2011) found that 40% of the eggplants sampled had positive residues of two of the seven insecticides tested. In a study of pesticide use before and after integrated pest management (IPM) training on pakchoi in the Philippines, Ulrichs et al. (2011) found that prior to the training pesticide residues were detected in seven of nine field samples and that two exceeded established maximum residue levels. It appears that more studies have been undertaken to investigate farmer exposure to chemicals and a study of health records in the Philippines by Ulrichs et al. (2011) demonstrated an increase in the number of reported pesticide poisoning cases in the Philippines related to overuse, especially without

precautionary measures and inappropriate equipment. Overuse presumably results in contamination and risk to consumers.

3. Scope of the Regional Market Analysis

This is the report of a market investigation about the market and distribution channels for tomatoes, sweet pepper, bitter gourd and eggplant that satisfy the needs of industrial, commercial and retail customers in Cebu and Davao. This report does not include:

1. Information from farmers in the communities involved in this project as this information has been collected and reported by Community Development team members.

2. Information from consumers as this information is the subject of consumer surveys conducted and reported by others.

3.1. Project Aim

The aim of the ACIAR Project ABG/2012/109 is to improve smallholder net income, livelihoods and community wellbeing by developing fruit and vegetable value chains integrated with community development in the southern Philippines. The Regional Market Analysis contributes to the project aim by providing data on which evidence-based decisions about emerging attractive market segments can be made.

3.2. Project Objectives

The objectives for the ACIAR Project ABG/2012/109 are:

1. To identify opportunities for improving farmer-to-market chain performance, competitiveness and farmer net income; and associated opportunities for community development;

2. To develop value chain to improve the level and sustainability of smallholder net income and livelihoods;

3. To maximise community benefits from value chains and enhance community capacity to support value chain performance.

The Regional Market Analysis contributes to the project objectives by providing the data by which market opportunities can be identified and by prioritising the attractiveness of market segments which may be available for and accessible by smallholder farmers.

3.3. Research Questions

The questions which guide the ACIAR Project ABG/2012/109 project are as follows:

1. What are the market-led opportunities that will improve the competitiveness of targeted smallholder vegetable and fruit enterprise?

2. What chain-building strategies will engage smallholders and their communities to take advantage of these opportunities?

3. How can farmers and their communities identify, evaluate and adopt technical and organisational innovations that improve income and livelihoods?

4. What farm system, community-based and institutional processes can facilitate the communities to which smallholders belong and the value chains in which smallholders are involved, becoming mutually supportive?

5. How can approaches that lead to mutually supportive value chains and smallholder communities be sustained and scaled up?

The Regional Market Analysis contributes to the research questions by providing an evidence base to answer to RQ 1 and to allow decisions to be made with respect to RQs 2-5.

4. Methodology

The methodology employed for this research was guided by the project aim, objectives and research questions and the definition of sustainable value chains provided by Neven (2014, p. vii):

> *the full range of farms and firms and their successive coordinated value-adding activities that produce particular raw agricultural materials and transform them into particular food products that are sold to final consumers and disposed of after use, in a manner that is profitable throughout, has broad-based benefits for society and does not permanently deplete natural resources.*

To provide sufficient information about the distribution and marketing of vegetables in Cebu and Davao in a manner consistent with the definition above it was necessary to gather data from stakeholders involved in vegetable distribution, financing and other services from the farm gate to the point of retail sale. As noted under the heading of scope data was not collected from farmers or consumers as part of the RMA.

Vegetable distribution and marketing in developing countries is changing rapidly which means that secondary data, whilst useful, may not be as up-to-date as needed for this project. Consequently, primary data was collected prior to a fully completed review of existing literature and secondary data sources. This was consistent with the recommendation of Porter (1980, p. 371) to "get into the market early" to avoid a common problem in conducting industry analyses of spending too much time reviewing published sources.

Taking note that vegetable distribution channels were potentially rapidly changing in Cebu and Davao it was decided to not assume that the distribution of vegetables would follow traditional distribution models. It was therefore agreed to adopt an exploratory research approach. Exploratory research has the primary objective of providing insights and comprehension of a situation and can be the major part of a research methodology in business to business research (Malhotra 2010). Exploratory research can include qualitative and qualitative data, and both were collected during this research. By adopting an exploratory research approach the investigators were able to identify new business models of intermediaries. Had a more traditional approach of identifying known intermediaries and then

interviewing them been adopted, the new business model intermediaries may have been overlooked. For the sake of this research the term used to define a group of businesses with a similar business model was 'node'. To ensure new and emerging nodes were identified a snowball sampling technique was employed which meant that interviewees were asked to identify large actors of potential interest to our research.

4.1. Primary data collection

Primary data collection was by way of semi-structured interviews. The use of semi-structured interviews was important because this provided the researcher with more control than unstructured interviews and allowed interviewees to provide a wider range of responses than using closed-ended questions (Given 2008; Minichiello et al. 2008). The use of semi-structured interviews also provided the opportunity for interviewees to discuss broadly the issues and then, with probing and prompting from the researcher, for example, "how? why?" The use of a mailed survey questionnaire was deemed inappropriate because of the research team's previous experience of low return rates and because the investigators wanted to obtain answers to 'why and how' type questions which are difficult to obtain from written questionnaires.

Semi-structured interviews were guided by an interview guide which was developed by project personnel based on an understanding of the factors that would be important to the project and prior knowledge of vegetable distribution practices in the region. The interview guide is attached as Appendix I.

The use of a single interview guide for interviews provided a consistent set of data which facilitated its analysis. Although a single interview guide was employed, it was agreed that interviews were to be modified as opportunities to identify additional information presented themselves. It was noted that the interviewer was the instrument (Merriam 2002) and a skilled interviewer engages with the interviewee and creates and responds to opportunities for useful information not included in the interview guide.

The interviews were undertaken by Filipino team members and not by Australians because Australian team members were generally unfamiliar with terms such as locations and local names of vegetables and because there is a significant translation loss due to 'Aussie' accent even with people who have sound English. Interviews were conducted in the language with

which the interviewee was most familiar to allow them to be able to express meaning in the way with which they were most comfortable.

4.2. Selection of participants

Participants to be interviewed were purposefully selected based on the following criteria:

1. Their business activities formed part of the value chain of vegetables in regions of interest to the project. Different business models employed by businesses were noted and grouped together. By taking this approach it was found that a number of different business models were identified that traditionally may have been referred to as 'wholesalers'. However, because the research was focused on identifying similar business practices for each node, they were classified separately.

2. Their businesses were larger than average. Whilst our preference was to interview the three largest businesses within each discrete group (node) this was not always possible.

It was agreed to interview just three businesses from each node and, as long as they were larger than average businesses, (preferably the largest three), and the information obtained was consistent, it was accepted that the data obtained was representative of the group of businesses represented by the interviewees. It should be noted that this research is not being represented as statistically valid quantitative research. Its purpose was to identify themes which represent opportunities and challenges for smallholder farmers which was why a qualitative approach was selected.

4.3. Number of interviews

The number of interviews conducted is relevant because it affects the conference with which the data is presented. The number of interviews conducted within each region included in Tables 4-1, 4-2 and 4-3.

Table 4-1: Interviews completed by node in Davao

Node	Number of Interviews In Davao
Assembler-Collectors	3
Collector-Wholesalers	3
Viajedors	2
Specialised Wholesalers	2
Producer Wholesalers	1
Small-scale Wholesalers	3
Concessionaires	3
Purveyors	3
Shippers	3
Supermarkets AB	1
Supermarket C	1
Hotels and Restaurants (4 and 5 star)	3
Budget Hotels and Restaurants	2
Institutions	4
Wet Market Retailers	2
Industry Specialists	1
Total	37

Table 4-2: Interviews completed by node in Leyte

Node	Number of Interviews In Leyte
Collectors	2
Viajedor	1
Purveyor Wholesalers	1
Viajedor Wholesalers	2
Wet Market Retailers	2
Supermarkets	1
Institutions	2
Total	11

Table 4-3: Interviews completed by node in Cebu

Node	Number of Interviews In Cebu
General Wholesaler	4
Specialised Wholesaler	3
Class A Wholesalers	3
Wet Market Retailers	2
Concessionaires	4
Supermarkets	5
Budget Hotels	1
Premium Hotels and Resorts	6
Restaurants (Fast food, casual dining, buffet)	4
Total	33

4.4. Data management and analysis

Interviews were recorded electronically. It was decided not to convert the recording to a full typed transcription because this would require too much effort for little benefit, but the recording was kept to provide a chain of evidence and for future reference if required.

An interview report was prepared for each interview. To maintain consistency the following was recorded in each report:

1. Contact details of interviewee and date of interview.
2. A brief description of the business eg relative size in the node, volume or value of vegetables handled and general description of the business model.
3. Bullet points of the information provided, in the same order as the questions.

Data collection as described above allowed a regional vegetable distribution diagram to be prepared and populated with data. Where information related to volumes, prices or other data related numbers have been provided the basis of the estimates made are included in the results section of this report.

Qualitative data analysis involves a process of data reduction to identify themes and patterns. Data analysis was undertaken for each node by summarising the information obtained from the interviews for each node into a single table which was included in the results section of this report. The data for each node was then assessed against the characteristics identified in Table 4-4. The characteristics identified in Table 4-4 were influenced by Thompson and

Strickland (1987) which explains how to conduct an industry analysis and identify the relative attractiveness of market segments and strategies.

Table 4-4: Criteria used for assessing attractiveness of nodes

Characteristic	Why Important
Consumer and intermediary (eg. processor, wholesaler, distributor, exporter, supermarket, restaurant) trends, desires, unmet and emerging needs.	Ultimately consumer and intermediary requirements drive demand upstream and by knowing consumer concerns, trends and desires, farmer groups can use that knowledge to guide their product selection, quality standards and value chain partners.
Quality characteristics sought but not being delivered consistently.	Identifying quality characteristics and product specifications that are sought but not being delivered, but that can economically be delivered by farmer groups is a very important possible source of competitive advantage.
Prices and value-add opportunities.	By knowing the buying and selling prices and estimating the costs of any value-adding that occurs at each node, farmer groups will be able to map out a strategy for their own value-adding which may develop progressively as they gain experience and resources.
Stage of product life cycle.	Selecting market opportunities and / or supply chains that are in a growth stage will provide better opportunities for farmer groups because it is usually easier to establish a position in a growing market than it is in a market that is mature or in decline as these are usually fiercely held by existing suppliers on the basis of long term relationships (which are normally impossible to break).
Sources and strength of competition.	Establishing and sustaining a profitable position requires that the farmer groups need to understand, predict and respond to all sources of competition including existing rivals, threat of new entrants, power of suppliers, power of customers and substitutes.
Willingness and capacity to provide support to farmer groups including finance for inputs, agronomic advice, market intelligence, other.	Willingness of supply chain partners to collaborate with farmer groups is especially important in the early stages of development because farmer groups have very limited resources and this will limit the marketing decisions they can make.
Volume of commodity traded.	Both the specific tonnages and relative scale of different supply chains compared with existing and future predicted supply capacity is important because matching the current and future production capacity of farmer groups with particular nodes / supply chains may be important so they are focused on the ones in which they can secure and defend a long term profitable position.

5. Results and Discussion

5.1. Davao region

Davao region is located in the Southern portion of Mindanao, Philippines. It consists of five provinces and five cities namely, province of Davao del Norte, Davao del Sur, Davao Oriental, Davao Occidental and Compostela Valley and cities of Davao, Tagum, Panabo, Digos and Samal. Davao region is bounded by provinces of Surigao del Sur, Agusan del Sur and Bukidnon to the north, Philippine Sea to the east and Central Mindanao provinces to the west. The region experiences type IV climate in which rainfall is evenly distributed throughout the year. It has no distinct dry and wet season. Moreover, it is not directly hit by typhoon as it is situated outside the typhoon belt, thereby further enhancing its agricultural production potentials. The map of the Philippines and Davao region shown in Figure 5-1were generated from Wikimedia.org.

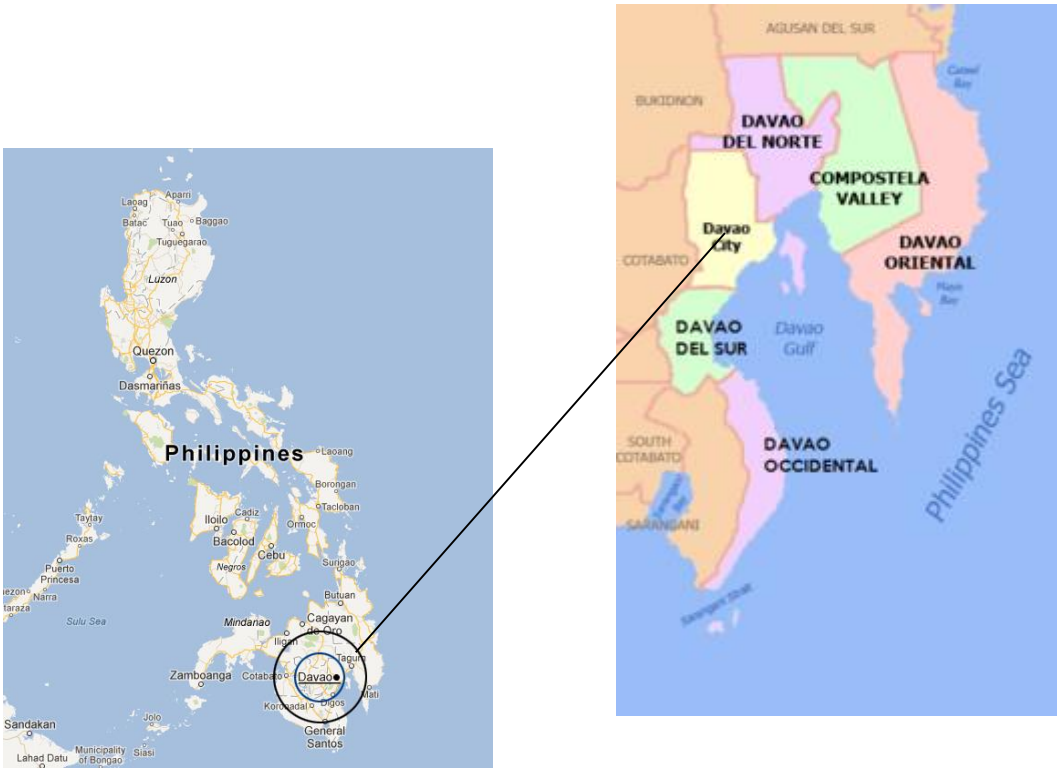


Figure 5-1: Map of the Philippines showing Davao region

Davao region has a total land area of 20,357.42 square kilometres, 37 percent of which (7,583.35 square kilometres) is agricultural land. In 2013, the top agricultural commodities in the region are banana, hog, chicken, rice and coconut (Philippine Statistics Authority 2016). In 2010, total population of the region was 4,452,549 and estimated to reach 4,708,800 in

2015. The employment rate in the region improved to 94.2 percent in 2014 from 93.1 percent in 2013. Most of the labour force are employed in the sectors of agriculture and information and communication technology (MInda News 2015).

As of 2012, the region has 1,078 households with average household size of four. The annual average family income is PhP 196,000, higher by 18 percent over the PhP166,000 in 2009. On the other hand, the annual average family expenditure is noted at PHP 153,000 depicting an increase of 7.7 percent compared from annual average expenditure in 2009.

Food has been the top priority item listed under expenditure. In the 2012 data from Bureau of Agricultural Statistics, food accounts 42.8 percent of the total family expenditure. Daily food intake of Filipinos comprised mostly of rice, meat, fish and vegetables. Table 5-1 shows the annual per capita consumption of vegetables[1] particularly eggplant, bitter gourd and tomato in Davao region. The consumption of eggplant in 2012 increased by 8.6 percent from 2008-2009. On the other hand, consumption of bitter gourd and tomato decreased by 18 and 20 percent, respectively. The low consumption of bitter gourd can be attributed to the low preference of Filipinos on the said vegetable because of its distinct bitter taste. The per capita consumption of tomato is also minimal because it is commonly used as 'lamas' spice in some Filipino dish like fish stew. For most of the dishes that requires tomato, tomato sauce or paste is what is commonly used.

In the study conducted by Concepcion (2005), it was found that price is one of the main criteria for purchasing vegetables. Most households in Mindanao generally purchase vegetables three times a week mostly from the wet market. The vegetables commonly purchased are squash, eggplant, cabbage, okra and string beans. Consumers generally buy vegetables from wet markets because of wide product assortment and vegetables are sold at lower prices than in supermarkets (Concepcion, 2012). However, the purchasing behaviour of consumers appears to be changing gradually with increasing amounts of vegetable being purchased form supermarkets as reported by a number of researchers.

[1] No available data on per capita consumption of sweet pepper

Table 5-1: Annual per capita consumption of vegetables in Davao region: 2008-2009, 2012

Vegetable	Vegetable consumption (in kg)		
	2008-2009	2012	% Change
Eggplant	5.8	6.3	+8.6%
Bitter gourd	2.7	2.2	-18.5%
Tomato	2.9	2.3	-20.69%

Source: Bureau of Agricultural Statistics

Davao City is the most populated in Davao region. In 2010, it has a population of 1,449,296 or 32.5 percent of the region's population. The working age group (age 15-64), school going population and the dependent population (age 0-14 and 65 and over) account for 65%, 29% and 35% of the population, respectively (NSO as cited in Davao City Government). Davao City has three congressional districts and further divided into 11 administrative districts. The city is composed of 182 barangays[2] (Davao City Government, undated).

Davao City has a total land area of 244,000 hectares, 73,086 hectares or 30 percent of which is agricultural land. About 44,748 hectares is production area for crops, excluding plantations. The crops grown are industrial crops (i.e. cacao and coconut), fruits (i.e. durian, mango, pineapple and pomelo), corn, rice, vegetables and root crops. About 50 percent of the production area is planted with industrial crops, 32 percent is planted with fruits, 11 percent is planted with corn, 5 percent is planted with rice and only 1.4 percent (620.8 has) is planted with vegetables (City Agriculturist's Office as cited in Davao City Government). Production of vegetables in the city is mainly located in Marilog, Toril, Tugbok, Calinan and Baguio districts. The top vegetables produce are squash, eggplant, bitter gourd, string beans and tomato.

Davao City is one of the largest markets for vegetables in Mindanao. The city requires large volume of vegetables to cater to the needs of the growing population. It also serves as a trans-shipment point for vegetables going to other cities, provinces and regions (Concepcion, 2012). Since the quantity of vegetable produced in the city is insufficient, multiple sources of vegetables are needed. Neighbouring provinces like Davao del Sur, Davao del Norte, Bukidnon, South Cotabato and Compostela Valley supply vegetables to the city. Large volume of temperate vegetables comes from Kapatagan, Davao del Sur. Other sources of

[2] Barangay is the smallest Local Government Unit of the Philippines.

temperate vegetables are Bukidnon and Marahan. Moreover, supply sources of tropical vegetables are Bansalan, Davao del Sur, General Santos, Marilog and Maragusan, Compostela Valley. The following table shows the supply sources of different types of vegetables sold in Bankerohan market. The information presented in the table is based on the RMA interviews conducted.

Table 5-2: Production locations of vegetables

Production areas	Vegetables
Kapatagan, Davao del Sur (located in the southern part of Davao region approximately 75 kilometres away from Davao City)	cabbage, Chinese pechay, carrots, potato, sweet pepper, tomato, baguio beans
Bansalan, Davao del Sur (located in the southern part of Davao region approximately 80 kilometres away from Davao City)	eggplant, bitter gourd, string beans, tomato, sweet pepper,
Marahan, Davao City (approximately 64 kilometres away from the city proper)	chayote, taro, tomato, sweet pepper, eggplant, bitter gourd, pechay, baguio beans, lettuce, cabbage
General Santos, South Cotabato (located in the southernmost part of Mindanao approximately 148 kilometres away from Davao City)	sweet pepper, bitter gourd, eggplant, cucumber, string beans, pechay, tomato
Calinan, Davao City (approximately 36 kilometres away from the city proper)	Tomato, squash, string beans, taro, bitter gourd, okra, eggplant
Marilog, Davao City (approximately 60 kilometres away from the city proper)	chayote, squash, eggplant, bitter gourd, tomato, sweet pepper, cucumber, baguio beans,
Bukidnon (approximately 200 kilometres away from Davao City)	cauliflower, broccoli, lettuce, potato, celery, parsley, cabbage,
Maragusan, Compostela Valley (located in the northern part of Davao Region, approximately 127 kilometres away from Davao City)	sweet pepper, tomato,
Panabo (located in the northern Davao approximately 30 kilometres away from Davao City)	eggplant

5.1.2. Summary of data collected in Davao

An important part of qualitative data analysis is the reduction of data and the following table, which extends over six pages, summarises the data collected about market segments for vegetables operating in Davao.

Table 5-3: Summary of nodes identified in Davao

Characteristics to be assessed		Nodes				
		Assembler-Collector	Collector-wholesaler	Viajedor	Shipper	Specialised Wholesaler
Description		Buy at the production sites and sell to *viajedors*, small-scale wholesalers and shippers	Buy at the production sites; wholesale and retail vegetables; sell to concessionaires, *viajedors* and consumers	Wholesalers or retailers from other cities of provinces; Buy vegetables in Bankerohan market and transport them to their respective localities	Buy Class A vegetables from farmers and any wholesaler and ship it to major urban areas in Luzon (Metro Manila) and the Visayas; Peak shipping season is from June to December	Trade only one or two types of vegetables
Estimated number of actors per node		100	20	80	10	15
Market trends		No significant trend observed	Growing number of actors in the node; Perform forward integration	Buys from the wet market; has established relationship with preferred suppliers	Source directly from farmers; Provide assistance to farmers in terms of production advice and financing agricultural inputs	Shifted from general wholesaler to specialized wholesaler because income is higher
Average weekly volume traded by respondents interviewed	Eggplant	1.3-4.6 tonnes	240 kg-3 tonnes	NA	500 kg – 1.5 tonne	NA
	Bitter gourd	NA	240 kg-3 tonnes	NA	500 kg – 2 tonnes	NA
	Sweet pepper	300-900 kg	400 kg-1 tonne	1200	700 kg – 3 tonnes	690 kg – 2 tonnes
	Tomato	2.5-4.5 tonnes	1-1.5 tonnes	1000	800 kg – 2 tonnes	5-23 tonnes
Average weekly volume traded per node	Eggplant	20-80 tonnes	3.5- 43 tonnes		5 – 10 tonnes	NA
	Bitter gourd	NA	3.5 43 tonnes		5 – 10 tonnes	NA
	Sweet pepper	8-27 tonnes	6- 14 tonnes	20tonnes	7 – 20 tonnes	3-7 tonnes
	Tomato	35-75 tonnes	15- 21.5 tonnes	17tonnes	10 – 20 tonnes	20-90 tonnes
Quality characteristics sought	Eggplant	10ins, straight, Banate King variety	8-10ins, straight, smooth, shiny, purple colour, Banate King variety		Large, straight, not deformed, Condor and Banate King variety	NA
	Bitter gourd	NA	8-10ins, straight, green or light green colour, Jade Star and Galaxy variety		Large, straight, not deformed, Galaxy variety	NA
	Sweet pepper	4ins, smooth, shiny, colour red with shade of green, Smooth Cayenne	2.5 ins., smooth, shiny, red with shade of green colour, Smooth Cayenne and Emperor variety	1.5-2.5 ins, red and green colour,	2.5 ins, red and red with shade of green colour, Smooth Cayenne and Sultan variety	Sultan variety
	Tomato	1.5-2.5ins diameter, shiny, pinkish colour, Pinkish variety	1.5-2.5ins diameter, smooth, shiny, pinkish colour, Pinkish and Diamante Max variety	1.5-2.5 ins, pinkish, green and orange colour	2.5 ins, orange with shade of green colour, Diamante Max variety	half-ripe, round, 2-3 inches in diameter, Diamante max variety

Characteristics to be assessed		Nodes				
		Assembler-Collector	**Collector-wholesaler**	**Viajedor**	**Shipper**	**Specialised Wholesaler**
Value created		Provide financing to farmers; Transport of vegetables	Provide financing to farmers; Transport of vegetables	Transport of vegetables; take ownership of the products	Sort, pack, and transport products	Sort vegetables; Some provide crates to farmer-suppliers free of charge
Buying and selling prices (PhP/kg) Note: Range is due to seasonal variations	Eggplant	Buying price is 5-25 Selling price is 8-35	Buying price is 5-30 Selling price is 8-45	NA	Information not divulged	NA
	Bitter gourd	NA	Buying price is 10-50 Selling price is 15-60	NA	Information not divulged	NA
	Sweet pepper	Buying price is 12-100 Selling price is 20-120	Buying price is 15-100 Selling price is 25-120	Buying price is 30 Selling price is 45	Information not divulged	Buying price is 25-80 Selling price is 30-110
	Tomato	Buying price is 4-40 Selling price is 8-48	Buying price is 4-24 Selling price is 8-36	Buying price is 6-40 Selling price is 16-50	Information not divulged	Buying price is 8-26 Selling price is 8-32
Stage of node life cycle		Mature	Mature	Mature	Mature	Mature
Competitive forces	Existing level of Rivalry	Moderate	Moderate	High	High	High
	Power of suppliers	Low	Low	Moderate to High	Low to Moderate	Moderate
	Power of customers	Low	Moderate	Low	Moderate	Moderate
	Threat of new entrant	Low	Low	Low	Low	Moderate
	Threat of substitute Node	Moderate	Low	Moderate	Moderate	Moderate
Willingness to source directly from farmer groups		Yes	1 of 3 respondents is willing to source directly from farmer groups	Yes (viajedor from Surigao); No (viajedor from Tagum)	Yes	Yes

Characteristics to be assessed		Nodes				
		Producer-wholesaler	Small-scale wholesalers	Wet Market Retailers	Concessionaires	Purveyors
Description		Control large hectares of land; have contracted farmers; shoulder all production costs; transport products from farm to market and sell them to their regular customers	Wholesales and retails vegetables in the wet market; mainly wholesales	Retail vegetables in wet markets; Sell to household buyers, some restaurants, smaller retailers and small community markets	Buy Class A vegetables from various suppliers and sell them to customers in supermarkets	Sell mainly to supermarkets (outright purchase), hospitals, hotels, restaurants and institutional buyers
Estimated number of actors per node		20	50	250	10-15	
Market trends		They have existed in the industry for more than 10 years; only few are in this type of business model	Increasing number of farmers who do wholesaling and retailing functions	Utilization of Class B and sometimes unsold vegetables for minimal processing (pre-slicing and packing)	Increasing number of supermarkets in Davao City, hence creating opportunities for concessionaires to scale-up in their operations	Outsourcing of food service by institutions; Supermarkets increasingly buying from purveyors and selling them as house brand
Average weekly volume traded by respondents interviewed	Eggplant	NA	150 – 200 kg	140-175 kg	880 kg – 1 tonne	294-450 kg
	Bitter gourd	NA	150 – 200 kg	105-140 kg	1 – 2 tonnes	350-470 kg
	Sweet pepper	2-3 tonnes	600 – 900 kg	21-35 kg	225 kg	75 kg
	Tomato	9 tonnes	3 – 5 tonnes	105-140 kg	800 – 1 tonne	267-458 kg
Average weekly volume traded per node	Eggplant	NA	4 – 5 tonnes	6 –7.5 tonnes	4 – 5 tonnes	5.3-6 tonnes
	Bitter gourd	NA	4 – 5 tonnes	4.5-6 tonnes	2 – 3 tonnes	5.1-5.7 tonnes
	Sweet pepper	10-15 tonnes	16 – 24 tonnes	900 kg-1.8 tonne	1 tonne	1.2-1.7 tonne
	Tomato	44 tonnes	66 – 131 tonnes	4.5-6 tonnes	5 tonnes	1.8 tonne
Quality characteristics sought	Eggplant	NA	Violet-coloured, straight, 8 inches long, Banate King variety	Medium, straight, no holes	Purple-coloured, 6-8 inches long, straight-shaped, well-formed, smooth and shiny	10 inches, straight, purple coloured, Banate King variety
	Bitter gourd	NA	Green-coloured, 8-10 inches long; Galaxy variety	Medium	Dark green, 8-10 inches long, straight-shaped, well-formed	12-14 inches (3pcs in 1kg), no cracks and bruises, Galaxy variety
	Sweet pepper	Half-ripe and Sweet Cayenne variety	Sweet Cayenne variety	Not ripe	Mix of red, green and orange colours, 4-5 inches long, smooth and shiny	4 inches, red with a shade of green, Cayenne
	Tomato	Half-ripe and Diamante Max variety	Pinkish and Diamante max varieties	Shades of green, not ripe	Mix of red, green and orange colours, 2 – 3 inches in diameter, smooth and shiny	Large, smooth and shiny, orange with a shade of green, Native tomato

Characteristics to be assessed		Nodes				
		Producer-wholesaler	**Small-scale wholesalers**	**Wet Market Retailers**	**Concessionaires**	**Purveyors**
Value created		Provide financing to farmers; transport goods	Sort, grade, slice, pack vegetables	Provide access to fresh and inexpensive wide variety of vegetables to the vast majority of Davao consumers	Procure, sort, pack and retail vegetables	Purchase significant volume of Class A vegetables; Integrated vertically by co-financing farmers
Buying and selling prices (PhP/kg)	Eggplant	NA	Buying price is 7-15 Selling price is 10-25	Buying price is 20 Selling price is 30	Information not divulged	Information not divulged
	Bitter gourd	NA	Buying price is 8-25 Selling price is 15-35	Buying price is 40-50 Selling price is 60-70	Information not divulged	Information not divulged
Note: Range is due to seasonal variations	Sweet pepper	Selling price is 15-150	Buying price is 25-80 Selling price is 30-100	Selling price is 60-160	Information not divulged	Information not divulged
	Tomato	Selling price is 12-48	Buying price is 8-40 Selling price is 10-48	Buying price is 20 Selling price is 30-40	Information not divulged	Information not divulged
Stage of node life cycle		Mature	Mature	Mature	Growth	Mature
Competitive forces	Existing level of Rivalry	Low	High	High	Moderate	High
	Power of suppliers	Moderate	Low	Moderate	Moderate	Low
	Power of customers	Moderate	Moderate	Moderate	High	High
	Threat of new entrant	Low	Moderate	Moderate	Moderate	Moderate to High
	Threat of substitute	Moderate	Low	Low	Moderate	Low
Willingness to source directly from farmer groups		Yes	Yes	Yes	Yes	Yes

Characteristics to be assessed		Nodes				
		Supermarket AB	Supermarket C	4-5 Star Hotels and Restaurants	Budget Hotels and Restaurants	Institutions
Description		Has vegetable concessionaires; Caters to households belonging to income class AB	Has vegetable concessionaires; Caters to households belonging to income class C.	Expensive hotels and restaurants	Budget hotels and restaurants	Institutions that cater for large number of meals on a regular basis such as hospitals, prisons, schools, etc.
Estimated number of actors per node		3	10	5	50	80
Market trends		Customers looking for organic vegetables	Increase in sales of vegetables in supermarkets; Increase in number of supermarkets in urban areas	Emerging interest for organic products	Increasing number of budget hotels and restaurants in Davao City	Outsourcing food service from contractors or providers is becoming a trend
Average weekly volume traded by respondents interviewed	Eggplant		320-467 kg	40 kg	95 kg	65 kg
	Bitter gourd		228-370 kg	40-60 kg	50 kg	30 kg
	Sweet pepper		163-291 kg	70 kg	50 kg	10 kg
	Tomato		777 kg -1 tonne	80 kg	175 kg	25 kg
Average weekly volume traded per node	Eggplant	70 kg	1.6-2.5 tonnes	110 kg	3.8 tonnes	1.3 tonne
	Bitter gourd	70 kg	1.2-1.8 tonne	60-90 kg	1.9 tonne	400 kg
	Sweet pepper	Less than 20 kg	800 kg-1.5 tonne	110 kg	1 tonne	125 kg
	Tomato	200 kg	4 -5.5 tonnes	240 kg	3.5 tonnes	460 kg
Quality characteristics sought	Eggplant	12 inches, straight, well-formed, smooth, shiny, purple	6-10 inches, firm, plump, straight, fresh, free from rotting, free from any foreign smell and visible foreign matter, not wrinkled, well-coloured	6-8ins, straight, smooth, shiny, soft texture, purple colour	7-8 ins	6-8 ins, straight, smooth, shiny, soft texture, dark purple colour
	Bitter gourd	12-14 inches, straight, well-formed, dark green	10-12 inches, firm, plump, straight, fresh, free from rotting, free from any foreign smell and visible foreign matter	6-8ins, straight and with pointed edge or tip, dark green colour	10 ins	Not mentioned
	Sweet pepper	Smooth and shiny	3-4 inches, whole and intact, free from any abrasion, firm, fresh, elongated, free from any foreign smell and visible foreign matter, free from rotting, semi-ripe	Large, smooth and shiny, red and green colour	Red	Smooth and shiny
	Tomato	Smooth and shiny	Minimum of 1.5 inches, firm, free from any abrasion, firm, fresh, free from any foreign smell and visible foreign matter, free from rotting, semi-ripe	Regular size, crunchy, red colour	3.4 ins, breaker	2-3 ins, thick skinned, light orange

Characteristics to be assessed		Nodes				
		Supermarket AB	Supermarket C	4-5 Star Hotels and Restaurants	Budget Hotels and Restaurants	Institutions
Value created		Sells vegetables in kilograms or in small packs. Claims a commission from sales of concessionaires	Purchase Class A vegetables; Claim commission from concessionaires	Serving vegetable dish	Serving affordable vegetable dish	Take significant quantity of Class B vegetables and convert them to healthy meals
Buying and selling prices (PhP/kg)	Eggplant		Buying price is 33-55 Selling price is 43-63	Buying price is 30-60	Buying price is 28	Buying price is 5-50
	Bitter gourd		Buying price is 45-67 Selling price is 55-80	Buying price is 60-65	Buying price is 36	Buying price is 20
	Sweet pepper		Buying price is 76-145 Selling price is 97-181	Buying price is 80-150	No information	Buying price is 20-150
	Tomato		Buying price is 30-50 Selling price is 35-64	Buying price is 30-60	No information	Buying price is 6-16
Stage of node life cycle		Introduction	Growth	Growth	Growth	Mature
Competitive forces	Existing level of Rivalry	Low	Moderate	Low	Moderate	Low
	Power of suppliers	Moderate	Low	Moderate	Moderate	Low
	Power of customers	Moderate	Low	Low to moderate	Low	∞
	Threat of new entrant	Moderate	Moderate	Low	High	NA
	Threat of substitute	High	High	Moderate	Moderate	Moderate
Willingness to source directly from farmer groups		No	Yes	Yes	Yes	Yes

One of the characteristics deemed important as part of assessing relative attractiveness of alternative strategies for farmers is the volume of vegetables purchased, traded and / or used by segments. This allows farmers to evaluate whether individual segments are sufficiently large to justify investment in relationship development to identify and deliver the quantities and quality of vegetables required. The quantities of vegetables traded or used by each node are shown in Figure 5-2.

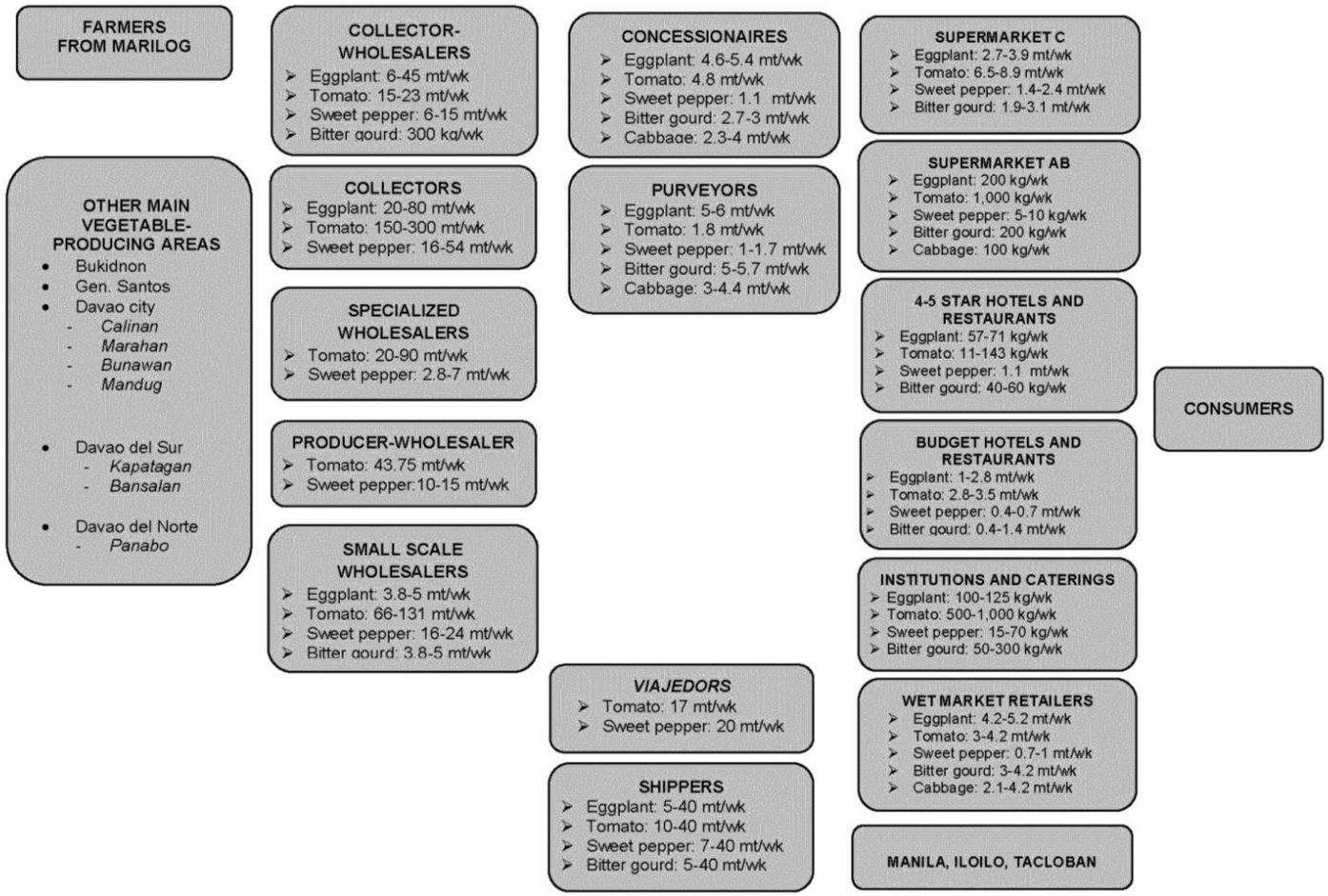


Figure 5-2: Nodes and estimated weekly demand for vegetables in Davao

Another characteristic deemed important to facilitate analysis was the buying and selling prices and margins earned for vegetables by node, and these are shown in Figure 5-3.

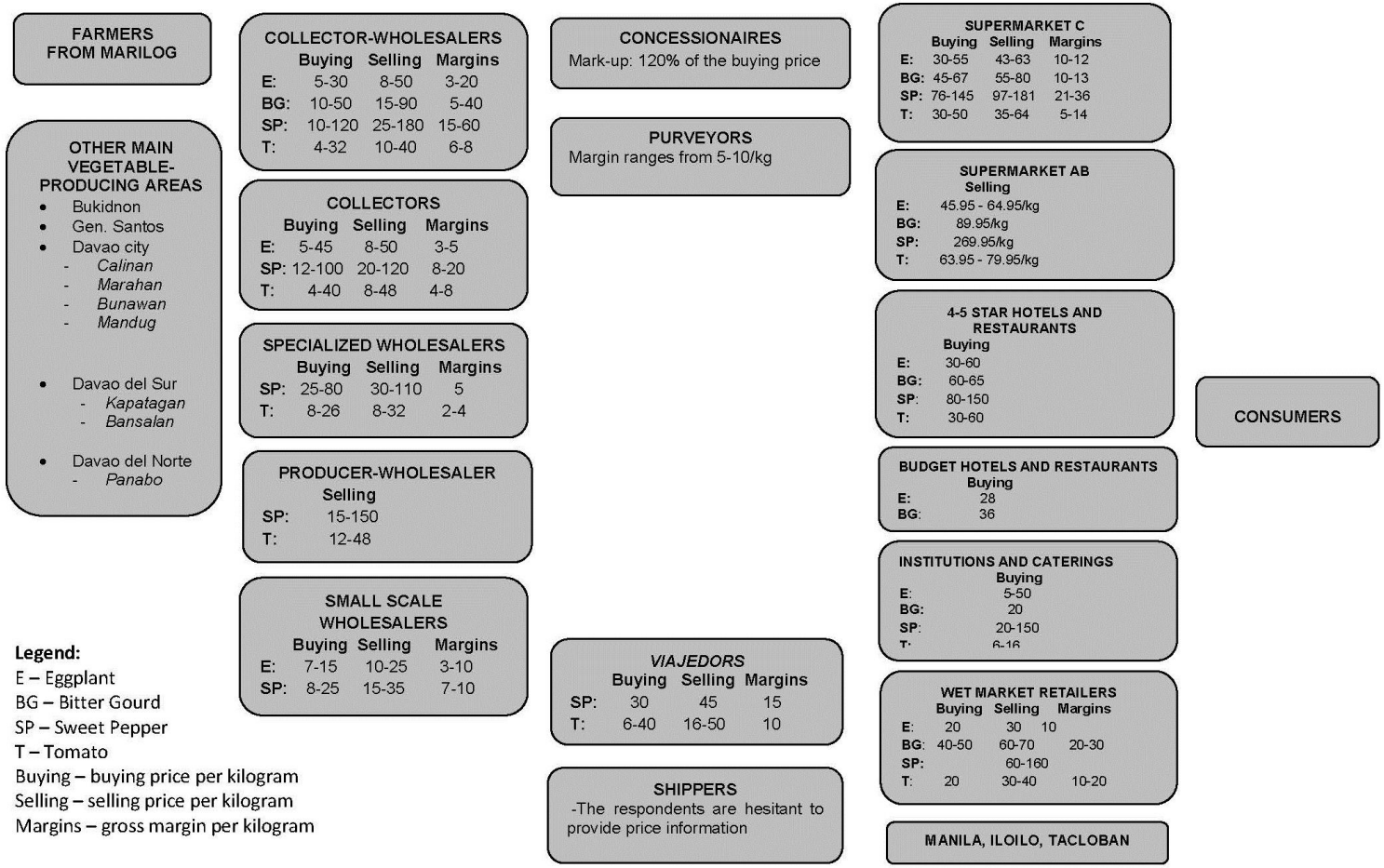


Figure 5-3: Average buying and selling prices and margins earned for vegetables by node.

The flow of vegetables from producers to consumers is always deemed to be important in a value chain analysis, and the flow of vegetables in the Davao region is shown in Figure 5-4.

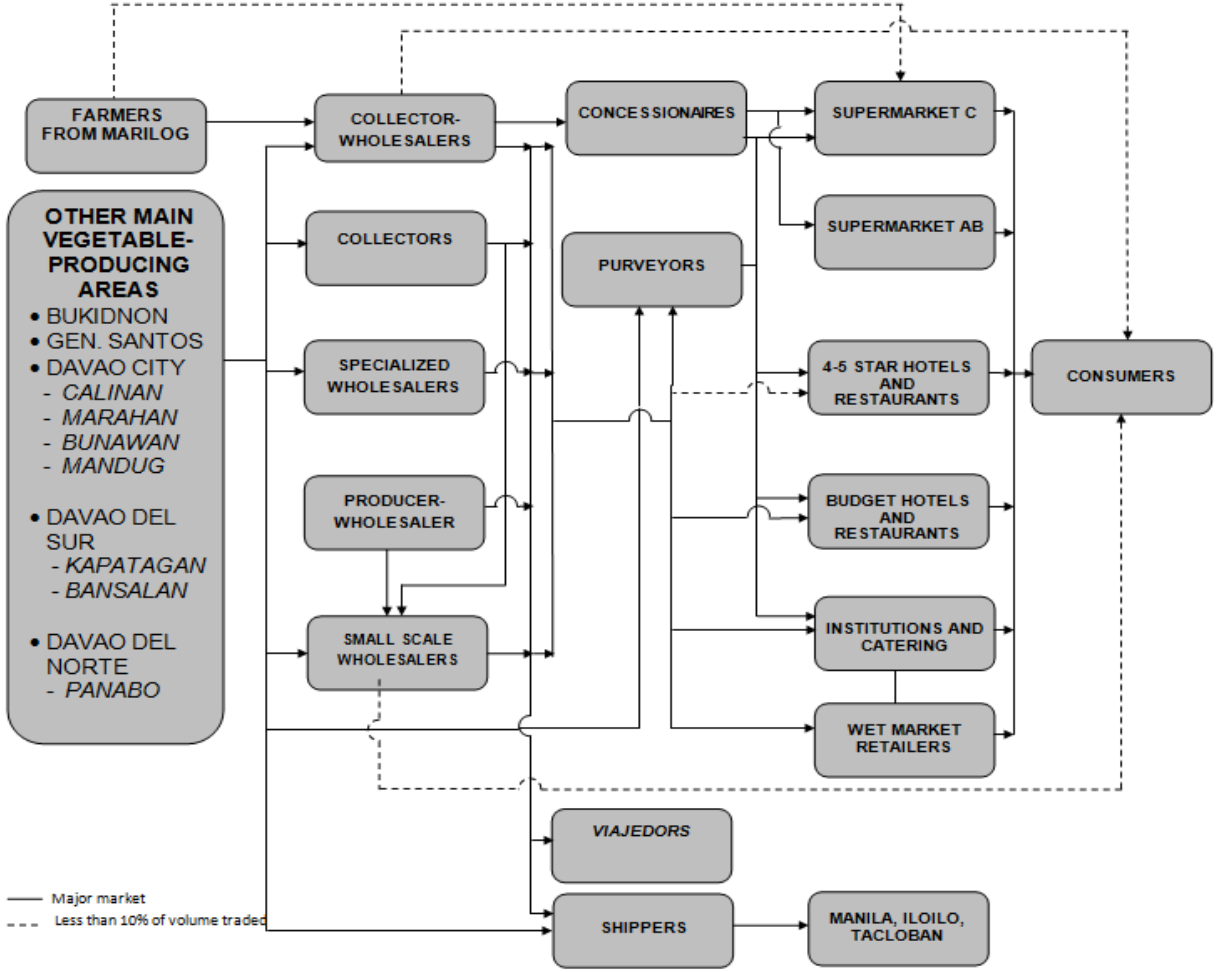


Figure 5-4: Vegetable flows in Davao

5.1.3. Node Analysis

This section provides a summary of data collected from interviews from each node that are involved in the distribution of vegetables in Davao.

5.1.3.1. Assembler-Collectors

Assembler-collectors buy vegetables from farmers at the site of production, transport the vegetables to the Bankerohan wholesale market using either own or hired vehicle and sell to viajedors - wholesalers or retailers from other cities or provinces (see section 5.1.4.8), small-scale wholesalers and shippers[3]. They buy all-in from farmers and usually pay 25-50% of the agreed amount, upon delivery by the farmers. The remaining 75-50% is paid after the vegetables are sold in the wholesale market. Assembler-collectors usually provide financing to farmers and market information such as price and volume. Some of them perform backward integration by growing their own vegetables aside from financing other farmers.

Assembler-collectors do not rent stalls in the market but pays a dropping fee of PhP4 per sack to Sarikudo management – a privately owned wholesale market. There are approximately 100 assembler-collectors from different production areas who supply vegetables to Bankerohan market. Three assembler-collectors were interviewed in this study, one from Kapatagan, one from Marahan and one from Panabo. They are among the largest assembler-collectors in their respective areas.

Trends

No significant trends were observed in this node. Assembler-collectors absorb large volume of vegetables and perform wholesale function. They have usually been financing production of farmers and performing backward integration.

Volume traded per vegetable

Table 5-4 shows the average volume of vegetables traded by the assembler-collectors interviewed and the estimates of the total volume of vegetables traded in the node. It is estimated that one assembler-collector interviewed comprises 5% market share of the volume of sweet pepper and 10% market share of the volume of tomato. One assembler-collector who trades eggplant comprises 10% of the market share. Of the assembler-collectors interviewed, no one traded bitter gourd.

Table 5-4: Estimated volume of vegetables traded by Assembler-Collectors for Davao

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	1,300 – 4,600	20,000 – 80,000
Sweet pepper	300 – 900	8,000 – 27,000
Tomato	2,500 – 4,500	35,000 – 75,000

Large variations in volume is mainly due to production seasonality

Quality characteristics sought

The presence of worm holes and inconsistent quality of vegetables are common problems encountered by assembler-collectors. Another problem is the way farmers classify the vegetables. Some farmers intentionally 'rambol' or mix class A with class B vegetables. Assembler-collectors lower the price when the quality of vegetables delivered by farmers is poor and when the vegetables are mixed. Presented below are the quality attributes preferred by assembler-collectors.

Table 5-5: Vegetable attributes sought by Davao Assembler-Collectors

Vegetables	Size	Shape	Texture	Colour	Variety
Eggplant	10 inches in length	Straight	Not mentioned	Not mentioned	Banate King
Sweet Pepper	4 inches in length	Not mentioned	Smooth, shiny	Red with shade of green	Smooth Cayenne
Tomato	1.5-2.5 inches in diameter	Not mentioned	shiny	Pinkish	Pinkish

Value created and margins earned

Assembler-collectors provide financing and market information to farmers. They take ownership of the product. Moreover, they add value to the product by transporting it to the market. Presented in Table 5-6 are the lean and peak buying and selling prices (in Philippine peso) of vegetables per kilogram.

Table 5-6: Assembler-Collector prices and margins for vegetables

Vegetables	Buying price (PhP/kg)	Selling price (PhP/kg)	Margins (PhP/kg)
Eggplant	5-25	8-35	3-10
Sweet pepper	12-100	20-120	8-20
Tomato	4-40	8-48	4-8

Stage of node life cycle

This type of business model is in its mature stage. Assembler-collectors have been in this business for more than 20 years. They play a significant role in the traditional vegetable supply chain

Competitive forces

Existing level of rivalry

Assembler-collectors financed the production of farmers in order to secure supply of vegetables. Competition among them exists when they sell vegetables in the wholesale market. The existing level of rivalry among assembler-collectors is moderate.

Power of suppliers

Two of the assembler-collectors interviewed provide financing to some of their farmer suppliers in order to secure their supply requirement. In return, farmer suppliers are obliged to sell their vegetables exclusively to the financier, in this case the assembler-collectors. The latter dictates the buying price. Thus, the power of suppliers is low.

Power of buyers

Viajedors and shippers are the main customers of the assembler-collectors. These buyers rely on the supply delivered by assembler-collectors in the wholesale market. The power of buyers is low as most of their supply is sourced from assembler-collectors, who generally dictate the price.

Threat of new entrants

The threat of new entrants is low as this business model requires market intelligence, significant amount of working capital and strong supply base.

Threat of substitute

The threat of substitute is moderate. Collectors performing wholesale and retail functions are emerging in the chain. Farmers have more options where to sell their produce. However, famers' choice of buyers depends on the reputation, buying price and financial capability of the buyer as well as existing business relationship.

Willingness to source directly from farmer groups

The assembler-collectors interviewed are willing to buy vegetables from farmer groups as long as the quality of vegetables is good and sorting is properly done. However, since these assembler-collectors are residents of their respective areas where they operate, travel distance would be a constraint for them to source from farmers located in other areas.

5.1.3.2. Collector-Wholesalers from Davao

Collector-wholesalers buy vegetables from farmers at the site of production, transport the vegetables to Bankerohan using hired vehicle and perform wholesale and retail functions. They have established informal exclusive agreements with specific farmers from specified farms and other collector-wholesalers and are aware of each other's arrangements with farmers. They buy all-in from farmers and pay cash on delivery. Collector-wholesalers provide financing to their farmer suppliers and key information such as vegetables in demand and their prices.

There are approximately 20 collector-wholesalers in Marilog District, Davao City, one of the main vegetable-producing areas in Davao region. For this study, three were interviewed who are among the biggest collector-wholesalers. All of them own vegetable farms. They rent stalls in Bankerohan and supply vegetables to concessionaires, viajedors, retailers and consumers.

Trends

Collector-wholesalers perform forward integration. A significant trend observed in this node is the growing number of collector-wholesalers. The collector-wholesalers interviewed noted that there were very few of them 20 years ago. Collector-wholesalers expressed preference to rent stalls in the market so they can retail unsold vegetables. The stalls they rented also serve as temporary storage and work areas for sorting vegetables.

Volume traded per vegetable

Table 5-7 shows the average volume of vegetables traded by three collector-wholesalers interviewed and the estimates of the total volume of vegetables traded in the node. It is estimated that one collector-wholesaler interviewed comprise about 7% of the market share of all collector-wholesalers in Bankerohan market.

Table 5-7: Estimated quantities of vegetables traded by Collector - Wholesalers.

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	240 – 3,000	3,500 – 43,000
Bitter gourd	240 – 3,000	3,500 – 43,000
Sweet pepper	400 – 1,000	6,000 – 14,000
Tomato	1,000 – 1,500	15,000 – 21,500

Large variations in volume is mainly due to production seasonality

Quality characteristics sought

Presented in Table 5-8 are the quality attributes of vegetables needed by collector-wholesalers to meet the preferences of their customers.

Table 5-8: Vegetable attributes sought by Davao Collector - Wholesalers

Vegetable	Size	Shape	Texture	Colour	Variety
Eggplant	8-10 inches in length	Straight	Smooth, shiny	Purple	Banate King
Bitter gourd	8-10 inches in length	Straight	Not mentioned	Green or light green	Jade Star and Galaxy
Sweet Pepper	2.5 inches in diameter	Not mentioned	Smooth, shiny	Red with shade of green	Smooth Cayenne and Emperor
Tomato	1.5-2.5 inches in diameter	Not mentioned	Smooth, shiny	Pinkish	Pinkish and Diamante Max

Collector-wholesalers prefer medium sized (8-10 inches in length) eggplant and bitter gourd. However, the size of vegetables delivered by farmers is inconsistent. There are oversized vegetables. Collector-wholesalers do not prefer oversized eggplant and bitter gourd because it is less saleable. Another concern of collector-wholesalers is the improper sorting of vegetables by farmers. Farmers usually mix class A with class B vegetables.

Manalili (2003) noted that although majority of the vegetable farmers perceived that buyers give high importance on buying vegetables of desired size, shape, colour, variety, texture and free from defects or physical damages, their perception are not translated into efforts to improve the quality of their produce.

Value created and margins earned

Collector-wholesalers provide market information (i.e. quality specifications and price) to farmer suppliers. They also link farmers with seed companies for production improvement. Moreover, they provide financing in the form of farm inputs to farmer suppliers. Collector-wholesalers take ownership of the product and transport it to the market. Presented in Table 5-9 are the buying and selling prices (in Philippine peso) of vegetables per kilogram.

Table 5-9: Davao Collector-Wholesaler buying and selling prices, and margins

Vegetables	Buying price (PhP/kg)	Selling price (PhP/kg)	Margins (PhP/kg)
Eggplant	5-30	8-45	3-15
Bitter gourd	10-50	15-60	5-10
Sweet Pepper	15-100	25-120	10-20
Tomato	4-24	8-36	4-12

Stage of node life cycle

This business model is in the mature stage since it has existed for more than ten years. Actors in this node perform important role in aggregation and distribution of vegetables. This node traded significant volume of vegetables.

Competitive forces

Existing level of rivalry

*C*ollector-wholesalers have specific territorial sites where they operate and other collector-wholesalers are aware of each other's specific territorial areas. Competition among them exists because they sell the same kind of vegetables. Also, competition exists when they deliver and sell the vegetables in the market at the same time. As such, the existing level of rivalry is moderate.

Power of suppliers

The collectors interviewed financed the production of farmer suppliers. Financed farmers sell exclusively to the collector-wholesaler who financed their production. Moreover, collector-wholesalers tell the farmers on what kind of vegetable and variety to grow. One collector-

wholesaler interviewed has planting and harvesting schedule for the financed farmers to follow in order to have consistent supply of vegetables and avoid oversupply. Collector-wholesalers dictate the buying price. As such, the power of suppliers is low.

Power of buyers

The power of buyers particularly concessionaires is moderate. Concessionaires have high quality requirements for vegetables but do not pay premium price. Collector-wholesalers sell the produce to retailers and consumers. One of the collector-wholesalers interviewed expressed preference for selling retail because some concessionaires do not pay cash on delivery.

Threat of new entrant

Collector-wholesalers operate in specific territorial sites. They usually provide financing to farmers. Moreover, they rent stalls in the wet market. As such, threat of new entrant is low as significant amount of working capital and established supply base are needed.

Threat of substitute node

The threat of substitute node is low. Collector-wholesalers provide financing to selected farmers from specific territorial sites. The farmers have informal exclusive marketing agreement with collector-wholesalers.

Barriers to entry

Collector-wholesalers operate in specific territorial sites. They usually provide financing to farmers. Moreover, they rent stalls in the wet market. Thus, the barriers to entry for this node are high as high working capital and established supply base are needed.

Willingness to source directly from farmers

One of the collector-wholesalers interviewed said that he imposes stringent criteria in choosing farmers to finance because in the past there were farmers who he financed but did not sell their produce to him and did not pay him back. Moreover, he emphasized that he only operates in certain areas. Of the three collector-wholesalers interviewed only one is willing to source from a group of farmers to be alternative suppliers, as long as the quality of vegetables to be supplied is good.

5.1.3.3. Specialised Wholesaler

Specialised wholesalers trade only one or two types of vegetables. They buy vegetables from farmers and sell them to wet market retailers, shippers, purveyors, resorts, viajedors and suppliers of hotels and supermarkets. In Bankerohan market, there are wholesalers who specialize in selling tomatoes, sweet pepper and cabbages.

There are around 15 specialised wholesalers in Bankerohan market. About five of them specialize in trading tomato and less than five specialize in sweet pepper. Two specialised wholesalers were interviewed for this study—one is a specialised wholesaler of tomato and the other one is a specialised wholesaler of sweet pepper.

Market trends

In Davao City, specialised wholesalers used to wholesale different types of vegetables but shifted to selling only one or two types because they perceive that income is higher in this type of business. One of the respondents used to wholesale vegetables in General Santos City but transferred to Davao City to specialize in wholesaling one or two types of vegetables because there are more buyers of vegetables in Davao City.

The specialised wholesaler of sweet pepper observes that supply has been increasing but demand has been erratic. The specialised wholesaler of tomato, on the other hand, observed an increase in demand for tomatoes in 2015 because large volumes are shipped to Manila.

Volume traded per vegetable

It is estimated that the specialised wholesalers interviewed comprise 20-25% of the market share of all specialised wholesalers of tomatoes and sweet pepper in Bankerohan market. The following is the total estimated volume of all specialised wholesalers based on the estimates of the second largest specialised wholesaler.

Table 5-10: Estimated volume of vegetables traded by Specialised Wholesalers in Davao

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Sweet pepper	690 – 1,800	2,800 – 7,200
Tomato	5,000 – 22,500 (200-900 crates)	20,000 – 90,000 (800-3,600 crates)

Large variations in volume is mainly due to production seasonality

Quality characteristics sought

Although specialised wholesalers have preferred specifications for each type of vegetable, some of these are not met by their suppliers. One of the respondents observes that the damages in vegetables are inevitable. Hence, upon payment to farmer-suppliers, he deducts 3 kilograms from the total weight of vegetables delivered to him to account for the damages caused by post-harvest handling.

Table 5-11: Vegetable attributes sought by Specialist Wholesalers in Davao

Vegetables	**Quality Specifications**			
	Size	**Shape**	**Variety**	**Colour**
Tomato	2-3 inches in diameter	Round	Diamante Max	Breaker (half ripe)
Sweet Pepper	Not mentioned	Not mentioned	Sultan variety	Not mentioned

Although specialised wholesalers have preferred specifications for each type of vegetable, some of these are not met by their suppliers. One of the respondent observes that the damages in vegetables are inevitable. Hence, upon payment to farmer-suppliers, he deducts 3 kilograms from the total weight of vegetables delivered to him to account for the damages caused by post-harvest handling.

Value created and margins earned

Specialised wholesalers source the vegetables from farmers and wholesalers, who deliver the products to them. Their suppliers and buyers handle the transport cost. Some of them provide crates to farmer-suppler free of charge. Table 5-12 shows the buying and selling prices of vegetable during peak and lean months.

Table 5-12: Prices paid and achieved and margins earned by Davao Specialised Wholesalers

Vegetable	**Peak months**			**Lean months**			**Price difference between grades (PhP/kg)**
	Buying Price (PhP/kg)	**Selling price (PhP/kg)**	**Margins (PhP/kg)**	**Buying Price (PhP/kg)**	**Selling price (PhP/kg)**	**Margins (PhP/kg)**	
Tomato	8	8-10	2	26	32	6	2-4
Sweet pepper	25	30-40	5-15	80	95-110	15-30	5

Stage of node life cycle

Specialised wholesalers who were interviewed have been in the business for 4 to 10 years yet there are only few of them in this type of business model. Hence, this node is in its mature stage. This business model requires enough amount of capital and knowledge about the wholesale business in Bankerohan market.

Competitive forces

Existing level of rivalry

While there is a high level of competition in the general wholesale market, the move for some participants to become specialist wholesaler reduced the rivalry among them and therefore provided opportunity for higher margins.

Power of suppliers

The power of suppliers is moderate. The nature of business of specialised wholesalers varies from other types of wholesalers. Specialised wholesalers only sell one or two types of vegetables hence need a strong supply base. One specialised wholesaler interviewed has only four suppliers while the other one has 32 farmer-suppliers. These suppliers seek for wholesalers who can buy their produce at a higher price. Hence, specialised wholesalers create strategies to keep their suppliers (i.e. providing incentives).

Power of buyers

The power of the buyers is high. Large volumes are supplied to shippers to Manila, hotels, resorts, restaurants, purveyors and suppliers of supermarkets. While these customers pay higher prices than Bankerohan market prices, they also require high quality vegetables and have certain volume requirements.

Threat of new entrants

Selling one or two kinds of crops is risky especially for wholesalers and new entrants who do not have enough knowledge of the industry, who have not established relationships with suppliers and buyers and who do not have enough working capital and strong supply base. However, there are also wholesalers selling different kinds of vegetables who have established their businesses and have been in the industry for a long time. These wholesalers

may shift to specializing only one or two kinds of vegetables in the future. Hence, threat of new entrants is moderate.

Threat of substitute node

Farmers can sell to other downstream buyers who are willing to source directly from farmer groups and are willing to pay cash on delivery. Hence, threat of substitutes between nodes is moderate.

Willingness to source directly from farmers

The specialised wholesalers interviewed are willing to source directly from farmers provided that they are able to deliver good quality produce. One specialised wholesaler is willing to provide financing support to regular suppliers. He is also willing to pay cash on delivery. Farmers should be able to deliver the products to the specialised wholesaler in the Bankerohan market since the latter do not pick-up farmers' produce.

5.1.3.4. Producer Wholesaler

Producer-wholesalers control large hectares of land, have contracted farmers, shoulder all production costs, transport products from farm to market and sell them to their regular customers such as viajedors and small-scale wholesalers. They decide on the type of vegetables that will be planted by their contracted farmers. Producer-wholesalers also buy vegetables from wholesalers in Bankerohan when supply from their farms is insufficient.

In Bankerohan market, there are 20 producer-wholesalers and all of them come from Barangay Kapatagan, Digos City, Davao del Sur. This barangay is one of the biggest vegetable-producing areas in the region. It is located approximately 100 km away from Davao City and is about 4,000 feet above sea level. Among the vegetables grown in this barangay are carrots, cabbages, sweet pepper, tomatoes and potatoes. Majority of the vegetables from Barangay Kapatagan are delivered to Bankerohan market in Davao City.

Producer-wholesalers have written agreement with their contracted farmers. The contract is signed by both parties in the presence of the Barangay Chairman, who also signs as witness. Producer-wholesalers decide on a certain profit-sharing arrangement with their contracted farmers. The most common arrangement is 70%-30%, where producer-wholesalers get the larger share.

Only one producer-wholesaler was interviewed for this study. He owns 20 hectares of land with 20 contracted farmers, who grow different types of vegetables. He does not own a stall in Bankerohan market. The bulk of the produce are sold to viajedors. According to him, approximately 70% of the volume of tomatoes, sweet pepper and cabbages in Bankerohan come from Brgy. Kapatagan.

It was difficult to find other producer-wholesalers because they do not own stalls in the wet market. Despite having only one interviewee for this node, the respondent is one of the largest actors and is knowledgeable about the node.

Market trends

Producer-wholesalers have existed in the vegetable industry for more than 10 years. There are only few of them doing the same function as this type of business model requires huge hectares of land to be planted with vegetables and enough working capital to produce different types of vegetables at a time.

Volume traded per vegetable

The respondent interviewed for this study is one of the top producer-wholesalers in Barangay Kapatagan. It is estimated that the respondent interviewed comprise about 20% of the market share of all concessionaires in Davao City. The total estimated volume of all producer-wholesalers in Barangay Kapatagan is as follows.

Table 5-13: Estimated quantities of vegetables supplied by Producer Wholesalers

Vegetable	Average volume of vegetables traded by the respondent (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Sweet Pepper	2,000 – 3,000	10,000 – 15,000
Tomato	8,750 kg (350 crates)	44,000kg (1,750 crates)

Quality characteristics sought

The producer-wholesaler interviewed for this study is particular on the variety of the crops that are planted in his farm. He is particular on the variety of vegetables planted in his farm because he perceives that the quality of vegetables depend on the variety planted. He prefers the Diamante Max tomatoes because this variety is heavier and has a longer shelf life.

Although there is only one respondent interviewed in this node, other relevant information were gathered from wholesalers who collect vegetables from Barangay Kapatagan. The collector-wholesalers observe that the varieties of tomatoes, sweet pepper and cabbages from Barangay Kapataganare Diamante max, sweet cayenne and wakamini, respectively. This information shows that producers and producer-wholesalers from Barangay Kapatagan are particular with the variety of the vegetables planted in their farms.

Table 5-14: Vegetable attributes sought by Producer Wholesalers

Vegetables	Quality Specifications	
	Variety	Colour
Tomato	Diamante Max	Breaker (Half-ripe)
Sweet Pepper	Sweet Cayenne	Breaker (half-ripe)
Cabbage	Wakamini	Green

Value created and margins earned

The producer-wholesaler interviewed has contracted farmers who grow the crops and take charge of the crop management and harvesting. The producer-wholesaler transports the products from the farm to Bankerohan market, where products are picked-up by his buyers. He does not rent a space in Bankerohan market. Orders are made by the buyers through text messaging.

The producer-wholesaler's selling price is presented in the following table. The producer-wholesaler's selling price is based on the wholesale market prices in Bankerohan market. The following prices are similar to the selling prices of collectors from Barangay Kapatagan, who also wholesale in Bankerohan market.

Table 5-15: Selling prices achieved by Producer Wholesalers

Vegetable	Selling Price (PhP/kg)	
	Peak	Lean
Tomato	12	48
Sweet pepper	15	150

Stage of node life cycle

This type of business model is in its mature stage. Producer-wholesalers have been in this business for more than ten years and they have large operations in terms of volume traded per commodity.

Competitive forces

Existing level of rivalry

The level of rivalry among producer-wholesalers is low. There are relatively few of them in Bankerohan market doing the same function and they have established relationships with their respective buyers.

Power of suppliers

In this node, suppliers refer to contracted farmers who work for the lands controlled by the producer-wholesalers. Contracted farmers have low power in this type of business model. The sharing arrangements between producer-wholesalers and contracted farmers are pre-determined by the former.

Power of buyers

The power of the buyers is moderate. Buyers are mostly viajedors and only a small percentage is supplied to wholesaler-retailers in Bankerohan market. The producer-wholesaler has established strong relationship with the buyers. He assures the viajedors that volume requirements are met. When the viajedors arrive in Davao City, the products are ready for pick up and the prices offered by the producer-wholesaler are based on prevailing market price. This type of arrangement or business model reduces the transaction costs of both parties.

Threat of new entrants

The threat of new entrants is low. This type of business model demands high working capital and huge farm land for consistent and reliable supply. Entry into this type of business needs knowledge of the market and strong relationship with buyers.

Threat of substitute node

Producer-wholesalers from Kapatagan source from other farmers and wholesalers only when supply from their farms is insufficient. Farmers and farmer groups from other production areas in the region have the option to sell to other wholesalers in the market. Thus, threat of substitute is moderate.

Willingness to source directly from farmers

The producer-wholesaler interviewed is willing to source from other farmers only when supply in his farm is insufficient. He is also willing to pay cash on delivery.

5.1.3.5. Small Scale Wholesalers

Small-scale wholesalers wholesale and retail vegetables in the wet market. While they do both wholesaling and retailing functions, their main operation is into wholesaling of vegetables. They buy vegetables from farmers and other small-scale wholesalers and sell them to households, retailers from other municipalities, hospitals, shippers, wet market retailers and other small-scale wholesalers. They rent stalls in the wet market, with an area of approximately 6-12m^2 per stall.

In Bankerohan market, there are small-scale wholesalers who sell only "pinakbet" vegetables such as eggplant and bitter gourd (ampalaya). There are also small-scale wholesalers who sell only "chopsuey" vegetables. There are approximately 50 small-scale wholesalers in Bankerohan market; two of them were interviewed for this study. The interviewees are among the largest small-scale wholesalers in the market in terms of size.

Market trends

There is increasing number of farmers who rent space in Bankerohan market and do wholesaling and retailing functions. Small-scale wholesalers have also started financing vegetable production and have started sourcing from other vegetable-producing areas in Davao region.

Volume traded per vegetable

Table 5-16 provides estimates of the total volume of eggplant, bitter gourd, tomato and sweet pepper traded by small-scale wholesalers in Bankerohan market. It is estimated that the respondents interviewed comprise about 4% of the market share of all small-scale wholesalers in Bankerohan market.

Table 5-16: Estimated quantities of vegetables traded by Small Scale Wholesalers in Davao

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	150 – 200	3,800 – 5,000
Bitter Gourd	150 – 200	3,800 – 5,000
Tomato	2,625 – 5,250	66,000 – 131,000 (2,625-5,250 crates)
Sweet Pepper	630 – 945	16,000 – 24,000

Quality characteristics sought

Small-scale wholesalers consider size, shape, variety and colour in purchasing eggplant and bitter gourd. Table 5-17 shows the quality specifications required by small-scale wholesalers. They sometimes receive curve-shaped vegetables from their suppliers but they still sell these at lower prices.

Table 5-17: Vegetable attributes sought by Small Scale Wholesalers in Davao

Vegetables	**Quality Specifications**			
	Size	**Shape**	**Variety**	**Colour**
Eggplant	8 inches	Straight	Banate King	Violet
Bitter Gourd	8-10 inches	Not mentioned	Galaxy	Green
Tomato	Not mentioned	Not mentioned	Pinkish and Diamante Max	Not mentioned
Sweet Pepper	Not mentioned	Not mentioned	Sweet Cayenne	Half-ripe

Value created and margins earned

Small-scale wholesalers sort and grade vegetables at Bankerohan market. They slice, pack and sell pre-cut vegetables. Some of them finance the production of their farmer-suppliers.

Table 5-18: Buying and selling prices and margins achieved by Small Scale Wholesalers in Davao

Vegetable	**Peak months**			**Lean months**		
	Buying Price (PhP/kg)	**Selling price (PhP/kg)**	**Margins (PhP/kg)**	**Buying Price (PhP/kg)**	**Selling price (PhP/kg)**	**Margins (PhP/kg)**
Eggplant	14-15	25	9-10	7-8	10-15	3-7
Sweet Pepper	8-10	15-20	7-10	25	32-35	7-10

Stage of node life cycle

This type of business model is in its mature stage. Small-scale wholesalers have been in the business for more than ten years and have established relationships with buyers. This type of business model is not expected to decline in the next ten years.

Competitive forces

Existing level of rivalry

There is a high level of competition among small-scale wholesalers in the wet market. They are situated in the same area and they sell many different types of vegetables.

Power of suppliers

The power of suppliers of small-scale wholesalers is low. There are a number of suppliers from vegetable-producing areas in Davao region where small-scale wholesalers can choose from. Small-scale wholesalers also finance vegetable production of farmers and take all their produce at a price offered by small-scale wholesalers.

Power of buyers

The power of buyers of small-scale wholesalers is moderate. Customers of small-scale wholesalers such as households can choose from a number of small-scale wholesalers inside the wet market that offer high quality vegetables at a low price.

Threat of new entrants

The threat of new entrants is moderate. Small-scale wholesalers have established relationships with their suppliers and buyers. A new entrant needs knowledge and information about the industry and needs understanding of the wholesale and retail business. The availability of wholesale and retail space for rent in the market is also a constraint for new entrants.

Threat of substitute node

Customers purchase vegetables because they are perceived to be healthier and cheaper than other food items such as meat and fish. Hence, there is low pressure from its substitutes.

For small-scale wholesalers, however, their customers may substitute their vegetables to the same type of vegetables sold by other wholesalers who offer cheaper and better quality products. Since small-scale wholesalers are situated in a specific area in Bankerohan market, it would be easy for customers to find similar product at a lower price and has a better quality. Hence, the threat of substitute for similar product in the wholesale market is moderate.

In the point of view of farmer groups, the threat of substitute between nodes is low especially for those who are financed by small-scale wholesalers as they are required to sell to the small-scale wholesaler who financed their vegetable production.

Willingness to source directly from farmers

Small-scale wholesalers are willing to source vegetables from farmers who could supply the required quality and volume of vegetables. They pay cash on delivery.

5.1.3.6. Concessionaires

Concessionaires buy quality vegetables from various suppliers and sell them in supermarkets. They carry their brand name and shoulder wastage. They pay commission to supermarkets, ranging from 10% to 20% of their sales. They pay supermarkets penalties for empty shelves and late deliveries. They have personnel in supermarkets, called merchandisers, who monitor and manage the display of vegetables and make daily or weekly orders.

There are 10 -15 concessionaires of vegetables in Davao City. Among the large concessionaires are Eden, Dizon and UBM that operate in large supermarkets nationwide. There are also local concessionaires such as Fanima Enterprises and E. Pintor Enterprises. Most of these local concessionaires rent spaces inBankerohan market, where vegetables are sorted and packed prior to delivery to supermarkets. These local concessionaires operate in majority of the supermarkets in Davao City such as SM Lanang Premiere, SM Savemore, SM Ecoland, Gaisano Mall and NCCC.

Three local concessionaires were interviewed for this study. It is estimated that the respondents interviewed comprise about 50% of the market share of all concessionaires in Davao City.

Trends

About 80% to 100% of the vegetable shelves in supermarkets are filled in by concessionaires. Within the last ten years, there has been an increasing number of supermarkets in Davao City, hence creating opportunities for concessionaires to scale-up in their operations.

Volume traded per vegetable

The following table shows the total estimated volume of the vegetables traded by the concessionaires in Davao City. These estimates are based on the estimates of one of the largest concessionaire.

Table 5-19: Estimated quantities of vegetables sold by Concessionaires in Davao

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	880 – 1,350	4,600 - 5,400
Tomato	800 – 1,375	4,800
Sweet pepper	225	1,100
Bitter gourd	1,050 – 1,400	2,700 - 3,100
Cabbage	318	2,300 - 4,000

Quality characteristics sought

Concessionaires require Class A vegetables from their suppliers. The concessionaires interviewed for this study identified size, shape, texture and colour as important quality specifications in the procurement of vegetables. Details are shown in the following table.

Table 5-20: Vegetable attributes sought by Concessionaires in Davao

Vegetable	Quality Specifications			
	Size	Shape	Texture	Colour
Eggplant	6 to 8 inches	Straight-shaped; Well-formed	Smooth and shiny	Purple
Bitter gourd	8 to 10 inches	Straight-shaped; Well-formed	Not mentioned	Dark green
Sweet pepper	4 to 5 inches	Not mentioned	Smooth and shiny	Mix of red, green and orange
Tomato	2 to 3 inches in diameter	Not mentioned	Smooth and shiny	Mix of red, green and orange

Concessionaires feel that only 75% of the vegetables delivered by their suppliers are quality vegetables. In some instances, suppliers deliver bitter gourds and eggplants which are either deformed or oversized. Bad orders, or those vegetables that do not meet the quality requirements of concessionaires, are returned to suppliers and are replaced with quality vegetables.

Value created and margins earned

Concessionaires procure, sort and pack vegetables. In the procurement of vegetables, they survey and follow prevailing market price in Bankerohan. Some concessionaires pay their suppliers cash on delivery while others pay a week after delivery. Concessionaires set the selling price of their vegetables in the supermarket. One concessionaire has a mark-up of 120% of the buying price.

Each supermarket sets its own terms, conditions and arrangements with its concessionaires. One supermarket adds PhP 1-2 per kilogram to the price set by the concessionaires and will claim a commission of 10-12% of the total sales. Another supermarket claims 12-15% from the total sales but no longer adds a mark-up price. Supermarkets collect the payment of vegetables from the customers and pay the vegetable concessionaires up to 60 days.

Stage of node life cycle

This type of business model is in its growth stage. The sale of vegetables in supermarkets is increasing and the use of concessionaire is the preferred business model of supermarkets (Digal, 2015).

Competitive forces

Existing level of rivalry

The level of rivalry among concessionaires in Davao City is moderate. There are several vegetable concessionaires supplying supermarkets in the city and some of them are popular brands such as Eden and Dizon.

Power of suppliers

The power of the suppliers of the concessionaires is moderate. Suppliers of concessionaires include collectors and collector-wholesalers .Other than supplying vegetables to concessionaires, collectors also retail class A and B vegetables and supply it to wet market retailers. There is a small number of suppliers who can meet the quality requirement of concessionaires.

Power of buyers

Concessionaires serve the needs of supermarkets. Supermarkets require concessionaires to display a minimum volume and varied assortment of vegetables. They also penalize empty shelves and late deliveries. Hence, the power of buyers is high.

Threat of new entrants

The only requirements are knowledge of the industry, capital and a strong supply base. This may change in the future if supermarkets restrict access to preferred concessionaires. Hence, the threat of new entrants is moderate.

Threat of substitute node

Concessionaires may be able to offer higher prices than other wholesalers in the market but they also set more stringent volume and quality requirements from their suppliers. Not all vegetables from farmer groups can be classified as Class A vegetables. Hence, farmer groups can sell to other downstream buyers who are willing to source vegetables from farmer groups, who can take in bigger volumes and who have lower quality requirements. Thus, threat of substitute is moderate.

Willingness to source directly from farmers

All concessionaires interviewed are willing to source directly from farmers, provided that farmers will consistently deliver the required quality and volume of vegetables.

5.1.3.7. Purveyors

Purveyors source their supply of vegetables either directly from select farmers that they co-finance the production or from other wholesalers in Bankerohan market, which is usually the case. They sell mainly to supermarkets (outright purchase), hospitals, hotels, restaurants and institutional buyers. They maintain a stall in Bankerohan and do wholesaling and retailing. Most purveyors' sales are derived mainly from selling through their main market. They primarily purchase and sell Class A vegetables and sometimes trade Class B vegetables especially to restaurants and institutional buyers.

A purveyor who supplies to a supermarket was offered to become one of their concessionaires. However, she hesitated because she is not sure if it is profitable and she has no staff (merchandiser) to supervise the stall.

Trends

There is an apparent trend of outsourcing food service by institutions such as hospitals, schools, and government run facilities. The potential volume requirement in this segment is quite significant. In order to access this market, most institutional buyers' potential suppliers are required to participate first in the bidding process where as a rule the price, quantity and quality are the main considerations.

Volume traded per vegetable

The estimated total volume traded in the node is computed by using the weekly volume traded by the three purveyors and multiplying it by 4 (equivalent to 25% market share).

Table 5-21: Estimated vegetable quantities traded by Purveyors in Davao

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	294 – 450	5,300 – 6,000
Tomato	267 – 458	1,820
Sweet pepper	75	1,200 – 1,700
Bitter gourd	350 – 470	5,100 – 5,700
Cabbage	106	3,000 – 4,400

Quality characteristics sought

Table 5-22: Vegetable attributes sought by Purveyors in Davao

Vegetable	Quality Specifications				
	Size	**Shape**	**Texture**	**Colour**	**Preferred Variety**
Eggplant	About 10 inches	Straight	Not specified	Purple	Banate King
Bitter gourd	About 12 to 14 inches or 3 pieces in 1 kilo	Not specified	No cracks and bruises	Not specified	Galaxy
Sweet pepper	About 4 inches	Not specified	Not specified	Red with a shade of green (Half ripe)	Cayenne
Tomato	Large	Not specified	Smooth and shiny	Orange with a shade of green (Half ripe)	Native tomato

Value created and margins earned

In securing their supply of vegetables, some purveyors have integrated vertically by co-financing farmers who produce vegetables. They are also able to affect the price in the market by purchasing significant volume of Class A vegetables which they can sell at a higher price to their buyers. Purveyors are a significant source of vegetables for supermarkets that carries their own brand or house brand. They usually pay their suppliers cash on delivery or on a 7-day term at the least.

Purveyors primarily use mark-up pricing in determining their price offer to buyers. Since their buyers often times compare prices, purveyors are careful in adding too much mark-up. They usually add Php 5-10 per kilo on the buying price while some would use percentage mark-up ranging from 15-20%.

Most purveyors are paid by their buyers, mainly the restaurants and supermarkets, a week or two after the date of delivery. While some pay after 30-45 days specially the hotels.

Stage of node life cycle

The method of sourcing vegetables through purveyors is among the more common means that hospitals, hotels, restaurants and supermarkets (for their house brand) use. One purveyor interviewed is in the business for more than 11 years now. The stage of the node life cycle can be considered to be in the mature stage.

Competitive forces

Existing level of rivalry

Purveyors believe that the mark-up they charge to their main market is fairly low primarily because these buyers canvass first before deciding from which supplier to purchase. Moreover, some purveyors are aggressive in submitting price quotations especially to supermarkets for outright purchase. Hence, the level of rivalry in this node is high.

Power of suppliers

Purveyors have a range of suppliers that they can source from. Some have vertically integrated which include co-financing of vegetable production in order to diversify the supply base. One purveyor said that when the quality of vegetables that her suppliers offer is not acceptable with buyers' specifications, she would rather not buy in order not to compromise the profit. In this node the power of suppliers is low.

Power of buyers

Purveyors have a range of buyer types. Apart from selling to their main customers, they also maintain a stall inside the wet market which they can sell directly to household consumers and other types of buyers. The power of buyers is assessed to be high.

Threat of new entrants

The barriers to entry and exit in this mode of business are quite low. There is a great incentive for other players in the vegetable supply chain to consider purveying since buyers usually purchase substantial volume of vegetables in this node. Hence, the threat of new entrants is assessed to be moderate to high.

Threat of substitute node

Most of the purveyors have developed a strong relationship with their customers through the years of doing business with them. On the other hand, the customers have developed the trust

towards their suppliers (purveyors) considering that their requirement for Class A vegetables are satisfied, most of the time, Most of the customers also require their purveyors to issue an official receipt which is also required from them (customers) by some government agencies, especially the Bureau of Internal Revenue and the Commission on Audit if transaction is made with government institutions. Therefore, the threat of a substitute node for purveyors can be considered low.

Willingness to source directly from farmers

All three purveyors interviewed are willing to source directly from farmers if they can provide the types of vegetables that they need. Nevertheless, they require that vegetables should be primarily Class A.

5.1.3.8. Viajedors

Viajedors are wholesalers or retailers from other cities or provinces who buy assorted vegetables from any wholesaler in Bankerohan and transport it to their respective localities using own vehicle. Although they have preferred suppliers in Bankerohan they are free to purchase from any source that offers the best quality product at the most competitive price. The most common vegetables they purchased are tomato, sweet pepper and temperate vegetables such as carrots, cabbage, potato, cauliflower, broccoli as these are not available in their respective areas. Temperate vegetables sold in Bankerohan are mostly grown in Kapatagan, Bukidnon, Marahan and some parts of Marilog. Generally, viajedors rent stalls in the wet market of their localities. They sell to households, retailers, restaurants, budget hotels and institutions.

There are approximately 80 viajedors who buy vegetables from Bankerohan market. For this study, two viajedors were interviewed, one from Tagum City[3] and one from Surigao[4]. A viajedor from Tagum City buys vegetables from Bankerohan three times a week. He has built a good relationship with his preferred suppliers in Bankerohan, hence he is allowed to purchase on credit without a written agreement. The vegetables purchased on credit are paid for the next time he buys from his suppliers.

A viajedor from Surigao normally buys vegetables from Bulua, Cagayan de Oro because of availability of all types of vegetables, volume and shorter travel distance. According to her, viajedors communicate to suppliers from different areas through text message or phone call to ask for price, volume and quality information. They buy from a supplier whose product and price meet their requirements.

Trends

In a study conducted by Llanto (2012), it was found that sourcing vegetables from outside-the-market sources is the most common practice of viajedors. However, in the case of the viajedors interviewed, they source their vegetables from the market. A viajedor from Tagum City buys vegetables directly from production areas before but he stopped sourcing vegetables outside the market. Instead, he established business relationship with preferred suppliers in Bankerohan. This trend of sourcing vegetables from the market can be attributed

[3] Located in the northern part of Davao region approximately 78 kilometres away from Davao City
[4] Located in the north easternmost tip of Mindanao approximately 418 kilometres away from Davao City

to the lower costs incurred by viajedors as compared to the costs when they have to go to each source to buy vegetables. In addition, sourcing vegetables from the market is efficient for viajedors as all types of vegetables are available. Moreover, having preferred supplier/s in the market is also one way of securing supply. A viajedor from Surigao spoke about not getting enough supply of vegetables from Bankerohan because vegetables that arrived in the wholesale market are booked by wholesaler's preferred customers.

Volume of vegetables traded

The viajedors interviewed only buy tomato and sweet pepper among the crops of interest as eggplant and bitter gourd are available in their respective areas. The volume of vegetables traded by viajedors interviewed and the estimated volume of vegetables traded in the node are presented in Table 5-23. One viajedor interviewed comprise approximately 6% of the market share of all viajedors who buy vegetables from Bankerohan market.

Table 5-23: Volume of vegetables traded by Viajedors in Davao

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Sweet pepper	1,200	20,000
Tomato	1,000	17,000

Quality characteristics sought

The desired size and colour of vegetables by viajedors from Surigao and Tagum are presented in the table below.

Table 5-24: Vegetable attributes sought by Viajedors in Davao

	Surigao		Tagum	
Vegetables	**Size**	**Colour**	**Size**	**Colour**
Sweet Pepper	1.5 inches in diameter	Red and green	2.5 inches in diameter	Not mentioned
Tomato	1.5 inches in diameter	Pinkish	1.5-2.5 inches in diameter	Orange, green

One of the viajedors interviewed expressed preference for Jersey tomato because of its good quality however, it is not available in Bankerohan.

Value created and margins earned

Viajedors add value to the product by transporting the vegetables from Bankerohan to their respective localities. They take ownership of the product. Moreover, they clean and sort the vegetables before they display it in their stalls. The costs of transport and logistics have a huge impact on the cost structure of viajedors. The following are the buying and selling prices of vegetables and corresponding margins.

Table 5-25: Buying and selling prices and margins achieved by Viajedors in Davao

	Surigao			Tagum		
Vegetables	**Buying price (Php/kg)**	**Selling price (Php/kg)**	**Margins (Php/kg)**	**Buying price (Php/kg)**	**Selling price (Php/kg)**	**Margins (Php/kg)**
Sweet Pepper	30*	45*	15	No information	No information	
Tomato	28*	40*	12	6-40	16-50	10

*Buying and selling prices at the time the interview was conducted

Stage of node life cycle

This type of business model is in its mature stage. Viajedors have been in the business for more than ten years. Gerpacio and Aquino (2014) noted the important role played by this actor due to their financial and logistical capacity to procure vegetables.

Competitive forces

Existing level of rivalry

The level of rivalry among viajedors is high. There are many of them in Bankerohan. They compete in terms of sourcing supply and also in selling vegetables in their respective areas.

Power of suppliers

The power of suppliers is moderate to high. Viajedors buy from any wholesaler. The latter sets the price. Moreover, when supply of vegetables is low, wholesalers in Bankerohan prioritize their preferred customers. A viajedor from Surigao spoke about problem getting supply from Bankerohan because all the vegetables are booked by wholesalers' preferred customers.

Power of buyers

Power of buyers is low to moderate as they may switch to other viajedors selling the same vegetables if the quality of vegetables and price do not meet their preference.

Threat of new entrants

The threat of new entrants is low. This type of business model requires working capital needed for transport and logistics. Entry to this type of business needs knowledge of the market and strong relationship with suppliers.

Willingness to source directly from farmers

A viajedor from Surigao is willing to source directly from farmers as long as the quality of vegetables is good. A viajedor from Tagum City did not expressed willingness to buy directly from farmers because of their attitude. When there is oversupply, farmers regularly deliver their produce but when supply is low they only deliver to a buyer who buys at the highest price. That is why he source vegetables from preferred suppliers in Bankerohan so he can get consistent supply.

5.1.3.9. Shippers

Shippers buy vegetables from farmers and any wholesaler and ship it to major urban areas in Luzon (Metro Manila) and the Visayas (cities of Tacloban and Iloilo) by air or water transport. They buy class A vegetables from suppliers and usually pay cash on delivery. Some shippers provide financing to farmers in order to establish strong supply base.

Due to even climate and absence of strong typhoon in the Davao region, supply of vegetables is available year round. Shipment of vegetables to other regions happens when vegetable producing areas of Luzon and the Visayas are affected by typhoon and drought. High degree of seasonality of supply in the said areas due to agroclimatic factors is also another reason for shipment of vegetables from Mindanao. Peak season of shipment of vegetables is from June to December.

There are approximately ten shippers in Davao, three among the largest shippers were interviewed. All of them ship vegetables to Manila and one of them also ships to Iloilo. Social capital between shippers and buyers tends to be strong as tie-ups are built on high level of trust. Trade negotiations are very casual, informal and could be made through text messaging or phone calls.

Trends

Three growers' association from Mindanao reported a 75 percent increase in shipment of vegetables from Mindanao to Luzon and the Visayas from year 2007 to 2009 (Edge Davao, 2009). Davao region having favourable climate condition and absence of strong typhoon is in great advantage to produce vegetables all year round. With consistent supply in the region, the demand of Luzon and the Visayas areas for vegetables from Davao region is expected to rise.

Moreover, two of the shippers interviewed give assistance to farmers in terms of production advice and financing agricultural inputs. This is a strategy done by some shippers in order to have a strong supply base and also to source vegetables at a lower price. Sourcing directly from financed farmers is advantageous for shippers since they can buy vegetables at a lower price and add huge mark-up. Farmers with credit tie-up through input loans have a weak bargaining power. One shipper mentioned that he dictates the buying price since he provided financing to farmer suppliers.

Volume traded per vegetable

Based on the actual volume of vegetables shipped by shippers interviewed, the following are the estimated volume of vegetables traded by all shippers.

Table 5-26: Estimates of shipment sizes made by Shippers out of Davao

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	500 – 1,500	5,000 – 1,0000
Bitter gourd	500 – 2,000	5,000 – 10,000
Sweet pepper	700 – 3,000	7,000 – 20,000
Tomato	800 – 2,000	10,000 – 20,000

Based on the data gathered from one shipping line in Davao City, the only vegetables shipped by sea from the port of Davao City to Manila are vegetables that can survive longer time in transit such as squash and taro. Shippers of vegetables to Tacloban ship vegetables via Surigao port as there is no shipping line in Davao port which has route to the said area. Since the vegetables of interest are carried through the air transport system, only the data on commodity flow transported by air were presented in the table below. The data is generated from the commodity flow survey conducted by the National Statistics Office (NSO). Table 5-27 shows the quantity flow of food and live animals shipped by air from Davao region to other regions in the Philippines from year 2011 to 2012[5]. One constraint in determining the exact volume of vegetables is that the data on domestic trade have been aggregated per commodity group. Reading the table by row shows that 98 percent of food and live-animals produced in Davao region went to the National Capital Region[6] (NCR) and the rest were shipped to Region VI[7] (Western Visayas). Based on the information gathered from interviewing workers[8] of airline cargo companies and cargo forwarder, approximately 10 to 40 percent of the food and live animals commodity are vegetables while majority of the product under this commodity group are fruits particularly mango. The vegetables shipped to Manila and Iloilo include eggplant, bitter gourd, string beans, okra, sweet pepper, tomato, chayote, cabbage, carrots, beans, cucumber and radish.

[1]Latest data produced by National Statistics Office
[2]The capital city of NCR is Manila
[3]The capital city of Region VI is Iloilo
[4]Laborers/porters and cargo receivers

Table 5-27: Quantity of food and live animals from Davao region traded by air to other regions: 2011-2012 (Quantity in tonnes)

Origin/Year	Region of Destination											
Davao Region	Total	NCR	CAR	I	II	III	IVA	IVB	V	VI	VII	Other Regions (VIII – ARMM)
2011	251	245	1	0	0	0	0	1	1	2	0	0
2012	356	350	0	0	0	0	0	1	0	3	1	0

Source: National Statistics Office

Quality characteristics sought

Shippers buy class A vegetables. Their customers prefer large sized vegetables. The varieties of vegetables were also specified by shippers. They prefer Banate King eggplant because the size of the fruit is large. They also prefer Sultan, Smooth Cayenne and Diamante Max varieties because of its longer shelf life. Presented in the table below are the quality attributes of vegetables needed by shippers to meet the preferences of their customers.

Table 5-28: Vegetable attributes sought by Shippers in Davao

Vegetables	Size	Shape	Colour	Variety
Eggplant	8-12 inches in length; large in diameter	Straight; not deformed	Not mentioned	Condor, Banate King
Bitter gourd	Large in diameter; 14 inches in length	Straight; not deformed	Not mentioned	Galaxy
Sweet pepper	2.5 inches in diameter	Not mentioned	Red, red with shade of green	Smooth Cayenne, Sultan
Tomato	2.5 inches in diameter	Not mentioned	Orange with shade of green	Diamante Max

Value created and margins earned

Shippers create significant value as they provide an important link in the movement of class A vegetables from Davao region to different market regions in the Philippines. They add value to the product by sorting, packing and transporting the product. Moreover, they take ownership of the product. Some shippers provide financing support to farmer suppliers.

The shippers interviewed are hesitant to provide the actual buying and selling prices of vegetables. According to them, pricing system of vegetables largely depends on the

negotiation between shipper and customer and shipper and supplier. Presented below is a transcript from one of the interviews conducted.

> *"For example, if the buying price is PhP50/kg and the cost of labor and shipment is PhP18/kg, the total cost is PhP68/kg. If I sell it to my customer at PhP80/kg then I earn PhP12/kg... If my customer will ask to lower the price and we agree on the PhP75/kg then I earn PhP7/kg...That is how it works."*

Stage of node life cycle

This type of business model is in its mature stage. Shippers have been in this business for 20 years. They play an important role in the inter-regional trade of vegetables.

Competitive forces

Existing level of rivalry

Existing level of rivalry is high. Shippers ship large volume of vegetables. They compete in terms of sourcing supply of vegetables for shipment.

Power of suppliers

The power of suppliers is low to moderate. Shippers source vegetables from farmer suppliers and to any wholesaler. The power of farmer suppliers is low as they are price takers. The power of wholesalers is moderate as they can command the price of vegetables especially when the volume of demand for shipment is very high.

Power of buyers

Buyers can switch to other shippers when quality and price of vegetables do not meet their preference. As such, the power of buyers is moderate.

Threat of new entrants

Threat of new entrants is low as this business model requires very high capital requirement, market intelligence and strong supply base. In addition, risk associated in this type of business model is high as no binding agreement is in place.

Threat of substitutes

Threat of substitutes is low as there is no business model doing the same or nearly the same function as shipper.

Threat of substitute node

This node requires large volume of vegetables and can offer relatively high prices however; it is not attractive for farmers or farmer groups since demand of vegetables for shipment is seasonal. As such, the threat of substitute is moderate.

Willingness to source directly from farmers

Two of the shippers interviewed source vegetables directly from financed farmers. They are willing to buy from farmer groups as long as the quality of vegetables meets their requirements. One shipper emphasized that he is willing to consider sourcing supply from other farmers as long as he dictates the buying price. Two shippers pay cash on delivery to farmer suppliers. On the other hand, one shipper pays the suppliers 50% of the agreed amount and the other 50% is paid after his customer pays full payment.

5.1.3.10. Supermarket AB

There are nine shopping malls in Davao City. These are SM Lanang Premier, S&R, SM City Davao (Ecoland), Abreeza (Ayala mall), Robinsons Cybergate, NCCC, Gaisano mall of Davao, JS Gaisano Citimall and Victoria Plaza. These shopping malls have supermarkets and department stores, movie theatres, boutiques, specialty stores, banks, medical clinics, a variety of restaurants and fast food chains and some even have commercial spaces allotted for BPO or call centers. All of the supermarkets sell different types of fresh vegetables. They also sell minimally processed vegetables or ready-to-cook vegetables.

Apart from the supermarkets located in shopping malls, there are also stand alone supermarkets operating in the city. These are Savemore, Choice Mart and Puregold. Most of these supermarkets have their own fresh produce section where fruits and vegetables are available. Savemore and Choice Mart are subsidiaries of SM Prime Holdings and LTS Supermarkets Inc (NCCC), respectively.

Supermarkets under this category are described to be primarily targeting consumers under income group AB, with total household monthly income of Php50,000 or more. In Davao City, there are only three identified supermarkets which sell vegetables that cater primarily to the AB income class. One supermarket is operated by a multi-national company with 12 branches in the Philippines while the other two are known in operating mall chains in the country. The former, which is operated the multi-national company, source its supply of vegetables solely from concessionaires. According to a representative of the supermarket, "We don't do outright purchase because of bad order. However, we are open to do outright purchase because we can add big mark-up to the price." They also see this as a strategy to check the prices of their concessionaire. On the other hand, the other supermarket utilizes the service of concessionaires and purveyors in securing its supply of vegetables, the former carrying its own brand while the latter would carry the supermarket's house brand (outright purchase).

For this study, we were only able to interview one supermarket. The selling price of vegetables is determined by their concessionaire; nevertheless this supermarket conducts price comparison with other supermarkets. The concessionaire assigns a "diser" (short for merchandiser) who is responsible for making sure the availability of vegetables in their shelves. The diser also processes certain types of vegetables by peeling, slicing and packing

them in Styrofoam covered with a cling wrap. The minimally processed products usually contain vegetables that are ingredients for pinakbet or chopsuey.

As a membership shopping supermarket, its customers have to pay a fee of Php700 to be renewed each year. Their customers are mostly household buyers belonging to the income class AB. They also have customers who buy in bulk for restaurant use. Based on the interview conducted with the supermarket representative some of their customers, especially the foreigners, are very critical about the quality of vegetables that the supermarket sells and are quick in making their concerns known to the management either by submitting a written complaint or through verbal communication.

Trends

There are customers who look for organic vegetables. This supermarket used to sell five types of organic vegetables; however they have stopped buying because of inconsistent supply. This supermarket is also considering outright purchase of vegetables because of the huge profit potential.

Volume traded per vegetable

According to the interviewed respondent, the demand for vegetables fluctuates on a daily basis; however demand is consistently higher during Fridays to Sundays and during holidays.

The estimated total volume of vegetables traded in this node was determined by using the volume data provided by the respondent using the sales data of its vegetables concessionaire.

The volume was multiplied by 8, considering that their market share in fresh produce is only about 13%. Moreover, since the volume of vegetables traded in this node considers only those which are purchased directly from purveyors and bears the supermarket's house brand (excluding those from concessionaires), the total was multiplied by 0.20 since approximately 20% of the total volume of vegetables sold in the supermarkets are through its own brand.

Table 5-29: Estimated quantities of vegetables sold direct by Supermarkets in Davao

Vegetable	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	70
Bitter gourd	70
Sweet pepper	Less than 20
Tomato	200
Cabbage	30

Quality characteristics sought

This supermarket is very keen on the quality specifications of the vegetables that they sell. They also check the vegetables delivered by the concessionaires in the receiving and selling area.

Table 5-30: Vegetable attributes sought by Supermarkets in Davao

Vegetable	Quality Specifications			
	Size	Shape	Texture	Colour
Eggplant	About 12 inches	Straight; Well-formed	Smooth and shiny	Purple
Bitter gourd	About 12 to 14 inches	Straight; Well-formed	Not specified	Dark green
Sweet pepper	Not specified	Not specified	Smooth and shiny	Not specified
Tomato	Not specified	Not specified	Smooth and shiny	Not specified

Value created and margins earned

This supermarket sells large tomatoes packed in Styrofoam which contains approximately 4-6 pieces (at 200-300 grams per pack). The price per kilogram is at Php 79.95. Tomatoes are sold using a net bag containing 3 kilograms or more. The price per kilogram is Php63.95. Large eggplants are packed in a plastic bag containing 3 kilograms and up. The price is Php45.95/kg. Another form of packaging is by wrapping 2-3 pieces of eggplants in a cling wrap. The price per kilogram for this type is Php64.95/kg. The price of cabbage is Php32.95/kg, price of sweet pepper is Php269.95/kg and finally the price of bitter gourd is Php89.95/kg. Apparently, the respondent did not share the sales commission that they get from their concessionaire. The payment term is 30 days.

According to the respondent, the change in the selling price usually ranges from Php2-3. They do not allow a price increase of Php5 or more unless the areas of supply are hit by typhoon or any calamity. He also added that *"Prices of vegetables are based on quality. If we base our prices to other supermarkets we make sure that the quality of our vegetables and vegetables of other supermarkets are comparable. We see to it that the prices of our vegetables is Php1-2 lower than the prices of other supermarkets. We do this since we are a membership shopping supermarket. We make sure that our customers are satisfied."*

In general, most markets and customers prefer medium sized vegetables. Considering that this supermarket sells mostly large vegetables, there is an opportunity for suppliers to create value out of the "oversized" vegetables that would otherwise be classified as Class B.

Stage of node life cycle

In Davao City, this type of supermarket that caters mainly to income class AB is still in its introduction stage.

Competitive forces

Existing level of rivalry

Considering that there are only three supermarkets in Davao City that caters mainly to income class AB (one being exclusive to members only), the level of rivalry in this category is considered to be low.

Power of suppliers

These supermarkets rely mainly on concessionaires for their consistent supply of vegetables. Moreover, they also depend largely on the available supply of vegetables by the concessionaires and purveyors. On the other hand, since their suppliers agree on a delayed payment term basis (up to 7 days), it can be assessed that the power of suppliers is moderate.

Power of buyers

Although buyers (members) cannot bargain the price in the supermarket, nevertheless the management considers the importance of their customers. For instance, if there are product complaints, the management is quick to replace the product or do something about the complaint. Power of buyers is considered to be moderate.

Threat of new entrants

This supermarket category which caters mainly to income class AB targets a limited size of the population. Although they do not discriminate shoppers, nonetheless their target market is quite obvious judging from the tenants that they have and the products (mostly imported and expensive) that they sell. Considering that there are only about three supermarkets of this kind in Davao City the threat of new entrants is considered to be moderate.

Threat of substitute node

Supermarket AB's primary customers are those which have significantly higher income. Nevertheless, people under this income bracket also frequent other supermarkets which also sell fresh fruits and vegetables. From a customer's point of view, the level of substitutability among supermarkets is already high, much more the substitutability of Supermarket AB from its Supermarket C counterpart. Therefore, the threat of substitute node is high.

Willingness to source directly from farmers

At present, they are not willing to source directly from farmers because at the national level they (supermarket chain) are selling fresh fruits and vegetables on a consignment basis. Nevertheless, according to the interviewed respondent, there were already discussions regarding the possibility of outright purchase considering the potential profit that can be gained.

5.1.3.11. Supermarket C

Supermarkets under this category are described to be primarily targeting consumers under income group C, with total household monthly income of Php15,000 to 49,999. Majority of the supermarket chains in the Philippines are under this category.

They sell vegetables on consignment basis and have category managers to take care of fresh produce. The sales commission charged by the supermarket ranges from 10% - 20%. Some supermarkets have mixed operations (i.e. consignment and outright purchase) with purchasing officers responsible for buying of fresh produce for outright purchases.

In Davao City there are a couple of supermarkets that sell vegetables. The more prominent are: NCCC Mall, NCCC Supermarket at Center Point, NCCC Main, Gaisano Mall, JS Gaisano, SM Ecoland, Save More in Bangkal and Bajada, Park N' Shop Supermarket in Victoria Plaza, Robinsons Supermarket in Abreeza, and Robinsons Cybergate. For this study we were only able to interview one supermarket since the others did not grant our request. Nevertheless, this supermarket is among the top 2 biggest retailers of vegetables in Davao City comprising about 20% of the total vegetables traded in supermarkets.

Trends

There has been a marked increase in the number of modern food retailers primarily driven by large supermarkets and hypermarkets in the Philippines. From 2000 to 2005, sales of fruits and vegetables increased by 34% per year and grew faster from 2006 to 2010 by 88%.

Sale of minimally processed vegetables in most supermarkets has become more common. This is usually done by the merchandiser of the concessionaire in order to recover withered vegetables.

There is an increasing trend of supermarkets purchasing directly from farmers or farmer groups through outright purchase. One supermarket has even integrated vertically through sourcing some of its vegetable supplies from its own managed farm, according to one interviewed purveyor who worked for a supermarket before.

Volume traded per vegetable

The estimated total volume of vegetables traded by supermarkets, through outright purchase, was determined by using the volume data provided by the respondent and multiplying it by 5, considering that they comprise approximately 20% of the total market share.

Table 5-31: Estimated quantity of vegetables traded by C Supermarkets in Davao

Vegetable	Average volume of vegetables traded by the respondent (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	320 – 467	1,600 – 2,500
Bitter gourd	228 – 370	1,200 – 1,800
Sweet pepper	163 – 291	800 – 1,500
Tomato	777 – 1064	4,000 – 5,500

Quality characteristics sought

Table 5-32: Vegetable attributes sought by C Supermarkets in Davao

Vegetable	Quality Specifications			
	Size	**Shape**	**Texture**	**Colour**
Eggplant	Minimum 6 inches Maximum 10 inches	Firm and plump Fairly well shaped (practically straight) (Free from any foreign smell)	Free from rotting or deterioration Fresh in appearance Free from any visible foreign matter Not wrinkled	Fairly well coloured (except for streaks of green)
Bitter gourd	Minimum of 10 inches and maximum of 12 inches	Firm and plump Abrasion is allowed provided they are healed and dry and the total surface area affected not exceeding 5%. (Free from any foreign smell)	Free from rotting or deterioration Fresh in appearance Free from any visible foreign matter	Not specified
Tomato	Minimum of 1.5 inches in diameter and length	Firm Free from any abrasion Free from abnormal external moisture (Free from any foreign smell)	Free from rotting or deterioration Fresh in appearance Free from any visible foreign matter Semi-ripe	Not specified
Sweet pepper	Minimum 3 inches Maximum 4 inches	Whole and intact Free from any abrasion Firm Elongated type (Free from any foreign smell)	Free from rotting or deterioration Fresh in appearance Free from any visible foreign matter Semi-ripe	Not specified
Cabbage	Weight: Minimum 500 grams Maximum 1.2 kg Diameter Minimum 500 grams Maximum 1.2 kg	Firm and compact crown Whole and intact Trimmed (Free from any foreign smell)	Free from rotting or deterioration Fresh in appearance Free from any visible foreign matter Free from any abrasion	Not pale in colour

Value created and margins earned

In general, supermarkets create value by purchasing good quality vegetables (Class A) at a higher price compared to the traditional retail outlets such as wet markets. This is in spite of the fact that most consumers are aware that vegetables in supermarkets are more expensive than wet markets.

Table 5-33: Buying and selling prices and margins earned by C Supermarkets in Davao

Vegetable	Buying price (Php/kg)	Selling price (Php/kg)	Margins (Php/kg)
Eggplant	33 – 55	43 – 63	10 – 12
Bitter gourd	45 – 67	55 – 80	10 – 13
Sweet pepper	76 – 145	97 – 181	21 – 36
Tomato	30 – 50	35 – 64	5 – 14

Stage of node life cycle

The business model of selling vegetables in supermarkets has only gained ground in the past 10 years. Therefore, considering the very long life cycle for vegetable marketing this business model can be considered in the growth stage.

Competitive forces

Existing level of rivalry

Supermarkets typically have varied types of customer base where they compete for market share. However, result of the FGD shows that supermarket buyers of vegetables consider close proximity to their home and workplace when choosing a specific supermarket to shop. Hence, in terms of the competition between supermarkets selling vegetables, the level of rivalry may be considered moderate also considering the relative distance between supermarkets in Davao City.

Power of suppliers

Vegetable suppliers to the supermarkets are relatively few. With the current consignment arrangement with suppliers, where supermarkets don't take the risk of spoilage, it is safe to say that supermarkets do assert their relative importance for the suppliers to just comply. Moreover, supermarkets impose penalties for late deliveries and empty shelves. One supermarket charges the concessionaire a fine of Php10,000 for every type of vegetable that is out of stock.

When supermarkets buy outright from wholesalers, they usually set the price and payment terms. Hence, the power of vegetable suppliers over supermarkets can be assessed as low.

Power of buyers

Considering the varied customer base of supermarkets, the power of buyers is considered minimal. Moreover, buyers cannot bargain the prices which are already set by the supermarkets. Hence, buyers' power is assessed to be low.

Threat of new entrants

The liberalization of the supermarket industry, where international players may come in, indeed poses a possible threat to existing supermarkets. Nevertheless, since existing ones have already established their name and customer base, the overall threat of new entrants can be considered to be moderate.

Threat of substitute node

Supermarket C's primary customers are the middle income earners. When it comes to purchasing vegetables, a great majority of customers still buy primarily from wet market retailers. In terms of securing its supply, players of this node have to contend with other nodes which can buy vegetables in greater volume. In this regard the threat of substitute node is high.

Willingness to source directly from farmers

Some supermarkets have expressed their willingness to source directly from farmer groups, while there are already a few supermarkets that buy directly from farmer groups and pay in cash.

There is no doubt that supermarkets have the capacity to extend different types of support to farmer groups. However, most of the supermarkets' marketing arrangements with the vegetable suppliers are in consignment and only a few directly buy from farmer groups and pay in cash.

5.1.3.12. Hotels and Restaurants (4 and 5 star)

Introduction to Hotels and Restaurants in general

The Davao City Tourism Office reported an increase in the number of hotels and inns or pension houses. It has both low-end and high-end hotels that offer services to local and foreign customers. The number of hotels in the city doubled, from 15 in 2006 to 30 in 2010 (Davao City Government). Most of the hotels are classified as 3-star hotels (Concepcion, 2012). These hotels usually have restaurants that cater to the needs of their guests. Inns or pension houses, which offer overnight lodging for travellers, increased from 40 in 2006 to 62 in 2010. Moreover, the number of restaurants and entertainment establishments increased from 209 in 2006 to 731 in 2010 (Davao City Government). Restaurants in the city ranged from low to high-end restaurants. Most restaurants cater to low to medium income groups, serving Filipino cuisine such as chicken and pork barbeque, pancit, tuna dishes, pinakbet and chop suey. Fast food chains in the city like Jollibee, KFC, McDonald's, Greenwich, Pizza Hut and Chowking are also expanding over the years. Vikings, a luxury buffet restaurant, serves special cuisine such as French, Italian, Korean, Japanese, Chinese and other Asian dishes. It can cater to about 200 customers daily. Other high-end restaurants also serve international cuisines. Fine dining restaurants in the city are very few, five at most.

Premium dining experiences

Though premium hotels charge premium price to their food and services, still they opt to purchase good quality vegetables at a low price. They have pool of suppliers to deliver their vegetable requirements. Suppliers bid for the prices of each vegetable. The one who offers the lowest price wins. Strictly, they require their suppliers to be consistent on the supply and quality of the vegetables, as well as the proper handling and method of transportation used. The suppliers are paid in terms, about 15 days to one month after the delivery.

They have stringent quality control. Vegetables that fail to pass their quality specifications are returned to the supplier. They conduct farm visits to inspect the production site, chemical residues, and post-harvest handling of the vegetables. Preferably, vegetables delivered to them should be fresh. Thus, they require their suppliers to deliver the vegetables daily if possible.

Market trends

According to the one executive chef, the hotel is willing to purchase organic vegetables due to the emerging demand from guests (about 5-8% of the total number of guests). It was also mentioned that well-travelled individuals are more concern about the safety of vegetables compared to local customers.

Volume traded per vegetable

The hotels and restaurants interviewed represent 70% of the supply requirement of this node. It is estimated that there are five 4-5 star hotels and fine dining restaurants in Davao City, the volume requirement of this node is shown below.

Table 5-34: Estimate usage of selected vegetables by Davao 4 & 5 star hotels and fine dining restaurants

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	40	110
Bitter Gourd	40 – 60	60 – 90
Sweet Pepper	70	110
Tomato	80	240

Quality characteristics sought but not being delivered

This node strictly purchases class A vegetables. However, suppliers of vegetables are not consistent on delivering good quality vegetables. Specifically, the suppliers cannot deliver their preferred size and colour. There are also cases in which the delivered vegetables have different tastes. They specifically prefer the attributes described in Table 5-15.

Table 5-35: Vegetable attributes sought by Davao 4 & 5 star hotel and fine dining restaurants

Vegetables	Quality Specifications			
	Size	Shape	Texture	Colour
Tomato	For salad tomatoes: Large (4 inches and above in diameter) For tomatoes used for sauce and salsa: Regular size of tomatoes sold in the market.	Not specified	Crunchy	Red
Eggplant	Medium (6 to 8 inches long)	Straight	Smooth, shiny, and has soft texture	Purple
Bitter Gourd	Medium (6 to 8 inches long)	Straight and with pointed edge or tip.	Not specified	Dark green
Sweet Pepper	Large (more than 4 inches)	Not specified	Smooth and shiny	Red and green

Value created and margins earned

Premium dining restaurants add value to the vegetables by converting them to premium quality meal experiences.

Buying price of the vegetables:

Table 5-36: Prices paid for selected vegetables by 4 & 5 star hotel and fine dining restaurants

Vegetable	Price PhP/Kg
Eggplant	30 – 60
Bitter Gourd	60 – 65
Sweet Pepper	80 – 150
Tomato	30 – 60

For cost control measures, they conduct survey about the prices of vegetables in wet market and supermarket.

Stage of the Node Life Cycle

As projected few years ago, number of hotels and restaurants is increasing due to the improvement in the city's tourism which encourages more local and foreign tourists(Concepcion et al. 2012). This projection is still consistent as of the present. Thus, this node is believed to be on the growth stage.

Competitive forces

Existing level of rivalry

There are very few 4-5 star hotels and fine dining restaurants operating in the city. The rivalry on sales of vegetable dishes is not significant as hotels compete mainly on providing luxury accommodations and services. As such, existing level or rivalry is low.

Barriers to entry

It is challenging for small farmers because of stringent quality and commercial requirements. 4-5 star hotels and fine dining restaurants require their suppliers to have business permit.

Power of suppliers

Suppliers have moderate power over premium hotels and restaurants. There are only few suppliers who can comply with the quality and commercial requirements.

Power of buyers

Customers of premium hotels and restaurants are increasingly concern on the quality and safety of vegetables. However, chefs and purchasers have the ultimate power to decide on the quality and source of vegetables. The power of hotel and restaurant customers is perceived to be low to moderate as they have the option to patronize the restaurant.

Threat of new entrants

Premium hotels and restaurants provide luxury experience to their customers. The threat of new entrant is low as entry to this type of business model requires very high capital investment.

Threat of substitute node

This node offers relatively high prices of vegetables however; the volume requirement is minimal and payment is in terms. Moreover, this node does not provide support services to farmers. The threat of substitute node is perceived to be moderate as this node can be substituted by other nodes which have higher volume requirement and offer support services to farmers.

Willingness to source directly from farmers

This node may source their supply of vegetables directly from farmer groups considering that the farmers have business permit and can consistently deliver the required volume and quality.

5.1.3.13. Budget Hotels and Restaurants

Compared to the 4-5 star hotels and fine dining restaurants, price of the budget hotels and restaurants is cheaper by 50% on the average. Some of the budget hotels and restaurants in Davao City include The Pinnacle Hotel, Lispher Inn, Penongs, and Toryanos. Approximately, they are about 50 in number.

There are two respondents for this node. One represents the budget hotel and one for the budget restaurant. Budget hotels have purveyors or suppliers who deliver their needed vegetables and other products. However, in the case of budget restaurants, they purchase vegetables in the market on their own. They have a purchaser who buys vegetables and fruits in Bankerohan every other day.

Based on the interviews, majority of the customers who are concern on the chemical residues of the vegetables are foreigners. Out of 10, 3 foreigners and 1 local guest ask for organic vegetables.

Trends

A significant trend observed is the increasing number of budget hotels and restaurants in the city. Aside from the newly constructed buildings, there are still several on-going constructions of budget hotels and restaurants. These constructions are both new branches of the established restaurants and entries of new businesses.

According to the manager interviewed, there is an increase in their demand of vegetables due to more events and conferences being held in the hotel. Compared last year, they now need additional 20-30% supply of vegetables.

Volume traded per vegetable

The interviewed respondents represent about 5% of the total volume requirement of this node. Overall, the estimated demand for vegetables of the budget hotels and restaurants is shown in Table 5-37.

Table 5-37: Estimated quantities of vegetables required by Budget Hotels and Restaurants in Davao

Vegetable	Average volume requirement of one budget hotel and one budget restaurant (kg/week)	Estimated volume requirement in the node (kg/week)
Eggplant	95	3,800
Bitter Gourd	50	1,900
Sweet Pepper	50	1,000
Tomato	175	3,500

Quality characteristics sought but not being delivered

Budget Hotels and Restaurants commonly encounter problem on the size and shape of the vegetables being delivered. The vegetables are oversize, undersize, or shrivelled. Specifically, they prefer the attributes noted in Table 5-38.

Table 5-38: Vegetable attributes required by Budget Hotels and Restaurants in Davao

Vegetables	Quality Specifications			
	Size	Shape	Texture	Colour
Tomato	3-4 inches diameter	Not mentioned	Not mentioned	Breaker
Eggplant	7 to 8 inches long	Not mentioned	Not mentioned	Not mentioned
Bitter Gourd	10 inches long	Not mentioned	Not mentioned	Not mentioned
Sweet Pepper	Not mentioned	Not mentioned	Not mentioned	Red

Value created and margins earned

They add value to the vegetables by converting them to meals that are affordable to individuals belonging in medium to low income classes.

Prices paid by Budget Hotels and Restaurants for vegetables in Davao is the prevailing market price, and are shown in Table 5-39.

Table 5-39: Average prices paid for vegetables by Budget Hotels and Restaurants in Davao

Vegetable	Price PhP / kg
Eggplant	28
Bitter Gourd	36
Sweet Pepper	No data
Tomato	No data

Stage of the Node Life Cycle

The node is believed to be on the growth stage due to the increasing number of budget hotels and restaurants all over the city. Consumers are spending more since individual's per capita income has increased (consistent with secondary data).

Competitive forces

Existing level of rivalry

Budget hotels and restaurants are growing in number. They compete in terms of serving affordable meals and providing low-priced accommodation and function services.

Barriers to entry

Compared to the superior hotels and restaurants, it's much easier for the small group of farmers to enter in this node. Budget hotels and restaurants have more lenient quality and commercial requirements.

Power of suppliers

The supply of vegetables in this node is sourced through purveyors and purchases in the wet market. The power of suppliers is perceived to be moderate as they set the price of the vegetables.

Power of buyers

Buyers have low power for they are only concern on the meals served. The decision about the source and quality of vegetables is a chef or purchaser's responsibility.

Threat of new entrants

The threat of new entrants is high since more budget hotels and restaurants are to be constructed. Number of branches of the established restaurants is increasing as well as new budget hotels and restaurants. Though, this could have positive effect to the small group of farmers. More budget hotels and restaurants mean more market for their vegetables.

Threat of substitute node

The threat of substitute node is perceived to be moderate. This node has quite large volume requirement. However, this node does not offer any support services to farmers and payment is usually in terms.

Willingness to source directly from farmer groups

They could consider sourcing directly to farmers. Thus, they require their future suppliers to submit a proposal indicating the vegetables they want to supply with its corresponding prices.

5.1.3.14. Institutions

Davao City is the centre of trade, commerce and services in the Southern Philippines. It has three major ingress and egress points that allow linkages to other cities or provinces. Micro to large scale enterprises covering agriculture, tourism, business process outsourcing (BPO), agro-processing and food processing industry are among the revenue sources of the city. These industries provide employment to the residents of the city and neighbouring provinces. The high literacy rate of the city (98.3%) triggers the inflow of investments for BPO industry (Davao City Government).

Davao City is the educational centre of Southern Mindanao with two state universities namely, University of the Philippines Mindanao (UP) and University of South eastern Philippines (USeP) and 44 privately managed colleges and universities. Regional offices of national government agencies are also located in the city. Davao City serves as the gateway for tourists going to different attractions in the region like beach resorts in Samal. The Department of Tourism reported an increase of 12.57% in foreign tourist arrivals in the city from 46,728 in 2006 to 52,602 in 2010. Domestic tourist arrivals in the city also increased by 20.3% from 519,350 in 2006 to 624,551 in 2010 (Davao City Government).

Large health service providers are also located in Davao City namely, Southern Philippine Medical Center (SPMC) and Davao Doctors Hospital (DDH). SPMC, a government hospital, has an average number of 1,000 patients daily while DDH, a privately-owned hospital, has an average number of 150 patients daily. These hospitals serve meals to its patients.

Institutions are organizations that heed to large number of individuals. Examples of institutions are hospitals, prisons, and schools. Usually, institutions cater to large number of meals to patients, prisoners, and employees on a regular basis. Food service in institutions are either outsourced or under in-house management. Some of the institutions interviewed in this study are Southern Philippines Medical Center, Davao Doctors Hospital, National Police Commission Regional Training Center, and Davao City Jail. Among the four, two have outsourced food service with contractors which are mostly in the catering business. According to the interviewed respondents, these food service providers rely on purveyors or are purchasing directly from vegetable wholesalers in Bankerohan wet market. One respondent interviewed is coming from a public institution. Their food or dietary service is managed internally and procurement of the food ingredients undergoes the government

bidding process. Suppliers are invited to bid for the prices of the ordered vegetables. These suppliers should have business permit and can provide official receipt.

The number of individuals served by institutions range from 270 – 2,500 on a daily basis which they need to serve breakfast, lunch and dinner. Based on the interviews conducted, the average budget per meal ranges from Php 35-130.

In general, institutions prefer class B and C vegetables since appearance is not the main consideration unlike in retail. Most of the vegetables are used or cooked right away upon purchase. One respondent mentioned that price is the main factor in purchasing vegetables considering that they are limited with the budget.

The respondents interviewed are not really concern on the safety of the vegetables that they buy. However, one of the respondents interviewed (from hospital operation) mentioned that they encourage their cancer patients who are undergoing chemotherapy to eat chemical-free or organic vegetables. They also advise them to grow their own vegetables.

Trends

In-house management of the food service in some institutions is no longer practiced. It has been the trend in this node to outsource food service from contractors or providers.

Volume traded per vegetable

There are approximately 80 institutions in Davao City that falls under this category. Four institutions interviewed cover 20% of the total volume requirement of this node. The table below shows the institutions' weekly volume requirement for each vegetable.

Table 5-40: Estimated quantities of vegetables used by Institutions in Davao

Vegetable	Average volume requirement of four institutions (kg/week)	Estimated volume requirement in the node (kg/week)
Eggplant	65	1,250
Bitter Gourd	30	400
Sweet Pepper	10	125
Tomato	25	460

Quality characteristics sought but not delivered

Generally, this node prefers class B vegetables. They are not very stringent about the specific quality of the vegetables. They are only concern about the freshness of the vegetables being purchased.

Table 5-41: Vegetable attributes sought by Institutions in Davao

Vegetables	Quality Specifications			
	Size	Shape	Texture	Colour
Tomato	Medium (2 to 3 inches in diameter)	Not mentioned	Thick-skinned (for it will not rot easily)	Light orange
Eggplant	Medium (6 to 8 inches long)	Straight	Smooth, shiny, and has soft texture	Dark purple
Bitter Gourd	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Sweet Pepper	Not mentioned	Not mentioned	Smooth and shiny	Not mentioned

Value created and margins earned

Institutions add value to the vegetable industry by taking a significant quantity of class B vegetables and converting them to healthy meals. However, increase in the price of vegetables will lead to the reduction in the volume of the vegetables purchased.

Table 5-42: Prices paid for vegetables by Institutions

Vegetable	Peak Season PhP / kg	Lean Season PhP / kg
Eggplant	5	50
Bitter Gourd	20	-
Sweet Pepper	20	150
Tomato	6 150/crate	16 400/crate

One of the interviewed respondents has mentioned that they validate the prices (given by the suppliers) from the wholesalers in Bankerohan.

Stage of the Node Life Cycle

Institutions such as hospitals, schools and jails and the catering business have already existed for a very long time. The node is considered to be on its mature stage. Nonetheless, there is a noticeable increase in the number of these institutions, while others which are existing are now expanding. There is also an apparent change on how some public and private institutions have shifted to outsourcing their food service. One of the interviewees commented that outsourcing food service has made their tasks easier.

Competitive forces

Existing Rivals

Rivalry in terms of sourcing supply of vegetables is not significant as institutions have different buying practices. The existing suppliers of hospitals are more capable of providing a full suite of vegetables and complying with the commercial arrangements than small group of farmers. Private hospitals have contract arrangements with their external food service provider. On the other hand, dietary in public hospitals are still under the operation of the internal management. The procurement of food ingredients follows the government bidding process.

Power of suppliers

In relation to their buyers, the suppliers' power is low. The institutional buyers have no preferred supplier and can easily substitute suppliers. Also, institutional buyers demands bidding of prices and choose to purchase from the supplier who offers the lowest price.

Power of buyers

The food service providers decide the source and quality of the vegetables as well as the type of dish to be served. As such, buyers have no power.

Barriers to entry

Preferably, institutions need suppliers who can deliver range of vegetables. Thus, the group of farmers should be able to vegetables other than the crop of interest.

Threat of substitute node

This node requires large volume of class B vegetables. The threat of substitute is moderate since farmers or farmer groups may sell directly their class B vegetables to this node.

Willingness to source directly from farmer groups

In general, the institutions are willing to source directly from farmers for they believe that by doing so, prices would be cheaper than the price in the wet market. However, one of the interviewed institutions stressed out that they are willing as long as the farmers can issue an official receipt (mandatory by the management). Two of the interviewed institutions pay cash in purchasing vegetables.

5.1.3.15. Wet Market Retailers

There are nine major wet markets in Davao City with Bankerohan, Agdao and Toril being the largest, representing more than 60% of market share. There are approximately 250 wet market retailers of vegetables in Davao City who occupy a formal stall. Most big wet market retailers of vegetables in other public markets in Davao City also source from Bankerohan Market, hence it is expected that their selling price is higher. For instance, the Agdao wet market source about 80% of its vegetables from Bankerohan market.

There are also some wet market retailers who are operating in the boundary of wet markets and are mostly mobile with their vegetables displayed on top of a push cart or a portable table. They only pay a minimum duty to the government called "arkabala", which is collected by the local market operator. Due to the nature of their business operation which is inconsistent and very informal, it is almost impossible to get their actual number. Nevertheless, on a daily basis, there can be around 200-250 informal wet market retailers in Davao City. Although the volume of vegetables that each seller trade is small, nevertheless, when aggregated their volume requirement becomes significant.

Majority of the wet market retailers' main markets are household buyers, some restaurants, smaller retailers and small community markets. Only a few big wet market retailers can sell to hotel suppliers, purveyors for shipping companies and large restaurants.

Market trends

Utilization of Class B and sometimes unsold vegetables for minimal processing – peeling, slicing, and packing (usually vegetables used in cooking pinakbet and chopsuey).

Volume traded per vegetable

On a weekly basis, one big wet market retailer buys the following vegetables, estimated to hold approximately 3% share of the market. The estimated total volume of vegetables traded in the wet markets is derived from the average volume traded by the respondent above and dividing it with 0.03, as its market share. The value is then multiplied by 1.3 in order to include the volume traded by informal wet market retailers, which constitute about a third of the formal wet market retailers' total traded volume.

Table 5-43: Estimated quantities of vegetables traded by Wet Market Retailers

Vegetable	Average volume of vegetables traded by the respondents (kg/week)	Estimated total volume of vegetables traded in the node (kg/week)
Eggplant	140 – 175	6,000 – 7,500
Bitter Gourd	105 – 140	4,500 – 6,000
Sweet Pepper	21 – 35	900 – 1,800
Tomato	105 – 140	4,500 – 6,000

Quality characteristics sought

Table 5-44: Quality characteristics sought by Wet Market Retailers in Davao

Vegetables	Quality Specifications			
	Size	Shape	Texture	Colour
Tomato	Depends mainly on what is available in Bankerohan	Not mentioned	Not mentioned	Shades of green and not ripe
Eggplant	Prefers medium size *Size is not really an issue* - mix small with big ones	Prefers straight - sometimes mix straight with curved ones	No holes	Not mentioned
Bitter Gourd	Medium	Not mentioned	Not mentioned	Not mentioned
Sweet Pepper	Not mentioned	Not mentioned	Should not be ripe	Not mentioned

The usual product issues of wet market retailers with their suppliers are when the size and appearance requirements are not met. Nevertheless, they do not see this as a major concern. What they just usually do is to separate these vegetables and return them to the supplier only when the volume is significant. The retailers already accepted that damages are inevitable due to transportation. However, they said that they already considered it insignificant at 2%-3% of the total volume.

Value created and margins earned

Wet market retailers provide access to fresh and inexpensive wide variety of vegetables to the vast majority of Davao consumers. Sometimes, they also take in class B and class C vegetables, either consciously or unconsciously.

Table 5-45: Buying and selling prices and margins earned by Wet Market Retailers in Davao

Vegetable	Buying price (Php/kg)	Selling price (Php/kg)	Margins (Php/kg)
Eggplant	20	30	10
Bitter gourd	40 – 50	60 – 70	20 –30
Sweet pepper		60 – 160	
Tomato	20	30 – 40	10 – 20
Cabbage		40 – 70	10 – 20

Stage of node life cycle

The mode of selling vegetables in the wet markets is in its mature stage and even in decline given the declining consumption of vegetables and erosion of market share by supermarkets/Concessionaires. As a matter of fact, 75%-80% of the retail sales of fresh vegetables in the Philippines are through the wet market while the rest goes to the other market channels (Concepcion, 2012).

Competitive forces

Existing level of rivalry

Apart from the intensive competition inside the wet market, these retailers are also challenged by illegal vendors who can sell at a lower price and display their products along the premises of the wet market. Hence, there is a very high level of competition among wet market retailers.

Power of suppliers

There are a lot of vegetable suppliers in Bankerohan that are willing to supply to wet market retailers. Hence, the power of suppliers is considered moderate.

Power of buyers

The varied customer base of these wet market retailers make them flexible in their business undertaking. Hence the influence of the vegetable buyers over the wet market retailers is considered to be moderate.

Threat of new entrants

Selling of vegetables in the wet markets has been very competitive especially due to the low barriers of entry and exit in doing business in this node. Market intelligence is also very

important for sellers in order to secure the supply and acquiring a customer base. Hence, the threat of new entrants may be considered to be moderate.

Threat of substitute node

Selling of vegetables through the wet market retailers is one of the most popular means of reaching the household buyers for decades. Its value proposition of offering affordable, fresh and assorted vegetables has been its biggest advantage over most of the other nodes. Moreover, the concept of "suki" which is quite unique in the Philippine context where both sellers and buyers have forged a relationship benefiting both parties in most instances, have established the wet market retailers' position in the vegetable industry. Hence, the threat of substitute node is considered low.

Willingness to source directly from farmers

Industry practice of wet market retailers is to have a few suppliers only. The participants of the RMA also have the same practice; however some of them said that they are also looking for new suppliers.

The wet market retailers are willing to source directly from farmers or farmer groups. However, except for market intelligence, they are not willing to provide other forms of support to any farmer groups.

5.2. Tacloban City

Eastern Visayas, designated as Region VIII, sits on the east most side of the Visayas group of islands and faces the Pacific Ocean. The region is divided into six provinces namely, Biliran, Leyte, Northern Samar, Samar, Eastern Samar, and Southern Leyte. The region is geographically separated by sea from other regions.

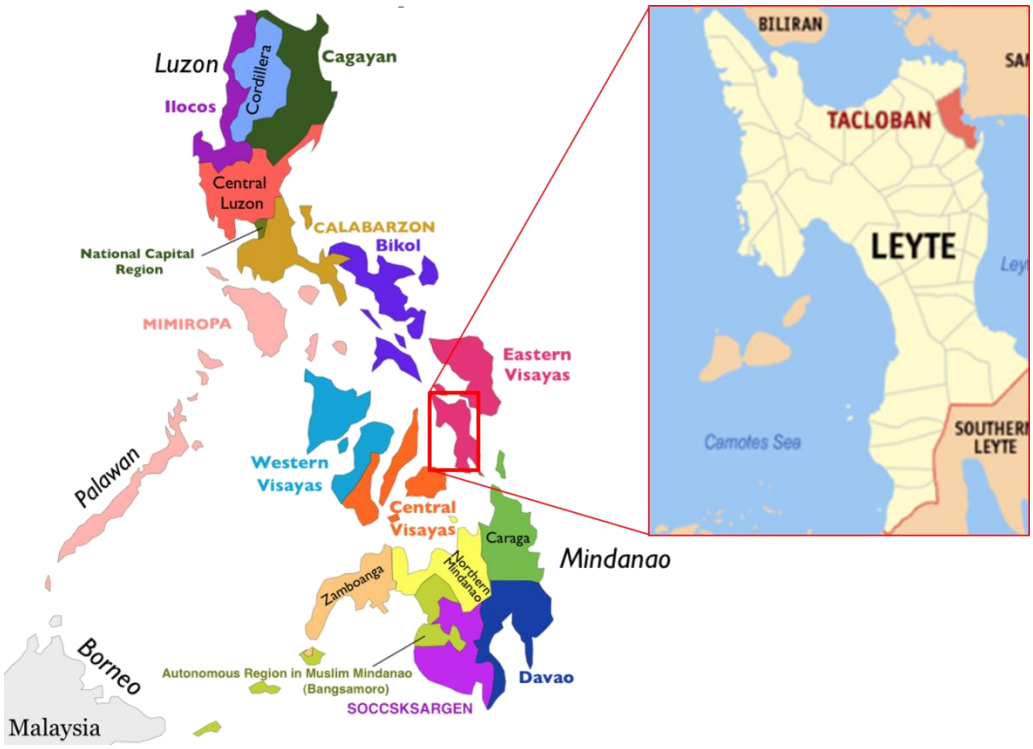


Figure 5-5: Map of the Philippines with the 17 different administrative regions (before Negros Island Region was created) and a part of Leyte province showing Tacloban city

Eastern Visayas has a total population of 4,101,322 (2010) with a growth rate of 1.28% (2000-2010). It has a total land area of 2,325,395 ha. 31.1% or 723,048 ha were devoted to agricultural land with palay, coconut, hog, banana and chicken as the top agricultural commodities. 44% of the total employment in the region was engaged into Agriculture. The agriculture sector contributed 20% to the GRDP. The region also experienced a 6.59% decline in Agriculture sector on 2013.

Tacloban City is the capital city of the province of Leyte and is located at the North Eastern tip of the island of Leyte. As of 2010, it has a population of 221,174 and is the centre of commerce and trade of the eastern seaboard of the Visayas group of Island.

The region has a rising spending on food expenses. Data from FIES showed that 45.8% the families' total expenditure was allocated for food expenses, up from 43.2% on 2006. Food regularly consumed outside of home mainly contributed to this growth.

Particular	Year	FOOD	Food consumed at Home	Food Consumed Outside of Home
Philippines	2006	41.4	35.5	5.8
	2012	↑42.8	(-0.6%)↓35.3	(29.3%)↑7.5
Eastern Visayas	2006	43.2	41.2	1.9
	2012	↑45.8	(3.4%)↑42.6	(68.4%)↑3.2

Figure 5-6: Food expenditure pattern in eastern Visayas in 2006 and 2012

During the Super Typhoon Yolanda, Tacloban City suffered a direct hit of the typhoon path with more than 50% of the total recorded fatalities in the city. This sin is now the centre of rehab intervention from the onslaught of Yolanda.

The Vegetable Industry in Tacloban City

Tacloban City is the central buying point for vegetables in Samar and Leyte municipalities. Vegetables traded in Tacloban can even be shipped as far as Catarman in Northern Samar and sometimes in Bicol provinces. The majority of vegetables assembled Tacloban city were being sourced from Davao City via land transportation. A quantity was also being sourced from Cagayan de Oro and Benguet. Buyers in Tacloban needed to outsource vegetables from other regions since local production could not satisfy the demand.

The main entry points of vegetables in a Leyte city or municipality are the large wholesalers as these traders are the ones capable of outsourcing and assembling large volumes for distribution to local wholesalers and retailers. They are locally known as *alpor*. Local collectors and farmers also prefer selling to *alpors* due to fast disposal and easy payment terms. In Tacloban there are only about 10 of them and smaller wholesalers and retailers purchase from them.

In this market, traditional distribution of vegetables operated by wholesalers and retailers in 'wet' markets remains the bigger market. In Tacloban, the volume of vegetables supplied through supermarket and HRIs (hotel, restaurants and other institutional buyers) is small. To note, the largest single buyer of vegetables in this segment was a hospital. Accommodation establishments such as hotels and resorts were not significant compared with Cebu City and locals still substantially preferred to buy from wet markets rather than supermarkets.

5.2.1. Summary of Data Collected in Leyte

An important part of qualitative data analysis is the reduction of data and the following table summarises the data collected about market segments for vegetables operating in Leyte.

Table 5-46: Summary of data for nodes involved in vegetable distribution on Leyte Island.

Characteristics to be assessed		Node Collector	Viajedor	Viajedor-Wholesaler	Purveyor-Wholesaler	Supermarket	Wet market retailers	Hospitals
Description		Buys from farms and sells to Tacloban markets	Buys from market and sells to other markets	A wholesaler who also handles the logistics	A trader who acts as concessionaire, purveyor, wholesaler and retailer	A modern retail outlet selling from groceries to fresh foods	Generally retailers selling fresh or pre-cut vegetables	Serves food to occupants.
Estimated Total number of Actors		30	6	11	3	3	~300	2
Market trends		Collectors mostly respond to supply rather than demand	A need to satisfy the local demand due to low local production	Wholesale market remains the bigger market and this continues to increase	A need to cater the growing establishments in Tacloban City that require formal arrangements.	More consumers are having access to this retail format driven by the expansion of commercial centres in Tacloban	Wet market retailers display a wide array of goods for customers who are looking for a convenient shopping.	Hospitals are currently operating more than its designed capacity, and dieticians are encouraging locals to eat healthy food
Volume traded (kg / week)	Ampalaya	2,000		4,650	2,000	420	2,500	30
	Cabbage	1,200	12,000	30,000	8,000	1,600	4,000	30
	Eggplant	2,000		4,650	6,000	420	2,500	30
	Tomato	600	24,000	10,500	4,000	1,050	4,000	30
	Sweet Pepper	600	1,000	8,400	4,000	420	2,000	30
Quality characteristics sought		Buys almost everything from farmers	Physically presentable vegetables	Commonly known and accepted vegetables	Commonly known vegetables at high quality	High quality and fresh vegetables	Typically accepted and known characteristics	Mostly fresh and medium sized.

Characteristics to be assessed		Node Collector	Viajedor	Viajedor-Wholesaler	Purveyor-Wholesaler	Supermarket	Wet market retailers	Hospitals
Value Created and Margins Earned		Collectors basically provide logistics from production area to the market at P4-10/kg	They serve the lacking volume requirement in Tacloban market. They add P5-18 per kilogram.	Benefit from economies of scale from its large traded volume and generally set a P5-P10 mark-up	Assembles vegetables for supermarket and institutional buyers (P13-18 mark-up) while selling to traditional market. (P5-P10 mark-up)	Provides different retail experience to customers at P13-18 higher retail price	Providing readily available vegetables by minimally processing and grouping vegetables for a certain dish at P5-10 mark-up	Provision of set meals to patients
Stage of node life cycle		Mature	Mature	Mature	Late Growth	Growth	Mature	Mature
Competitive forces	Existing level of Rivalry	High	Low	Moderate	Low	High	Low	Low
	Power of suppliers	Low	Low	Low	Low	Low	Low	Low
	Power of buyers	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Low
	Threat of new entrant	Low	Low	Low	Low	Low	Moderate	High
	Threat of substitution	Moderate	Low	Low	Low	Moderate	Low	No known substitute
Willingness to source directly from farmers		Yes	Yes	Reluctant	Yes	Can't	Yes	Yes
Relative Attractiveness to Farmers		Moderate	Moderate	High	High	Low	Low	Low

The quantities of vegetables weekly traded or used by each node are shown in Figure 5-7.

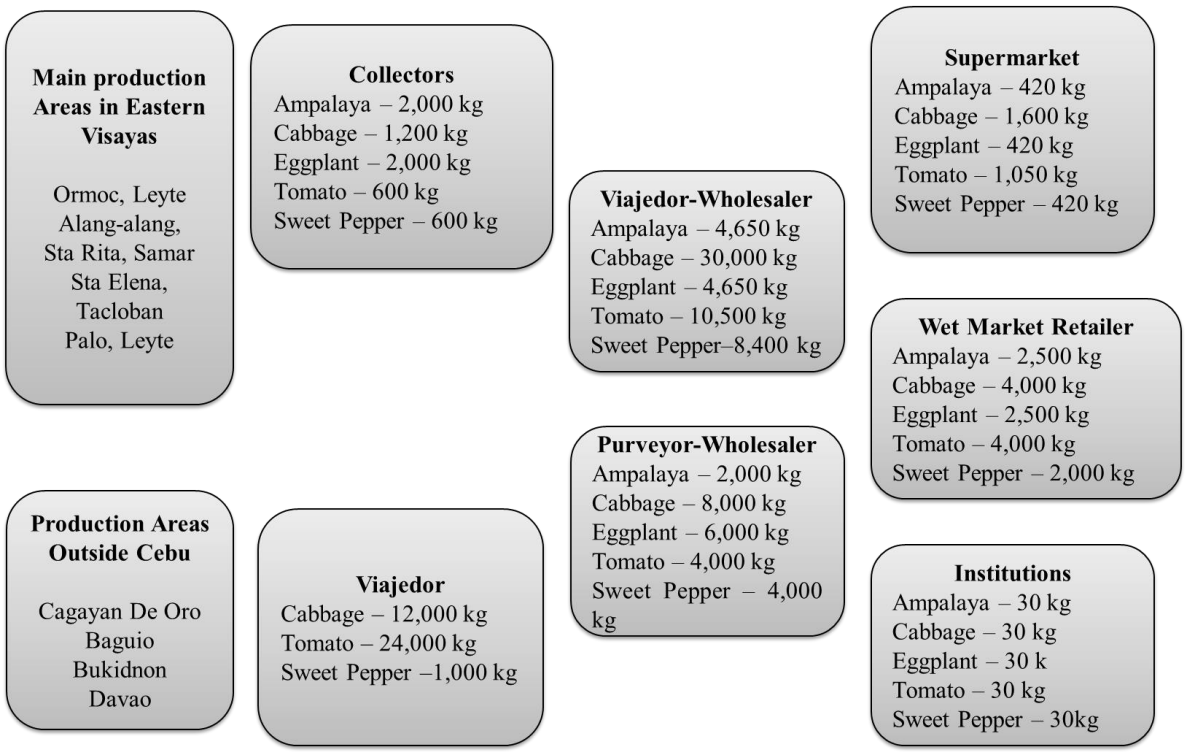


Figure 5-7: Vegetables traded or used by node in Tacloban

Another characteristic deemed important for the assessment of relative attractiveness was margins earned by actors within each node. The ranges of margins generally available to actors within nodes for which information was available is illustrated in Figure 5-8.

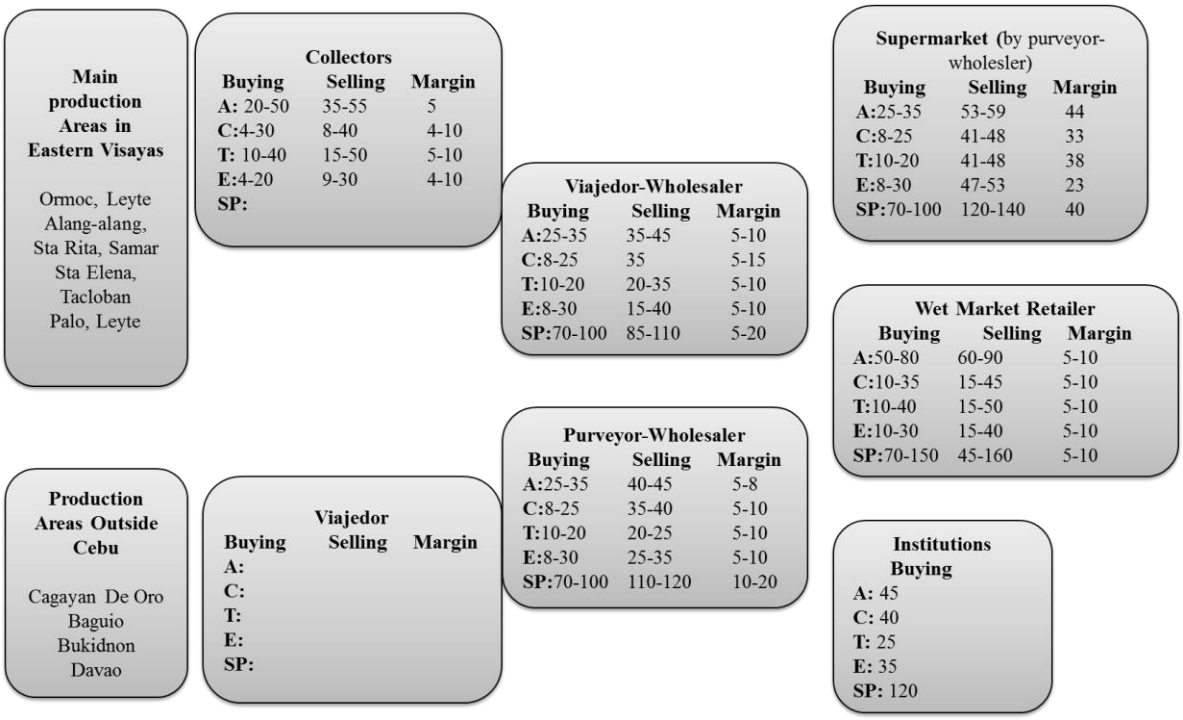


Figure 5-8: Costs, selling prices and margins earned in nodes in Tacloban

Distribution flow is another important element of value chain analysis and the flow of vegetables in the Cebu region is illustrated in Figure 5-9.

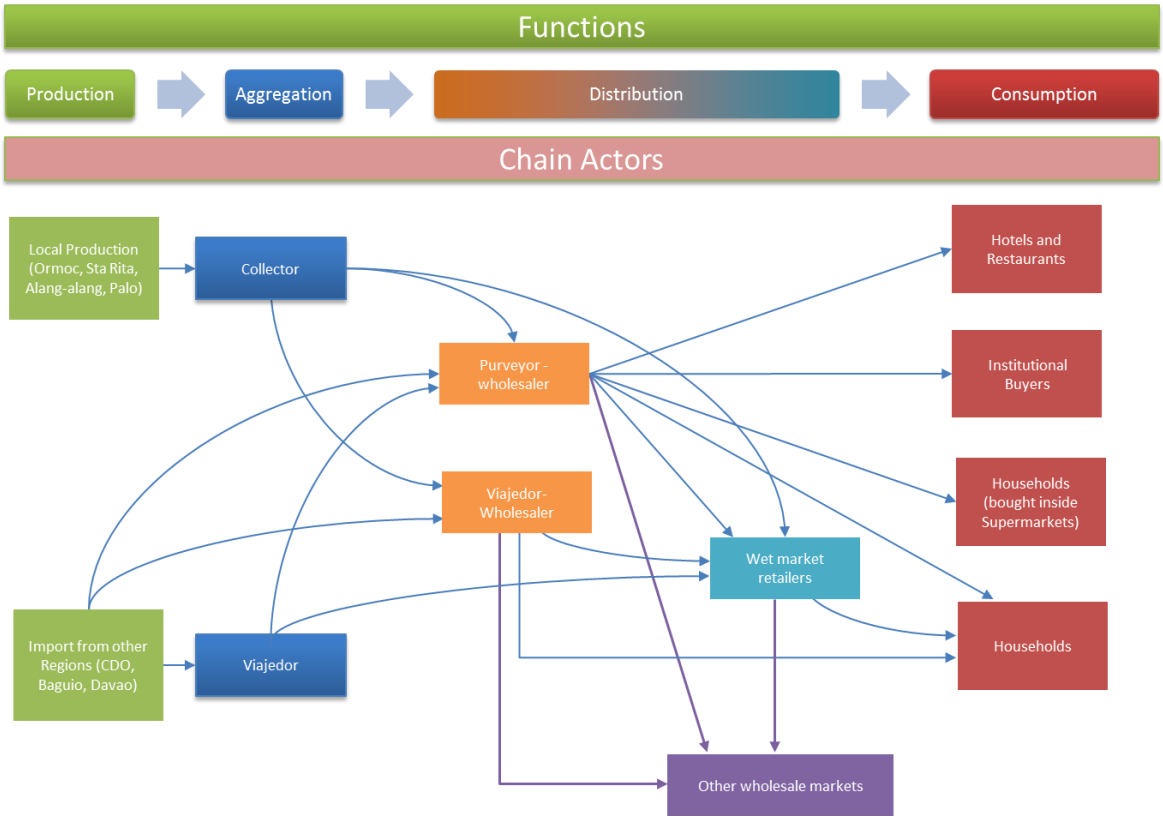


Figure 5-9: Flow of vegetables into and through Tacloban

Observations made during the investigation that limited the amount of 'hard data' available or that contributed to data obtained for analysis in the Tacloban / Ormoc regions are listed below:

- The number of collectors in the region is increasing due to its high profit. However, the total volume they trade is decreasing. Data from BAS showed that the vegetable production in the region is decreasing the last years. Comparing to 2011, total ampalaya production in 2014 has decreased by 8%, eggplant and tomato also showed a decrease of 11% and 14%, respectively. Cabbage showed the largest decrease of production of 27%.
- Collectors were assessed to be in the late maturity stage due to its decline in volume.
- Supermarket showed a 50% due to the recent opening of a new supermarket in Tacloban. There are now 3 supermarkets in Tacloban.

- Restaurants and hotels, meanwhile, were assumed to be in the growth stage. However, their growths were stunted due to the Yolanda that brought devastation in their facilities.

5.2.2. Relative attractiveness of nodes in Leyte

Most of the actors identified have flexible arrangements in sourcing vegetables. This factor can be attractive to farmers. But considering other factors, only a few stood out.

Purveyor-Wholesalers and Viajedor-wholesalers are assessed as being the most attractive to farmers. One key factor that made them attractive is their capacity to absorb huge volumes from farmers, especially after harvest. Besides absorbing the volume prepared by farmers, these wholesalers can also easily shell out cash as payment to farmers as they are the one that having the largest capital in the local market.

Supermarkets and Hospitals have low attractiveness due to their stringent requirements for procurement with which farmers cannot easily comply, and their volume required is small.

5.2.3. Node Analysis

This section provides a summary of data collected from interviews from each node that are involved in the distribution of vegetables on the island of Leyte.

5.2.3.1. Collectors

Collectors are farmers or traders who buy vegetables from local production areas (Ormoc City, Sta Elena, Sta Rita, Alang-alang, Palo, Abuyog, etc) and sells to the main markets in the region which are Ormoc City, Tacloban City, and Calbayog City. They sometimes cover several areas just to dispose all their vegetables. If still not enough, they themselves sell surpluses in retail.

Collectors have their own transportation facilities to transport vegetables. Some have a 1-2 mT capacity while others have 5-7 mT. They prefer selling to large wholesalers due to fast disposal of vegetables. They usually travel by night in order to incur less post-harvest losses.

Collectors are production oriented. The vegetables they procure depend on the vegetables produced in the area they operate. During procurement, some collectors are on site during harvesting in order to sort vegetables. Others also collect the pre-sorted vegetables. Collectors also dictated the prices of the different quality of vegetables procured in farm areas. They base their buying prices on current prices available in the local market.

Data for this segment was collected by interviewing traders in Tacloban City, farmers and collectors in Cabintan, Ormoc City and Sta Elena, Tacloban City.

Market trends

The collectors interviewed stated that farmers who engage in assembling vegetables are increasing. Some collectors engaging in large production areas had previous experience being a viajedor in Mindanao while some are farmers who ventured into wholesaling. It is apparent that there is a trend towards vertical integration in the upstream side of the vegetable supply chains in Leyte.

Volume traded per vegetable

Collectors purchased a limited selection of vegetables due to their production oriented operation. They can only secure whatever the production area produced. On average, they deliver around 1-7 mT of vegetable per delivery. They normally deliver twice a week. During

peak seasons, these collectors can travel between the production area and the market as much as 4 times a week. Collectors played a significant role in delivering these vegetables from farms to the local market.

The estimated weekly volume traded by the collectors was derived seeing that they only trade the study's vegetables of interest around 3-4 months a year.

Table 5-47: Volume of vegetables traded by Collectors

Vegetable	Volume traded (kg/week)
Ampalaya	2,000
Cabbage	1,200
Eggplant	2,000
Tomato	600
Sweet Pepper	600

Quality characteristics sought

Collectors purchase almost everything from farmers. For Ormoc-based collectors, more than 90% of their volume is identified as class A in the wholesale market. Collectors in other production areas only procure the good quality vegetables to incur less wastage.

Value created and margins earned

Collectors basically provide logistics from production area to the market. They also perform sorting, packaging of vegetables. They typically buy vegetables from farmers at a price P4-10 lower than their intended wholesale market.

Table 5-48: Costs, selling prices and margins earned by Collectors on Leyte

Vegetables	Buying Price/kg	Selling Price/kg	Margins Price/kg
Ampalaya	20-50	35-55	5
Cabbage	4-30	8-40	4-10
Eggplant	10-40	15-40	5
Tomato	4-20	9-30	4-10
Sweet Pepper			

Stage of node life cycle

Collectors have filled their position in assembling vegetables for wholesalers for a long period of time. This segment is in the mature stage.

Competitive forces

Existing level of rivalry

There is high competition in securing vegetables in production areas. Collectors offer different services to farmers just to reserve the harvest. This can be free pick-up, free labour for harvest, free packaging materials, and incentives to farmers. They also establish relationship with farmers.

Power of suppliers

Farmers' main priority is to sell their harvest. This includes selling without getting the best opportunity and collectors can use this to their advantage. Thus, the power of suppliers is Low. Collectors also exert power over farmers by dictated the buying prices.

Power of buyers

Some collectors already have buyers when purchasing vegetables from farmers. They prefer selling to the *alpor* for easy absorption. They come to a negotiation as their buyers also need vegetables. There are also times that their vegetables are not fully absorbed by their negotiated buyer. Collectors then travel to different areas selling on spot market. These collectors sell to different geographic markets in order to gain the most opportunity. Other collectors also deliver vegetables to Tacloban uncertain of their buyers. Hence, their buyers have moderate power over the collectors as collectors can resort to other markets.

Threat of new entrant

Collectors have already established good linkages with farmers and wholesalers. These collectors are already known in farm areas and even in local markets. The strong linkages they have makes it difficult for new collectors to penetrate, hence, threat for new entrants is low.

Threat of substitution

Farmers who opt to forwardly integrate are the best substitute for collectors. Local farmers are engaging in marketing as a means of increasing their income and profits. However, these

farmers also have to face the risk of the reduced time spent on their farms and their insufficient knowledge about the market when doing the market. Therefore, threat for a substitute for collectors is moderate.

Willingness to source directly from farmers

This business model required them to source directly from farmers.

Relative Attractiveness to Farmers

Collectors are basically attractive to farmers since they readily absorb the farmers produce and they buy whatever vegetables.

5.2.3.2. Viajedor

Viajedors are mobile in nature frequently moving to different wholesale markets and each viajedor is operating in specific geographic wholesale markets. Viajedors servicing Tacloban City are mostly wholesalers or collectors based in Davao or CDO. They have a truck with them, either owned or rented for transportation. The large viajedors own 2 to 3 6-wheeler trucks. These viajedors also answer the demand requirement of the neighbouring demand centres such as Calbayog City in Samar, Catarman in Northern Samar and sometimes Legazpi City in Albay. Note that viajedors sell vegetables, not the trucking services.

Data describing the viajedors accommodating Tacloban City was gathered from the accounts made by wholesalers and an interview with the viajedor's staff currently in Tacloban. The viajedor interviewed is the only one trading at that time in the area and is one of the largest of the six identified viajedors.

Market trends

Tacloban City along with other demand centres required huge volume of vegetables and local production cannot satisfy this demand, thus, a need to source from other regions. Local farmers were also less competitive compared with farmers in other regions. The total vegetable production in the region is also declining.

Volume traded

Most of the vegetables carried by viajedors are already reserved for wholesalers in Tacloban City. Generally, 5 wholesalers in Tacloban have agreed in communicating a single viajedor for a shipment of vegetables as these dominant wholesalers cannot fully absorb the whole truckload delivered by the viajedor. Some large viajedors also carry extra volume with them for spot markets. A single viajedor carries around 12mT of selected vegetables per delivery. Each can deliver 2-3 times a week. There are around 6 viajedors regularly trading to Tacloban City.

Davao-based viajedors carried around 12mT of assorted vegetables to Tacloban per delivery. This depends upon the request of the dominant wholesalers. A single viajedor delivers at most 3 times a week. The most common vegetables traded are cabbage and tomato. These 6 viajedors can deliver an estimated total of 37 t per week to Tacloban.

Table 5-49: Typical volume of major vegetables traded by viajedors for Tacloban market

Vegetable	Volume traded (kg/week)
Ampalya	
Cabbage	12,000
Eggplant	
Tomato	24,000
Sweet Pepper	1,000

Quality characteristics sought

Quality characteristics sought by these viajedors were highly dictated by their wholesalers as most of their vegetables are sold to wholesalers in Tacloban City and other major markets. What the wholesalers prefer is reflected to these viajedors. In general, they prefer the "gwapa" vegetables.

Value created and margins earned

As with collectors, viajedors provide logistics to the Leyte vegetable industry. They buy vegetables from a market and sell it to other markets. Viajedors basically served the lacking volume requirement in Tacloban market. Viajedors adds P5-18 per kilogram of vegetable. From this, P3 is charged for the transportation. The respondent interviewed cannot give the actual prices he is paying in buying the vegetables.

Stage of node life cycle

Viajedors are in the mature stage since this business model has been operating a couple of decades now.

Competitive forces

Existing level of rivalry

The level of rivalry between viajedors is weak. Each viajedor has its own network. Some of these viajedors were found to be a close family member of a large wholesaler in Tacloban City.

Power of suppliers

Viajedors procure vegetables from different traders as long as they can assemble the vegetables needed by the dominant wholesalers. Some viajedors also have their own farms supplying their trading business. Viajedors have good supply base and with their established network, they can easily look for sources of vegetables. The power of suppliers is assessed as low.

Power of buyers

Viajedors regularly trade vegetables to other markets. They bring with them the quality of vegetable traded from the export market. Most of their vegetables are already reserved by the large wholesaler in a specific market. They also carry with them extra volume for spot market. If ever the vegetables they bring are not absorbed by the traders, they bring it back with them from where they brought their vegetables or sell it to new markets. Since viajedors are mobile in nature, they can always look for new opportunities to sell their vegetables, hence the power of buyers is moderate.

Threat of new entrant

The strong relationship viajedors have with wholesalers in Tacloban city and other markets limits the entry of new entrants, thus, a low threat of new entrants.

Threat of substitution

Viajedors already established strong linkages with large wholesalers and retailers in Tacloban and it is difficult to penetrate this relationship. Some large wholesalers still opt in buying from viajedors due to its established relationship. Threat for substitution, then, is low.

Willingness to source directly from farmers

Viajedors procure from farmers or traders just to secure the volume. Some of the viajedors are even financing farmers to have a good supply base.

Relative Attractiveness to Farmers

Viajedors have large volume requirement, thus can be attractive to farmers and farmer groups.

5.2.3.3. Viajedor-Wholesalers

Viajedor-wholesalers represent the largest wholesalers in Tacloban City in terms of volume. As a viajedor, they handle the cost of transportation of vegetables. Taking care of the transportation could mean that they own, rent trucks, or hire a trucking service. Two of these wholesalers own multiple trucks that regularly transport them vegetables from other markets. The rest hires a truck for transportation. Moreover, not all of their vegetables are bought from other markets since some of their vegetables traded were bought from viajedors or collectors selling in Tacloban. As a wholesaler, they have their own stalls in the wet market for a sustainable wholesaling and retailing activity and they do sorting and repacking of vegetables for easy distribution. They buy vegetables in bulk and almost all of their vegetables are sold as wholesale. The buyer either picks up the vegetables in Tacloban or just pays for transportation to deliver to their place. Less than 20% of their volume is sold in retail.

They secure vegetables from different production markets across the country. Their main buying areas are Baguio City in Benguet, Cagayan de Oro City in Misamis Oriental or Davao City in Davao del Sur. The fact that they handle the transportation; they are competing directly with viajedors serving Tacloban.

The Department of Agriculture Region VIII identified 11 large wholesalers in Tacloban City. This is also consistent with the answers made by the respondents interviewed. These wholesalers are the main entry point of vegetables in the city. Almost 100% of vegetables in Tacloban are traded by these traders. These traders are also known as *alpor*.

Four of the 11 identified wholesalers were found to have originated in Davao City. They were formerly viajedors distributing vegetables across different cities. Upon seeing the opportunity in Tacloban, they decided to be the wholesalers themselves. These wholesalers now have an advantage in sourcing vegetables.

Three of the eleven major wholesalers were interviewed. Information from Department of Agriculture was also added to define this node.

Market trends

The wholesale market remains the bigger market in Tacloban City. There is also a demand for securing vegetables from other areas due to the demand by wholesalers in local

municipalities and in nearby provinces. This makes Tacloban city a transhipment point of vegetables to other neighbouring cities and municipalities.

Volume traded

Viajedor wholesalers trade an assorted volume of vegetables; however, they tend to specialize in one or two specific type of vegetable. Their specialised vegetable is 2 to 3 times larger than the other vegetables.

The total volume traded by dominant wholesalers is shown below.

Table 5-50: Estimated volume of vegetables traded by Viajedor-Wholesalers

Vegetable	Volume traded (kg/week)
Ampalaya	4,650
Cabbage	40,000
Eggplant	4,650
Tomato	10,500
Sweet Pepper	8,400

These traders contact an informal broker in a specific market to assemble the vegetables they need. In Davao, they are known as *diser,* in Cagayan de Oro, they are known as *jambolero.*

Quality characteristics sought

These wholesalers procured widely known and accepted vegetables with attractive appearance. For cabbage, they prefer the medium sized. They also specifically identified the Galaxy and Morena varieties for ampalaya and eggplant, respectively.

Table 5-51: Quality characteristics sought by Viajedor-Wholesalers

Vegetables	General Form	Shape
Ampalaya	Galaxy variety, green	Must be straight
Cabbage	Green or White, clean	Medium in size
Eggplant	Morena, dark violet	Must be straight
Tomato	Regular size, firm	Round and compact
Sweet Pepper		Good in shape

Eggplant and ampalaya were preferably bought from local farm areas due to freshness. They don't buy from Davao because of the delay incurred from transportation.

Value created and margins earned

Viajedor-wholesalers benefit from economies of scale from its large traded volume. This also gives local buyers access to vegetables sold at lower prices. They generally set a P5-P10 mark-up per kilogram depending on the cost incurred in transporting. When buying from Mindanao, cost of transportation ranges from P2.5 to P3.0 per kilogram and when buying from Benguet province, cost of transportation was around P7.00 per kilogram.

Table 5-52: Buying and selling prices and margins earned by Viajedor-Wholesalers

Vegetables	Buying Price/kg	Selling Price/kg	Margins Price/kg
Ampalaya	25-35	35-45	5-10
Cabbage	8-25	35	5-15
Eggplant	10-20	20-35	5-10
Tomato	8-30	15-40	5-10
Sweet Pepper	70-100	85-110	5-15

Stage of node life cycle

Viajedor-wholesalers are in the mature stage. These traders had been facilitating the distribution of vegetables to wholesalers across the region for more than 30 years now.

Competitive forces

Existing level of rivalry

Rather than compete, they collaborate with each other in securing enough volume for their traders while others can independently secure their supply with their dedicated supplier. And due to their established linkages, competition in securing the supply is minimized. The presence of rivalry is more observed on how they sell vegetables since their buyers can freely choose where to buy vegetables. There is moderate level of competition between the viajedor-wholesalers in Tacloban.

Power of suppliers

There is low power of suppliers exerted towards the dominant wholesaler due to their coordinated network with their suppliers in other wholesale markets.

Power of buyers

These wholesalers are somewhat dependent on their buyers' decision on whether to buy from them or not. The volume to purchase lies within the wholesalers' number of contacts who only opts buying from them. Hence, there is a moderate buyer influence.

Threat of new entrants

When penetrating a local market, one must have strong linkages with players and must have sufficient information about how the local market works. The identified dominant wholesalers have operated in Tacloban for more than 20 years. Hence, new entrants represent a low threat.

Threat of substitution

Viajedor wholesalers in Tacloban can be considered as experts in the local market due to their long exposure in vegetable trading. As with new entrants, substitution also requires sufficient information and strong linkages with players. The threat of substitution in Tacloban is low.

Willingness to source directly from farmers

Some wholesalers showed reluctance when asked about sourcing directly from farmers. Reasons stated were farmers' inability to provide consistent availability of vegetables and expensive selling prices. Local farmers generally plant a single crop for their entire land and

wholesalers need assorted vegetables and due to its low production, selling prices were set at a higher value.

Other wholesalers also showed willingness; however, they also stated that when buying from local farmers, their price must be the same with farmers from other regions. Local farmers were seen to be less competitive compared with farmers in other region.

These wholesalers were also found that they don't provide input credits to farmers.

Relative Attractiveness to Farmers

These wholesalers have different markets; hence, they can sell any quality of vegetables the farmer may sell to.

5.2.3.4. Purveyor-Wholesalers

In Tacloban city, these are wholesaler who assemble assorted vegetables and sell to different markets. They act as concessionaire, purveyor, wholesaler and retailer, as being a sole concessionaire or purveyor is insufficient to be viable due to low demand in supermarkets, hotels, restaurants and institutions in Tacloban City. Their vegetables procured were first sorted for HRIs and supermarket requirements. Surplus was then sold to wholesalers and in retail wet markets. Only a small volume was sold to supermarkets and HRIs.

As a concessionaire, they do not carry their brand when selling inside the supermarket due to the supermarket policies. Vegetables displayed still carry the brand of the supermarket; however, the supermarket does not take ownership of the vegetables. The general wholesalers also have staff inside the supermarket, known as merchandiser, who takes charge in monitoring and selling their vegetables.

The information describing this node was obtained from an interview of the largest of three general wholesalers identified in Tacloban City.

Market trends

Traders responded that the recovery of the traditional market was their priority after the onslaught of typhoon Haiyan. Two years later, some establishments are still recovering from the damage; also there is growth of new commercial establishments in Tacloban City. One interviewee indicated that he had observed an increasing demand for vegetables through supermarket sales because of convenience. These businesses require formal arrangement with wholesalers for them to transact with, hence a need to cater these establishments.

Volume traded

Purveyor-wholesalers normally purchase vegetables from viajedors or hire trucks. They also buy from local wholesalers when, in some cases, they have not secured enough vegetables. As a concessionaire and purveyor, they are bound to supply their market of vegetables due to the formal agreement between the parties.

The study only identified three general wholesalers in Tacloban City; one was listed on the top 11 wholesalers listed by Department of Agriculture.

The largest of the three general wholesalers trades around 8 mT of assorted vegetables per week. Listed below is the total volume by the three wholesalers traded to hotels, restaurants, and other institutional buyers.

Table 5-53: Estimated total volume of vegetables traded by Purveyor Wholesalers

Vegetable	Estimated Volume per week (kg)		
	TOTAL	Sold Inside Supermarkets	Sold to Restaurants, Hotels and Institutions
Ampalaya	2,000	210 - 420	300
Cabbage		1,600	
Eggplant	6,000	210 - 420	300
Tomato	4,000	1,050	450
Sweet Pepper	4,000	210 - 420	400

The largest single buyer of vegetable for institutional market is a hospital. Hospitals will be discussed on a separate node.

Quality characteristics sought

These wholesalers generally procure assorted vegetables. The best quality were first selected and delivered to their supermarkets and HRIs.

Table 5-54: Vegetable quality characteristics sought by Purveyor Wholesalers

Vegetable	General Form	Ripeness	Variety
Ampalaya	Clean, Straight, medium in length	Not ripe	Prefers Galaxy
Cabbage	Clean, medium size, free from worms		
Eggplant	Clean, Straight, medium in length		Prefers Morena
Tomato	Clean, medium in size	Green and Red	
Sweet Pepper	Clean, Standard size	Green and Red	

Value created and margins earned

Purveyor-wholesalers assemble vegetables for supermarket and institutional buyers while selling to traditional market. A mark-up of P5-P15 per kilogram was set when selling to institutions, wholesale and retail. The retail price in supermarkets can reach up to 40-190% higher compared with the wet market retail. The supermarket only gets around 10-15% of sales generated by the concessionaire as commission.

The table below shows the buying and selling prices of purveyor-wholesaler in the wet market.

Table 5-55: Buying and selling prices and margins earned by Purveyor Wholesalers

Vegetable	Buying price (Php/kg)	Selling Price (Php/kg)	Margins (Php/kg)
Ampalaya	25-35	40-45	5-8
Cabbage	8-25	35-40	5-10
Eggplant	10-20	20-25	5-10
Tomato	8-30	25-35	5-10
Sweet Pepper	70-100	110-120	10-20

Stage of node life cycle

Currently, the node can be assessed as late growth stage. With the increase of supermarkets and accommodation establishments in Tacloban, this node will grow.

Competitive forces

Existing level of rivalry

Due to the low demand of the supermarkets, restaurants, hotels and other institutional markets, wholesalers are not eager to compete for a market share in this segment, thus, a low level of rivalry in this market. In the traditional market, these wholesalers also have established network with buyers and suppliers, still a low rivalry in the traditional market.

Power of suppliers

These traders operate the same with the viajedor wholesalers in securing their supply since they also have the capacity to hire trucking services to source their vegetables. In this arrangement, there is low power of suppliers.

Power of buyers

Though supermarkets and HRIs exert power over its suppliers, these traders are not so affected due to their diverse markets. They can still sell to other markets. In fact, majority of their vegetables are sold to the traditional market. Hence, a low threat of buyers.

Threat of new entrant

There is currently low demand for hotels, restaurants, and supermarkets in Tacloban and there is relatively no wholesalers grabbing for a market share for this segment. New wholesalers who target both traditional and modern markets currently pose minimal threat.

Threat of substitution

Currently, being a concessionaire or purveyor is a part of a single trader's operation due to its low demand and is still not viable. If this segment of the general wholesalers increases, traders with specific models such as concessionaires and purveyors may rise. However, traditional market still occupies the larger share of the purveyor-wholesaler's withdrawal.

Willingness to source directly from farmers

General Wholesalers indicated willingness to source from farmers due to the freshness of vegetables offered when buying directly from farmers and are willing to provide credit to farmers.

Relative Attractiveness to Farmers

Since these wholesalers can easily absorb large volumes of vegetables, they are attractive to farmers who plant single crops.

5.2.3.5. Supermarket

There are three major supermarkets in Tacloban, namely, SaveMore, Robinsons and Gaisano.

These supermarkets are avenues for local wholesalers to sell their vegetables. Most vegetables displayed in supermarkets are under a consignment basis. Supermarkets allow a local wholesaler display and sell vegetables inside their supermarket. Supermarkets also source and sell vegetables themselves, but generally only those vegetables that cannot or are not being provided by wholesalers.

Data was gathered from an interview with a supermarket manager and staff of their concessionaire. Data from a purveyor-wholesaler was also included in this node.

Market trends

Supermarkets can offer products that are not found in the local wet market. They also provide safety, convenience, proper hygiene and cashless payments for customers. The concessionaire stated that these are the main factors that encourage locals to buy vegetables from supermarkets. Recent expansion of shopping centres in Tacloban has increased the opportunity for consumers to source vegetables from supermarkets.

Volume traded

The volume requirement of the study's vegetables of interest for supermarkets is fully owned by the concessionaire. The supermarket still dictates the volume to be traded inside their supermarket. The breakdown of the volume is shown on the purveyor-wholesaler's node.

Quality characteristics sought

Although the vegetables displayed in the supermarket are on consignment basis, the supermarket still controls the quality and the volume requirement. Supermarkets specifically require their concessionaire to display good quality products, mostly class A. They also require them to be fresh. Supermarkets impose high degree of control over the concessionaire.

Supermarkets impose specific quality requirements for certain goods. Eggplant and ampalaya must be straight. Cabbage must be clean. Red and green sweet pepper and tomatoes must be separated. These are follows in bringing a presentable product for consumer experience.

Table 5-56: Vegetable quality characteristics required by Leyte supermarkets

Vegetable	General Form	Ripeness	Variety
Ampalaya	Clean, Straight, medium in length	Not ripe	Prefers Galaxy
Cabbage	Clean, medium size, free from worms		
Eggplant	Clean, Straight, Firm, medium in length	Bright or deep purple	Prefers Morena
Tomato	Clean, medium in size	Green and Red	
Sweet Pepper	Clean, Standard size	Green and Red	

Value created and margins earned

Vegetables sold inside supermarket had a higher selling price of vegetables compared with the local market as they provide different retail experience to consumers. Vegetables were being sold at P13-P18 higher compared to local wet markets. Customers are paying for the convenience, safety, hygiene, ease of payments when buying from supermarkets.

Stage of node life cycle

Shopping malls and supermarkets are few in number but being established on Leyte to meet consumer demand for more modern shopping experiences.

Competitive forces

Existing level of rivalry

Currently, wet markets are the supermarket's main competitor. However, supermarkets are gradually increasing market share of vegetable sales as they are established and as consumers increasingly appreciate and can afford the benefits they claim to provide.

Power of suppliers

Suppliers to supermarket refer to the concessionaires and supermarkets have high degree of control over concessionaires. Whatever the supermarkets dictate, the concessionaire is bound to follow. Hence, a low power of concessionaire exists over the supermarket.

Power of customers

Supermarkets provide good retail experience to customers; however, customers can still opt in buying vegetables in wet markets. As a growth stage, the power of customers remains high, although the power that can be exerted by a single consumer is low.

Threat of new entrant

Supermarkets provide a unique retail experience to consumers and local consumers are increasing appreciating the benefits provided by supermarkets. This may mean that other supermarket operators will enter the market which means that the threat of additional entrants may be high.

Threat of substitution

Retail outlets that provide same retail experience with supermarkets can be considered as a low to moderate threat. Neighbourhood stores or expanded convenience stores are still lacking in Tacloban, and don't really offer the same experience as a supermarket located in a shopping mall.

Willingness to source directly from farmers

Supermarkets have no interest in sourcing directly from farmers. Farmers were instead being referred to supply to the concessionaire.

Relative Attractiveness to Farmers

Supermarkets are essentially not attractive to farmers. In addition to their reluctance in sourcing directly from farmers, they also have stringent requirements that are not comfortable for farmers.

5.2.3.6. Institutions

The only institutional buyers of vegetables in Leyte that could be identified were hospitals. The Eastern Visayas Regional Medical Center (EVRMC), also known as the Leyte Provincial Hospital, is the largest hospital in Eastern Visayas (Region VIII). Currently, it has a total bed capacity of 450 which is being expanded to 500. It caters for patients across the region but most patients are from Tacloban. The hospital mostly operates at full capacity at any given time. The second largest hospital, private owned, has a bed capacity of 200. As with EVRMC, it has almost a hundred percent occupancy rate. Data was gathered from an interview with the dietician of each of the hospitals.

Market trends

Currently, the largest hospital in the region, EVRMC, is operating at above its designed capacity. The government also constructed a new hospital in the region to accommodate more. Consequently, it is expected that demand for vegetables in this segment will increase.

Dieticians were also encouraging locals to consult them in order to recommend healthy foods. This includes vegetables. With this move, there should be an increase in the demand for vegetable as more and more people will follow the dietician's recommendation.

Volume traded per vegetable

The volume traded is dependent in the number of patients housed inside the hospital. The hospital follows a cycle menu for their patients. A kilo of a single type of vegetable is good for 12 servings. They can only serve 450 patients at a time due to capacity of the hospital. Catering for the patients is held by the hospital. The estimated weekly volume of selected vegetables used by this sector is listed below.

Table 5-57: Estimated weekly vegetable usage by Institutional users in Leyte

Vegetable	Volume traded (kg/week)
Eggplant	30
Ampalaya	30
Tomato	30
Sweet Pepper	30

The chief dietician forecasts how much vegetable to purchase for the following day. They do this by conducting census early morning to determine the volume needed the following day. Vegetables are delivered every morning.

Vegetables for the government owned hospital were bought from a local general wholesaler while the private hospital secured their supply from a farm in Palo, Leyte. However, both hospitals also buy vegetables in the public market when their supplier cannot offer enough vegetables.

There are times that their suppliers cannot provide vegetables especially during off-season. The chief dieticians, then, will utilize other available vegetables that can be considered as replacement of the lacking vegetable.

Quality characteristics sought

Both hospitals are not so particular about the grading of vegetables when buying. They prefer fresh vegetables, medium sized for easy slicing, fine textured and not ripe. This applies to the vegetables they are buying. They also prefer buying organic vegetables, if there is any available. However, only the private hospital can source organic vegetable due to their farm in Palo. Vegetables procured by the hospital are checked by an officer. Patients were not very particular about the "safe" vegetables.

Value created and margins earned

With the help of the dietician, vegetables served are well suited for the consumer's needs. The normal procurement process for government processes usually results to a higher buying price compared with the local market.

Stage of node life cycle

Mature but growing as additional hospitals are built to support the developing economy.

Competitive forces

Existing level of rivalry

The level of rivalry between hospitals is currently low. Generally, government hospitals target low income families while private hospitals target higher.

Power of suppliers

Any procurement for government offices is influenced by the procurement system. Suppliers must comply, and therefore have little or no power in the relationship with government-owned hospital. In the case of the private hospital, they are somewhat vertically integrated due to their farm in Palo, Leyte. When both hospitals buy from public markets, they are considered as normal buyers. As government hospitals have strict purchasing requirements and private hospitals are free to source from any supplier, the power that can be exerted by suppliers is deemed to be low.

Power of buyers

The power of buyers over the hospital is low. The diet of patients is highly dictated by the dietician.

Threat of new entrant

Hospitals in Tacloban are operating more than its designed capacity. It is apparent that additional beds will be provided and perhaps new hospitals will be built, and this represents an opportunity for growth for the vegetable producers.

Threat of substitution

There is unlikely to be a substitute for fresh vegetables in a healthy diet, and presumably hospitals will promote healthy eating including vegetables. Therefore, vegetables is a substitute for other menu items including meat and rice, as an additional source of a balanced diet. The possibility of commercial caterers entering the market and substituting their services for institutional personnel is a real threat, and part of a global trend in commercial catering.

Willingness to source directly from farmers

One respondent noted that they are willing to source directly from farmers in order to easily monitor its agronomic practices. However, it is still not possible due to the low volume requirement for hospitals. It is more reasonable to buy from wholesalers where accessibility of different type of vegetables is more certain. Also, the farmers need to comply with the government process of procurement limits the opportunity of penetrating hospitals.

This case is already observed in the private hospital. Their farm cannot regularly supply them the vegetables they need. Then hospital still resorts to buying from the wet market.

Relative Attractiveness to Farmers

Institutions in Tacloban are relatively not attractive since their volume requirement is low and they have stringent requirements which may be difficult for farmers.

5.2.3.7. Wet Market Retailers

Stall owner retailers and ambulant retailers (locally known as "*laray*") were included in this section. Both were included in one analysis due to the similarity of their function. Both sell in retail and in a wide assortment of goods along with other kitchen products such as spices and seasonings. They mainly target household buyers.

Since these retailers sell assorted goods, the study only focused on those that trade significant volume of vegetables in their business. Around 120 stall owner retailers and 200 ambulant retailers were identified. Two were interviewed.

Market trends

While some retailers sell fresh vegetables, some also sell minimally processed vegetables and even bundles of vegetables, spices and seasonings packaged for a specific dish. Wet market retailers display a wide array of goods for customers who are looking for a convenient shopping.

Volume traded

Wet market retailers mainly purchase vegetables from collectors, viajedors or large wholesalers in spot markets. On average, each retailer trades around 100kg of assorted vegetables per day. The total volume of study's vegetables of interest traded by the wet market retailers is shown in Table 5-58: Volume of vegetables sold by wet market retailers.

Table 5-58: Volume of vegetables sold by wet market retailers

Vegetable	Volume traded (kg/week)
Ampalaya	2,500
Cabbage	4,000
Eggplant	2,500
Tomato	4,000
Sweet Pepper	2,000

Quality characteristics sought

Wet market retailers were found to have fewer quality requirements for the vegetable trading since they are in no position to dictate their needed quality to their supplier due to their low volume requirement. Some quality characteristics they are looking is shown in Table 5-59.

Table 5-59: Vegetable quality characteristics required by wet market retailers

Vegetable	General Form
Ampalaya	Straight, free from bruises
Cabbage	Medium sized, clean, prefers green
Eggplant	Straight, dark violet
Tomato	Firm, Clean
Sweet Pepper	Firm, Clean

Value created and margins earned

Wet market retailers generally follow the prices of the current market and add around P5-10 per kilogram mark-up. They generally add value to vegetables by providing readily available vegetables by minimally processing and grouping vegetables for a certain dish. A large number of retailers also provide low waiting time to walk-in buyers since their sheer number can also accommodate the large number of buyers for a specific period of time.

Table 5-60: Buying and selling prices and margins earned by Wet Market Retailers in Tacloban

Vegetable	Buying price (Php/kg)	Selling Price (Php/kg)	Margins (Php/kg)
Ampalaya	50-80	60-90	5-10
Cabbage	10-35	15-45	5-10
Eggplant	10-40	15-50	5-10
Tomato	10-30	15-40	5-10
Sweet Pepper	70-150	45-160	5-10

Stage of node life cycle

Wet market retailers were seen to be in the mature stage. Since they target household buyers, their sales are proportionate to the population of the households in Tacloban City. There is also no new trend observed by the retailers.

Competitive forces

Existing level of rivalry

Though there is a huge number of a retailer trading, especially during weekends and after work hours, the number of buyers is sufficient enough to meet the needed sales of a single retailer. Hence, the rivalry between wet market retailers is low.

Power of suppliers

Wet market retailers do spot purchases from collectors, viajedors or large wholesalers and they can freely choose from where to buy. In some cases when these suppliers have not secured enough vegetables for his buyers, wet market retailers can just freely buy other goods for retailing. The wet market retailer's wide option of trading vegetables and other goods limits the power of suppliers over them, hence, a low power of suppliers.

Power of customers

Wet market retailers are directly catering the need of an end consumer and these customers basically exert power over these retailers. In an environment where varied customers are entering every day, wet market retailers are flexible enough to cater the evolving customer's needs. Hence, the power of customers is considered to be moderate.

Threat of new entrant

Retailing vegetables in Tacloban City have low barriers to entry. Anyone can just pay P10 ticket fee for a day for them to retail vegetables in the public market. However, their established knowledge on the evolving customer needs makes them more competitive than the new entrants. The threat of new entrants was assessed as moderate.

Threat of substitution

Modern retailing has emerged in Tacloban in the past years. This is in the form of supermarkets and supermarkets offer better retail experience compared with the wet market retailers. However, wet market retailers are not faced with huge threat since the volume

requirement of supermarkets is still small and customers still prefer buying vegetables sold at lower prices. The threat of substitution is low.

Willingness to source directly from farmers

Wet market retailers are willing to buy directly from farmers. In fact, some were already sourcing vegetables directly from farmers since some farmers are capable enough to deliver their own vegetables to Tacloban City.

Relative Attractiveness to Farmers

Though they can offer flexible arrangements, wet market retailers are basically not attractive to farmers due to their low volume requirement and low capital.

5.3. Cebu region

The Central Visayas

Cebu City is a part of the Central Visayas Region, designated as Region VII. The region is located in the central part of the Visayas. It comprises of Cebu, Bohol and Siquijor provinces. The region has three highly urbanized cities. These are Cebu City, Lapu-lapu City and Mandaue City. Cebu's climate is subtropical, with temperature and rainfall fairly evenly distributed throughout the year. Typhoon activity is minor compared with other parts of the Philippines.

On 2015, the areas under Central Visayas were changed. Negros Island region (NIR) was created by virtue of Executive Order No. 183. The formation of NIR led to the loss of Negros Oriental to the new region. Prior to the creation of the region, Negros Oriental was part of Central Visayas. Due to the newly formed region, new data will still be published. Thus, relevant data comprising the old Central Visayas (which covers the four provinces: Cebu, Bohol, Siquijor, and the then Negros Oriental) will be used for this report.

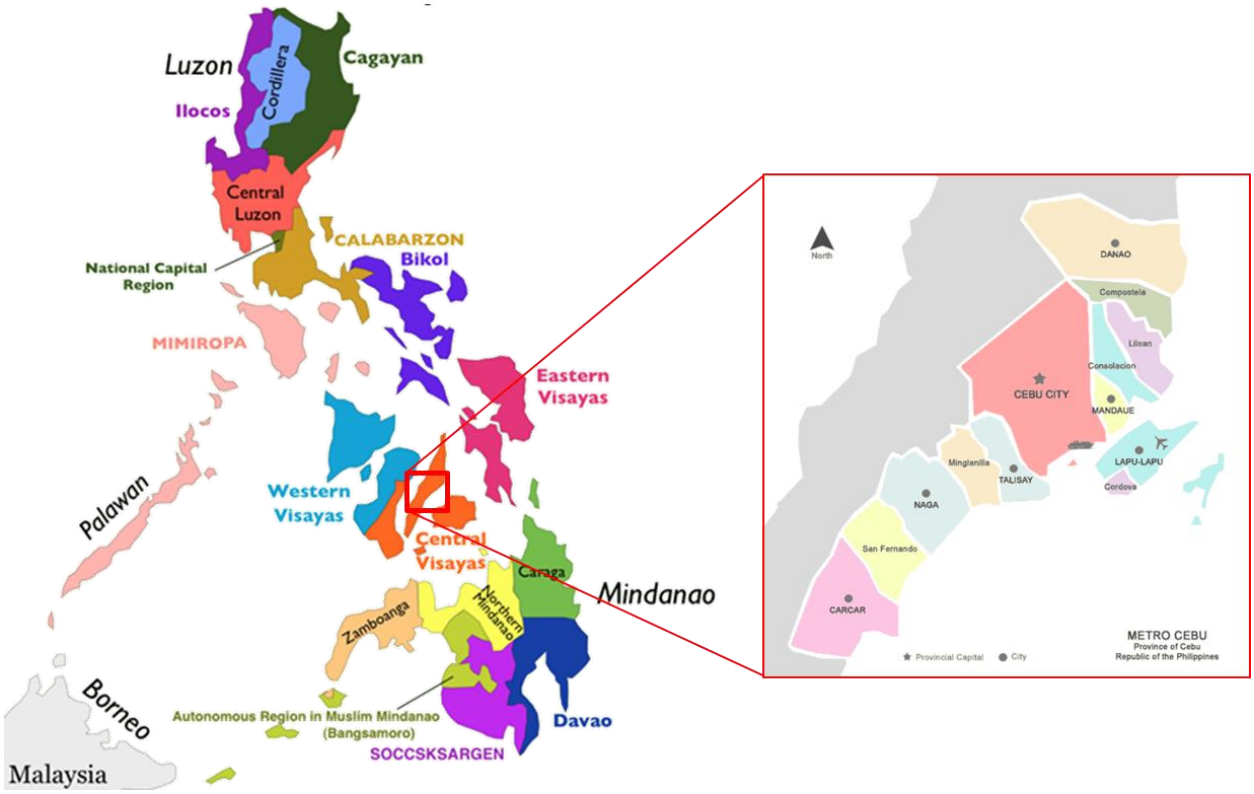


Figure 5-10. Map of the Philippines with the 17 different administrative regions (before Negros Island Region was created) and a part of Cebu province showing Metro Cebu.

The main urban centre in the region is the Metro Cebu. The metropolis is comprised of 13 cities and municipalities located on the eastern side of Cebu island. This includes the cities of Carcar, Naga, Talisay, Cebu, Mandaue, Lapu-Lapu and Danao and municipalities of San Fernando, Minglanilla, Cordova, Consolacion, Liloan, and Compostela. As of 2014, Cebu urban areas account 38% of the total population of the region.

Central Visayas has a population of 6,800,180 (2010) with a growth rate of 1.77% (2000-2010). About 29.7% of the region's total employment was engaged into agriculture. The region had a total land area of 1,588,597 ha. 32.9% of this area was agricultural land with hog, chicken, palay, chicken eggs, sugarcane and mango as the top agricultural commodities (PSA, 2013).

Central Visayas has experienced high economic growth in the previous years. In 2014, the region posted 8.8% GRDP growth, higher than the 7.4% growth on 2013. The regions' 2014 growth was mainly driven by the growth of the Service (6.6%) and Industry (13.9%) sectors. Agriculture meanwhile was left behind posting a 2.6% decline. Year 2013 also showed trifling 0.3% growth on the Agriculture sector. The decline was attributed by the calamities the region experienced on 2013. On October 2013, a 7.2 magnitude earthquake hit the Bohol province and affected the whole region. A month later (November 8) typhoon Haiyan passed the northern tip of Central Visayas also brought damage to the area. The agriculture sector in Central Visayas only contributed to 6.8% of the GRDP.

Statistics show that around 41 to 43 percent of an average Filipino family's total income is spent for food (Table 1). Central Visayas families, meanwhile, allocated larger share of their total income for food (45 to 46 percent). Meanwhile, consumer spending for home preparations has decreased as families were inclined to eat meals outside of home. In Central Visayas, expenses for meals eaten outside of home have increased by 32.6% comparing six years ago. This suggests that more and more people are eating on food service industries in the past years.

Table 5-61. Percentage distribution of family expenditure for food: 2000, 2012 (All Income classes)

Particular	Year	FOOD	Food consumed at Home	Food Consumed Outside of Home
Philippines	2006	41.4	35.5	5.8
	2012	↑42.8	(-0.6%)↓35.3	(29.3%)↑7.5
Central Visayas	2006	44.8	40.2	4.6
	2012	↓44.5	(-4.5%)↓38.4	(32.6%)↑6.1

Source: Family Income and Expenditure Survey, National Statistics Office

The Vegetable Industry in Central Visayas

Though there have been vegetable production areas in the region, production is still not enough to supply the demands in the region. Thus, Central Visayas is a net importer of vegetables, particularly chopsuey type, from other regions in the Philippines such as; CAR, Northern Mindanao and Central Mindanao. About eighty six (86) percent of the vegetables come from Northern and Central Mindanao, two (2) percent from CAR and only twelve (12) percent from its local production. The main production areas in Cebu province are in Mantalongon, Dalaguete and Sudlon, Cebu City. Vegetables traded, whether from traditional or non-traditional supply chains have gone through similar type of players before reaching their destination. Most of these players were located in Cebu City. This made Cebu City the transhipment point for vegetables to provinces in Central Visayas and even to neighbouring Visayas and Bicol regions. (Abamo, 2014).

5.3.1. Summary of Data Collected in Cebu

An important part of qualitative data analysis is the reduction of data and the following table summarises the data collected about market segments for vegetables operating in Cebu.

Table 5-62: Summary of Nodes identified in Cebu

Characteristics to be assessed		Nodes			
		General Wholesaler	**Specialised Wholesaler**	**Class A Wholesaler**	**Concessionaires**
Description		Operates in a large volume of assorted vegetables and cater to other wholesalers, retailers, supermarkets and HRIs	Operates in large volumes and sells to any market but focuses only on 1-2 crops	Purveys class A vegetables to supermarkets and HRIs	Purveys vegetables to supermarkets and HRIs and perform merchandising activities inside supermarkets
Estimated Number of Actors		20	5	3	6
Market trends		Wholesale market remains the bigger market and still continues to increase as wholesalers expand their businesses.	Focusing on a specific crop but still enjoy significant market share	Targeting modern retail & institutional markets by supplying premium vegetables and enjoying the increase of their operation	Enjoying with the growth of supermarkets since they have a significant share of vegetables displayed inside the supermarket
Volume traded (tons/ week)	Cabbage	33	28	1-2	8
	Eggplant	10	21	2	5
	Bitter gourd	24	14-21	1	5
	Tomato	45		1-2	11
	Sweet Pepper	14		<1	3
Quality characteristics sought		All grades of vegetables, they sort vegetables to different markets.	Commonly accepted quality vegetables, they sort vegetables to different markets.	Strictly high quality of vegetables	Generally high quality of vegetables
Value created and margins earned		Benefited from economies of scale at P5-40/kg mark-up (wholesale); P10-20/kg mark-up (retailing)	Trading crop specific model, Retail: P10-30/kg mark-up wholesale: P5-20/kg mark-up	Have a mark- up of P10-50 per kg.	Trading branded quality vegetables; mark-up (P10-50.00/kg)

Characteristics to be assessed		Nodes			
		Supermarket	**Premium Hotels & Resort**	**Budget Hotels**	**Filipino Restaurant Chains**
Description		Retail store offering wide assortment of goods from groceries to fresh products.	Refers to an excellent to outstanding full service accommodation and dining	Refers to an economy accommodations and services	Establishments that provides Filipino dining services
Estimated Number of Actors		40 branches (5 companies)	18 hotels	40 hotels	41 branches (5 companies)
Market trends		Supermarkets, as a growing alternative to the traditional wet market, have strategically positioned their branches to respond in the increasing new customers who want comfortable retail buying and will continue to do so in the next years.	Enjoying the demand for the increasing consumer spending outside home for quality accommodation and dining services	Enjoying the growth of tourism but targeting low to middle class economy	Responds to the increasing consumer spending outside home and provides consumers different dining experience through different concept restaurants.
Volume traded (t per week)	Cabbage	3	3	<1	1
	Eggplant	2	2	<1	2
	Bitter gourd	2	3	<1	1
	Tomato	3	1	<1	3
	Sweet Pepper	1	1	<1	1
Quality characteristics sought		Hygienic and safe quality vegetables	Strictly hygienic, safe and premium quality vegetable	Generally acceptable quality of vegetables	Commonly accepted quality vegetables
Value created and margins earned		Providing quality retail experience and sets 20-40% higher price than the local market	Providing luxurious accommodation and sumptuous dining services	Average mark-up of P3-5/kg from the buying price	Average mark-up of P3-5/kg from the buying price

Characteristics to be assessed		Nodes							
		General Wholesaler	**Specialised Wholesaler**	**Class A Wholesaler**	**Concessionaires**	**Supermarket**	**Premium Hotels &Resort**	**Budget Hotels**	**Restaurant Chains**
Stage of node life cycle		Late Growth	Late Growth	Introductory	Late Growth	Late Growth	Mature	Growth	Growth
Competitive forces	Existing level of rivalry	Low	Low	High	High	Low to Moderate	High	High	High
	Power of suppliers	Low	Low	Moderate	Low	Low	Low	Low	Low
	Power of buyers	Low- High depending on the buyers	Low- High depending on the buyers	High	Moderate	Nill	Nill	Nill	Nill
	Threat of new entrant	Low	Moderate	High	Moderate	Low	Low	Moderate	Moderate
	Threat of substitution	Moderate	Moderate	High	Moderate	Low	Low	Low	Low
Willingness to source directly from farmers		Yes	Yes	Yes	Yes	Yes, but with conditions	Yes but constrained	Yes but w/ conditions	Yes but constrained
Relative Attractiveness to Farmers		High	High	Moderate	Moderate	Low	Low	Low	Moderate

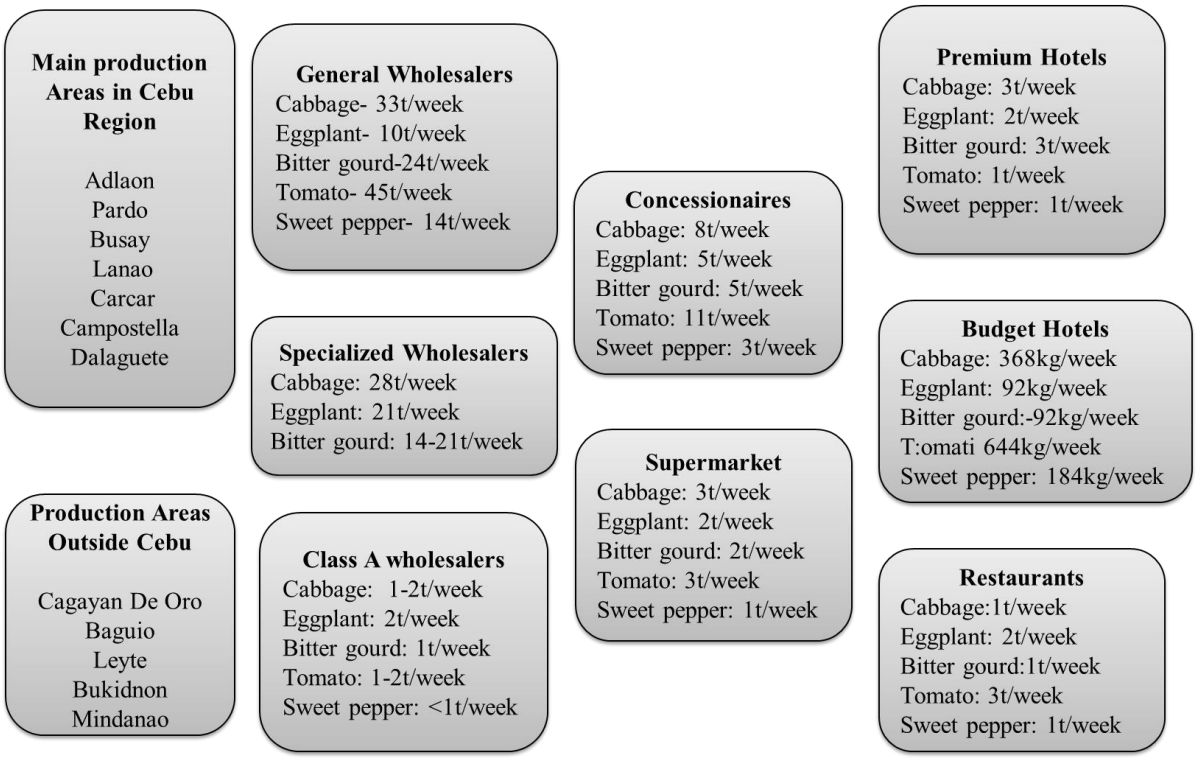


Figure 5-11: Estimated volume of vegetable traded per nodes in Cebu City

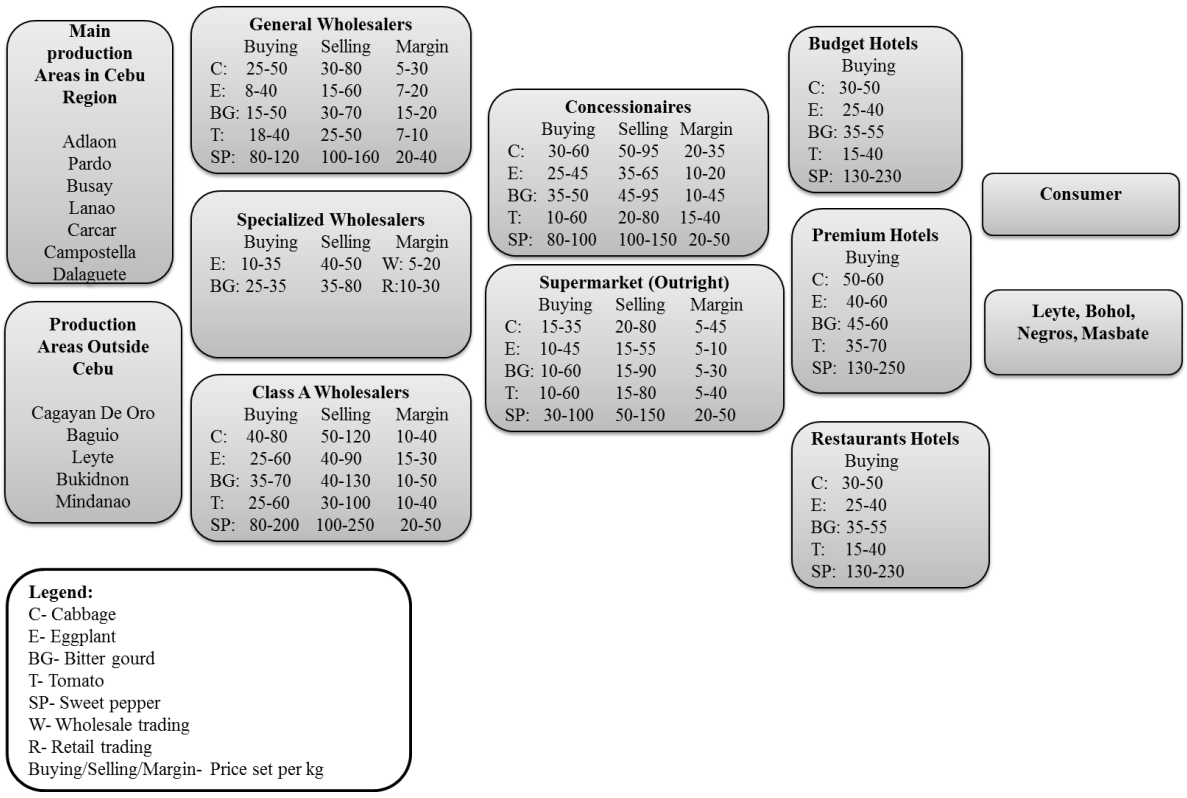


Figure 5-12: Average buying and selling prices and margins earned for vegetables per node

One of the characteristics deemed important as a means of assessing attractiveness was relative size and stage of life cycle, and Figure 5-13 illustrates the position of nodes relative to each other. Please note that this figure is illustrative only, and the precise positioning of nodes compared with other nodes and sizes of nodes indicated by each circle are not precise.

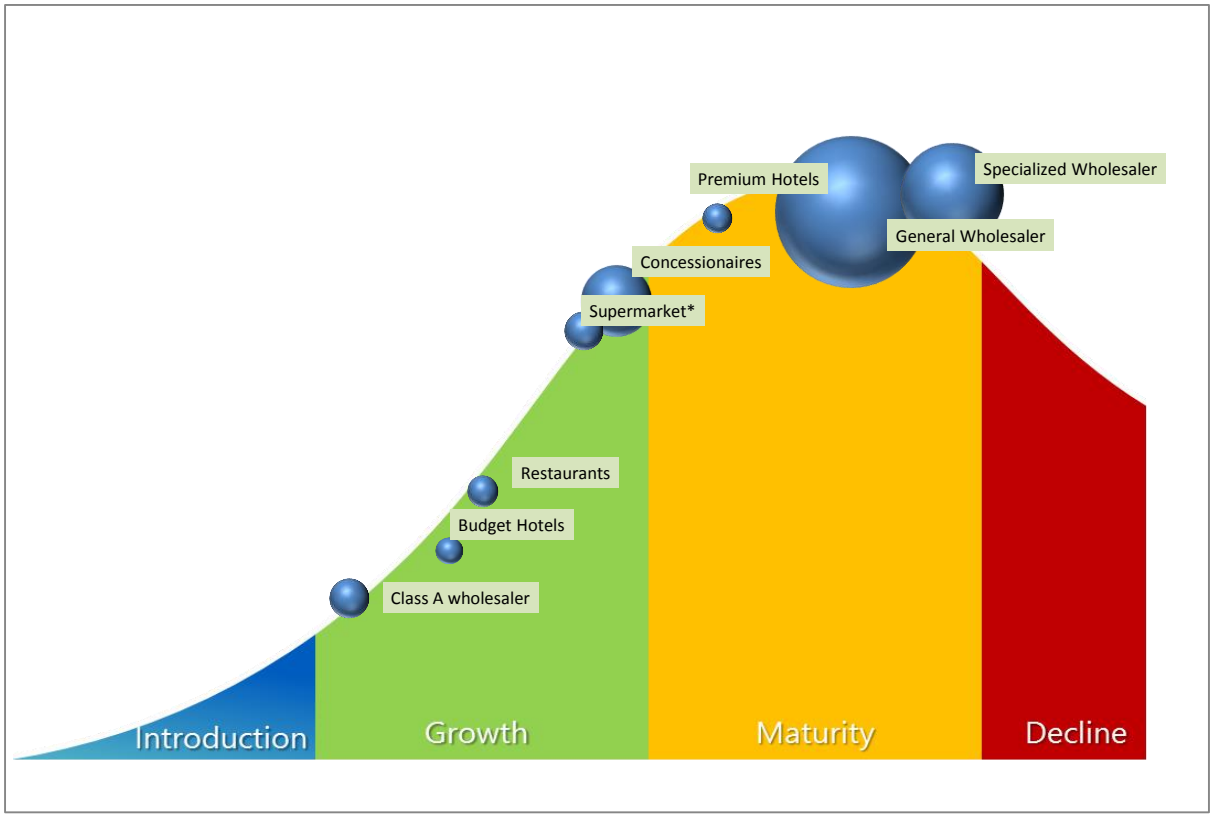


Figure 5-13: Position on life cycle of nodes identified in Cebu

Another characteristic deemed important for the assessment of relative attractiveness was margins earned by actors within each node. The ranges of margins generally available to actors within the nodes for which this information was determined is illustrated in Figure 5-14.

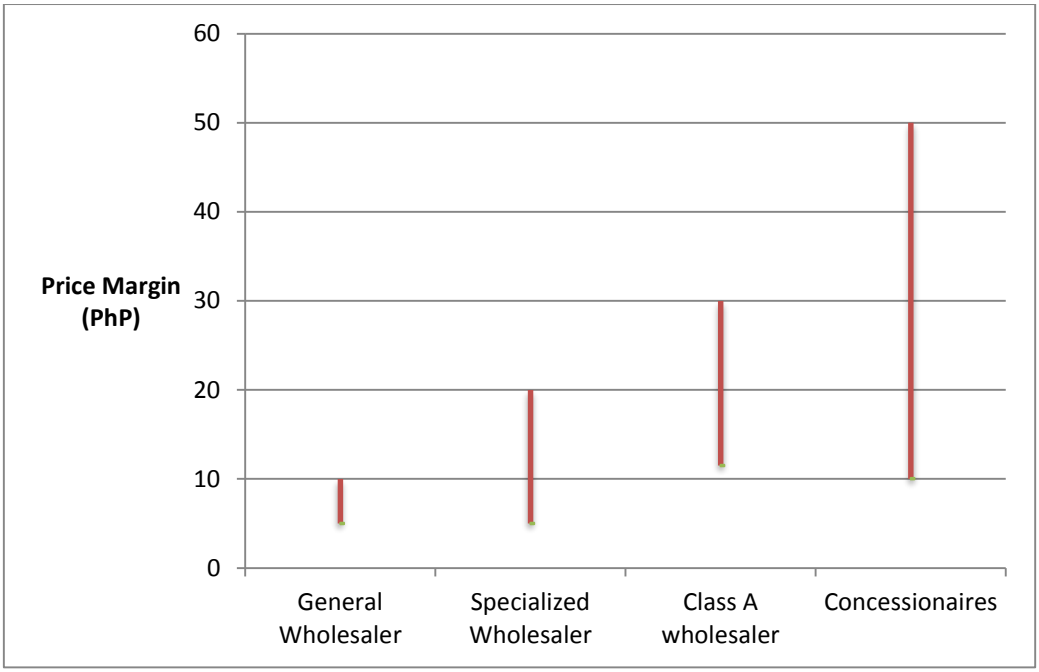


Figure 5-14: Margins available for vegetables by Node in Cebu

Distribution flow is another important element of value chain analysis and the flow of vegetables in the Cebu region is illustrated in Figure 5-15.

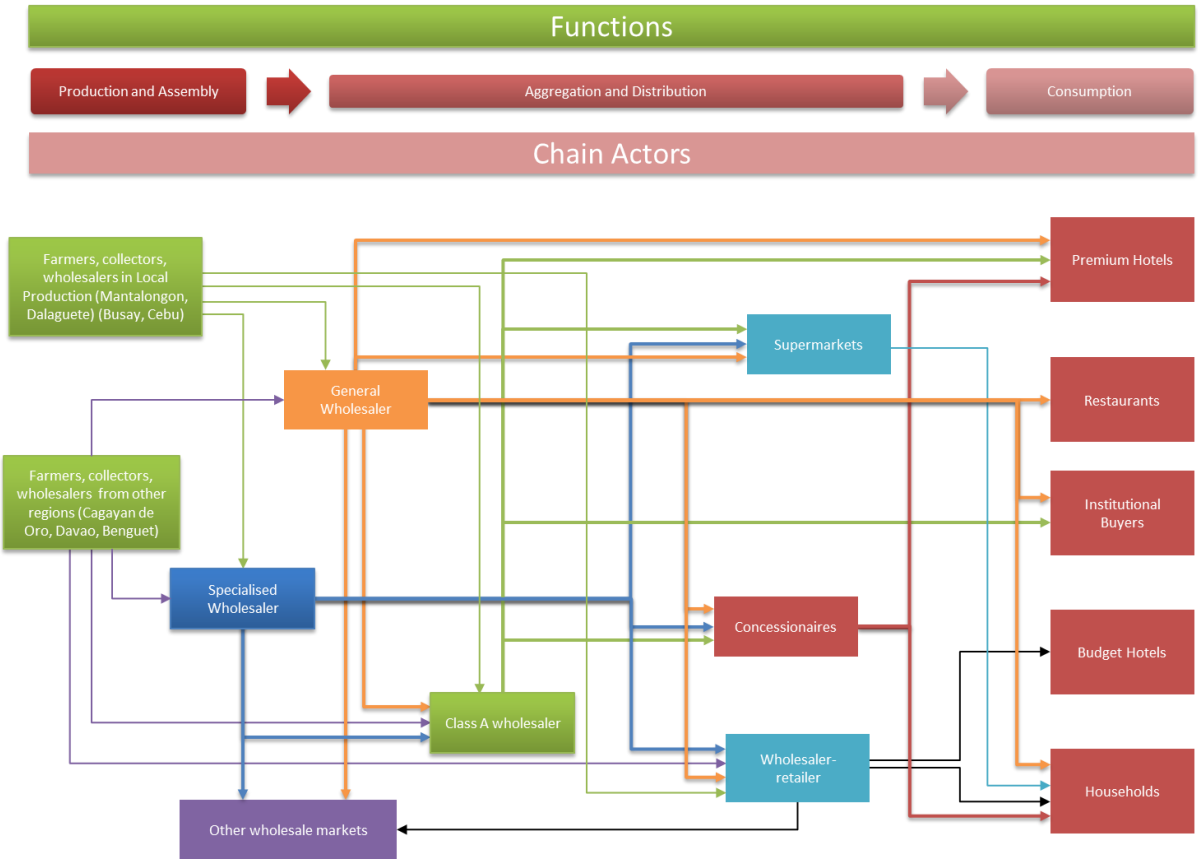


Figure 5-15: Distribution flow of vegetables in Cebu

Observations made during the investigation that limited the amount of 'hard data' available or that contributed to data obtained for analysis are listed below:

- The number of collectors in the region is increasing due to the profits available. However, the total volume they trade is decreasing. Data from BAS showed that the vegetable production in the region is decreasing the last years. Comparing to 2011, total ampalaya production in 2014 has decreased by 8%, eggplant and tomato also showed a decrease of 11% and 14%, respectively. Cabbage showed the largest decrease of production of 27%.
- Collectors were assessed to be in the late maturity stage due to its decline in volume.
- Supermarket showed a 50% increase in sales due to the recent opening of a new supermarket in Tacloban. There are now 3 supermarkets in Tacloban.
- Restaurants and hotels, meanwhile, were assumed to be in the growth stage. However, their growths were stunted due to Yolanda that brought devastation in their facilities.

5.3.2. Relative attractiveness of nodes in Cebu

This section summaries the reasons for the assessments of relative attractiveness.

High relative attractiveness

General wholesalers and specialised wholesalers were assessed as having a high relative attractiveness to farmers because they can deal in informal arrangements, they venture into contract growing and provide capital to farmers, they extend technical support and sometimes shoulder the transportation cost to secure supplies and quality. These nodes also have good market position and linkages that makes venturing to them less risky.

Moderate relative attractiveness

Concessionaires, Class A wholesalers were assessed as moderately attractive to farmers. Some of the concessionaires are already establishing solid supply base by engaging directly from the farmers to secure competitive advantage for price, quality and volume while even others are already vertically integrated but local production is still not enough for concessionaire's requirements for high quality volume of vegetables. Meanwhile, Class A wholesalers' node is still vulnerable due to the fact that this node is a new entrant in the vegetable market; however, this holds significant potential for growth and future trend setter in the market.

Low relative attractiveness

Supermarkets, Hotels and Restaurants were assessed as being relatively unattractive to farmers. These nodes have more demanding standard for fresh and quality produce that may include requirement for traceability and reliability. Additionally, they require their terms to be met in order for farmers to venture to.

Most of the actors in these nodes already have an established procurement structure. Some have existing specialised and dedicated supplier sometimes acting as a sole supplier so called "preferred" supplier system. Others have a centralized procurement and distribution practice that requires transportation and storage facilities that most of the scale farmers do not have. They also have unfavourable terms of payment to farmers and most of the farmers cannot survive the 30-60 days payment term.

With the right enabler support to farmers, these nodes can be a very good market and farmers can highly benefit from their high buying prices.

5.3.3. Node Analysis Cebu

This section provides a summary of data collected from interviews from each node that are involved in the distribution of vegetables in Cebu. Note that the upstream players who assemble vegetables to Cebu and the downstream players that are responsible for the small scale distribution and retailing of vegetables were not included. The analysis seeks only to probe the major industry players that are mostly operating in the middle part of the chain since these are the nodes that significantly impact the vegetable trading in Cebu.

5.3.3.1. General Wholesaler

General wholesalers are vegetable traders with various selections of vegetables and cater to a wide range of market geographically and by economic class. Vegetable traded by these actors can be sold to other traders not just in the local areas but also to other areas due to the large and open market. They also come into purveying vegetables to hotels, restaurants, supermarkets and other institutional buyers.

General Wholesalers in Cebu play a major role in the inter-regional distribution of vegetables. They have a well-coordinated network relationship both upstream and downstream. This was a result of their high communication infrastructure for a fluent information flow across their networks. As a result, they can take advantage of the varying prices from different geographic areas. Their contacts from different areas keep them updated of the prices. They are also capable of maintaining an inventory for institutional buyers.

As to supply chains, they have direct linkage with the farmer-producers and producers with larger landholdings in Cagayan de Oro, Dalaguete and other areas in Cebu and distribute vegetables across different areas in local and outside Cebu.

The bulk of vegetables supplying General Wholesalers originated from from Adlaon, Pardo, Busay, Lanao, Carcar, Campostelle, Dalaguete, Cagayan De Oro, Davao, Mindanao (Ozamiz), Leyte, Bukidnon and Butuan. These vegetables are not just sold to local consumers and buyers in Cebu, but have also reached to traders in Maasin, Bato, Baybay, Matalom, Ormoc, Masbate, and Bohol. Intra-trading also takes place among general wholesalers as outside large traders procure vegetables to the same general wholesalers in Cebu.

General Wholesalers have specific markets for a specific type and quality of vegetables. They sell to local retailers, supermarkets, hotels, restaurants and other institutional buyers but the bulk volume of their vegetables were traded to local and foreign wholesalers.

For this node, approximately 20 general wholesalers in Carbon public market were identified and the largest 4 of them were interviewed to provide the data for understanding this segment.

Market trends

A single wholesaler's volume of trade for assorted vegetables is large and increasing. Also, the number of these wholesalers is increasing. Increased urbanization and population of Cebu, coupled with the continued efforts of large wholesalers to expand their business has been the instrumental factors to make the wholesale market in Cebu as the main trading point for vegetable for Cebu region and for other nearby provinces.

Volume traded per vegetable

Bulk of vegetables was source out locally rather than importing due to low price and availability, but if there's low supply in the region, they source vegetables in Cagayan, Baguio and some other areas in Mindanao. They usually have storage areas for large inventories and operate in Carbon public market.

The following total estimated volume is based on the average volume traded of the general wholesalers interviewed that holds an estimate market share of 25%. On average, volume traded for assorted vegetables each trades ranges from minimum of 5,000 kg to as high as 14,000 kg per week.

Table 5-63: Estimated volumes of selected vegetables handled by General Wholesalers in Cebu

Vegetables	Volume traded (t/week)
Cabbage	33
Eggplant	10
Bitter gourd	24
Tomato	45
Sweet Pepper	14

Quality characteristics sought

General wholesalers trade assorted kinds and quality of vegetables, both classes A and B depending on the market segments served. To cater this, they do sorting and grading mostly according to the general appearance of the vegetable or the degree of ripeness or maturity.

When selling to high end markets such as HRIs and Supermarkets, they hold emphasis on the high quality vegetables. General wholesalers normally follow the quality and the volume required by these buyers, which is typically the class A. What is left is then sold to other traders and buyers in wet markets. Some general wholesalers have stood out in purveying HRIs and supermarkets due to their consistency in bringing good quality vegetables.

When trading to wholesalers in wet markets, the quality of vegetables is judged more subjectively. Sorting and grading is based on what is commonly accepted, thus, quality can be negotiated. This same is true when having transactions with prices. Yet, both class A and B vegetables can be traded. A more detailed description of the qualities sought by general wholesalers is shown in Table 5-64.

Table 5-64: Quality characteristics sought by General Wholesalers

Vegetable	General form	Consistency of Ripeness and colour	Size	Shape	Shelf Life (days)
Bitter gourd (Class A)	Fresh, no physical damage, must be firm, no bruises and cracks	Bright green to dark green	Large size: (12-14 in)	Elongated/ straight	2-3
Bitter gourd (Class B)	Slight physical damage like crack and bruises	Bright green to dark green	Small - medium (7-11 in)	Slightly curve to curve	1-2
Eggplant (Class A)	Fresh, smooth, free from holes, and bruises.	Bright violet	Large size: 9-10 in	Elongated/ straight	3-4
Eggplant (Class B)	Fresh, smooth, with very minimal to slight discolouration, free from holes and bruises	Bright violet to dark violet	Medium size: 8-7 in long	Slightly curve to curve	1-2
Cabbage (Class A)	Fresh, compact head, free from holes, slightly withered	Greenish	Medium to large size	Round and compact	3-4
Cabbage (Class B)	Fresh, compact with slight to minimal holes, slightly withered	White	Small size	Round and compact	1-2
Sweet pepper (Class A)	Mature, firm (not soft or shrivelled) and clean (free from staining or dirt, or foreign material, free from bruises)	Mature green to breaker	Must be not less than 3 inches.	Well-shaped	3-6
Sweet pepper (Class B)	Pre-mature		small size (less than 3 in)	With slight deformation	1-2
Tomato (Class A)	Smooth and fresh, no physical damage (bruises, holes, discolouration)	Green mature, breaker, and red ripe	Medium to large size	Regular shape	3-4
Tomato (Class B)	Not so smooth		Small size	With slight deformation	1-2

As expressed by the general wholesalers, 5kg for 1 box or 0.25kg for every 1 kg of tomato and sweet pepper and 1 - 2 kg for every 100 kg of bitter gourd is damaged due to transportation and improper handling of vegetables. These traders revealed that they prefer good quality vegetables. Customers demand for it and can easily be disposed in the market. Upon ordering, prior arrangement was conducted by these traders, they customarily provide

specification to their suppliers to ensure quality and supply. Although, their suppliers already know their quality requirements, the damage is still unavoidable.

Value created and margins earned

General Wholesalers set a P10 - 20 mark up per kilogram for retail buyers and P5-40 mark-up per kilogram for wholesale buying. They create value by assembling and storing assorted kinds of vegetable to different market segments. Since they can maintain large inventories, they can benefit from economies of scale with greater consistencies and quality.

It is evident that there is an increase in the price along the chain at each stage of transfer. The margins however, for general wholesalers, are much higher at retailing. It is also in this activity that they incur the highest cost of handling and product loss. Table 5-65 shows the buying and selling price and margins per kilogram of vegetable traded by general wholesalers.

Table 5-65: Buying price and selling price and margin earned per kilogram of vegetable traded by General Wholesalers in Cebu.

Vegetable	Buying price (Php/kg)	Selling Price (Php/kg)	Margins (Php/kg)
Cabbage	25-50	30-80	5-30
Eggplant	8-40	15-60	7-20
Bitter gourd	15-50	30-70	15-20
Tomato	18-40	25-50	7-10
Sweet pepper	80-120	100-160	20-40

Stage of node life cycle

The combination of activities conducted by general wholesalers which includes sourcing, collecting and distribution, and retailing of vegetables to a wide spread market is relatively longstanding, not less than 10 years. But with the continued expansion of their businesses, general wholesalers can be assessed in its late growth.

Competitive forces

Existing level of rivalry

There was a low competition in securing the volume in production areas as most of them have already well - established links with the upstream network. They have numerous contacts across different production areas for them to source vegetables. They are also having

solid dealings with their "suki" buyers; hence, the level of rivalry among them is relatively low.

Power of suppliers

General wholesalers got their supply from different sources. With multiple sources, suppliers in general have little capacity to exert economic power over these wholesalers. General wholesalers usually dictate the buying price of vegetablesigpond.net.au. Some even provide working capital to famers to provide them with additional leverage and control over the relationship. Hence, a low power of suppliers over the general wholesalers.

Power of buyers

Supermarkets and selected hotels and institutional buyers are just one of the general wholesaler's markets. These customers have high power over their suppliers as they require a fixed arrangement that needs to be met. They dictate the price, quality and volume specification which visibly reflects the power of supermarkets and HRIs in their relationship. But although these high-end markets require strict arrangements from its suppliers, general wholesalers are not so affected due to their diverse markets. They can still sell to other markets. Hence, a low to high power of buyers depending on the market.

Threat of new entrant

The high demand for vegetables serves as an opportunity for vegetable trading and there is no technical barrier to entry for new vegetable traders. This kind of business model also requires large capital and strong supply base. Moreover, the general wholesaler's length of operation has already established healthy relationship with its traditional and modern suppliers and buyers which put the general wholesalers at the competitive advantage at its life cycle. Hence, the threat for new entrants is low.

Threat of substitution

General wholesalers are operating in different formats; thus, highly exposed to different substitutes. The multiple lines of activities general wholesalers perform can easily be a part of any single trader's operation. Currently, general wholesalers are threatened by the presence of specialist traders targeting specific markets or products. In the last years, there is a growth of wholesalers specifically targeting the HRIs and supermarkets, these are the Class A wholesalers. At the same time, wholesalers targeting other wholesalers are increasing. These

are the small scale wholesalers. Again, the general wholesaler's length of operation has built enough reputation to HRIs and supermarkets, and their strong communication linkages with other wholesalers positioned them at the competitive advantage. The threat of substitution was then assessed as moderate.

Willingness to source directly from farmers

This is the business model that they have. A volume of their vegetables is secured by financing farmers and providing them other services like credit, market information and some technical assistance. While, some of these traders already have bad experience in financing farmers due to trust issues and other relationship constraints but this can be remedied in the future. Furthermore, these traders expressed willingness to source from new farmer-suppliers.

Relative Attractiveness to Farmers

General wholesalers already have established a position in the vegetable industry. They also have a good standing on the analysis of the competitive forces. This node was seen as attractive to farmers.

5.3.3.2. Specialised Wholesaler

Specialised wholesalers are traders who produce, collects and distribute bulk volume of 1 or 2 particular vegetable and sells to anyone geographically and by economic class. They perform functions very similar to general wholesalers relative in their areas but only concentrating on specific vegetables commodity.

Specialised Wholesalers in Cebu are dominant traders, capable of assembling large volumes and may even control the wholesale market relative to the vegetable they are trading. They have at least 10 contacts from different areas in order to be assured of a reliable supply of consistent quality. Some of them are large producers that own 1 to 3 hectare of production areas, while others are financing not less than 10 farmers to secure supply of specific vegetable. Some also got their supplies from viajedors in Davao and some compradors in Cagayan de Oro but still majority of their supplies comes from middlemen and some from farmers with an arrangement of 40:60. But this may change in the future as they seek direct linkage with the farmers and this will increase their control on the decision making and commercial arrangements. They provide production inputs to farmers, offers credit and cash advance to their suppliers and sometimes they shoulder the cost of transportation of delivering the vegetable from the production site to Carbon market.

Specialist Wholesalers also have a wide range of market outlets but since they are focused on specific vegetables they may not be able to satisfy the needs of customers seeking a range of vegetables from a single supplier such as supermarkets, concessionaires and HRIs. Majority of their vegetables where sold to wholesalers and retailers in spot market and few supplies goes to HRIs, concessionaires and selected supermarket for outright supply. They have dedicated buyers both with contract or flexible arrangements.

For this node, approximately 5 Specialized Wholesalers in Carbon public market were identified and the largest 3 of them were interviewed to provide the data for understanding this segment- one is a specialized wholesaler of bitter gourd, one, and the other two specialized in cabbage and eggplant.

Market trends

They focus on the supply of specific vegetable rather than the demand. Volume of trade is increasing but the number of actors remains constant. These wholesalers are occupying a significant market share of the vegetable they trade.

Volume traded per vegetable

As a specialist trader, these wholesalers are already knowledgeable in supplying specific vegetables. For our vegetables of interest, it was known that they usually source bitter gourd and eggplant locally while cabbage, sweet pepper and tomato were sourced out from Cebu and Cagayan De Oro. 30-70% of vegetable traded are coming from Cagayan De Oro and 20-60% from Cebu depending on the kind of vegetable and availability of the supply. They also import vegetables from Davao but only when there is an inadequate supply in Cebu and Cagayan de Oro.

On average the volume traded for bitter gourd ranges from minimum of 1,000 kg to as high as 3,000 kg per day, while for eggplant and cabbage, 1,000-4,000 kg per day.

One of the respondents interviewed revealed that he can trade bitter gourd for arrange of 7 to 21 tons of bitter gourd in a week, approximately 60% of his vegetables go to wholesalers, 30% goes to wet market retailers and household buyers, and 10% goes to supermarkets for outright supply and selected HRIs.

Table 5-66: Estimated volume of vegetables handled by Specialised Wholesalers in Cebu

Vegetable	Volume traded (t/week)
Cabbage	28
Bitter Gourd	14-21
Eggplant	7-21

Other respondents revealed that in one week, they can trade at least 7-28 tons of bitter gourd, eggplant and cabbage, with approximately 40-50% goes to local wholesalers and wet market retailers, 20-30% are traded to traders outside Cebu areas, and 10-20% to supermarkets and HRIs, and 10-20% to household buyers.

Quality characteristics sought

Specialized wholesalers consider the quality of the vegetables as very important. These traders know that they need to secure good quality vegetables as this has been highly demanded by their buyers. Quality specifications of vegetables vary depending on the needs of customers and market segments. Customers in high-end markets normally require class A

quality vegetables. For traditional wholesalers and retailers operating in wet market, both class A and class B can be traded. Some vegetables were cut/sliced especially eggplant and bitter gourd because some restaurants and household buyers prefer to buy vegetables this way. The general quality sought by specialized wholesalers is shown in Table 5-67.

Table 5-67: Quality characteristics sought by Specialised Wholesalers in Cebu

Vegetable	General form	Consistency of Ripeness and Colour	Size	Shape	Shelf Life
Bitter gourd	Fresh, "gwapa", good- looking	Mature green	Regular size 12-14 inches	Straight	2-3 days
Eggplant	Fresh, smooth, no holes	Violet	Same with eggplant	Straight	3-4 days
Cabbage	Fresh and compact	Green	Any size will do	Round	3-4 days

Value created and margins earned

Specialised Wholesalers create value by supplying specific kind of vegetable and same with general wholesalers, they can maintain large inventories. They also benefit from economies of scale due to the large quantity traded. They generally set a P10-30 mark up price per kilogram depending on the retail buyers and P5-20 mark-up price per kilogram for wholesale buyers. Price differs between P5-20.00 between quality grade classifications.

Stage of node life cycle

Specialised wholesalers are already in good position in supplying specific vegetables for other wholesalers and retailers due to their large inventory and their volume of traded is continuously increasing due to their developed expertise in trading vegetable. Hence, they are in the late growth stage, somehow taking control in the market offering large quantity of a specific vegetable.

Competitive forces

Existing level of rivalry

Specialised Wholesalers have strong relationships with their suppliers, they also have established network of buyers. Based on this it is assessed that a low level of rivalry operates within this segment.

Power of suppliers

Specialised wholesalers have a good supply base. They are engaged into financed farmers. They also have solid dealings to other compradors; they are always fully informed, they possess price information across markets and can make negotiations with the farmer and supplier. They also provide cash advance and offers credit service which strengthens support in assembling vegetables. They have a very flexible arrangement with suppliers and can easily shift from one supplier to another, hence, their suppliers can exert little power over them. A large supplier maybe in a position to exert more power.

Power of buyers

Supermarkets and selected hotels and institutional buyers are in a position to exert power over Specialised Wholesalers due to their demanding transaction process and requirements, but these traders do not just rely on them. Only less than 30% their total volume is sold to supermarkets and HRIs and the rest are sold to wholesalers and consumers in the wet market. With the congestion of customers in wet markets, which includes general wholesalers in the pool, they can still competitively negotiate with other major buyers. Also, they can assemble and trade large inventory for specific vegetable that suits a specific market need, hence, the power of buyers is low to high depending on the buyer.

Threat of new entrant

With the numerous numbers of customers in the wet market, especially that Cebu is the transhipment point of vegetables to neighbouring provinces, there is a high possibility for new comers to perform same the functions as specialised wholesalers are currently doing and there is no specific barrier to enter the same activity. However, assembling large volumes and the relationships with suppliers may make it challenging for a new entrant to gain traction. The possibility of other mature wholesalers shifting to specialist trading can pose threat to these specialized wholesalers, thus a moderate threat of new entrant.

Threat of substitution

The threat for substitution is moderate. Since this model is specifically trading 1-2 crops, this can be attractive to big farmer groups. Also, there are other traders in wet market performing same line of activities as other large wholesalers may see it as an opportunity for business expansion. Whilst this model is easy to be a part of other activities, the existing linkages they have may find it difficult for substitutes to copy and enter.

Willingness to source from farmers

Yes, they are willing to source from farmers, they are currently doing it and they are happy to purchase more.

Relative Attractiveness to Farmers

Specialised wholesalers operate on 1-2 crops which can be seen as attractive to farmers or farmer groups that plant on single crops. Since specialised wholesalers secure their supply in an informal and flexible way, future arrangements with farmers will not be hard. And with the established market position (being assessed as late growth in the stage of node life cycle), supplying to specialised wholesaler will not be risky.

5.3.3.3. Class A Wholesalers

Class A wholesalers solely act as a purveyor. Purveyor is the term used by supermarkets, hotels, restaurants and institutional buyers for a wholesaler that secures and delivers them vegetables. The purveyors identified were those traders that were repeatedly mentioned from the interviews with managers and purchaser of the hotels, restaurants and supermarkets. Based on their activities and function, three were categorized as Class A wholesalers. The three were also interviewed. The other purveyors identified were general wholesalers, specialized wholesalers and concessionaires. It is difficult to ascertain as to how many purveyors operate in Cebu as they are categorized differently by Department of Agriculture and the Department of Trade and Industry.

The quality and volume purchased by the class A wholesalers are highly influenced by their buyers. Quality-wise, these traders specifically trade only class A vegetables due to the high-end market's needs, hence the name. This is a new category of business that exists primarily to supply the premium quality vegetables to HRIs and supermarkets.

In general, they supply the high end markets as they are capable of agreeing with the rigorous commercial and supply agreements. The major difference between Class A wholesalers and general wholesalers in Cebu is that Class A wholesalers solely act as purveyor having exclusive markets and only transact business with contracts and formal agreements, while general wholesalers, who also trade in contracts, but trades to open markets selling to anyone, anywhere, anytime.

Class A wholesalers buy vegetables from local traders or from other purveyors. Some of them secure their supplies from assembly markets in other areas (e.g. Dalaguete, Cagayan de Oro and Baguio). Moreover, they have large capital that makes them able to run their business in spite that their markets are having a 15-60 days credit term payment from their buyers.

Market trends

As Cebu gets more and more growth in its Service and Industry sectors, the presence of purveyors will also increase and class A wholesalers can greatly benefit from this. Class A Wholesalers target modern retail and institutional markets and are currently enjoying growth in their operations by supplying premium quality vegetables to their buyers.

Volume traded per vegetable

In terms of volume, these traders procure enough amounts of vegetables as a result of a solid market. The volume is dictated by their buyers and the burden of securing and delivering that volume lays in the class A wholesalers. Usually, their buyers place an order and require replenishments every day or every request. In turn, they have good upstream communication infrastructure that secures a stable supply.

For the largest Class A Wholesaler which was estimated to have a market share of 40%, on average, they are able to trade around 10,500 kg of assorted vegetables weekly.

Table 5-68: Estimated volume of vegetables handled by Class A Wholesalers in Cebu

Vegetable	Volume traded (t/week)
Cabbage	1 – 2
Eggplant	2
Bitter gourd	1
Tomato	1 - 2
Sweet Pepper	<1

For the largest class A wholesalers who supplies supermarkets, they deliver 3 times a week (usually every Tuesday, Thursday and Saturday) for an estimated volume of 5.1mT (per delivery) of assorted vegetables. This delivery only permits if they win in the bidding process. Class A wholesalers compete with General wholesalers and concessionaires in the bidding.

Quality characteristics sought

Class A wholesalers are traders that procure vegetable following their buyer's requirements. To increase their standing to supermarkets and HRIs, they have a set of requirements for selecting and dealing with suppliers (example: sanitary permit, business supporting documents, consistent quality supply, etc.).

They usually have transportation and packaging facilities, either owned or rented.

They source their supplies from different sources to secure wide selection for superior products. One of the wholesalers directly source out vegetables from the farmers. They have clustered farmers and harvest, collect and deliver vegetables to their buyer to secure

freshness. They only buy the Class A vegetables. They even hired Agricultural technician to supervise farmer agronomic practices to lock the quality vegetables needed.

They maximize the local produce and even import vegetables in order to provide customer requirement of quality and volume they need.

According to interviews, most buyers usually do not ask for or mind if vegetables are organically produced or follow safe vegetable protocols as long as they are fresh and have a good general appearance. However, hotels, especially the luxury ones conduct surprise visit to their suppliers to check the facilities, cleanliness and hygiene practices of their suppliers. Due to this class A wholesalers also indicate that among their requirements for vegetables, quality comes first, then assurance of supply, then price.

Currently, class A wholesalers are not into organic products since they don't have the capability for certification. Other reasons stated are the high price for organic vegetables and they cannot compete with the more competitive concessionaires.

General characteristic sought by class A wholesalers is shown in Table 5-69.

Table 5-69: Vegetable quality characteristics sought by Class A Wholesalers in Cebu

Vegetable	General appearance	Consistency Of Ripeness and colour	Size	Shape	Shelf Life
Bitter gourd	no physical damage i.e. firm, no bruises, cracks, brown, spot, holes, smooth	Should be matured and freshly harvest	9-10 inches	Elongated and straight *"…want straight shape for easy display in the shelves, and if its curve it's hard to pack…"*	*"…according to them, as long as it's freshly harvest…"* 2-3 days
Eggplant		Should be matured and freshly harvest	9-10 inches		
Tomato		Green mature to breaker	Small, regular to large size	Round	4-5 days
Sweet Pepper		Breaker to red ripe	3-4 inches	Regular shape	4 days
Cabbage			Small, medium/regular price to large size Required weight: Class A (0.5 -0.6 kg/pc) Class B: (0.2-0.3 kg/pc) *"… Customers only buy small volume, if oversize, most of the customer will ask them to cut into smaller size…"*	Round and compact	3 days

Value created and margins earned

Class A wholesalers create value by specifically supplying class A vegetables to customers that demand them. Same as with general wholesalers and concessionaires, class A wholesalers fill the gap between the modern and traditional models by dealing with formal way of buyers and with informal, flexible arrangements for suppliers. Class A wholesalers also provide market information to farmers regarding quality specifications required and prices available. They also link farmers to service providers for production improvement. They provide working capital to their farmer supplier. Other value created includes sourcing,

preparation, delivery and managing relationships with supermarkets and HRIs. One of the purveyors provides access to fresh and inexpensive wide variety of vegetables to supermarkets and HRIs by sourcing directly from farmers.

The prices, method of payments and volume to be delivered are negotiated in advance. Payment is usually on credit terms with 15-60 days payments period and with a locked-in price for a specific timeframe. For supermarkets, they normally supply them specific vegetables for maximum of 1 week. Hotels generally require them to deliver every day for a fixed price for 1 week to a month.

One of the purveyors pay premium price to farmers at P3-5 per kilogram and will set a mark-up of P20-40 per kilogram. Other class A wholesaler purchase premium vegetable with price difference of P5-10/kg from the prevailing price in Carbon public market and sells to their buyers with an average of P5-20/ kg mark-up.

Table 5-70: Average buying and selling prices for vegetables handled by Class A Wholesalers

Vegetables	Buying Price/kg	Selling Price/kg	Margins Price/kg	Price Difference Between Grades/kg
Cabbage	P40-80	P50- P120	P10-40	P5-10
Eggplant	P25-60	P40- P90	P15-30	P5-20
Bitter gourd	P35-80	P40- P130	P10-50	P5
Tomato	P25-60	P350 – P100	P10-40	P5-10
Sweet Pepper	P80-200	P100-P250	P20-50	P30-50

Stage of node life cycle

Class A Wholesalers segment is in its introductory phase and its growth is currently being driven by increasing demand for class A vegetables by supermarkets and some HRIs.

Competitive forces

Existing level of rivalry

Class A Wholesalers compete with existing established concessionaires and general wholesalers targeting the same market outlets. In fact, they have to compete with each other for almost every week or every month to secure the deal of the supermarket and HRIs. Thus,

the rivalry of competition among them is very high. Also, as an introduction to the market, competition is really high.

Power of suppliers

Suppliers may or may not exert economic power over Class A Wholesalers. Class A wholesalers usually dictate the price, quality and quantity of vegetable traded. Some even have competitive supply chains buying directly from farmers. Meanwhile, other Class A wholesalers got their supply from Carbon Market and follow the prevailing prices which is usually set by the wholesalers. Hence, a moderate power of suppliers over them.

Power of buyers

Class A wholesalers are specialist wholesalers specifically serving the needs of supermarkets and HRIs. These customers routinely conduct bidding from their suppliers usually in weekly or monthly basis. During the process, HRIs dictate the price and quality and volume specifications. The awarded supplier is then obliged to follow the arrangement set by their buyers. The good thing in winning the contract is having a stable market for the specific period. But at the same time, Class A wholesalers also face the risk of not winning the bidding which could lead the business to a temporary standstill.

The relationship with their buyers also is a tough one as these customers sometimes make delayed payments. Therefore, the capacity of the supermarket and HRIs to exert economic power over Class A Wholesalers is therefore deemed to be highly substantial.

Threat of new entrants

Emerging needs for Class A wholesalers is an opportunity due to increasing demand for high quality vegetables driven by the growth of the Industry and Services sector of Cebu City. Due to the growing market environment, this introductory business model may be very attractive to new businesses. Thus, for this segment, the threat for new entrants is high.

Threat of substitutes

Concessionaires and the general wholesalers supplying to the same market as Class A wholesalers have currently posed high threat for them due to the fact that the concessionaires and general wholesalers perform similar activities. Moreover, what the Class A wholesalers

perform is just a part of the concessionaires and general wholesalers whole merchandising activities.

Since they are in the introductory phase, the goal of replacing the current market set-up is quite difficult as they can be fenced out by the reigning market players. However, class A wholesalers have been operating competitively due to its specific doings which may lead to field expertise. Nonetheless, the Class A wholesaler's position is currently under a high threat of substitute players.

Willingness to source directly from farmers

The largest Class A Wholesaler sources directly from their clustered farmers; the other two had stopped sourcing due to bad experience with farmers. But still they are willing to support the farmers because they sought linkages to farmers as being necessary to assure a regular supply base and create a niche to customer identification.

Relative attractiveness of this segment

Class A wholesalers are new entrants in the industry and they are still vulnerable to the current market environment. However, Class A Wholesalers as a segment has significant potential for market expansion to answer the increasing the demand for quality vegetables. There's still room for improvement in offering extensive range and volume of vegetable varieties (including rare and imported lines); can also expand the scale and location of facilities. Hence, Class A wholesalers are assessed as moderately attractive to farmers.

5.3.3.4. Concessionaires

Concessionaires are basically businesses that own, display and sell their vegetables inside a supermarket. They are dependent on their customer's market positioning and success in selling vegetables to consumers. That's why they brand their vegetables within the supermarket and appoint personnel to provide better service to their customers as a way to establish customer loyalty. In Cebu, the concessionaires have a range of business models possibly outdoing supermarkets as their major outlet. Besides selling their vegetables inside supermarkets, they also serve as outright and/or exclusive supplier to the same supermarket company they are having the consigned arrangement with. Some concessionaires even purvey vegetables to hotels, restaurants and institutional buyers.

Inside the supermarkets, concessionaires pay for a space in a consignment basis. Payment to supermarkets will be made by deducting from their sales generated, which is usually around 10% of the sales made.

Varying types of supermarket strategies regulates the concessionaires' control over their goods. Concessionaires manage some aspects of the vegetables under their agreement with the supermarket. The degree of control differs between supermarket companies. This includes product selection, packaging, stocking, delivery, display and even merchandizing activities. They used daily market list (kinds and quality of vegetables) and some sort of criteria in the selection of the supplier, deciding which produce and in what volume to purchase and in what delivery to accept or reject. Concessionaires also bear the burden of risk of shrinkage and spoilage.

Concessionaires are more responsive to quality, safety, and consistency requirements of supermarkets and other markets rather than are traditional wholesalers who aggregate produce from many producers and may also be unable to supply the qualities required.

In Cebu region, 5 vegetable concessionaires were identified and interviewed. Since concessionaires in Cebu are operate in a range of business models, the data discussed in this report have focused more on their relationship with the supermarkets. The respondents interviewed haven't given much information about their purveying activities.

Market trends

Concessionaires are enjoying the benefits of growth in vegetable sales of supermarkets as consumers gradually consider buying vegetables from supermarkets as a viable alternative to traditional wet markets. This is consistent with global trends as consumers seek product and experience attributes other than price. This is true in Cebu as the supermarket companies are continuously increasing their local branches.

Supermarkets require an assured supply of high quality vegetables for meeting consumers' needs. Thus, sales of vegetables inside the supermarket, especially being traded mostly by concessionaires, are increasing in volume and quality requirement.

Its' a trend now that most supermarkets prefer to deal with concessionaires for easy management. Having concessionaires inside the supermarket can augment a supermarket's own supply of vegetable.

Volume traded per vegetable

Shown in Table 5-71is the estimated weekly volume of the total volume sold by concessionaires inside supermarkets. This is the only data available for concessionaires as they are reluctant to give information about the volume traded to HRIs and as outright supplier of supermarkets.

Table 5-71: Estimated weekly minimum volume requirements of vegetables by Concessionaires for supermarkets

Vegetables	Volume traded to Supermarkets (t/week)
Cabbage	8
Eggplant	5
Bitter gourd	5
Tomato	11
Sweet Pepper	3

These concessionaires have different degree of presence to different supermarket companies. For SM stores in Cebu, 90-100% of vegetables displayed are from the concessionaires. They also occupy 40-60% of the vegetable display area of the Metro supermarkets. Among the vegetables of interest, it is computed that concessionaires occupy 77% of the total volume

sold inside the supermarkets. The 23% is from their outright purchases. It should also be noted that the volumes traded by concessionaires is larger than indicated in Table 5-71 because they also supply hotels, restaurants and institutions.

They source their supplies from different sources to secure wide selection for superior products e.g. combination of farmers and wholesalers-supplier.

For the largest concessionaires interviewed, 30% of their vegetable supplies were sourced out directly from farmers and 70% are from traders in Carbon Public Market.

Quality characteristics sought

Concessionaires cater a defined market. Trading is limited only to high quality vegetables. They are imposing high/premium quality standards and deliver vegetables accordingly to suit supermarket expectations and consumer preferences; these include packaging, primary processing and handling. They deliver almost every day with a specific product list set by the buyers.

Concessionaires provide delivery and transportation services. They also have cold rooms and ambient storage facilities where they can maintain large quantity of inventory. They sort and pack their vegetables depending on the buyer's specification e.g. tomatoes are normally sorted according to grade and type (cherry, salad or native tomato), packed in a styrofoam and covered with clear plastic wrap.

They are willing to purchase organic vegetables, or if they have better quality, longer shelf-life, consistency of delivery and competitive price of supply. They are willing and do currently source from farmers but getting major supply from wholesalers due to lack of relationship with farmers who can regularly meet the requirements.

Quality specifications of vegetables were based on most obvious visual attributes such as ripeness, uniformity of size and shape and weight for size. On top of it, they also require it to be fresh and have long shelf life. The general characteristics of the vegetables concessionaire require is shown in Table 5-72.

Table 5-72: Quality characteristics of vegetables sought by Concessionaires in Cebu

Vegetables	General Form	Shape	Size	Ripeness and Colour
Bitter Gourd	Fresh, Firm, no cracks, no bruises	Must be straight	9 to 12 inches	Light to Mature green
Eggplant	Fresh, smooth, no holes, no bruises, free from damage and discolouration	Must be straight	8-12 inches	Bright to dark violet
Tomato	Fresh, smooth, no holes, no bruises, free from damage and discolouration	Round, regular shape		Mature green, breaker and red ripe
Sweet pepper	Fresh, firm, smooth, free from damage	Well formed	3- 4 inches	Usually breaker
Cabbage	Compact, fresh, free from damage,	Round and compact	Small, medium, large	With at least 2 -3 green outer leaves

During off-season, some defects may be allowed, provided that the vegetables retain their essential characteristics as regards the quality, the keeping quality and presentation. Some customers are looking for organically produced vegetables but have limited suppliers. They maximize the local produce and even import vegetables in order to provide customer requirement of quality and volume.

Figure 5-16: Photos of typical vegetables available in the supermarket

Figure 5-17: Sliced, pre-cut and ready-to-cook vegetables displayed inside a supermarket

Value created and margins earned

Concessionaires create value by taking responsibility for ensuring supermarket customers have access to good quality, safe vegetables. This enhances the supermarket's reputation which is probably why supermarkets enforce strict controls over them. Value created by this node includes: sorting, labelling/branding, packaging, delivering and transporting. They also assure reliable and consistent supply to commercial and institutional buyers. Concessionaires also fill the gap between the modern and traditional models.

Table 5-73: Buying and selling prices for vegetables achieved by Concessionaires in Cebu

Vegetables	Buying price (Php/kg)	Selling price (Php/kg)	Margins Earned (Php/kg)
Cabbage	30-60	50-95	20-35
Eggplant	25-45	35-65	10-20
Bitter gourd	35-50	45-95	10-45
Tomato	10-60	20-80	10-20
Sweet pepper	30-100	50-150	20-50

When selling inside supermarkets, one concessionaire adds P 10.00-50.00 per kilogram to the price set by the supplier. While some supermarket companies control the prices, one supermarket adds P 10.00-20.00 per kilogram to the price set by the concessionaires and will claim a commission of 10-12% of the total sales. Other supermarkets put 35% mark-up per kilogram from the price set by the concessionaires.

Stage of node life cycle

Concessionaires have always been a major player in providing vegetable supplies in supermarkets and besides selling inside supermarkets, they have been in good position in supplying HRIs. Demand for vegetables from supermarkets is increasing and the use of concessionaires is the preferred business model in supermarkets. With this, these concessionaires have established branding to local consumers. Hence, this segment is in its late growth stage.

Competitive forces

Existing level of rivalry

Inside the supermarket, concessionaires compete with each other since supermarket companies allow multiple concessionaires in some of their branches. Other branches meanwhile prefer to only have one exclusive concessionaire inside. This results to a high competition in securing good market position in supplying supermarkets. Most supermarket and HRIs have rigorous process in securing dealings (e.g. bidding) thus creating high rivalry among concessionaires.

However, it is believed that once a concessionaire secures a reputation as a trusted and reliable supplier, they would be protected from rivalry because the supermarket would be reluctant to move away from commercial arrangements that are working for them.

Likewise, concessionaires also compete with general wholesalers and class A wholesalers in becoming the awarded supplier to supermarkets and HRIs.

Power of suppliers

Concessionaires secure their supply from multiple sources from farmers to wholesalers. They deal with their suppliers with informal and flexible arrangements. They can easily shift from one supplier to another if they cannot meet the requirements of concessionaires. They dictate the price, quality and quantity requirement, thus the power of supplier is low.

Power of buyers

Supermarkets and hotels and institutional buyers have high power over these traders as they dictate the price, quality and volume specification reflecting the power of supermarket in their relationship. But when selling inside supermarkets, the customers, which are the end-consumers, basically pose low power over the concessionaires. Hence, a moderate power of buyers over them.

Threat of new entrant

The threat for new entrants is moderate. Although, there is a high demand for quality vegetables and opens an opportunity for other traders to penetrate supermarkets, the existing concessionaires are in good market position in the supermarkets which makes it difficult for

new entrants to occupy. Their multi-format business also contributed for them to be in a good market position.

Threat of substitutes

Due to the fact that concessionaires are operating in different formats, they are highly exposed to different substitutes. Same with general wholesalers, these substitutes can perform same functions and generally pose threat for concessionaires. Hence, the threat exerted to concessionaires is assessed as moderate.

Also, some of the concessionaire's vegetables are sold in retail inside supermarkets under consignment basis. In this case, the possible substitute for concessionaires is the increased movement of outright purchases of the supermarkets which currently hold 23% of the total volume. Concessionaires will be under threat if their supermarket favours to increase their outright purchases. The threat for this substitute lies in the supermarket's policies of balancing their outright purchases to the consigned goods. Though two of the three largest supermarket companies are engaging into consigned goods (details will be discussed on supermarket node), this may still change if the management decides so. This puts the concessionaires under moderate threat for substitutes as they currently enjoy the supermarket's policies.

In general, concessionaires have moderate threat against the substitute market players.

Willingness to source directly from farmers

Concessionaires are willing to buy vegetables directly from farmers, are currently doing so but volumes are small and would be happy to purchase more.

Relative Attractiveness to Farmers

The relative attractive of concessionaire to farmers was assessed as moderate. Adding into the concessionaires' current pool of farmer suppliers is not new for them. Supplying them is also not risky since they already have a good market position. The attractiveness was still measured as moderate since this node requires high quality of vegetables in which farmers cannot guarantee the stability of the high quality vegetables.

5.3.3.5. Supermarkets

Supermarkets, generally corporately owned, are retail store offering wide assortment of goods from groceries to fresh products. In Cebu, the most recognized supermarket brands are SM Savemore (10 outlets), SM Hypermarket (2 outlets), SM Supermarket (3 outlets) Metro Gaisano (14 outlets), Fooda, Gaisano, and Robinsons (2). Each supermarket brand is operated by a specific company and each holds a chain of supermarkets spread across the metropolis. They are usually constructed within a shopping centre or as stand-alone. Three of the aforementioned companies were interviewed.

Vegetables displayed inside a supermarket can be outright and the consigned. The outright goods are company owned while the consigned goods are concessionaires'. Supermarkets only get a certain percentage of the sales made by the concessionaire.

The above-mentioned supermarket companies exercised different degrees of control over their outright and the consigned goods due to their different strategies. Two of the interviewed supermarkets companies were inclined to partner with consignors in providing vegetables as they believe it is more competitive and efficient. The consignors, in this case, are the concessionaires. In this setting, vegetables displayed inside their supermarkets are fully owned by a concessionaire, most of the time. The supermarkets also have outright purchases when it goes to promotion; nonetheless, this only accounted to at most 10% of the total display of a specific branch. The price setting, quality, and the minimum volume for this setting are mostly dictated by the supermarket.

The other strategy focuses on outright purchases to have better control over the goods displayed in terms of assortment, quality and pricing. The largest retail company in the province of Cebu uses this approach. Inside the outright-focused supermarket, concessionaires were only given a specific area wherein they can freely do merchandizing activities. In their single branch, around 40 to 60% of the display area is allocated for concessionaires and the rest are outright. The variation depends on the target market of a supermarket branch. This company permitted concessionaires in order to augment and increase the variety of vegetables in the display area and to stir competition within. Currently, only 7 supermarkets and hypermarkets in Cebu have this arrangement. The company is also engaged in neighbourhood stores under a different brand name. The vegetables displayed in their neighbourhood stores are fully supplied by concessionaires. They have 7 neighbourhood stores across the metropolis.

Data was gathered from interviews with branch managers and supervisor, the fresh section manager of a supermarket branch and a senior purchaser responsible for the fruit and vegetables in the largest retailer in Cebu. Background information about the companies was also being supplemented in this report.

Market trends

Supermarkets offer wide assortment of goods to customers. They offer vegetables to consumers that are not found in the local wet market. Supermarkets are also strategically positioned. They are located in places where there is high concentration of people, thus providing convenience. They also provide safety, proper hygiene and cashless payments for customers. The trend of a different retail experience is expanding in Cebu.

Supermarkets in Cebu are also growing. The largest supermarket in Cebu, in terms of sales, has planned to construct two new branches in Central Visayas by 2016. Another company has also been expanding its supermarket retail format across the country. The years 2012, 2013, and 2014 respectively ended with 74, 91, and 111 supermarket branches across the country and this continues to increase.

The increasing trend in consumers' buying vegetables from supermarkets and the increase of their access due to the supermarket company's expansion supports the conclusion that the market for vegetables sold through supermarkets is growing.

Volume traded

Goods sold inside the supermarket can be outright or consigned. The volume listed in Table 5-66 is limited only to the outright purchases of the supermarkets.

Table 5-74: Estimated quantity of outright vegetables sold by supermarkets in Cebu.

Vegetables	**Volume traded (t/week)**
Cabbage	3
Eggplant	2
Bitter gourd	2
Tomato	3
Sweet Pepper	1

Rather than having consigned arrangements, the company focuses on outright purchases to control and manage their inventory. The company is directly sourcing their vegetables from farmers across Cebu to increase efficiency and reliability of supply operations.

Quality characteristics sought

In general, supermarket companies require that the vegetables displayed must be fresh and of good quality and physical appearance. Largely, supermarkets prefer the visually decent vegetables.

There are also certain quality requirements for each goods being displayed inside the supermarket. General characteristics sought by supermarkets are listed below.

Table 5-75: Vegetable quality characteristics sought by supermarkets in Cebu

Vegetable	General Form	Shape	Ripeness/Colour
Sweet pepper	Clean, good physical appearance		Half-ripe
Tomato	Clean, Medium in size		Green mature, Breaker to red ripe
Eggplant	Clean, firm, around 10-12 inches in length	Straight	Bright or deep purple
Bitter gourd	Clean, around 10-12 inches in length	Straight	Not ripe

Quality requirements also changes depending on the target customer segment of the supermarket.

Value created and margins earned

Supermarkets have higher selling prices for vegetables compared with the local wet market as they provide different retail experiences to consumers. The higher selling price is based on the prices of the local market, customer segment, local competition, or promotions. Still, prices set by the supermarkets are largely dependent in the prices of the local wet market. If the prices of the local market changes, their price also change; however, on a weekly basis.

For supermarket companies that have outright purchases, retail prices were generally set to 20-40% higher than the local market.

Stage of node life cycle

Supermarket segment is in its late stage of growth and they are enjoying the benefit of some consumers slowly changing their vegetable-buying behaviour in favour of supermarkets.

Competitive forces

Existing level of rivalry

Only few supermarket brands are in Cebu and there is high competition between them. Despite the fact that the companies already have good local brand recognition, they still compete in making new supermarkets in concentrated population or be an anchor tenant in a commercial centre. However, competition is not only restricted to supermarket brands. Different sites of the same company can also be considered as competing for consumers.

Whilst there is competition between site and brands, there are still sufficient new customers who are willing to buy from supermarkets, hence, a moderate level of rivalry at this point in time.

Existing level of rivalry – between outright and consigned vegetables

The presence of competition inside a single supermarket branch is also apparent. This is the competition between the outright and the consigned goods. Both have brand identities in their vegetables and customers can freely choose what vegetable brand to buy. However, due to the supermarket's control over the concessionaire in terms of pricing and quality, competition between them is minimized, hence a low level of rivalry between outright and consigned vegetables.

Power of suppliers

The analysis for the power of the supermarket suppliers is viewed from the angles of the consigned supply and the outright supply since supermarket companies has control on both inventories. Firstly, concessionaires will be considered as suppliers since they add on the total inventory requirement of vegetables in a supermarket branch, just in a consigned arrangement. Concessionaires have low power over the supermarket even though concessionaires can still control their inventory and do merchandizing activities inside the

supermarket. Supermarkets impose fines for empty shelves or if they cannot provide specific vegetables and concessionaires have no capacity to influence the vegetable sales model that the supermarket decides to adopt.

Secondly, the outright suppliers have low power over the supermarket. These suppliers just follow what the supermarket needs. Supermarket performs bidding and buys vegetables from the winning bidder. Moreover, the outright-focused supermarket is engaging into controlling and managing their supply operations. This puts their outright suppliers at low power.

Power of customers

Though customers can still opt in buying vegetables in wet markets, supermarkets provide a more comfortable retail experience compared to buying from Carbon market. Convenience and personal safety are the most mentioned features that are not available in wet market retailing. Whilst in theory consumers may be in a position to exert economic power over the supermarkets, in reality the power of a single consumer is negligible, particularly in an environment where new consumers are entering the segment every day.

Threat of new entrant – new supermarket companies

The supermarket companies in Cebu have already set a good trademark and brand recognition to local consumers. Each of these supermarket brands is already synonymous as retailing for locals. As a result, they can easily penetrate new markets either in stand-alone or as an anchor tenant in a commercial centre. This makes new entrants in a poor position to penetrate the supermarket business. Hence, the threat for new entrants is low.

Threat of new entrant – new concessionaire

. These supermarket companies basically require a good record of a concessionaire before allowing them to display inside the supermarket and the current concessionaires are having good performance with their supermarkets, hence, the threat for new concessionaires penetrating supermarkets is low.

Threat of substitutes

The possible substitute for supermarkets are the retail formats offering same retail experience with supermarkets. This can be the expanded convenience stores, exclusive shopping, mini-supermarkets or the emergence of specialist fruit and vegetable retailers. These retail formats

also provides personal safety, proper hygiene and cashless payments to consumers. In the past years, the largest supermarket company in Cebu has been acquiring local retail stores as part of their expansion strategy. The capacity of this supermarket company to acquire other businesses positions these possible substitutes in a lower threat. And in a market where supermarkets are increasingly attracting new customers, the real threat of substitutes is low. This supports the possible strategy of supplying to concessionaires represents an attractive opportunity to farmers.

Willingness to source directly from farmers

The consignee-focused supermarkets cannot directly transact with farmers or farmer groups, instead, farmers were being referred to supply their concessionaire.

For the outright-focused supermarket, they also cannot easily directly source from farmers due to certain arrangements. However, they are open to reduce the number of intermediaries from farmers in order to have an efficient supply chain. Currently, this type of supermarket has been sourcing vegetables from a collector and a cooperative that holds around 50 clustered farmers.

Relative Attractiveness to Farmers

The consigned-focused supermarkets have low attractiveness since they favour in dealing with consignors to supply their needed requirement. The outright-focused supermarket, meanwhile, prefers to transact with farmers. The only barrier for farmers to venture this arrangement is to meet the supermarket's terms which is difficult to farmers. In general, the relative attractiveness of this node is still low due to the arrangements.

5.3.3.6. Budget Hotels

An accommodation establishment which falls under Economy and the unaccredited hotels by the Department of Tourism was considered budget hotels for this report. Budget hotels are lodging establishments catering to transient that meets the minimum requirements of an economy hotel. There are around 40 known establishments in Metro Cebu of this kind. Unlike deluxe hotels, budget hotels have limited but good standard facilities and services. Compared to high rated hotels, budget hotels offers limited to low amenities, quality and range of services offered. The Assistant Chef of an unaccredited hotel with 100 rooms was interviewed.

Market trends

Cebu City has an increasing demand for accommodation establishments driven by the increase of tourism in the province. Budget hotels cater the lower income segment.

Volume traded per vegetable

Budget hotels were seen to offer breakfast for their occupants. The estimated total volume requirement for budget hotels in Cebu is included in **Error! Reference source not found.**. he chef or purchaser usually handles the procurement of the vegetables in budget hotels. They usually buy vegetables in spot market.

Table 5-76: Estimated volume of vegetables used by Budget Hotels in Cebu

Vegetable	Volume requirement (kg/week)
Cabbage	370
Eggplant	90
Bitter gourd	90
Tomato	650
Sweet Pepper	190

Data was derived from computing the average rooms per hotel and the number of hotels in Cebu. The volume follows the requirement of one of the hotels interviewed.

Quality characteristics sought

The vegetables procured are mainly bought for the meals offered to occupants and sometimes walk-ins. Quality vegetables were mostly based on physical appearance of the vegetable. Thus includes freshness, form/shape and size of the vegetables. They also prefer to buy pre-cut/ sliced vegetables or ready to cook vegetables.

Table 5-77: Vegetable quality characteristics sought by Budget Hotels in Cebu

Vegetable	Size	Shape	Ripeness
Eggplant	Regular	Soft, shiny	
Bitter gourd	Regular		
Tomato	Regular	shiny	Not fully ripe
Sweet Pepper	Regular	Good looking	Breaker

Value created and margins earned

Budget hotels generally purchase from spot markets due to their low volume requirement and less strict arrangements. They use vegetable as an ingredient or toppings in their menu.

Stage of node life cycle

As with restaurants, accommodation services are also prevalent in Cebu. But with the recent increase of market driven by tourism, businesses and general population, the hotels in Cebu are increasing in number. Hence, a growing stage.

Competitive forces

Existing level of rivalry

The main customers of budget hotels are tourists and business travellers and these accommodation establishments are offering different services capturing these customers. There is high level of rivalry between budget hotels.

Power of suppliers

There is low power of suppliers over the budget hotels in Cebu. Unlike premium hotels who deal with suppliers for vegetable ordering and delivery, budget hotels just buy vegetables in spot market from any trader. Low volume requirement is one of the main reasons in do so.

Power of customers

The power of customers is low. Vegetables are just being served as an ingredient. Chefs and purchasing managers make the purchase decision – not diners.

Threat of New Entrant

New hotels constructed in Cebu are considered as threat to the current accommodation establishments. However, this segment specifically caters the middle to low class segment, hence, a moderate threat. The growth of this segment represents an opportunity for vegetable producers.

Threat of substitution

There is low threat for substitution for budget hotels in Cebu. Resorts can be considered as substitute for accommodation establishments. Hotels who offer additional recreation facilities and tour services are also considered as substitution. Both, however, cater the middle to upper class segment due to their higher price

Willingness to source directly from farmers

Budget Hotels are willing to source directly from farmers; however, the farmer must subject himself to a 15-day payment as majority of these establishments cannot provide cash, and the volumes are small.

Additionally, some hotels were buying their vegetables in an open market. This could be an opportunity for farmers due to the easy and open arrangement. However, these hotels were buying from open markets due to their low volume.

Relative Attractiveness to Farmers

Though they can easily secure their supply due to the spot purchases, their volume requirement is not sufficient enough for farmers to venture to; hence, a low attractiveness.

5.3.3.7. Premium Hotels and Resorts

Premium hotels and resorts refer to an excellent to outstanding full-service accommodation with reception and guest rooms generally offering private facilities with an on-site restaurant, rooms and bar services available. This segment in general offers 2 major parts of their services: (1) dining, (2) accommodation. Customers in this segment include domestic households, tourist and institutional buyers. As tourism serves as the main market for hotels and resort services, an increase in the consumer spending outside home resulted in the corresponding boom of this industry.

As of November, 2015 a total of 37 classified hotels and resort in Cebu region, with a total capacity of 6,411 rooms were accredited by the Department of Tourism (DOT). The premium hotels and resorts used for this report were those that were previously categorized as DeLuxe, First Class and Standard hotels by the DOT. Note that their latest official release of accredited hotels doesn't include their classification since they are in the transition of moving into the Star-Rating accreditation.

DeLuxe hotels are hotels that offer luxury to their customers. In Cebu there are only 6 hotels accredited as DeLuxe. These are Mövenpick Resort and Spa, JPark Island Resort & Waterpark (formerly Imperial Palace Waterpark Resort & Spa), Shangri-la's Mactan Resort and Spa, Marco Polo Plaza Hotel Cebu, Plantation Bay Resort and Spa, and Radisson Blu Hotel Cebu. They provide a total room capacity of 2,316

First Class and Standard hotels are those that offer good to high quality standard services and facilities to customers. 14 hotels were accredited in Cebu for a total of 2,575 rooms. Included in this classification are the Waterfront Hotel and Casino, Crown Regency Hotel & Towers, Marriot Hotel and Cebu Grand Hotel.

For this study, purchasing managers and / or supervisors from 5 hotels and resort (1 standard, 1 first class and 3 deluxe) were interviewed.

Market trends

Development of this segment has been link to the increasing trend for a high-end consumer looking for a refined and stylish accommodation, with convenience, luxury and responsive service that often include an extensive array of facilities. The competitive pricing and the extent of free services like free transportation, free local calls, free continental breakfast, etc.,

also serves the growth of this segment. In general, they are also enjoying the demand for consumer spending outside home. These establishments also appear to be catering for increased number of meetings, incentives, conferences and exhibits (MICE).

Volume traded per vegetable

The following volume traded by this segment is based on regular days of the premium hotels and may increase if they have functions, banquet events and catering services.

Table 5-78: Estimated vegetable quantities used by Premium Hotel and Resorts in Cebu

Vegetables	**Volume requirement (t/week)**
Cabbage	3
Eggplant	2
Bitter gourd	3
Tomato	1
Sweet pepper	1

To secure this volume, they employ combination of sourcing supplies from their purveyors which can be concessionaires, general wholesalers or Class A Wholesalers. They prefer well-organized suppliers who can easily deliver them the vegetables required. Farmers or farmer groups have been eased out from supplying directly into these hotels and resorts because of the long payments terms that they have and the strict assurance of consistency, quality and timely delivery of supply, which based on their experience, farmers and farmer groups find it hard to comply.

Quality characteristics sought

Rising quality standards and improving service have also been focal points of competition, thus they are increasingly aware of the demanding need for high quality vegetables that they are going to serve their customers. In return, they demand these specifications from there supplier.

The criteria of buying vegetables were basic grading (quality grade vegetable), freshness and physical appearance of vegetable. Only vegetables that meet the requirements were accepted and the rest were rejected. Some of their customers are looking for organic vegetables but

they all admit to have inconsistent and limited supplier for these products. Upon accepting the vegetables delivered by their suppliers general appearance of the vegetables must conform the following: it must be fresh, "*gwapa*" good –looking, generally clean (free from stains, soils or dirt or any foreign materials), free from damages, cracks, holes, bruises and discolouration. Upon delivery, they require their suppliers to use plastic crates to lessen damage due to transportation.

They employ strict product handling, hygiene and sanitation practices, they also use HACCP regulations. They conduct site inspection on their suppliers to check their cleanliness and sanitation process; they also require their suppliers to present sanitation permits and license to operate business. Premium hotels normally have cold storage and chilling facilities and follows first in-first out policy.

The general qualities sought by the premium hotels are shown in Table 5-79.

Table 5-79: Vegetable quality characteristics sought by Premium Hotels and Resorts

Vegetable	Consistency of Ripeness and colour	Size	Shape	Shelf Life
Sweet pepper	Mature green to breaker, smooth	Must not be less than 3 inches long	Well formed	7 days
Bitter gourd	Fresh, Dark green, no cracks or soft spot	14-16 inches	Straight	3-4 days
Eggplant	Fresh, dark violet, smooth, mature	14-16 inches	Straight	3-4 days
Tomato	Fresh, Mature green and breaker, smooth	Regular size tomato, not at least 2 inches diameter	Regular round	7 days
Cabbage	Green, not over trimmed, fresh	Small to medium size	Regular round and compact,	3-4 days

Value created and margins earned

Pressure on the hotels prices comes from the drive "for the value for money". They create value by providing luxurious accommodation and services, and sumptuous dining services.

In order to secure the vegetables, buying prices of premium hotels are generally higher than the local wet market by P10 to P30 per kilogram. These hotels generally lock in these prices

for 1 week to a month and due to the volatility of prices of vegetables, their buying prices can reach down to P50 lower compared with the local wet market prices.

Table 5-80: Average prices for vegetables paid by Premium Hotels and Resorts

Vegetable	Buying price (PhP/kg)
Cabbage	30-60
Eggplant	35-60
Bitter gourd	35-60
Tomato	28-70
Sweet pepper	130-230

Stage of Node life cycle

In response to the growing demand for hotel accommodations, the last 5 years witnessed increasing significant number of hotels and resort under standard and economy classifications (with an estimate of 53%) but for the number of hotels under deluxe and first-class classifications remains the same. This segment is in the mature stage, characterized by the large capacity of available rooms and the gradual of standardization of quality accommodations.

Competitive forces

Existing level of rivalry

While there are already quite a number of players in the market, product differentiations prevents any hotels in monopolizing the market. Each hotel has their own uniqueness in terms of facilities and services to attract high end customers. These pose high competition among rivalry.

Power of suppliers

In order for the premium hotels to focus on their industry, they exerted high power over their suppliers to avoid delays in their operation. Premium hotels have rigorous requirements for commercial agreements, firm control on the price, quality, volume and delivery of the suppliers. They also have their stance on the payment terms agreement. Farmers then have been ease out from supplying directly to hotels and resort due to their long-term payment

arrangement that took 30-60 days period. Their suppliers basically cannot exert power over the premium hotels.

Power of customers

Premium hotels and resorts in Cebu have become increasingly aware of their customers' requirements for total product quality not just on the food they serve but other aspects like service, communication and reliability. These are all important factors in the quality perceptions of the customers. Convenience, luxury, experience and satisfaction in value over the price; all these attributes were set to make them attractive to their customers.

Threat of New Entrant

Hotel entry barriers, which includes economies of scale, infrastructure and services differentiation, are significant particularly for those who will venture especially in deluxe or first class operation, thus the threat for new entrants is low.

Threat of substitution

With their existing standard level for luxury accommodation and facilities coupled with well refined services offered to their dining experience, there is a low threat for substitutes.

Willingness to source directly from farmers

They are willing to support the farmers however; they required well-organized suppliers who could deliver and meet the arrangements to each outlet as required.

Relative Attractiveness to Farmers

Premium hotels also have good market identity and their current demand is high enough for farmers or farmers groups to venture to. However, they strictly require certain arrangements to be met for farmers to undertake in which farmers may find it hard to comply; hence, a low attractiveness to farmers and farmer groups.

5.3.3.8. Filipino Restaurant Chains

Vegetables are typically bought by households to prepare their preferred cuisines at home. The most common menus prepared by Filipinos are the traditional law-uy, sari-sari, pinakbet and chopseuy. Some vegetables are also used for additional flavouring and garnishes to some menus.

Local restaurants have then captured the concept of bringing these native cuisines to a modern Filipino dining. Restaurants that offer such are the Filipino type restaurants. In Cebu, the most common restaurant serving Filipino menus are Chowking, Hukad (also known as Golden Cowrie), Chikaan, Lantaw and Cabalen having a collective total of 41 branches. These are also the restaurants that have the highest volume of purchase of the study's vegetables of interest and these restaurants have different mode of securing their supplies.

Out of the five vegetables of interest, the largest identified chain restaurant was found to only procure cabbage, along with carrots, baguio beans, chayote, green and bell pepper. In Cebu, this fast food chain has a local accredited supplier in which all 19 branches will secure their vegetables. The restaurant chain's national office selected this supplier.

Moreover, one of the restaurants mentioned above has 28 branches across the country. 8 are in Cebu. They have a commissary where all ingredients are first secured and processed before delivering to different branches. One commissary office in Cebu distributes to their eight branches in the city. Vegetables can be delivered fresh or processed depending on the request of the branch manager. This restaurant serves an average of 100 - 200 people per day per branch. During weekends and holidays, this increases to 400 - 500.

It must also be noted that the sample for this section is just a part of numerous restaurants in Cebu, whether stand alone or in chain. However, the consumption of the study's vegetables of interest is dominated by the Filipino type restaurants. Data for this node was gathered from interviews with the purchaser and the managers of three restaurants.

Market trends

The restaurant chains continue to expand their profile locally and nationally. These restaurants also keep on making new branches that continues to cater more opportunities on where people spend as in the last years; consumer spending for food outside the home is increasing. Other than the noticeable growth of Filipino type restaurants, there are also developments of different

concept restaurants in the last years. There is also a good growth of businesses and tourism in Cebu. Hence, the trend for this market is increasing.

Volume traded per vegetable

The selection of vegetables bought by a restaurant is dependent on their menus. For the vegetables of interest, they are used as main or supplementary ingredient for certain Filipino menus such as choseuy, sari-sari and pinakbet.

The commissary purchaser in one of the restaurant chains procures vegetables from the awarded suppliers. The largest buffet restaurant in Cebu, also secures their vegetables from the awarded suppliers. The suppliers were selected from winning bidder from the restaurant's pool of purveyors described to have the capacity to offer them consistent quality and quantity of vegetables. The awarded supplier handles the delivery of the vegetable to the restaurant or to the commissary office.

The volume requirement for restaurants increases up to two to four times during weekends or holidays. The values shown on Table 5-73 are the overall weekly requirement for vegetables for restaurants which use the selected vegetables in their menus is listed below.

Table 5-81: Estimated volume of vegetables used by restaurants in Cebu

Vegetable	Volume requirement (t/week)
Cabbage	1
Eggplant	2
Bitter gourd	1
Tomato	3
Sweet Pepper	1

This estimate was generated from an assumption that the restaurants interviewed hold around 50% of the whole Filipino restaurants in Cebu.

Quality characteristics sought

Some respondents stated that they were not so particular with the specific quality of vegetables due to the fact that the vegetables are to be processed for presentation within a dish. However, they hold emphasis on the freshness and the purity of the vegetable. Purity means that the

vegetable is free from dirt, blemishes, scars, etc. Others also require specific vegetable as they are looking for its certain qualities.

On the other hand, one of the responded stated that they also utilized class B vegetables as long as it's over all general appearance is not hindered, but they imposed strict control on holding vegetables. They imposed HACCP standards, employ first-in first out policy. They require their working employees holding the fresh section to wear proper attire such as hair net, boots, white coats, hand gloves and face mask. They also provide processing facilities and cold storage area. They also use plastic crates and sealed packaging materials. In transporting the vegetables, they also used cold transportation facilities were also use.

Table 5-82: Vegetable quality characteristics sought by restaurants in Cebu

	General Form	**Size**	**Shape**	**Colour**
Cabbage	Firm and compact	Medium	Regular	
Eggplant	Fresh and not shrivelled	Medium	Straight	Dark violet
Bitter gourd	Fresh and no cracks	Medium	Straight	Dark green
Tomato	Fresh and smooth	All sizes	Regular round	Red
Sweet Pepper	Fresh	All sizes	Well formed	Red

Value created and margins earned

Restaurants basically generate profit by utilizing vegetables for a decent modern dining experience.

Stage of Node life cycle

Restaurants are already prevalent in the urban areas. But with the recent increase of market driven by tourism, businesses and general population, restaurants in Cebu can be seen as growing. One of the restaurant chains interviewed has targeted to establish 10 new restaurant sites in 2016.

Competitive forces

Existing level of rivalry

There is a tough competition between restaurants in Cebu. There also have been growths of new concept restaurants in Cebu just to capture customers. Hence, there is high level of rivalry between restaurants as they compete for customers.

Power of suppliers

Same with premium hotels, restaurants normally pay premium to their suppliers for the availability to secure the reliability of the services they provide in order for them to focus on their industry. They have a P3 to P5 higher buying prices compared with the local market. The premium price they offer to their suppliers lowers the power of their suppliers over them. Furthermore, some restaurants impose their purveyors a strict quality and delivery requirements in order not to delay their operations.

Power of customers

The success or failure of a restaurant concept lies in how the restaurant concept and service appeals to and meets customer expectations. However, the relative power of any single customer is almost non-existent.

Threat of New Entrant

Various restaurants of different concepts have already risen in the previous years. However, only a few have captured the attention of consumers. Currently, threat of new entrants can be moderate due to uncertainty.

Threat of substitution

The rise of accommodation establishments offering meals to anyone can be seen as a substitute to restaurants. However, they only share a small portion of the market; thus, threat of substitution can be currently assessed as low.

Willingness to source directly from farmers

The respondent stated that they can directly source from farmers as long as they can meet the arrangements. This includes consistency of quality and availability of vegetables, official receipts, and the shipment.

Relative Attractiveness to Farmers

The Filipino Restaurant Chain is an attractive node to invest due to its growing stage. However, for farmers, this may not be attractive to venture to since restaurant chains require farmers to meet their terms.

6. Conclusions and Recommendations

1. Unlike more developed markets, data collection in Southern Philippines presents researchers with significant challenges. These challenges have limited the data available for analysis. Challenges included:

    a. Lack of commercially available secondary data and statistics. This may, in part, be because the regions included in this research are not high value vegetable production regions and consequently do not attract the attention of government statisticians and record-keepers.

    b. Distribution channels are complex and fragmented. In more developed markets distribution channels have rationalised into a smaller number of larger chains which are simpler to understand and analyse. In developing markets and industries there are many more actors providing a greater range of services and defining who does what and grouping them together into single business models (nodes) is complicated.

    c. Even the larger actors in the industry do not appear to have a good knowledge of their industry and so are unable or are reluctant to provide reliable information about market size and other important characteristics. This significantly hindered a methodology that substantially relied upon interviews with industry key informants.

    d. Government statistics, where available, are not reliable. In one instance when clarification of reported production statistics was sought from the Department of Agriculture the advice was that they were probably unreliable.

2. Decision-making by actors in nodes involved in the distribution of vegetables in the Southern Philippines appears to be driven more by upstream availability and downstream customer (one step in the chain only) requirements and relationships than final consumer demand. This may be a consequence of the stage of development of the industry and the significant reliance on wet markets for retail distribution. However, as consumers' income and education about health related to the foods they consume, as Concessionaires and Supermarkets differentiate 'healthy' and 'safe'

vegetables, and as consumers increasingly change their purchasing behaviour to favour supermarkets, it is very likely that consumer influence over how vegetables are produced and distributed will increase. However, at the present time and the for the foreseeable future it is appropriate to characterise vegetable marketing in the Southern Philippines as being much more production-oriented than market-oriented. As a consequence, expecting modern approaches to value chain management that rely on consumer preference information being communicated upstream to all actors in the chain including to farmers, and expecting all actors to respond by changing their practices in response to consumer demand may not be appropriate in this region, at least not without changing the way information is communicated along supply chains and the basis on which B2B decisions are made along supply chains.

3. There was very little evidence that vegetable safety i.e. agricultural chemicals or handling practices, represents a significant concern to actors involved in the distribution of the vast majority of vegetable destined for retail consumption. Segments in which personnel who are trained about vegetable safety and hygiene are employed eg. dieticians in hospitals and chefs in premium dining restaurants, do care about these issues, but they represent a very small percentage of the market for vegetables in Southern Philippines. This does not mean that farmers and downstream actors should not adopt safe practices, but it may be difficult to change behaviour without a significant financial (or regulatory) incentive. At present there is little evidence of either.

4. Small-scale farmers appear to be caught in situations where they are production-oriented price-takers producing commodities that sell at 'market prices' which fluctuate in response to supply and demand. However, it is more likely that small-scale farmers will be profitable if they produce a product for which demand exceeds supply so that premium prices can be commanded. This would require a significant transformation in farming practices starting with the desire to do so. The basis for differentiation can be product specific eg. a different type of vegetable such as the irrigated bell peppers produced under protective cropping structures with the assistance of Israelaid, or 'vegetable safety' based on certified protocols of production, or service specific eg. being able to guarantee specific vegetable quality attributes and specific schedules of deliveries to buyers who need to have confidence

for their own business success. Farmers need to agree on the basis on which they will compete in the future and this is obviously something to which this project can contribute through Community Development activities. Successful intervention may be difficult without this very important first step, which in itself is an importance intervention objective.

5. The role of supermarkets for the distribution of vegetables in the Southern Philippines is increasingly becoming important but at this stage selling directly to supermarkets is probably not viable for small farmers for a range or reasons. However, supplying wholesalers and concessionaires that supply into and through supermarkets is an opportunity that will benefit from the long-term consumer trend of sourcing vegetables from supermarkets. Farmers may even (eventually) be able to supply vegetables in a plastic wrapping as this appears to be the way consumers differentiate between vegetables sourced from supermarkets from other sources. Beyond simple plastic wrapping may be opportunities for farmer groups to develop brands as a means of differentiating vegetables from a specific location or region. However, before these opportunities can be considered or realised, farmers must be able to produce quality vegetables consistently and develop the commercial relationships with customers to allow value-adding initiatives to be considered. If further consumer research is to be undertaken, focusing on supermarket buyers would be appropriate, as this represents possibly the single most significant end user growth opportunity for differentiated vegetables.

6. The role of Concessionaires in the supermarket channel is significant and whilst it is not known whether supermarkets will continue this business model in the long-term, the fact is that Concessionaires currently control the vast majority of vegetables sold through supermarkets in all regions. Consequently, Concessionaires (and wholesalers who supply them) are considered to be a high priority for possible relationship-development with small-scale farmers.

7. When identifying potential customers it would be prudent to select partners that are established and have excellent reputations and significant market shares rather than adopting the more risky practice of collaborating with actors who are not yet well established or who do not have good reputations, particularly as it appears that it may be difficult for new Concessionaires to enter supermarkets.

8. The research has identified two opportunities for re-thinking how nodes are classified for future projects:

    a. Fine Dining and 4 & 5 Star Hotel Restaurants. These classifications do not make a lot of sense in Southern Philippines because hotels are not yet rated according to stars, because the rating applies to the whole hotel and not just to the restaurants, because there are few, if any, fine dining restaurants in the region and because hotels may have a combination of premium quality dining and institutional catering. One suggestion is that future research re-classifies the segment as incorporating eating establishments that typically seek class A vegetables, probably employ trained chefs, have formal QA systems etc. Perhaps the segment (node) could be named 'premium dining' to reflect the experience sought by consumers.

    b. Supermarkets. Classifying supermarkets as targeting a specific category of consumer depending on incomes is potentially flawed because supermarkets usually seek as many customers as they can get and employ promotions to expand their customer base beyond specific income ranges. Perhaps this segment could be defined based on a supermarket's approach to sourcing and presenting vegetables. For example, could the 'top category' be supermarkets that are responding to the apparently emerging consumer desire for convenience by offering pre-prepared vegetables and for hygiene as demonstrated by plastic wrapping. This approach may be a more market-led by focusing on the consumer trend that's influencing demand for premium quality vegetables.

7. Next Step

Farmers may require a program of organisational and culture change facilitation in order to enhance their incomes and subsequently their standards of living. Change may require 'unfreezing' deeply-held beliefs and changing traditional behaviours. This project will now introduce the market intelligence gained through research undertaken over the past 12 months and community development activities to facilitate understanding and decisions. More importantly, it will introduce farmers to the process of understanding market segmentation and using market intelligence as a tool to inform future decision-making. Such a program could include:

a) Introduction to the market intelligence gathered to date and facilitation to assist farmers understand the relative attractiveness of alternate marketing strategies, including the selection of a small number of market segments (nodes) on which to focus.

b) Training and assistance to develop business and marketing plans for improving the profitability of their farming practices. A series of fundamental business decisions need to be made as part of this process including whether farmers will compete on price or differentiate based on quality, reliability, safety etc; market segments on which they will focus; selection of B2B business partners (direct customers); crops to produce and horticultural and post-harvest practices to adopt.

c) Facilitation to assist farmers develop market-oriented commercial relationships with selected actors within the high priority segments so that potential customers (and their downstream customers) can participate in defining vegetable quality, quantity and scheduling requirements. Potential customers need to be selected who will be patient and who are prepared to work alongside farmers because the changes in horticultural and post-harvest handling practices required to ensure consistent quality and reliable supplies of vegetables are produced will take time to be implemented.

The activities included above are limited to marketing activities. There may, of course, be the need for facilitation of cohesive farmer group relationships and organisational structures to ensure plant production, scheduling and marketing occurs in a manner that is attractive to customers.

8. Limitations and Future Research

Whilst this research provided insights into markets for vegetables in three regions of Southern Philippines, the capacity to generalise the results is limited by the research methodology and the small number of interviews completed within each node. Whilst the objective was to interview the three largest actors from within each node this was not possible when requests to participate in interviews were rejected. Even where the three largest firms from a segment (node) were interviewed, they were purposefully selected and consequently it cannot be assumed that the information provided by interviewees is representative of other actors or can be generalised to each node. However, the insights provided did allow conclusions to be drawn about relative attractiveness of nodes and recommendations to be presented about how to proceed in the attractive nodes.

It should also be noted that the distribution of fruit and vegetables is changing in the Philippines and that the role of supermarkets is becoming increasingly important. Consequently, the information contained within this report may become outdated quickly. Supermarkets generally were reluctant to be interviewed and supermarket-specific research to better determine the current and future role of supermarkets and the role of concessionaires is recommended.

Farmers and others relying on this research should validate the information contained within this report by conducting their own research and by establishing commercial relationships with potential customers within selected nodes and using those relationships to develop deeper understandings of each market segment.

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Appendix I

I. Semi-Structured Interview Guuide

25th August 2015

Semi-Structured Interview Guide for Vegetable Interviews

We will introduce ourselves, thanking interviewees for their time and reminding them about our project and why we are meeting. We will confirm it is OK to ask them some questions. Questions will be deliberately open-ended where possible as we are seeking to understand the issues as perceived by interviewees. Being a semi-structured interview, we will guide the general direction by our questions, but be willing to follow other themes that are relevant to the research as they are presented.

Crops of interest are **Eggplant, Ampalaya, Sweet Pepper (capsicum), Leafy Vegetables and Tomato** and this interview should focus on these vegetables.

Topics for Discussion	Rationale and what we're really seeking
1. Could you please provide us with an overview of the market for vegetables in this region including, for example: a. Main areas of supply. b. Principle markets including local, wider domestic, export, processing. c. Seasonality issues including availability, quality and price variations. d. Main supply channels. e. Imports from other parts of Philippines or other countries. f. Who buys the various grades of vegetables, the factors that influence the grading, the prices received by farmers for each grade and approximate % of the total supply that might go into each grade. (draw a value chain diagram and populate it with detail)	What we are looking for here is a detailed overview of vegetable flows, distribution channels into and out of the region plus within the region. A diagram if possible. Probe for quantities or % of the total crop that flows through the various channels. We need to understand the markets for all grades of vegetables from the very best to the very worst.
2. How is the vegetable industry in Mindanao and the Philippines changing, if it is?	Trends that are important in our evaluation of alternative marketing strategies.
3. Could you please explain your business and its use of vegetables?	Probe to identify the relative size of this interviewee compared with others in their category. Try to obtain details of the quantity of vegetable they handle.
4. Can you please tell us if your business is seeing increase or reduction in supply or demand for vegetables? a. How much? b. Why do you think that is?	Consumption trends. Probe for detail.

5. Could you please tell us what 'quality' means to you? a. In other words, what are the characteristics of vegetables that are important for your use? b. How important is it that suppliers of vegetables provide 'quality' consistently? c. If they do not include any of the following, ask specifically whether they are important, how and why each would apply to them and how they measure each characteristic: i. organic production ii. no chemical residues iii. physical damage from handling, transport and packaging iv. consistency of ripeness v. consistency of size vi. consistency of colour vii. shape viii. taste. ix. shelf life	This is a very important question and we need to fully understand the characteristics of vegetables that are used to differentiate between grades. Probe to identify the market value (price) advantage of 'better' quality. Ask for copies of specifications if they exist. Take photos where you can.
6. Have you seen any evidence that consumers or anyone in the supply chain for vegetables is concerned about chemical residues or are actively seeking what might be called 'safe' vegetables? Probe further: a. Do you think consumers perceive a difference in safety of vegetables purchased in the supermarket compared with the wet market? b. Please tell me what you believe different types of consumers or commercial users (restaurants etc) might think in relation to vegetable safety.	Genuine concerns being expressed anywhere in the market (producers, distributors, retailers consumers) about chemical residues, unhygienic handling or any other practices that may vegetable safety.
7. What supply challenges does your organisation experience? In relation to the items listed above, or to consistency of quality or availability, seasonality or anything else. a. How do you manage those issues?	Any problems encountered by their organisation that prevents them from sourcing what they need or being able to deliver what their customers are seeking.
8. How are purchase decisions for vegetables made? a. Can you please describe the process of who makes the decision of what to purchase and who makes the decision about where and from whom to source? b. On what basis are vegetable purchase decisions made (if necessary, prompt with size, colour, freshness, shape, packaging, price, other) c. How are orders placed? d. How frequently are they placed? e. How much lead time is required before they are filled?	A detailed understanding of how they made decisions about what to purchase, from whom and when.

9. We would like to understand how information flows along distribution channels: a. Please help me to understand how and what information is passed from farmers to consumers or from consumers to farmers or along any part of the supply chain with which you are familiar. If not discussed, ask: b. How do you obtain customer requirements from your customers? c. How do you communicate your requirements to your suppliers?	A detailed understanding of how and what information flows up and down the supply chain.
10. Do you provide a specification for quality required for vegetables? a. Please explain why / why not. b. Would you like it if a supplier collaborated with you to prepare a quality specification for your business and then adhered to it? c. Does this happen now? d. If a documented specification exists, ask for a copy.	An understanding of the importance and potential value associated with product specifications.
11. Can you please tell us about the condition in which vegetables arrive? a. We'd like to know about the method of transport, the form of packaging and the quality condition. b. We'd particularly like your assessment of the damage that occurs from packaging and transport. c. What measures, if any, have you or other in the industry, taken to minimise damage and losses from packaging and transport?	Whether opportunities to reduce damage or wastage from packaging and transport exist, and if they do, to quantify them. Photos of packaging and damage if possible.
12. Could you please tell us about seasonal fluctuations in availability and price and how you manage these? a. Where do you source vegetables when local production is not available?	We need to be able to plot average seasonal price variations (or actual prices) for each of the vegetables at each point of distribution.
13. What problems with quality or availability of vegetable do you experience? a. How do you handle problems? b. Would you be interested in a supply chain that reduced these problems?	Their interest in better quality product, whatever 'better quality' means.
14. Can you please tell me who your main supplier/s of vegetable are? a. Do you buy all your vegetable from a single supplier? b. Which other suppliers do you use? c. How do you select from alternatives? d. Would you consider purchasing from a new supplier if they had a superior product?	How significant relationships are in the purchase of vegetables, and how difficult it is for a different supplier (with a superior product) to be considered.
15. Other than the vegetables we have been asking about, are there other vegetables you would like to source?	Opportunities.

16. If a group of small farmers could demonstrate the capacity to supply consistent quality vegetables would your business be willing to consider them as an alternative supplier? a. Why or why not? b. If they needed to be paid cash on delivery, would that be a problem? c. If they supplied your existing supplier and credit arrangements remained the same, would that be acceptable?	If there's reluctance to deal directly with a group of 'small farmers'
17. How does your business compare, in terms of size, to others in its category? a. Can you name others that are larger and help us to understand their relative significance within the industry?	
18. We would like to understand the commercial relationship your business has with its customers and with its suppliers. For example: a. Are agreements formalised by written agreements? b. Are commercial arrangements flexible and you are free to source where and from whom you wish on a daily / weekly basis? c. What about arrangements with customers?	The nature of commitment that's made to suppliers and customers so farmers can understand the nature of commercial arrangements that are in place at various stages along the supply chain.
19. Can you please tell us the prices you pay for vegetables? a. How are these prices negotiated and set? b. How are fluctuations negotiated? c. Do prices include freight? d. How significant is the cost of freight?	To understand how prices are negotiated because this provides insights into 'power' and will help farmers decide whether they can consider selling to different points in the supply chain.
20. Finally, can you please tell us about payment terms for vegetables? a. For example, does your supplier offer a credit facility which you pay weekly, monthly or other? b. Or is it cash on delivery? c. Other? d. Would you consider cash on delivery?	So farmers can understand the cash flow implications of selling to different points in the supply chain.
21. Can you tell us who else you think would be able to contribute to our knowledge of this industry? a. Individuals or companies? b. Government agencies? c. Membership organisations? d. Industry experts, journalists, consultants or specialists?	This question is an example of 'snowball' sampling; if anyone provides additional contacts you can also ask if you can use their name to increase the chances of being granted a meeting if you believe the named company / individual is worth it.
22. Can you think of anything else that we should know about vegetables that you think we need to understand?	Always a useful last question which sometimes gets a useful response.

Thank them for their time and information. Ask them if they can give you suggestions and contact details of others you should call to better understand vegetable supply channels in their industry.