

BIBLIOGRAPHY

BAWAS, DOMINGO B. APRIL 2011 Performance of Actors in the Spot Market Chain for Chayote. Benguet State University, La Trinidad, Benguet.

Adviser: Leopoldo N. Tagarino, MRSM (Agribusiness)

ABSTRACT

The study was conducted to assess the chain actors in the spot market chain for chayote as well as to determine whether there are differences in performance among the chain actors.

Respondents give much importance on reliability regarding on quality of chayote supplied in the market and their satisfaction to fulfill the orders and deliveries of chayote when needed. However, dealing with different people, we cannot avoid little conflict on transactions but as long as humbleness is their; understanding will due. Furthermore, exerting effort will proved that you really love the business and it shows your seriousness to that business. In delivering a product, you must to be on time in order to have a good performance. To be honest always in dealing with everybody established a good partnership. The findings of the study are indicative of a very good performance of the different chain actors in relation to product quality, flexibility and efficiency and a satisfactory performance as to responsiveness. These different chain actors should uphold their performance in their vegetable trading business in order to maintain their organization.

INTRODUCTION

Rationale

Cordillera Administrative Region is one of the producers of chayote in Benguet. Chayote is grown especially in the Benguet, municipality of Kibungan, Atok, Kapangan, Tuba and La Trinidad in the Philippines. Farmers in Benguet usually transport and sell their products.

In the spot market, Farmers are price takers where in Traders, assemblers, wholesalers, truckers dictates the price of fresh vegetables. Farmers shouldered the grading losses in the marketing due to perish ability and spoilage of the product. They bring the product to the market and sell to their suppliers. Most often farmers sell their products to traders for a better price and convenience.

About 85% of the vegetables in the Metro Manila transport comes from Benguet, yet the farmers remain poor. Surveys and consultation with farmers show that there is a serious problem in marketing and that greater chunk of the peso income derives from vegetable farming is shared by the traders/key actors, putting farmers at their mercy. Other factors may be due to the absence of an efficient market network coupled with the absence of communication facilities and credit assistance to farmers.

In the year 2009, chayote production in Atok is 9,063.50 metric tons with a production area of 51.50 ha compared with municipality of Kapangan which produce 475.60 metric tons with an area of 13.21 ha. Kibungan produces about 29,934.08 metric ton in a total production area of 59.69 ha. The municipality of La Trinidad also produces 101,233.73 metric tons with a production area of 37.76 ha. And Tuba produces 712.00 metric tons with a production area of 39.56ha.



Statement of the Problem

1. What is the performance of the actors in the spot market chain for chayote.
2. What are the differences among the chain actors in the spot market chain?

Objectives of the Study

1. To identify the performance of the actors in the spot market chain for chayote.
2. To determine whether there are differences in performance among the chain actors in the spot market chain for chayote.

Importance of the Study

The study will provide the needed information about performance of chayote spot markets specifically to determine the efficiency, flexibility, responsiveness and food quality of chain actors in the spot market. Furthermore, the study will look into the differences among chain actors and comparison of performance of various sectors using the four dimensions of measuring performance. Results of the study can be an input for market planning or in the formulation of policies that can improved the supply chain and marketing system of chayote in the spot market.

Scope and Delimitation of the Study

The study focuses on the spot market of chayote. Specifically on the efficiency, flexibility, responsiveness and quality of chain actors in the spot market of chayote.

The study will be conducted on October to December 2010, at the spot markets of chayote in La Trinidad, Pangasinan and Metro Manila. The total numbers of respondents are one hundred seventy three.



REVIEW OF LITERATURE

Background of the Study

Pricing is considered by many to be the key activity within the free enterprise system. Product price influences wages, rent, interest and profits. That is the price of the product influences the price paid for the factors of production like labor, land, capital and entrepreneurship. Price is the basis in the regulatory of economic system because it influences the allocation of those factors of production, high cost of wage attracts labor; high interest rates attract capital, and so on. In the allocation of scarce resources, price is determined with the produced (supply) and who will get the product that is produced (demand).

In the Philippines, losses incurred during shipping, storing and distributing of commodities are extremely high. Scientific packing and refrigeration of fresh vegetable have not been practiced widely despite of many factors which will help in the fast deterioration of fresh vegetable like insects, bacteria, fungi and excessive heat and mechanical injuries with either crush or infect fresh vegetable thereby reducing the market price considering also the transportation facilities and road conditions especially here in the CAR (Buena, 2004). Chayote marketing system is composed of eight major types of participants namely (1) producers; (2) input suppliers; (3) growers; (4) traders; (5) transporters; (6) processors; (7) institutional buyers; (8) household consumers (FRLD, 1995).



The impact of supply chain linkages on operational and business performance has been the subject of a number of empirical studies. These studies have encompassed a variety of supply chain definitions, performance measures and methodologies (Fynes *et al.*, 2005). For instance, Carter and Ellram (1994) found that supplier involvement in product design has a positive impact on product quality using a case study design. Narasimhan and Jayaran (1998) examined relationship between sourcing decisions, manufacturing goals, customer's responsiveness and manufacturing performance using structural equation modelling. They found that integrating supply chain activities involves aligning sourcing decisions to achieve manufacturing goals in terms of dependability, flexibility, cost and quality. Likewise, Carr and Pearson (1999) found that strategically managed long-term relationships with key suppliers can have a positive impact on financial (as distinct from manufacturing) performance. Kaynak and Pagán (2003) using stochastic frontier modelling, found that characteristics internal to the firm such as top management commitment to purchasing and supply management had a positive effective on production efficiency. Likewise, Salvador et al. 2001 found that when buyers and suppliers interact on issues related to material flows and quality, there are significant effects in terms of speed and delivery punctuality. More recently, Tan *et al.* (2002) develop a comprehensive set of supply chain practice and supply chain performance metrics and found that while some practices had a positive effect on performance, others had an adverse effect.

Performance can be characterized cost factor and service factor. In the cost factor the cost of inventory, transportation, facilities and handling cost and information infrastructure and the service factor consider the response time, product variety, product



availability and return ability (Hongze Ma, 2005). Performance measurement as a subject involves the development of goals and their related measures, as well as the appropriate mechanisms of feedback. It must therefore reflect the operating assumptions of the organization, in terms of culture, strategy and operational processes. This requires the identification of the pressures, which the organization faces, both internal and external, and should consequently lead to a set of action plans for specific areas of organizations (Hines *et al.* 2000). Performance measurement of any activity should be designed to bring about improvement in that activity, highlighting variances over time, and enabling a more efficient allocation of resources (Geanuracos and Meikklejohn, 1994).

Performance metrics are necessary to confirm that the supply chain is functioning as expected, or that there are problems that must be addressed. There are several measures that can be used that relate to such things as late deliveries, inventory turnover, response time, quality issues, and so on in the retail sector, the fill rate (the percentage of demand filled from stock on hand) is often very important. Another approach is to use the Supply Chain Operations Reference (SCOR) model. The SCOR model reflects an effort to standardize measurement of supply chain performance.

Aramyan *et al.* (2006), summarized the different methods to assess supply chain performance, the advantages and disadvantages of each method; and developed a conceptual framework for agri-food supply chain performance indicators. The categories are chosen from the literature review on supply chain performance measures from different sectors and these include efficiency, flexibility, responsiveness and food quality.

Flexibility- Flexibility indicates the degree to which supply chain can respond to changing environment and extraordinary customer service requests (Aramyam, 2007).



Responsiveness- Responsiveness aims at providing the requested products with a short lead time. Salvador *et al.* (2001) found that when buyers and suppliers interact on issues related to material flows and quality, there are significant effects in terms of speed and delivery punctuality.

Product Quality- (Luning *et al.*, 2002) consists of product safety and health; the sensory properties and shelf life and; product reliability and convenience.

Efficiency- Efficiency measures how well the resources are utilized (Lai *et al.*, 2002) which include production costs, profit, return on investment and inventory. Measurement of efficiency of individual supply chain members can be derived from the contribution ratio (Sijses, 2004). Grimsdell (1996) identified the fundamental requirements for efficient supply performance between agricultural growers and consumers as: scale of operation; producer flexibility; continuity of supply; quality control; strategic alliances; and communications.

Definition of Terms

Producers or Farmers – the one who produces the commodities.

Wholesaler – refers to middle men who directly sell chayote to retailers in wholesale basis.

Assembler-wholesaler – they are the one who assemble the product to make it in large quantity.

Truckers or viajeros – they are in charge of carrying the product to put it in the spot markets.

Retailers – refers to the individuals who market chayote directly to ultimate consumers.



Spot market – place where the product are being delivered and sold

Flexibility - respond to changing environment.

Responsiveness – the ability of a system to adjust quickly to a situation and to resume stable operation without undue delay.

Product quality - consists of product safety and health; the sensory properties and shell life and; product reliability and convenience.

Efficiency – ability to accomplish a job with a minimum expenditure of time and effort.

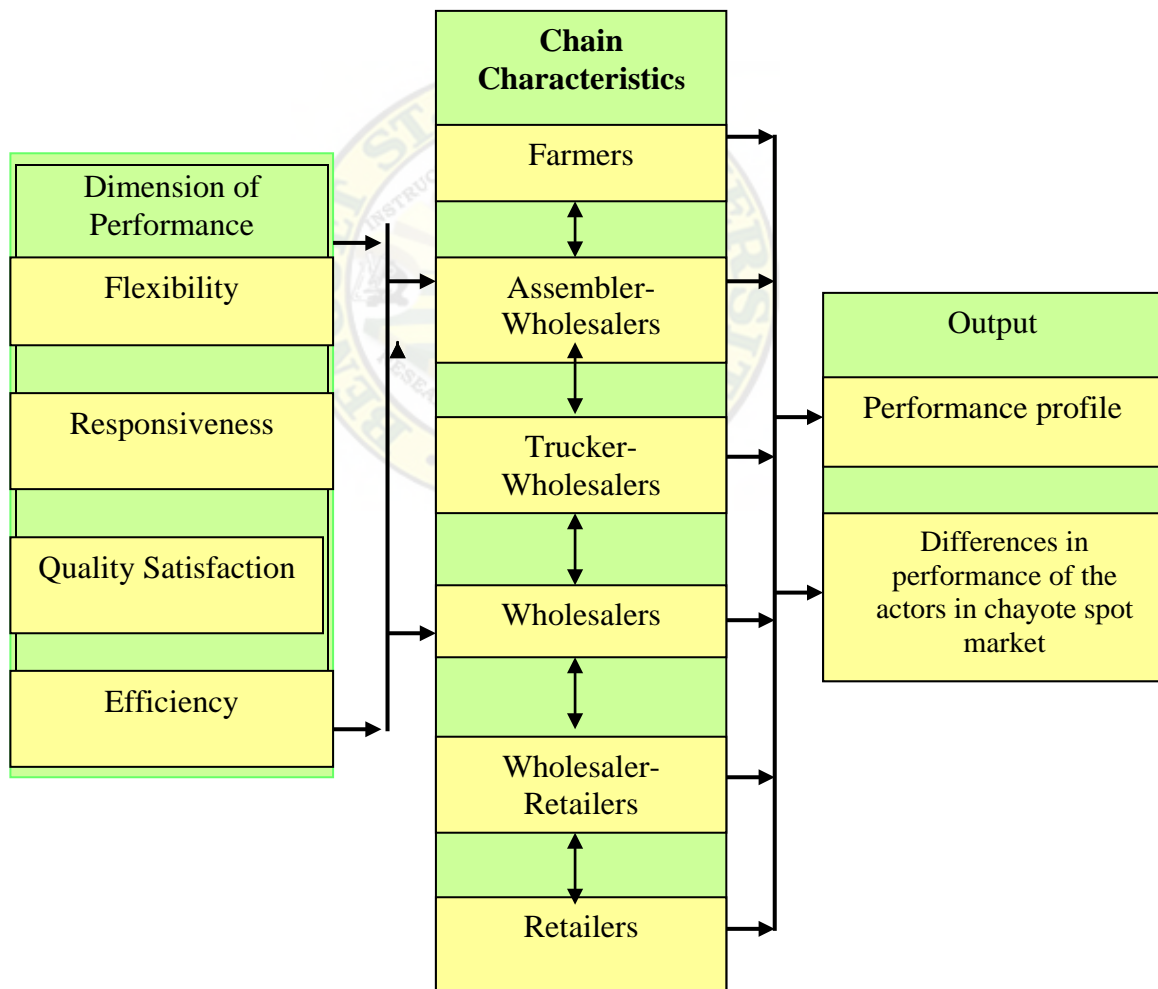


Figure 1. Conceptual framework



METHODOLOGY

Locale and Time of the Study

The research locations followed the geographic flow of fresh semi-temperate from the major source (production) to the major market assembly and collection, and the geographic distribution markets. However, the research coverage areas were limited to selected production and marketing areas.

The primary markets (assembly/collection) were concentrated in La Trinidad, Benguet.

Secondary markets (distribution) are the major vegetables trading centers (commonly called “bagsakan”) in Metro Manila such as Balintawak, Marikina, Pasay, Divisoria, Blumentritt, Dapitan, Kamuning and Novaliches

The tertiary markets include the retailers within these trading centers and other retail market outlets. The research also covered other major marketing areas like the Urdaneta market as a primary and secondary market outlets where traders from other provinces in the Central Luzon Region converge to buy/sell all kinds of vegetables.

Respondents of the Study

Respondents of the study are the different chain actors involved in marketing of chayote in the spot markets. There will be one hundred seventy three (173) intermediaries involve in marketing of chayote such as thirty (30) producers, thirty five (35) assemblers or collectors, sixty (60) distributors and forty eight (48) retailers.



Data Gathering Procedure

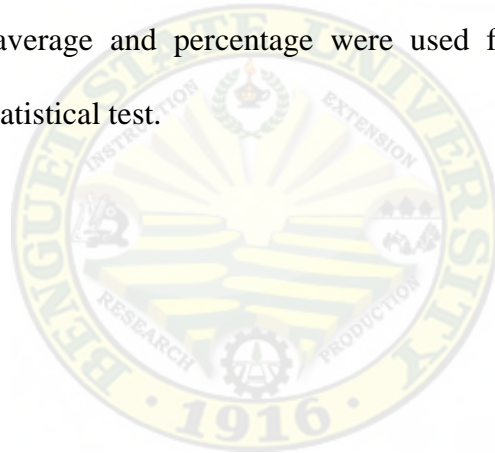
The data gathered was done through personal interview with the aid of guide questionnaires. Data was validated.

Data Gathered

The data gathered was the performance of chain actors in chayote spot market chains in terms of efficiency, flexibility, responsiveness and food quality.

Data Analysis

The data was tabulated in excel program and analyzed using the SPSS version 16. Frequency counts, average and percentage were used for descriptive analysis while Kruskal Wallis for statistical test.



RESULTS AND DISCUSSION

Demographic Profile of Respondents

The respondents profile of chayote according to socio demographic status from La Trinidad to Manila. Table 1 presents the respondents characterized based on their age, gender, marital status, religious affiliation and educational background.

Age. Majority of the farmer are in the bracket of 21-30 years old while the Trucker-Wholesaler age range from 31-40 years old. It could be noted that there are also respondents like the Assembler-Wholesaler and Retailer age ranging from 41-60. The data revealed that anybody regardless of age could engage into chayote business.

Gender and marital status. Farmer(F), Assembler-Wholesaler(AW) Trucker-Wholesaler(TW) is dominated by male actors while the other group of respondents are dominated by female so this implies that the differences in gender implies that there are variation in the functions of activities of the respondents.

Marital status the Production, Assembly TW, WR is mostly married however among the W majority are single furthermore it could be observe that there are also separated or widowed respondents. This means that regardless of marital status individuals could engage into chayote business.

Religious affiliation. Majority of the respondents were Catholic followed by the Protestants and with the least number of other religious affiliation.



Table 1. Respondents profile

CHARACTERISTICS	PRODUCTION		ASSEMBLY				DISTRIBUTION				RETAILING			
	Farmer		A-W		F-A-W		T-W		W		W-R		Retailer	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
AGE														
20 and below	0	0	2	11	0	0	0	0	3	21	3	9	0	0
21-30	14	47	6	32	3	19	4	36	5	36	13	37	11	23
31-40	10	33	5	26	7	44	5	45	1	7	12	34	10	21
41-50	5	17	3	16	4	25	1	9	3	21	2	6	18	38
51-60	1	3	3	16	2	13	1	9	2	14	3	9	7	15
60 and below	0	0	0	0	0	0	0	0	0	0	1	3	2	4
TOTAL	30	100	19	10	16	10	11	100	14	10	35	10	48	100
GENDER														
Male	27	90	13	68	5	31	7	64	4	29	12	34	9	19
Female	3	10	6	32	11	69	4	36	10	71	23	66	39	81
TOTAL	30	100	19	10	16	10	11	100	14	10	35	10	48	100
MARITAL STATUS														
Single	9	30	2	11	1	6	5	45	7	50	16	46	9	19
Married	21	70	17	89	14	88	6	55	6	43	18	51	38	79
Separated	0	0	0	0	1	6	0	0	0	0	0	0	1	2
Widow/er	0	0	0	0	0	0	0	0	1	7	1	3	0	0
TOTAL	30	100	19	10	16	10	11	100	14	10	35	10	48	100
RELIGION														
Catholic	22	73	14	74	10	63	11	100	13	93	26	74	41	85
Protestant	8	27	3	16	5	31	0	0	2	14	7	20	5	10
Others	0	0	2	11	1	6	0	0	0	0	1	3	2	4
TOTAL	30	100	19	10	16	10	11	100	14	10	35	100	48	100
EDUCATIONAL BACKGROUND														
Elementary	9	30	2	11	4	25	2	18	2	14	6	17	7	15



ntary														
High School	14	47	9	47	4	25	3	27	5	36	14	40	29	60
Colleg	7	23	8	42	8	50	6	55	7	50	13	37	10	21
e														
Vocati	0	0	0	0	0	0	0	0	0	0	2	6	2	4
onal														
TOTAL	30	100	19	10	16	10	11	100	14	10	35	100	48	10
				0		0				0				0

numerical and descriptive value

1-strongly disagree

2-moderately disagree

3-undecided

4-moderately agree

5-strongly agree

Educational background. For production, assembly, WR, and R majority are high school graduate while the FAW, TW and W attained college education but it could also observe that among the different groups have elementary education. Data further revealed that all the respondents are literate, thus it is important that they can do the business.

Number of Years Engage in Vegetable Business

Table 2 shows that majority of the respondents engage into business with 5 years or least while the FAW and WR majority of them engage in 1-5 years while the F, AW and R were engage in business from 6-10 years. The data further reveals that other respondents were engage in vegetable business for 11 years.

Organizational Affiliations of Respondents

Most of the respondents were not affiliated to any organization but representative number of respondents from the different groups indicates their affiliation to cooperatives this means that most of the respondents may never appreciated the important of organization to their business undertakings.

Table 2. Number of years engaged in vegetable business



CHARACTERISTICS	PRODUCTION		ASSEMBLY				DISTRIBUTION				RETAILING			
	F		A-W		F-A-W		T-W		W		W-R		R	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Below 1 year	0	0	1	5	0	0	0	0	6	43	5	14	2	5
1-5 years	9	30	8	4	6	38	4	36	6	43	11	31	1	2
6-10 years	11	37	5	26	2	13	3	27	1	7	8	23	12	28
11-15 years	6	20	3	16	6	38	4	36	0	0	5	14	8	19
16-20 years	2	7	0	0	0	0	0	0	0	0	1	3	4	9
21-25 years	1	3	1	5	1	6	0	0	0	0	1	3	11	26
26-30 years	1	3	1	5	1	6	0	0	1	7	1	3	9	21
31 and above	0	0	0	0	0	0	0	0	0	0	3	9	1	2
TOTAL	30	100	19	100	16	100	11	100	14	100	35	100	48	100

Table 3. Organizational affiliation

ORGANIZATIONS	PRODUCTION		ASSEMBLY				DISTRIBUTION				RETAILING			
	F		A-W		F-A-W		T-W		W		W-R		R	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Farmer's Organization	3	10	0	0	0	0	0	0	2	14	0	0	0	0
Cooperative	2	7	2	11	4	25	3	28	1	7	6	17	2	4
Others	0	0	3	16	2	13	3	27	0	0	3	9	5	10
None	25	83	14	74	10	63	5	45	11	79	26	74	41	85
TOTAL	30	100	19	100	16	100	11	100	14	100	35	100	48	100

Spot Market Chain for chayote

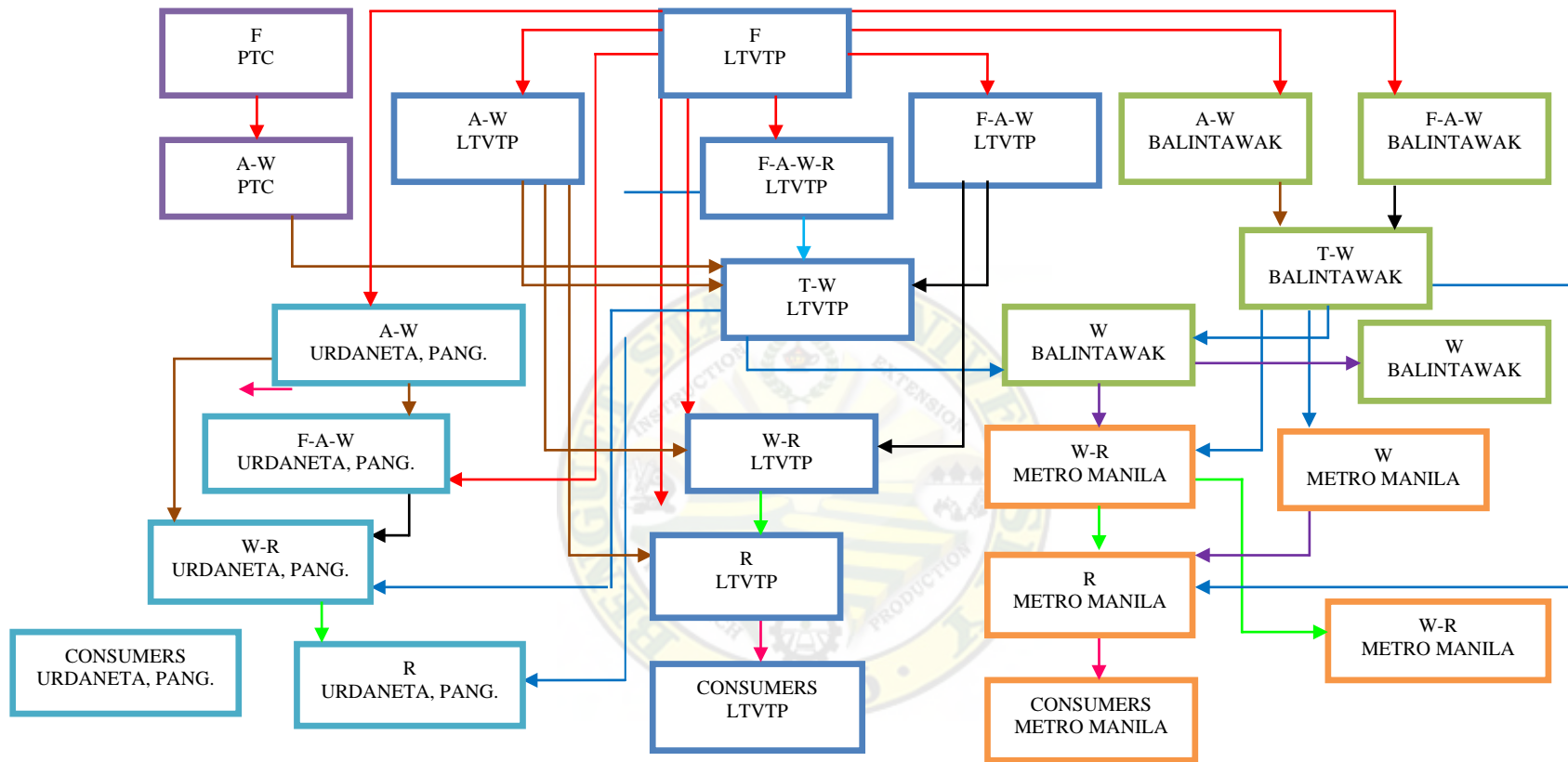
Figure 2 shows the different chain actors playing in the chayote spot market. It shows whom the different market intermediaries' trade within the procurement and selling of chayote. This therefore shows the flow of chayote in the spot market from its point of production to the final consumer.

It was shown in the result that farmers have access to the different buyers in the spot market. Farmers can sell the produced cabbage with any of the buyers in La Trinidad Trading Post such assembler-wholesalers, financier assembler wholesalers, trucker wholesalers, wholesalers and wholesaler-retailer and retailers. However some of them can access to buyers on other selling place such Urdaneta and Balintawak.



Further the result shows that there are many spot market chain for chayote such: from farmers to assembler-wholesalers, financier assembler wholesalers, trucker wholesalers, wholesalers and wholesaler-retailer and retailers with in La Trinidad Trading Post implies that chain actors can produce/ procure or sell the chayote with in La Trinidad Trading Post.





LEGEND:

- Red line:** F (Farmer)
- Blue line:** F-A-W-R (Financier-Assembler-Wholesaler-Retailer)
- Purple line:** W (Wholesaler)
- Blue box:** LTVTP (La Trinidad Vegetable Trading Post)
- Purple box:** PTC (Private Trading Center)
- Light blue box:** Urdaneta, Pangasinan
- Brown line:** A-W (Assembler-Wholesaler)
- Green line:** W-R (Wholesaler-Retailer)
- Black line:** F-A-W (Financier- Assembler-Wholesaler)
- Blue line:** T-W (Trucker-Wholesaler)
- Pink line:** R (Retailer)
- Orange box:** Metro Manila
- Green box:** Balintawak

Figure 2. Spot market chain and location for chayote

Moreover spot market chain for chayote flows from farmer in LTVTP to assembler-wholesalers, financier assembler wholesalers, trucker wholesalers, wholesalers and wholesaler-retailer and retailers in Urdaneta Trading Post shows that through chain actors cabbage are available to different selling place or spot market.

T-W from LTVTP are supplied by farmers and A-W either from private and non private. The procured cabbage is distributed by the T-W to W in Balintawak, W-R and R in Urdaneta market.

Financier assembler wholesaler in LTVTP sells the procured chayote to chain actors T-W and W-R in LTVTP.

W-R in LTVTP directly buy/procure chayote from A-W aside from farmers and the sell to retailer and end users in the same place.

Other spot market chain for chayote follow the flow from farmers from LTVTP to assembler-wholesalers, trucker wholesalers and wholesalers in Balintawak, from Balintawak chain actors wholesaler retailer and retailer procure or buy produced chayote that this chain actors will sale in Metro Manila.

F-A-W in Balintawak access or procure chayote from farmers from LTVTP and sell to T-W from this T-W in Balintawak. The T-W distributes it to W in Balintawak and Metro Manila and to W-R as well.

The wholesaler-retailer in Metro Manila procures the chayote from Balintawak wholesaler and trucker wholesaler. Wholesaler-retailer sells the procured chayote to some wholesaler-retailer and retailers.



Product Quality Satisfaction

Table 4a shows that most of the respondents are moderately agree that the quality of product they produced/ procure sold meet their expectation, further FAW and TW strongly agree, while W were undecided . The average shows that majority of the respondents moderately agree. Moreover based on the descriptive analysis, mean of 3.95, indicates that most of the actors are undecided , as further supported by the test statistic which implies that there is insignificant different among respondent (chain actors) thus they have common understanding on the set criteria as to the quality of product quality meet their expectation. Thus the statement is not important as criteria in measuring product quality.

Majority of the respondents are moderately agreed that the quality of chayote meets the buyers' requirement since they are the one in charge about the production of the product. Moreover based on the descriptive analysis having a mean of 3.80 indicates that the respondents moderately agree. These further supported by test statistic which shows that there is common understanding among the chain actors since the result reveals the insignificant analysis.

Most of the respondents moderately agree that the volume produce meets the buyers' expectation. The respondents (financer-assembler-wholesaler and wholesaler-retailer) strongly agree, but in contrast the respondent (wholesalers) is unsure. The average reveals that most of the respondents moderately agree to these criteria.



Table 4a. Distribution of respondents according to product quality Satisfaction

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
FARMER											
1. The quality of chayote I produce/procure/sold meets my expectation.	0	0	0	0	9	30	15	50	6	20	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	1	3	8	27	16	53	5	17	4
3. I am satisfied with the volume I produce/procure or sold to the buyer.	0	0	0	0	12	40	13	43	5	17	4
4. I always achieve my production/procurement/delivery targets.	0	0	9	30	14	46	4	13	3	10	3
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	1	3	6	20	7	23	14	47	2	6	3
6. I am satisfied selling chayote to buyers on credit arrangement.	5	16	7	23	13	43	4	13	1	3	3
7. The quality of chayote I supplied in the market is reliable.	0	0	1	3	5	17	15	50	9	30	4
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	0	0	0	0	7	36	7	36	5	26	4
ASSEMBLER-WHOLESALE											
2. The quality of chayote I produce/procure/sold meets my expectation.	0	0	0	0	4	21	12	63	3	15	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	0	0	5	26	10	52	4	21	4
3. I am satisfied with the volume I produce/procure or sold to the buyer.	0	0	0	0	3	15	10	52	6	31	4
4. I always achieve my production/procurement/delivery targets.	1	5	0	0	2	10	10	52	6	31	4
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	0	0	1	5	4	21	5	26	9	47	4
6. I am satisfied selling chayote to buyers on credit arrangement.	0	0	10	52	5	26	3	15	1	5	3
7. The quality of chayote I supplied in the market is reliable.	0	0	0	0	3	15	10	52	6	31	4
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	0	0	0	0	7	36	7	36	5	26	4

numerical and descriptive value

1-strongly disagree

2-moderately disagree

3-undecided

4-moderately agree

5-strongly agree



Table 4a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
FINANCER-ASSEMBLER-WHOLESALE											
3. The quality of chayote I produce/procure/sold meets my expectation.	0	0	0	0	2	12	6	37	8	50	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	1	6	2	12	7	43	6	37	4
3. I am satisfied with the volume I produce/procure or sold to the buyer.	0	0	0	0	1	6	7	43	8	50	4
4. I always achieve my production/procurement/delivery targets.	0	0	1	6	7	43	4	25	4	25	4
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	0	0	2	12	2	12	4	25	8	50	4
6. I am satisfied selling chayote to buyers on credit arrangement.	4	25	5	31	4	25	2	12	1	6	2
7. The quality of chayote I supplied in the market is reliable.	0	0	0	0	1	6	9	56	6	37	4
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	0	0	1	6	3	19	9	56	3	19	4
TRUCKER-WHOLESALE											
4. The quality of chayote I produce/procure/sold meets my expectation.	0	0	0	0	4	36	2	18	5	45	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	0	0	4	36	5	45	2	18	4
3. I am satisfied with the volume I produce/procure or sold to the buyer.	0	0	0	0	0	0	6	54	5	45	4
4. I always achieve my production/procurement/delivery targets.	0	0	2	18	1	9	3	27	5	45	4
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	0	0	1	9	1	9	3	27	6	54	4
6. I am satisfied selling chayote to buyers on credit arrangement.	2	18	3	27	4	36	1	9	1	9	3
7. The quality of chayote I supplied in the market is reliable.	0	0	0	0	0	0	8	72	3	27	4
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	0	0	0	0	3	27	5	45	3	27	4



Table 4a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
WHOLESALE											
1. The quality of chayote I produce/procure/sold meets my expectation.	1	7	0	0	6	43	4	29	3	21	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	1	7	5	36	6	43	2	14	4
3. I am satisfied with the volume I produce/procure or sold to the buyer.	0	0	1	7	5	36	3	21	5	36	4
4. I always achieve my production/procurement/delivery targets.	0	0	5	36	3	21	4	29	2	14	3
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	1	7	2	14	2	14	5	36	4	29	4
6. I am satisfied selling chayote to buyers on credit arrangement.	3	21	1	7	7	50	1	7	2	14	3
7. The quality of chayote I supplied in the market is reliable.	0	0	0	0	4	29	7	50	3	21	4
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	0	0	0	0	5	36	5	36	4	29	4
WHOLESALE-RETAILER											
1. The quality of chayote I produce/procure/sold meets my expectation.	0	0	1	3	6	17	19	54	9	26	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	1	3	7	20	22	63	5	14	4
3. I am satisfied with the volume I produce/procure or sold to the	0	0	1	3	7	20	13	37	14	40	4
4. I always achieve my production/procurement/delivery targets.	0	0	4	11	7	20	16	45	8	23	4
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	0	0	1	3	11	31	9	26	14	40	4
6. I am satisfied selling chayote to buyers on credit arrangement.	2	6	6	17	10	29	12	34	5	14	3
7. The quality of chayote I supplied in the market is reliable.	0	0	0	0	6	18	18	51	11	31	4
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	0	0	1	3	11	31	16	46	7	20	4



Table 4a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
WHOLESALER											
1. The quality of chayote I produce/procure/sold meets my expectation.	1	7	0	0	6	43	4	29	3	21	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	1	7	5	36	6	43	2	14	4
3. I am satisfied with the volume I produce/procure or sold to the buyer.	0	0	1	7	5	36	3	21	5	36	4
4. I always achieve my production/procurement/delivery targets.	0	0	5	36	3	21	4	29	2	14	3
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	1	7	2	14	2	14	5	36	4	29	4
6. I am satisfied selling chayote to buyers on credit arrangement.	3	21	1	7	7	50	1	7	2	14	3
7. The quality of chayote I supplied in the market is reliable.	0	0	0	0	4	29	7	50	3	21	4
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	0	0	0	0	5	36	5	36	4	29	4
WHOLESALER-RETAILER											
1. The quality of chayote I produce/procure/sold meets my expectation.	0	0	1	3	6	17	19	54	9	26	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	1	3	7	20	22	63	5	14	4
3. I am satisfied with the volume I produce/procure or sold to the	0	0	1	3	7	20	13	37	14	40	4
4. I always achieve my production/procurement/delivery targets.	0	0	4	11	7	20	16	45	8	23	4
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	0	0	1	3	11	31	9	26	14	40	4
6. I am satisfied selling chayote to buyers on credit arrangement.	2	6	6	17	10	29	12	34	5	14	3
7. The quality of chayote I supplied in the market is reliable.	0	0	0	0	6	18	18	51	11	31	4
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	0	0	1	3	11	31	16	46	7	20	4



Table 4a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
RETAILER											
1. The quality of chayote I produce/procure/sold meets my expectation.	0	0	2	4	13	27	23	48	10	21	4
2. The quality of chayote delivered meets the buyer's requirements.	2	4	1	2	17	35	22	46	6	13	4
3. I am satisfied with the volume I produce/procure or sold to the buyer.	1	2	5	10	7	15	22	46	13	27	4
4. I always achieve my production/procurement/delivery targets.	6	13	3	6	16	33	15	31	8	17	3
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	6	13	6	13	8	17	14	29	14	29	4
6. I am satisfied selling chayote to buyers on credit arrangement.	13	27	7	15	17	35	11	23	0	0	3
7. The quality of chayote I supplied in the market is reliable.	0	0	3	6	9	19	25	52	11	23	4
8. The buyers are always satisfied as to variety of the product, price and quality/quantity.	0	0	1	2	17	35	18	38	12	25	4

Basing on the descriptive analysis having a mean of 4.01 implies that on this criteria the respondents moderately agree as supported by the test statistic which shows that there is a significant difference among the respondents which explains that the respondents have different standards or measurement as to volume produced.

Most of the respondents are undecided to the production or delivery target while assembler-wholesaler and wholesaler-retailer are strongly agree on it. Trucker-wholesaler is strongly agreed in achieving their production since the product that they deliver meets their target. The total average implies that majority of the respondents are undecided. Moreover looking into the descriptive analysis a mean of 3.51 implies that the test statistic that there are significance difference among the chain actors as to the understanding of delivery.



Majority of the respondents moderately agree were most of them are satisfied that delivering the orders when needed since the respondents find time to deliver however the respondent respondents on the assembly strongly agree. The average revealed that most of the respondents moderately agree that they fulfill the orders and deliveries. Moreover as shown in the descriptive analysis having a mean of 3.76 that is supported by the test statistic this proves that there is significant difference among the understanding of the chain actors.

The respondents (farmer, trucker-wholesaler, wholesaler, and retailer) mostly are undecided due to the reason that sometimes selling vegetables to buyers on credit arrangement as for the reason that some buyers act opportunistically. As to the respondents (assembler-wholesaler and financier-assembler-wholesaler) that also undecided since sometimes they contradict which each others. Wholesaler-retailer moderately agreed since most of them are satisfied with the payment term made the buyers (credit arrangement). On the average shows that majority of the respondents were undecided in selling chayote to buyers on credit arrangement. Moreover the descriptive analysis having a mean of 2.79 shows that respondents are undecided as further supported by the test statistics there is an insignificant difference among respondents understanding in measuring product quality.

Majority of the respondents moderately agree as to the quality of vegetables (chayote) that they produced which is reliable in the market, while respondent (wholesaler-retailer) are undecided as for sometimes the chayote produced in the market are not always available with its quality as well. The average implies that majority of respondents moderately agree as to the quality of vegetables (chayote) produced. Based



on the descriptive analysis having a mean of 3.02 that is further supported by the test statistics that shows that there is an insignificant difference among the chain actors, means that criteria is not so important on measuring product quality.

Almost most of the respondents, like the (FAW, AW, TW, W and R.) moderately agree that the product (chayote) satisfy the buyers as to variety. However (WR) disagree for the reason that they are not satisfied due to the fluctuating change of price in the market. On the total average shows that majority of the respondents moderately agree as to the satisfaction derived in the quality of the product. Based on the descriptive analysis having a mean of 3.02 that is further supported by the test statistic implies that there is an insignificant difference among respondents understanding.

Table 4b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP. SIG.
1. The quality of chayote I produce/procure/sold meets my expectation.	3.95	2.814	3	0.421
2. The quality of chayote delivered meets the buyer's requirements.	3.80	4.579	3	0.205
3. I am satisfied with the volume I produce/procure or sold to the buyer.	4.01	9.333	3	0.025*
4. I always achieve my production/procurement/delivery targets.	3.51	14.405	3	0.002**
5. I am satisfied to fulfill the orders and deliveries of chayote when needed.	3.76	13.227	3	0.004**
6. I am satisfied selling vegetables to buyers on credit arrangement.	3.79	6.100	3	0.107
7. The quality of chayote I supplied in the market is reliable.	2.06	2.910	3	0.406
8. The buyers are always satisfied as to variety of product, price, and quality/quantity.	3.82	6.540	3	0.088

*significant

** highly significant



Distribution of Respondents
According to Flexibility

Table 5a implies that the respondents (AW, FAW, TW, WR,) strongly agree that they can produced/procured the desired volume of chayote when the buyers needed it since they have available product to produce. On the other hand on the respondent (farmers moderately agree on the statement while retailer were not sure due to the reason that sometimes retailer lack volume of product as to the insufficient supply on the market. The average shows that majority of the respondents moderately agree that they produced/procured the desired volume of chayote when the buyers needed it. Furthermore, based on the descriptive analysis with mean of 3.55 that was supported by the test statistic which implies that there is significant difference among chain actors that they gave much important criteria in measuring performance flexibility.

F, AW, and R moderately agree that the income receive by them is adequately rewarding, while FAW, TW and WR strongly agree. Shows that not all of them are satisfied with the rate of return they receive in trading on the business operation. The average implies that most of the respondents strongly agree. Moreover based on the descriptive analysis having a mean of 3.96, which is supported by the test statistics that implies significant differences among the actors that give importance in measuring product flexibility criteria.

Majority of the F, AW, FAW, TW, WR and R moderately agree that they exert effort to reduce the cost of production. Shows that all of them are satisfied with the income they receive. The total average implies that most of them moderately agree in exerting effort to reduce the cost of production. Moreover based on the descriptive analysis having a mean of 4 that was supported by the test statistics implies that there is



Table 5a. Distribution of respondents according to flexibility

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
FARMER											
1. I can produce/procure the desired volume when buyers needed it.	3	10	9	30	11	37	5	17	2	7	3
2. I exert effort to produce the desired volume and quality when buyers demand it.	2	7	3	10	5	17	14	47	6	20	4
3. The buyer is flexible to buy chayote regardless of quantity and quality.	2	7	0	0	7	23	21	70	0	0	4
4. The buyer and seller have little conflict in the business transaction.	0	0	5	17	15	50	8	27	2	7	3
ASSEMBLER-WHOLESALER											
1. I can produce/procure the desired volume when buyers needed it.	0	0	1	5	6	32	6	32	6	32	4
2. I exert effort to produce the desired volume and quality when buyers demand it.	0	0	0	0	5	26	9	47	5	26	4
3. The buyer is flexible to buy chayote regardless of quantity and quality.	0	0	0	0	5	26	10	53	4	21	4
4. The buyer and seller have little conflict in the business transaction.	1	5	1	5	6	32	10	53	1	5	4
FINANCER-ASSEMBLER WHOLESALER											
1. I can produce/procure the desired volume when buyers needed it.	0	0	1	6	3	19	6	38	6	38	4
2. I exert effort to produce the desired volume and quality when buyers demand it.	0	0	1	6	0	0	7	44	8	50	4
3. The buyer is flexible to buy chayote regardless of quantity and quality.	1	6	0	0	3	19	6	38	6	38	4
4. The buyer and seller have little conflict in the business transaction.	1	6	0	0	6	38	5	31	4	25	4
TRUCKER-WHOLESALER											
1. I can produce/procure the desired volume when buyers needed it.	1	9	1	9	2	18	2	18	5	45	4

numerical and descriptive value

1 = strongly disagree

2 = moderately disagree

3 = undecided

4 = moderately Agree

5 = strongly Agree



Table 5a. Continued...

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
2. I exert effort to produce the desired volume and quality when buyers demand it.	0	0	1	9	1	9	2	18	7	64	4
3. The buyer is flexible to buy chayote regardless of quantity and quality.	0	0	0	0	2	18	6	55	3	27	4
4. The buyer and seller have little conflict in the business transaction.	1	9	0	0	2	18	6	55	2	18	4
WHOLESALE											
1. I can produce/procure the desired volume when buyers needed it.	1	7	1	7	3	21	5	36	4	29	4
2. I exert effort to produce the desired volume and quality when buyers demand it.	1	7	0	0	3	21	5	36	5	36	4
3. The buyer is flexible to buy chayote regardless of quantity and quality.	0	0	1	7	4	29	4	29	5	36	4
4. The buyer and seller have little conflict in the business transaction.	0	0	2	14	6	43	4	29	2	14	3
WHOLESALE-RETAILER											
1. I can produce/procure the desired volume when buyers needed it.	1	3	3	9	8	23	10	29	13	37	4
2. I exert effort to produce the desired volume and quality when buyers demand it.	1	3	0	0	3	9	16	46	15	43	4
3. The buyer is flexible to buy chayote regardless of quantity and quality.	0	0	1	3	10	29	15	43	9	26	4
4. The buyer and seller have little conflict in the business transaction.	2	6	2	6	11	31	15	43	5	14	4
WHOLESALE-RETAILER											
1. The quality of chayote I produce/procure/sold meets my expectation.	0	0	1	3	6	17	19	54	9	26	4
2. The quality of chayote delivered meets the buyer's requirements.	0	0	1	3	7	20	22	63	5	14	4
3. I am satisfied with the volume I produce/procure or sold to the buyer.	0	0	1	3	7	20	13	37	14	40	4



Table 5a. Continued...

STATEMENT	1		2		3		4		5		AVE.
	N	%	N	%	N	%	N	%	N	%	
4. I always achieve my production/procurement/delivery targets.	0	0	4	11	7	20	16	45	8	23	4
RETAILER											
1. I can produce/procure the desired volume when buyers needed it.	2	4	8	17	15	31	14	29	9	19	3
2. I exert effort to produce the desired volume and quality when buyers demand it.	1	2	5	10	9	19	19	40	14	29	4
3. The buyer is flexible to buy chayote regardless of quantity and quality.	3	6	5	10	10	21	21	44	9	19	4
4. The buyer and seller have little conflict in the business transaction.	8	17	4	8	18	38	16	33	2	5	3

Table 5b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP. SIG.
1. I can produce/procure the desired volume when buyers needed it.	3.54	25.787	3	0.000**
2. I exert effort to produce the desired volume and quality when buyers demand it.	3.96	8.245	3	0.041*
3. The buyer is flexible to buy chayote regardless of quantity and quality.	3.77	65.695	3	0.127
4. The buyer and seller have little conflict in the business transaction.	3.35	98.935	3	0.03*

*significant **highly significant

insignificant difference among the actors. Most of the AW, FAW, TW and WR respond moderately agree to the buyer and seller that sometimes there is a little conflict in the business transaction while the F and R undecided since they cannot understand each other in the business transaction. The total average implies that most respondents are moderately agreed in the business transaction.



Large numbers of respondents moderately agree that the income receive is adequately rewarding. However other actors are undecided since they are not contented with the income they receive. The total average implies that most of the respondents are moderately agreeing that the income they receive is adequately rewarding. As supported by the descriptive analysis having the mean of 4 and test statistics which proves that there is significant difference among the actors which give important in measuring flexibility.

Distribution of Respondents According to Efficiency

Table 6a implies that the AW,WR and R moderately agree that they are happy to produce the desired volume out of their limited resources however other respondents are strongly agree on it since while TW are undecided since sometimes they cannot produce the desired volume out of their limited resources. The total average implies that majority of the respondents are moderately agree that they are happy to produce the desired volume out of their limited resources. Moreover based on the descriptive analysis having a mean of 3.96, that further supported by the test statistics it shows that there is insignificant difference among the chain actor. Thus they do not give important criteria in measuring product efficiency.

Great number of AW, FAW, TW, W and WR, strongly agree to exert effort to reduce the cost of production however the F are undecided and the AW are moderately agree on it since they exert their effort on the time of production. The average implies that most of the respondents are strongly agree to exert effort to reduce the cost of production. Based on the descriptive analysis having a mean on 4.12 that was supported



by the test statistics the result showed that there is insignificance difference among the chain actors that they have a common understanding on the product efficiency.

Most of the AW,WR and R moderately agree that they are happy to produce the desired volume out of their limited resources however other respondents are strongly agree on it since while TW are undecided since sometimes they cannot produce the desired volume out of their limited resources. The total average implies that majority of the respondents are moderately agree that they are happy to produce the desired volume out of their limited resources.



Table 6a. Distribution of respondents according to efficiency

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
FARMER											
1. I am happy to produce the desired volume out of my limited resources.	1	3	2	7	6	20	10	33	11	37	4
2. The income I received is adequately rewarding.	0	0	1	3	16	53	9	30	4	13	4
3. I exert effort to reduce the cost of production.	0	0	1	3	11	37	10	33	8	27	4
4. I am satisfied with the rate of return to my investment.	0	0	4	13	9	30	11	37	6	20	4
ASSEMBLER-WHOLESALE											
1. I am happy to produce the desired volume out of my limited resources.	0	0	0	0	6	32	9	47	4	21	4
2. The income I received is adequately rewarding.	0	0	0	0	5	26	9	47	5	26	4
3. I exert effort to reduce the cost of production.	0	0	0	0	4	21	9	47	6	32	4
4. I am satisfied with the rate of return to my investment.	0	0	1	2	11	12	63	4	21	4	4
FINANCER-ASSEMBLER-WHOLESALE											
1. I am happy to produce the desired volume out of my limited resources.	2	12	0	0	5	31	4	25	5	31	4
2. The income I received is adequately rewarding.	0	0	0	0	2	13	9	56	5	3	4
3. I exert effort to reduce the cost of production.	0	0	0	0	4	25	4	25	8	50	4
4. I am satisfied with the rate of return to my investment.	0	0	0	0	4	25	7	44	5	31	4
TRUCKER-WHOLESALE											
1. I am happy to produce the desired volume out of my limited resources.	0	0	1	9	1	9	3	27	6	55	4

numerical and descriptive value

1-strongly disagree

2-moderately disagree

3-undecided

4-moderately agree

5-strongly agree



Table 6a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
2. The income I received is adequately rewarding.	0	0	0	0	2	18	6	55	3	27	4
3. I exert effort to reduce the cost of production.	0	0	0	0	2	18	4	36	5	45	4
4. I am satisfied with the rate of return to my investment.	0	0	0	0	2	18	6	55	3	27	4
WHOLESALER											
1. I am happy to produce the desired volume out of my limited resources.	0	0	1	9	5	45	2	18	3	27	4
2. The income I received is adequately rewarding.	0	0	3	27	3	27	5	45	0	0	3
3. I exert effort to reduce the cost of production.	0	0	3	2	2	18	2	18	4	36	4
4. I am satisfied with the rate of return to my investment.	0	0	1	9	2	18	7	64	1	9	4
WHOLESALER-RETAILER											
1. I am happy to produce the desired volume out of my limited resources.	0	0	0	0	5	14	16	46	14	40	4
2. The income I received is adequately rewarding.	0	0	0	0	7	20	16	46	12	34	4
3. I exert effort to reduce the cost of production.	0	0	1	3	5	14	10	29	19	54	4
4. I am satisfied with the rate of return to my investment.	1	3	1	3	9	26	14	40	10	29	4
RETAILER											
1. I am happy to produce the desired volume out of my limited resources.	1	2	3	6	10	21	22	46	12	25	4
2. The income I received is adequately rewarding.	0	0	1	2	10	21	22	46	15	31	4
3. I exert effort to reduce the cost of production.	0	0	2	4	9	19	16	33	21	44	4
4. I am satisfied with the rate of return to my investment.	0	0	0	0	11	23	22	46	15	31	4

Results on statistical test shown in table 6b, Moreover based on the descriptive analysis having a mean of 3.96, that further supported by the test statistics it shows that



Table 6b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP. SIG.
1. I am happy to produce the desired volume out of my limited resources.	3.96	4.499	3	.212
2. The income I received is adequately rewarding.	3.94	13.617	3	.003**
3. I exert effort to reduce the cost of production.	4.12	4.798	3	.187
4. I am satisfied with the rate of return to my investment.	3.94	2.861	3	.414

*significant ** highly significant

there is insignificant difference among the chain actor. Thus they do not give important criteria in measuring product efficiency.

Great number of AW, FAW, TW, W and WR, strongly agree to exert effort to reduce the cost of production however the F are undecided and the AW are moderately agree on it since they exert their effort on the time of production. The average implies that most of the respondents are strongly agree to exert effort to reduce the cost of production. Based on the descriptive analysis having a mean on 4.12 that was supported by the test statistics the result showed that there is insignificance difference among the chain actors that they have a common understanding on the product efficiency.

Distribution of Respondents According to Responsiveness

Table 7a shows that some of the respondents are moderately agreed that they can supply the market with desired quality/ of chayote when needed. However other respondents are undecided. And farmers are moderately disagree due to the far transporting of products some of the chayote will damage that cost lower prize.



Table 7a. Distribution of respondents according to responsiveness

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
FARMER											
1. I can supply the market with desired quality/quantity when needed.	1	3	2	7	6	20	10	33	11	37	4
2. I always schedule my deliveries to meet the time in the market.	0	0	1	3	16	53	9	30	4	13	4
3. I always find time to deliver vegetables when customers/market needs it.	0	0	1	3	11	37	10	33	8	27	4
4. I always act on the demand/complaints of buyers related to quality/quantity.	0	0	4	13	9	30	11	37	6	20	4
ASSEMBLER-WHOLESALE											
1. I can supply the market with desired quality/quantity when needed.	0	0	0	0	6	32	9	47	4	21	4
2. I always schedule my deliveries to meet the time in the market.	0	0	0	0	5	26	9	47	5	26	4
3. I always find time to deliver vegetables when customers/market needs it.	0	0	0	0	4	21	9	47	6	32	4
4. I always act on the demand/complaints of buyers related to quality/quantity.	0	0	1	0	2	11	12	63	4	21	4
FINANCER-ASSEMBLER-WHOLESALE											
1. I can supply the market with desired quality/quantity when needed.	2	12	0	0	5	31	4	25	5	31	4
2. I always schedule my deliveries to meet the time in the market.	0	0	0	0	2	13	9	56	5	3	4
3. I always find time to deliver vegetables when customers/market needs it.	0	0	0	0	4	25	4	25	8	50	4
4. I always act on the demand/complaints of buyers related to quality/quantity.	0	0	0	0	4	25	7	44	5	31	4

numerical and descriptive value

1-strongly disagree

2-moderately disagree

3-undecided

4-moderately agree

5-strongly agree



Table 7a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
TRUCKER-WHOLESALE											
1. I can supply the market with desired quality/quantity when needed.	0	0	1	9	1	9	3	27	6	55	4
2. I always schedule my deliveries to meet the time in the market.	0	0	0	0	2	18	6	55	3	27	4
3. I always find time to deliver vegetables when customers/market needs it.	0	0	0	0	2	18	4	36	5	45	4
4. I always act on the demand/complaints of buyers related to quality/quantity.	0	0	0	0	2	18	6	55	3	27	4
WHOLESALE											
1. I can supply the market with desired quality/quantity when needed.	0	0	1	9	5	45	2	18	3	27	4
2. I always schedule my deliveries to meet the time in the market.	0	0	3	27	3	27	5	45	0	0	3
3. I always find time to deliver vegetables when customers/market needs it.	0	0	3	2	2	18	2	18	4	36	4
4. I always act on the demand/complaints of buyers related to quality/quantity.	0	0	1	9	2	18	7	64	1	9	4
WHOLESALE-RETAILER											
1. I can supply the market with desired quality/quantity when needed.	0	0	0	0	5	14	16	46	14	40	4
2. I always schedule my deliveries to meet the time in the market.	0	0	0	0	7	20	16	46	12	34	4
3. I always find time to deliver vegetables when customers/market needs it.	0	0	1	3	5	14	10	29	19	54	4
4. I always act on the demand/complaints of buyers related to quality/quantity.	1	3	1	3	9	26	14	40	10	29	4



STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
RETAILER											
1. I can supply the market with desired quality/quantity when needed.	1	2	3	6	10	21	22	46	12	25	4
2. I always schedule my deliveries to meet the time in the market.	0	0	1	2	10	21	22	46	15	31	4
3. I always find time to deliver vegetables when customers/market needs it.	0	0	2	4	9	19	16	33	21	44	4
4. I always act on the demand/complaints of buyers related to quality/quantity.	0	0	0	0	11	23	22	46	15	31	4

The average shows that most of the chains actors are moderately agree to supply the market with desired quality and quantity when market needs it. Moreover the descriptive analysis having the mean of 3.56 supported by test statistics shows that there is significance difference among the chain actors that they give important on the product responsiveness of chayote. The AW, FAW, TW strongly agreed in the delivery schedule to meet the time in the market. However the other respondents are moderately agree and the farmers are strongly disagree since when the chayote is ready to harvest they can deliver it on time. The total average implies that most of the respondents are undecided to schedule their deliveries to meet the time in the market. Furthermore the descriptive analysis having the mean of 3.32 that was supported by the test statistics reveals that there is significance difference among the chain actors that gives important to product responsiveness.



Great numbers of respondents FAW, TAW, and WR are moderately agree that that they always find time to deliver chayote when market needs it. AW are strongly agree, W and R undecided and the farmers are moderately disagree since depends on the harvesting period if they have nothing to produce they cannot deliver it. The total average implies that some of the respondents are undecided to find time to deliver chayote when the market needs it.

Moreover the descriptive analysis having the mean of 3.40 that was supported by the test statistics it implies that there is a significance difference among the chain actors that they give important in terms of product responsiveness

Majority of the respondents are moderately agreed that they act on the demand complaints of buyers related to quality/quantity. FAW are strongly agree while the F are undecided and the R moderately disagree, that depends on the quality and quantity if it is in good quality that's the time they increase the prize. The total average shows that most of the respondents are moderately agree to act the demand complaints to buyers related to quality and quantity of chayote. Moreover the descriptive analysis having a mean of 3.69 that further implies by the test statistics shows that there is significance difference among the chain actors. Thus implies that they give important criteria in measuring product responsiveness.



Table 7b. Descriptive analysis and Test statistics

STATEMENT	MEAN	CHI-SQUARE	DF	ASYMP. SIG.
1. I can supply the market with desired quality/quantity when needed.	3.46	25.787	3	.000**
2. I always schedule my deliveries to meet the time in the market.	3.32	8.245	3	.041*
3. I always find time to deliver vegetables when customers/market needs it.	3.40	5.695	3	.127
4. I always act on the demand/complaints of buyers related to quality/quantity.	3.69	8.935	3	.030*

*significant

**highly significant



SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

Most of the respondents moderately agreed on product quality of chayote especially on the reliability regarding on quality of chayote supplied in the market. Moreover the researcher found out that majority of the chain actors strongly agreed that they are satisfied to fulfill the orders and deliveries of chayote when needed. Although, respondents are agreed on other statement related to product quality weighted average result showed that chain actors never considered/undecided and moderately disagreed on respondents are satisfied selling chayote to buyers on credit arrangement. Most of the chain actors have common understanding in the product quality statements significantly differ on the product quality statements.

Majority of the respondents: the production, assembly, distribution and retailing group moderately agreed that buyers are flexible to buy chayote regardless to quality/quantity. However, chain actors response (undecided and moderately agreed) on having little conflict by buyers and sellers to their business transaction. The test statistics finding implies that respondents have a common understanding on buyer and sellers have little conflict on their business transaction. The test statistics findings show that respondents have common understanding on buyers and sellers have little conflict on their business transaction.

Regarding to efficiency; chain actors implies that they are generating income in vegetable business and the rate of returns to their investment is satisfying while some of the respondents strongly agreed on exerting effort to reduce the cost of



production/procurement. Furthermore, test statistics validated that they have common understanding to the stated statements on efficiency.

Trucker wholesalers strongly agreed on scheduling of their deliveries to meet the time in the market, they deliver chayote everyday at the spot markets while retailers strongly disagreed for the reason that they do not schedule their deliveries but rather their customers it's either regular or not were the one to go with them at the market. Chain actors have significant differences which means that they are differ from each other.

Conclusion

Based on the findings of the study the researcher found out that respondents give much importance on their satisfaction in fulfilling the orders and deliveries of chayote when needed as the most important one in measuring performance while chain actors don't gave much importance to on their satisfaction in selling chayote on credit arrangement. However, respondents have common understandings on the quality of chayote they supply in the market are reliable. Furthermore, descriptive statistics on flexibility shows that buyers and sellers have little conflict and this was truly happening.

All of the statements on responsiveness are important in measuring performance of chain actors as validated by their responses. Nevertheless, farmers strongly disagreed that they are responsible to supply the market with the desired volume and quality when needed while the assembly group moderately agreed that they can.

Recommendation

In order to have a good performance of chain actors they must responsible if ever they credited to avoid conflicts, since credit cannot be avoided and that's part of the



business but creditors must always remember their obligations. Chain actors must set standard pricing of chayote and make by laws that would punished those who don't follow it. Moreover, respondents must never continue in being responsible in the utilization of natural resources. Nevertheless, chain actor's task on delivering of product must on time. The findings of the study are indicative of a very good performance of the different chain actors in relation to product quality, flexibility and efficiency and a satisfactory performance as to responsiveness. These different chain actors should uphold their performance in their vegetable trading business in order to maintain their organization.



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APPENDIX A

Communication Letter

November, 2010

Sir/Madam,

Warm greetings!

I am a graduating student of Benguet State University taking up Bachelor of Science in Agribusiness major in Enterprise Management. As part of the course requirement, I am presently conducting an undergraduate research study entitled "MEASURING PERFORMANCE IN THE SPOT MARKET CHAIN FOR CHAYOTE".

In connection with this, may I ask you to fill up or answer the questionnaire made for this purpose? Rest assured that all the information you will provide will be treated with utmost confidentiality. Your favorable approval is highly appreciated.

Thank you for your kindness and cooperation. May God bless you!

Sincerely yours,

DOMINGO B. BAWAS
Researcher

Noted by:

LEOPOLDO N. TAGARINO
Adviser



APPENDIX B

Interview Schedule

This research aims to investigate the cabbage supply networks. All information solicited will be treated with confidentiality. Please answer the questions honestly by putting (/) mark in the appropriate space provided for.

Thank you very much!

Respondent's Name:(Optional) _____

No. _____

Respondent's Group:

1. Production Group: Farmers
2. Assembly (Collection) Group : Assembler-Wholesaler
 Financier-Assembler-Wholesaler
 Disposer
3. Distribution Group : Trucker-Wholesaler
 Wholesale
 Wholesale-Retailer
4. Retailing Group : Retailer

A. SOCIO-ECONOMIC PROFILE

1. Age: _____
2. Gender: Male Female
3. Marital status: Single Married Separated Widowed
4. Religion: Catholic Protestant Others, specify _____
5. Educational background: Elementary High School College Vocational
6. Number of years engage in vegetable farming business: _____
10. Organizational affiliation: Farmers' Association Cooperatives
 Others, specify _____

B. What are the vegetables do you frequently produce/procure/sold in the market?
 Cabbage; Chayote; Potato

C. Who are the buyers of the vegetables you produced/procured/? (Please identify)
 Assembler-Wholesalers; Financier-Assembler-Wholesalers;
 Trucker-Wholesalers; Wholesalers; Wholesaler-Retailers; Retailers

D. Where do you sell the vegetables produced/procured?
 La Trinidad Vegetables Trading Post; Baguio Hangar Market
 Private Trading Center in La Trinidad Metro Manila (Specify) _____
 Other Market: Please specify _____



E. PERFORMANCE (Operations): Assess the performance of the supply network operation using the following metrics.

E.1 Quality Satisfaction

- a. The quality of vegetables I produce/procure/sold meets my expectation.
Strongly Disagree Strongly Agree
- b. The quality of vegetables delivered meets the buyer's requirements.
Strongly Disagree Strongly Agree
- c. I am satisfied with the volume I produce/procure or sold to the buyer.
Strongly Disagree Strongly Agree
- d. I always achieve my production/procurement/delivery targets.
Strongly Disagree Strongly Agree
- e. I am satisfied to fulfill the orders and deliveries of vegetables when needed.
- f. I am satisfied selling vegetables to buyers. Strongly Disagree Strongly Agree
- g. The quality of vegetables I supplied in the market is reliable
Strongly Disagree Strongly Agree

E.2 Flexibility

- a. I can produce the desired volume when buyers needed it.
Strongly Disagree Strongly Agree
- b. I exert effort to produce the desired volume and quality when buyers demand it.
Strongly Disagree Strongly Agree
- c. The buyer is flexible to buy vegetables regardless of volume and quality.
Strongly Disagree Strongly Agree
- d. Buyer has no complaints about our business transactions
Strongly Disagree Strongly Agree

E.3 Efficiency

- a. I am happy to produce the desired volume out of my limited resources.
Strongly Disagree Strongly Agree
- b. adequately rewarding.
Strongly Disagree Strongly Agree
- c. I exert effort to reduce the cost of production.
Strongly Disagree Strongly Agree
- d. I am satisfied with the rate of return to my investment.
Strongly Disagree Strongly Agree

E.4 Responsiveness

- a. I can supply the market with desired quality/ quantity when needed.
Strongly Disagree Strongly Agree
- b. I always schedule my deliveries to meet the time in the market.
Strongly Disagree Strongly Agree
- c. I always find time to deliver vegetables when customer/ market need it.
Strongly Disagree Strongly Agree
- d. I always act on the demand/ complaints of buyers related to quality/ quantity.
Strongly Disagree Strongly Agree
- e. The buyers are always satisfied as to variety of product, price and quality/ quantity.
Strongly Disagree Strongly Agree

