

BIBLIOGRAPHY

LEGANIO, JENIO M. APRIL 2011. Chain Actors Perception on Quality of Chayote in the Spot Market. Benguet State University, La Trinidad, Benguet.

Adviser: Leopoldo N. Tagarino, MRSM (Agribusiness)

ABSTRACT

This study was conducted following the geographic flow of chayote from the major source (production) to the major market assembly and collection, and the geographic distribution and retailing markets to determine the perceived quality criteria used by the chain actors in selling and procuring chayote from different points in the spot market chain, to determine the perceived abilities to meet the criteria used by the chain actors in the spot market, to determine the perceived inabilities the chain actors needs and the various constraint to meet the quality of chayote offered for sale.

The results revealed that the perceived product quality, the different chain actors give much importance to color and size of chayote. Some of the perceived product quality criteria are free from chemical residue, pest and diseases and physical injury, and firmness of chayote. In the perceived service quality most of the chain actors are undecided to the criteria, but given much importance to the adequacy of logistics.

In the perceived functional quality, most of the actors are not extending credit term arrangement, and have no outstanding loan from the buyers. However, actors (sellers) give notice

about supply shortage and price changes. Moreover, the sellers must accurately weighed and packed the chayote. Most actors however were not flexible in pricing chayote.

To the perceived abilities to meet the quality requirements, the actors appropriately classify, weigh and pack the chayote before trading. Not all actors can sell/buy chayote at a negotiated price, and the usually buy/sell chayote which are fresh, clean and firm.

The different actors' inabilities were dependence on the quality/quantity of chayote produce/procure, and some respondents claimed to have insufficient capital to produce/procure chayote.

Most of the constraints encountered by the respondents to improve/maintain the quality of chayote offered were as follows: the inadequacy of logistics facilities/equipment, less control in grading/packaging and lack of storage facility in trading.

It is recommended that the different actors should plan and worked together in order to obtain and to improve the quality of chayote sold in the spot market. The farmer must be given priority for improvement, and they must produced chayote free from pest and diseases, chemical residue and physical injury, the color and size of chayote are specified, the chayote must be firm, fresh and clean to meet the buyers requirements.

INTRODUCTION

Rationale

Chayote is considered as one of the cash crops in Benguet. In fact, it was claimed as the “hanging green gold” since it provides a promising income to farmers with low production cost. The province of Benguet is one of the producers of fresh chayote in the Philippines. The province produced an average of 55,833 metric tons of chayote yearly and being traded at La Trinidad Vegetable Trading Post (LTVTP), Merryland trading center, in La Trinidad and Hangar Market in Baguio City. Trucks, ford fierra, jeeps, vans, and buses are used to transport the product to these trading centers. Poor road condition and the absence of farm to market roads and the quality of postharvest handling affects the freshness of the product.

Today, trading of vegetable involved many activities and different processes takes place. In the spot market, imperfection is a vague concept because there are many sources and effect of market failure. The problem of imperfection market transaction could stem from the action of people that function within the market. Farmers or producers tend to be the weak party in the supply chain due to the distance to market, asymmetric quality and price information and lack of joint actions. They are, consequently very dependent on the structure and performance of the supply chain for the part of the value added that they receive (Tilburg *et al.*, 2007).

Most research being conducted in the province is concern with the production aspect of agriculture and they have overlooked the importance of a well functioning supply chain.



Statement of the Problem

1. What are the perceived quality criteria used by the chain actors in selling and procuring chayote from different point in the spot market chain?
2. What are the perceived abilities to meet the criteria used by the chain actors in the spot market?
3. What are the perceived inabilities of the actor's to meet needsof market intermediary and the various constraints to meet the quality of chayote offered for sale?

Objective of the Study

1. To determine the perceived quality criteria used by chain actors in selling and procuring chayote from different point in the spot market chain in terms of:
 - a. Product (technical) quality
 - b. Service quality
 - c. Functional quality
2. To determine the perceived abilities of actors to meet the quality criteriaused by the buyers in the spot market.
3. To determine the perceived inabilities of the actors to meet the needs of market intermediaries.
4. To determine the constraints or barriers to improve the quality demand of the buyers.

Importance of the Study

In the Philippines, agricultural commodity supply chains researches become a research priority agenda for industry development. Hence, this research would contribute in some ways information about the fresh vegetable spot market. The expected research

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results would in one way or another could be a source of information to explain the behavior of spot market actors.

Scope and Delimitation of the Study

The scope of this study focus on the fresh vegetables sector supply chain analysis in the Cordillera Administrative Region, Philippines using the supply chain management theories with emphasis on the behavioral dimension specifically focusing on the quality perception.

The limitations associated in this study primarily relate:

1. The fresh vegetables spot market or wet market supply chain operations. Institutionally initiated vegetables supply chains that involve highly organized firms will not be considered.
2. The unknown number of target groups of respondents; the multiple functions (especially the traders) in the marketing process and the non-accommodating traders to give information.
3. The chain actors involve in production and market transactions on chayote in the region shall be the major focus of this research and exclude the other actors involved in other type or variety of vegetables from the other regions.
4. The research locations to be covered will be limited to major production and marketing areas of chayote in CAR and Metro Manila.
5. The analysis shall be focused on the objectives and framework of this research.



REVIEW OF LITERATURE

Supply Chain and Networks

Folkerts and Koehorst (1998) define supply chain as “a set of interdependent companies that work closely together to manage the flow of goods and services along the value-added chain of agricultural and food products, in order to realize superior customer value at the lowest possible cost”. Van der Vorst (2000), further defined supply chain as “a network of physical and decision making activities connected by material and information flows that cross organizational boundaries.” According to Lambert and Cooper (2000), there are four main characteristics of a supply chain: First, it goes through several stages of increasing intra- and inter- organizational, vertical coordination. Second, it includes many independent firms, suggesting that managerial relationship is essential. Third, a supply chain includes a bi-directional flow of products and information and the managerial and operational activities. Fourth, chain members aim to fulfill the goals to provide high customer value with an optimal use of resources.

Supply chain means the process of planning, implementing and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods and related information from the point-of-origin to point of final consumption for the purpose of conforming to customer requirements (Council of Logistics Management 1986). Supply chain is a dual flow of products and information. It is the drive to meet the central needs of the consumer and it stresses the importance of the relationships between participants in the marketing system. However, the tendency is often focus solely on the immediate economic aspects when firms are building supply chains (Champion and Fearn, 2000). Hongze Ma (2005) pointed out that supply chain is a network of



organizations from suppliers with the purpose to improve the flow of material and information. Drabenstott (1999) discusses the increasing move toward the development of supply chains and describes supply chain structures where all stages of production, processing and distribution are bound together tightly to ensure reliable, efficient delivery of high quality products.

Networks or business networks on the other hand is defined as a set of two or more connected business relationships, in which each exchange relation is between business firms that are conceptualized as collective actors (Anderson *et al.*, 1994). Networks are specific properties of the transaction relationships, typified by relational relationships in which formal and informal sharing and trust building mechanisms are crucial (Zylbersztjn and Farina 2003). In essence are the concept of “collective actor” and consequently the existence of “collective actions.” Networks are looked upon as the total actors within one industry and/or between related industries, which can potentially work together to add value to customers. The basic assumptions on networks: (1). There exists collective actors within an industry who can potentially work together to add value to customers (2) One actor is dependent on the resources controlled by another and (3.) There are established long-term relationships with formal and informal sharing and trust-building mechanisms.

Perceptions and Quality in the Supply Chain

Robbins (1988) defined perception as a process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment. People can emerge with different perceptions on the same object because of three perceptual processes: selective attention, selective distortion, and selective retention.



1. Selective attention means that a marketer has to work hard to attract consumers' notice.

2. Selective distortion is the tendency to twist information in a way that will fit one's preconceptions. Unfortunately, there is not much a marketer can do about selective distortion.

3. In selective retention, people will forget much that they learn but will tend to retain information that supports their attitudes and beliefs. Because of selective retention, people are likely remember good points mentioned about a product they like and forget good points mentioned about competing products (Berelson and Steiner, 1964).

A number of factors operate to shape and sometimes distort perception. These factors can reside in the perceiver, in object, or target, or in the context of the situation which the perception is made. When an individual looks at a target and attempts to interpret what he sees, his personal characteristics heavily influence the interpretation. These personal characteristics include attitudes, personality, motives, interest, past experiences, and expectations (Robbins 1988). Individuals cannot assimilate all they observe, so they engage into selectivity depending on the observer's interests, background, experience, and attitudes.

Quality and Its Dimension.

Quality is determined based upon the customer's actual experience with product measured against the customer's stated requirements (Fiegenbaum, 1991). It does not necessarily mean best; quality means fitness for intended purpose; it may also mean providing customers with products that consistently meet their specifications. Customers that are in businesses will define quality very clearly using specifications, standards and



other measures. However, it is not just product quality that is important; quality also describes the way in which suppliers go about meeting the needs of their customers, providing the product on time, in the quantity required, correctly packaged and correctly invoiced. Perceived quality therefore is a major factor by which people make distinctions in the marketplace. Quality entails being responsive, pro-active and reactive, and about being able to meet customer's special request (Batt, 2005).

Gronroos (1990) describes quality by differentiating it into two dimensions: technical and functional. Technical quality describes the customer's specifications. This is a physical description of the product in terms of its size; shape; color; freedom from pests and diseases; purity (in terms of its freedom from chemical contaminants, pathogenic organisms and genetically modified plants); maturity or freshness; and the manner in which the product is packed. Functional quality, on the other hand, describes the way a supplier goes about delivering the product to the customer. Fundamentally, this means being able to deliver the product when the customer wants it. By implications, it involves many inter-related activities such as production, scheduling, storage and warehousing, logistics, ordering and invoicing. Parasuraman (1998) introduced a third dimension called service quality, which describes the extra things a supplier is willing to do to retain customer's business. While the exact meaning of the term "service" varies with the nature of the product and the requirements of the buying organizations, service may include such variables as providing technical assistance, innovative suggestions, credit arrangements, support for special needs, or providing advance notice of impending price changes or shortages in supply (Hutt and Speh, 1995).



Perceived Quality

The fresh vegetables sector supply chain in the Philippines, the operation is generally characterize as spot-markets or networks, hence the transactions involves the interactions of chain actors in the market. These chain actors (farmers, assemblers, trucker-wholesalers and retailers) may assume varied perceptions about quality. In most cases, the physical quality of vegetables is given more importance while the other criteria are sometimes overlooked. In the frame of this study is to examine the perceived quality based on the selective retention perception concept (Robbins, 1988) and the descriptions and dimensions on quality as Gronroos (1990) - technical and functional quality; and Parasuraman (1998) - the service quality defined.

Definition of Terms

Producer/ Farmer- the one who produces the commodity.

Wholesaler-refers to middlemen who directly sell chayote to retailers in wholesale basis.

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

Trucker/ viajeros- this are wholesaler who purchase vegetables from the trading post and distribute the vegetables to the different market centers in provinces or regions.

Retailer- refers to the individuals who market chayote directly to ultimate consumer.

Spot Market- place where the product are being deliver and sold.

Abilities- this refers to the capability of the actors in the spot market in meeting the quality requirements.



Inabilities- this refers to the inabilities of the chain actors in the spot market in meeting the quality requirements.

Conceptual Framework

In the frame of this study, we consider the supply chain management definition as a network of interconnected activities of individuals operating independently but dependent on the supply of goods and services from other individual. The fresh vegetable industry as supply chains involves number of different groups of people, institutions, and processes. The people (organizations) are the chain actors performing different functions in the flow of goods; operate the business independently and manage intra- and inter-organizational relationships; and the exchange processes involve formal and informal coordination of activities and information.

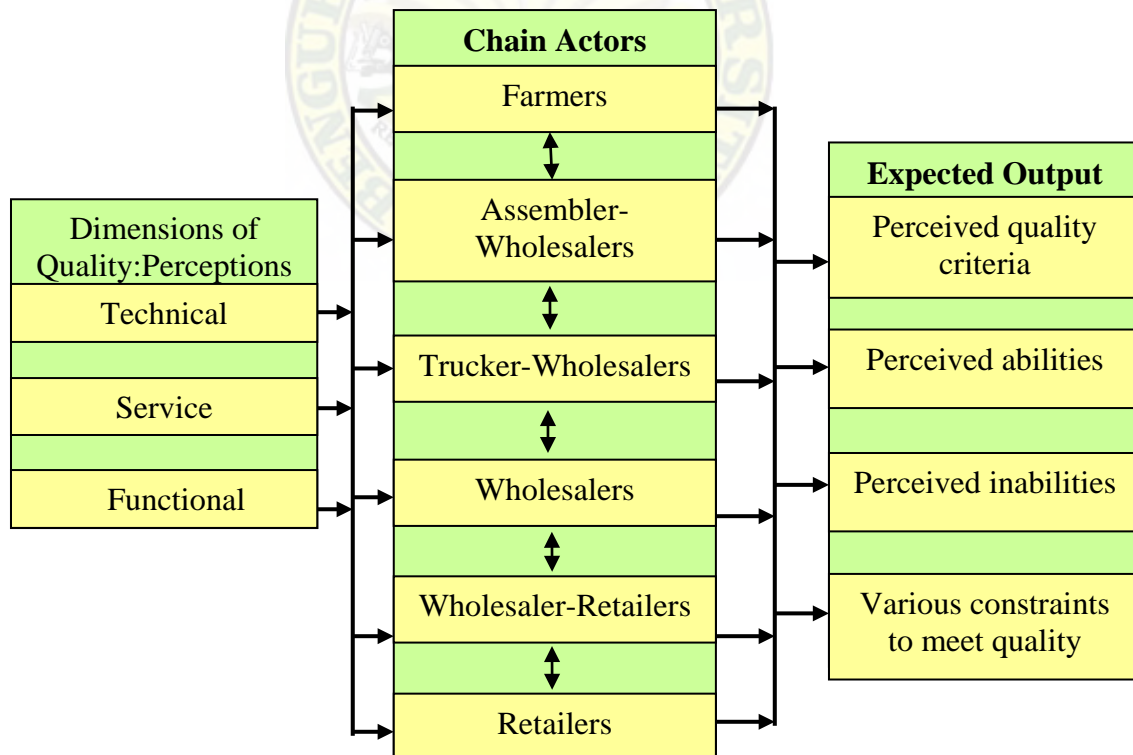


Figure 1. Conceptual framework

METHODOLOGY

Locale and Time of the Study

The study was conducted in La Trinidad, Benguet which served as the primary markets (assembly/collection), and the secondary markets are Urdaneta, Pangasinan and Metro Manila such as Balintawak market and Urdaneta city. While the tertiary markets are Novaliches, Kamuning, Mega Q, Nepa Q, Blumentritt and Basilio. The research was conducted on November 2010 to January 2011.

Respondents of the Study

Table 1 shows the distribution of sample size according to respondents. The respondents represent the major actors in the fresh vegetables supply chain. The production group is composed of Cordillera farmers producing chayote. The next groups of respondents are the primary buyers representing the assembly/collection group which consist of the assembler-wholesalers and the financier-assembler-wholesalers. Most of them are operating in the La Trinidad Vegetable Trading Post, and in the privately owned and managed trading facility. The third group is the distributors consist of the trucker-wholesalers, wholesalers and wholesaler-retailers. The trucker-wholesaler respondents are those responsible in the transportation and distribution of vegetables to various geographic market outlets. The wholesalers and wholesaler-retailers, on the other hand, are traders in the spot markets to whom the trucker-wholesalers supply the vegetables. The last group is the retailers representing the last link in the marketing process. The retailers sell the vegetables to ultimate users or consumers.



Table 1. Distribution of sample size according to respondents

RESPONDENTS GROUP	TOTAL SAMPLE SIZE
Farmers	30
Assembler/ collector	
• Assembler-wholesalers	19
• Financier/wholesaler-retailers	16
Distributors	
• Trucker-wholesaler	11
• Wholesaler/ Wholesaler-retailers	49
Retailers	48
TOTAL	173

Data Gathering Procedure

The data required to answer the research questions will be obtained primarily through a survey with the use of interview schedules and observation.

Data Gathered

The data gathered was the perceived quality criteria such as perceived technical or physical quality, functional quality and service quality. The perceived abilities and inabilities of chain actors were also gathered and the various constraints to meet the quality of chayote.

Data Analysis

The data was tabulated in Excel program and analyzed using the SPSS Version 16. Frequency counts, average and percentages were used for descriptive analysis which Kruskal-Wallis test for statistical test.



RESULT AND DISCUSSION

Demographic Profile of Respondents

Age. Table 2 shows the demographic profile of the different respondents groups. Majority of the farmers (46%), assembler-wholesalers (32%) wholesaler (36%) and wholesaler-retailers (37%) belong to age bracket of 21-30 years old, while the financier-assembler-wholesalers (44%) and trucker-wholesalers (45%) are in older bracket of 31-40. Majority of the retailers (38%) belong to the oldest age bracket of 41-50 years old. It can be noted however that respondents from different groups with age of over 51 years old. The result implies that age is not a factor to engage in vegetable business as long as they can perform the task required.

Gender. Mostly of the farmers (90%), assembler-wholesalers (68%) and trucker-wholesalers (67%) are males which the other groups were dominated by female. The data implies that the domination of gender in some activities/functions differ from other activities. Like for example, in production the male dominated the females as reflected by the nature of works.

Marital status. Almost all the respondents are married and therefore implies that engaging in vegetable business would be the source of livelihood for the family. There is also a significant number of respondents that are single. It could be observed further; from the different groups of respondents that there were actors to be separated and widow. It may be assumed that vegetable business could be their chosen occupation.

Religion. Almost all the respondents interviewed from production group to retailing group were Catholic. However, some respondents were Protestant and other religious affiliation.



Table 2. Demographic profile of respondents

PARTICULAR	PRODUCTION		ASSEMBLY				DISTRIBUTION				RETAILING			
	F		A-W		F-A-W		T-W		W		W-R		R	
	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 above	0	0	0	0	0	0	0	0	0	0	1	3	2	4
TOTAL	30	100	19	100	16	100	11	100	14	100	35	100	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	100	16	100	11	100	14	100	35	100	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	0	0	0	0	0	0	0	0	1	7	1	3	0	0
TOTAL	30	100	19	100	16	100	11	100	14	100	35	100	48	100
Religious Affiliation														
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	100	16	100	11	100	14	100	35	100	48	100
Educational Background														
Elementary	9	30	2	11	4	25	2	18	2	14	6	17	7	15
High School	14	47	9	47	4	25	3	27	5	36	14	40	29	60
College	7	23	8	42	8	50	6	55	7	50	13	37	10	21
Vocational	0	0	0	0	0	0	0	0	0	0	2	6	2	4
TOTAL	30	100	19	100	16	100	11	100	14	100	35	100	48	100

Legend:

F-farmers

A-W-assembler-wholesalers

F-A-W- financier-assembler-wholesalers

T-W- trucker-wholesalers

W-wholesalers

A-W-assembler-wholesalers

R-retailers



Educational background. Most of the farmers, assembler-wholesalers, wholesaler-retailers and retailers respondents achieved high school education. The financier-assembler-wholesalers, trucker-wholesalers and wholesalers have attained college degrees or college level. Some wholesaler-retailers and retailers are vocational graduate. This result implies that the respondents have more or less with formal studies, thus proving to be engage in vegetable business must be literate.

Number of years engaged in business. Table 3 shows the number of years engaged in chayote trading. Results showed that majority of the assembler-wholesalers (42%), financier-assembler-wholesalers (38%), trucker-wholesalers (36%), wholesalers (43%), and wholesaler-retailers (32%) were engaged in business for 1-5 years. It also indicates that some farmers (37%) and retailers (28%) have been trading chayote for 6-10 years. It could be noted from the different groups, a representative number of actors to the business for over 11 years and some are 21 years. In fact, there are wholesaler-retailers (9%) and retailers (2%) who had been operating their business for over 31 years.

Organizational affiliation. As exhibited in Table 4, Most of the respondents were not affiliated to any organization, but few farmers (10%) and wholesalers (14%) were affiliated to farmer's association. Some respondents from production to retailing were cooperative members and other respondents were connected/affiliated to other organizations like traders or vendors association. The results revealed that most of the respondents could never see/consider the importance of organizations in the business undertaking.



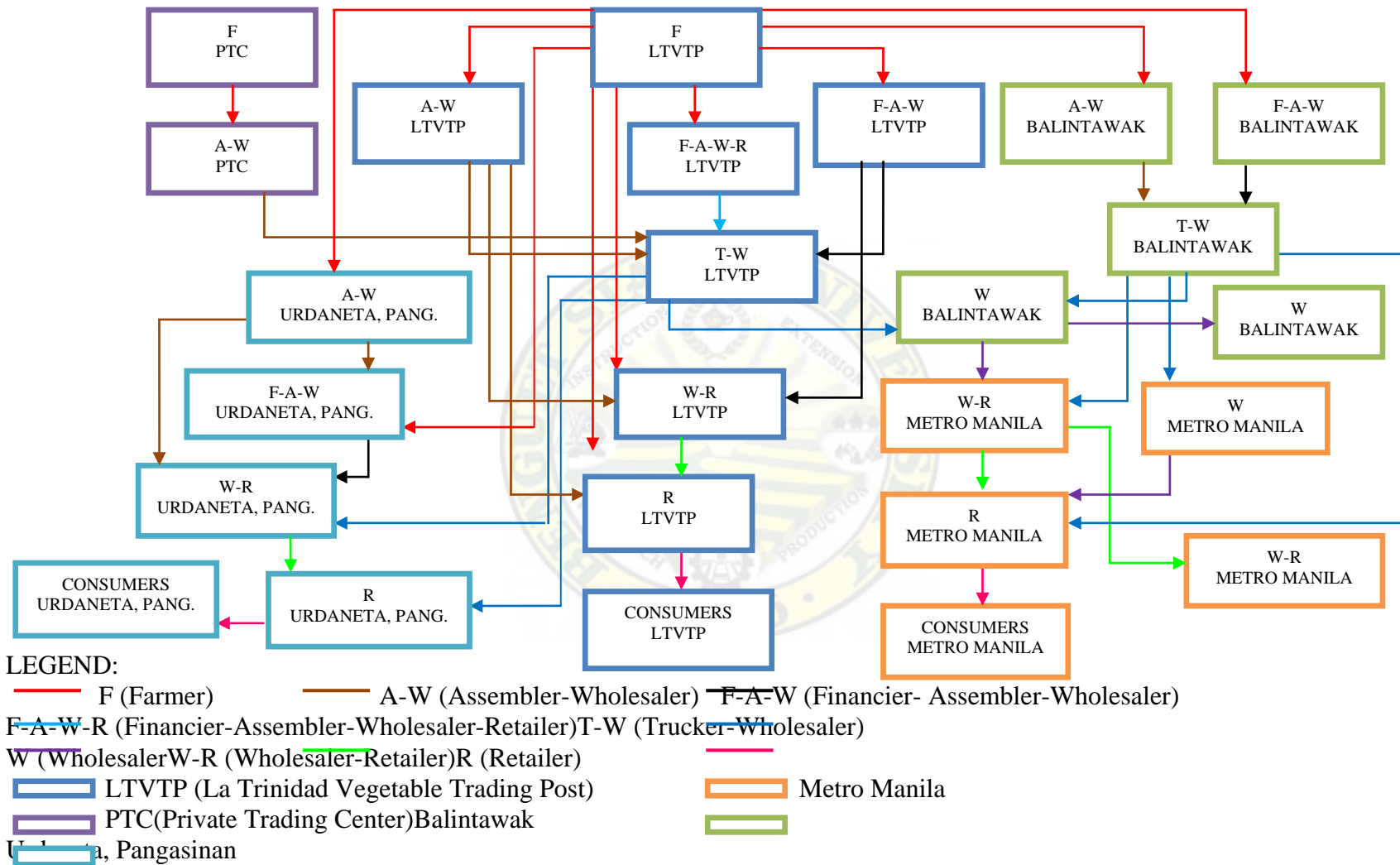


Figure 2. Spot market chain and location for chayote

It further shows the flow of chayote from its point of production to its point of consumption. It is illustrated in the chart that farmers have contact with the different buyers in the spot market. In the interviewed respondents in La Trinidad Vegetable Trading Post, the financier-assembler-wholesalers and assembler-wholesalers sold their procured chayote to trucker-wholesalers, and some of their procured chayote was sold other customers. The wholesalers and retailers sold the chayote procured to the end users in La Trinidad vegetable Trading Post. It implies that trucker-wholesalers procure chayote from La Trinidad Vegetable Trading Post and distribute to the different market areas. It can also be seen that farmers directly sell their produce to retailer.

Furthermore, it also shows that trucker-wholesalers are not directly trading to those in the distribution group like the wholesalers, wholesaler-retailers and especially to the retailers. It is also shown in the chart that in trading chayote in different market areas there are many actors to pass through before it reach its final customers or the end user. The retailers we interviewed were from the different market places we visited. They were the one selling chayote in small quantities.

Perceived Product Quality by Different Chain Actors

Product (technical) quality refers to the physical description of the product in terms of its size; shape; color; freedom from pests and diseases; purity (in terms of its freedom from chemical contaminants, pathogenic organisms and genetically modified plants); maturity or freshness; and the manner in which the product is packed (Gronroos, 1990). It is indicated in Table 5a the perceived product quality of chayote by the different actors involved.

Table 5a. Product quality criteria perceived by different chain actors

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
A. Farmers											
1. Chayote are free from chemical residue.	1	3	1	3	6	20	3	10	19	63	4
2. Chayote are free from pests and diseases.	1	3	1	3	2	7	7	23	19	63	4
3. Color and size of chayote are specified.	0	0	2	7	4	13	4	13	20	67	4
4. Chayote are free from physical injury.	0	0	1	3	9	30	8	27	12	40	4
5. Chayote are fresh and clean.	0	0	0	0	2	7	10	33	18	60	5
6. Chayote are firm.	0	0	0	0	2	7	12	40	16	53	4
B. Assembler -Wholesalers											
1. Chayote are free from chemical residue.	1	5	1	5	2	11	7	37	8	42	4
2. Chayote are free from pests and diseases.	0	0	1	5	2	11	2	11	14	74	5
3. Color and size of chayote are specified.	0	0	1	5	0	0	4	21	14	74	5
4. Chayote are free from physical injury.	0	0	0	0	0	0	7	37	12	63	5
5. Chayote are fresh and clean .	0	0	0	0	2	11	4	21	13	68	5
6. Chayote are firm.	0	0	0	0	0	0	5	26	14	74	5
C. Financier -Assembler-Wholesalers											
1. Chayote are free from chemical residue.	1	6	2	13	5	31	2	13	6	38	4
2. Chayote are free from pests and diseases.	1	6	2	13	4	25	2	13	7	44	4
3. Color and size of chayote are specified.	0	0	1	6	4	25	4	25	7	44	4
4. Chayote are free from physical injury.	0	0	1	6	7	44	3	19	5	31	4
5. Chayote are fresh and clean.	0	0	2	13	3	19	3	19	8	50	4
6. Chayote are firm.	0	0	0	0	4	25	2	13	10	63	4
D. Trucker-Wholesalers											
1. Chayote are free from chemical residue.	1	9	0	0	1	9	2	18	7	64	4
2. Chayote are free from pests and diseases.	0	0	0	0	1	9	3	27	7	64	5
3. Color and size of chayote are specified.	1	9	0	0	2	18	0	0	8	73	4
4. Chayote are free from physical injury.	1	9	0	0	1	9	2	18	7	64	4
5. Chayote are fresh and clean.	0	0	1	9	0	0	1	9	9	82	5
6. Chayote are firm.	0	0	0	0	2	18	0	0	9	82	5

Numerical value and descriptive equivalent

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	%	
E. Wholesalers											
1. Chayote are free from chemical residue.	0	0	2	14	0	0	2	14	10	71	4
2. Chayote are free from pests and diseases.	1	7	1	7	2	14	2	14	8	57	4
3. Color and size of chayote are specified.	0	0	0	0	2	14	2	14	10	71	5
4. Chayote are free from physical injury.	2	14	1	7	2	14	3	21	6	43	4
5. Chayote are fresh and clean.	1	7	0	0	1	7	0	0	12	86	5
6. Chayote are firm.	0	0	1	7	3	21	1	7	9	64	4
F. Wholesaler- Retailers											
1. Chayote are free from chemical residue.	2	6	1	3	8	23	9	26	15	43	4
2. Chayote are free from pests and diseases.	1	3	1	3	4	11	10	29	19	54	4
3. color and size of chayote are specified.	1	3	0	0	2	6	10	29	22	63	4
4. Chayote are free from physical injury.	1	3	3	9	5	14	11	31	15	43	4
5. Chayote are fresh and clean.	1	3	1	3	2	6	9	26	22	63	4
6. Chayote are firm.	0	0	0	0	4	11	15	43	16	46	4
G. Retailers											
1. Chayote are free from chemical residue.	6	13	6	13	6	13	12	25	18	38	4
2. Chayote are free from pests and diseases.	1	2	9	19	4	8	8	17	26	54	4
3. Color and size of chayote are specified.	5	10	1	2	8	17	12	25	22	46	4
4. Chayote are free from physical injury.	3	6	4	8	7	15	11	23	23	48	4
5. Chayote are fresh and clean.	1	2	4	8	2	4	10	21	31	65	4
6. Chayote are firm.	1	2	3	6	2	4	11	23	31	65	4

Majority of the farmers (63%), trucker-wholesaler (64%) and wholesaler (71%) strongly agree that buyers choose chayote which are free from chemical residue. As to the free from pest and diseases, majority of all the respondents strongly agree to this criterion. About the color and size of chayote are specified, majority of the farmers (67%), assembler-wholesalers (74%), trucker-wholesalers (73%), wholesalers (71%) and wholesaler-retailers (63%), and some financier-assembler-wholesalers (44%) and retailers (46%) were strongly agreed to this criterion. Most of the farmers (40%), wholesalers (43%), wholesaler-retailers (43%) and retailers (48%) are strongly agree that

chayote must be free from physical injury, while some of the financier-assembler-wholesalers (44%) were undecided. About the freshness and cleanliness of chayote, majority of all the respondents strongly agree. It implies that the freshness and cleanliness of chayote will attract the buyers. Majority of all the respondents strongly agree to the criterion that buyers choose chayote which are firm. As shown in the average, the different actors agree that the buyers choose chayote which are free from chemical residue, free from pest and diseases, the color and size are specified, free from physical injury, chayote are fresh and clean, and chayote must be firm.

The results of descriptive analysis and test statistics are exhibited in Table 5b. In the mean statistics, revealed that all the respondents agree to the perceived criteria used by the buyers in choosing or buying chayote in the spot markets. Moreover, the statistical tests further support this finding, that there is no significant difference among the different actors about the perceived physical quality criteria of the buyers. Chi-square test further revealed that the different respondents gave much importance to the color and size of chayote must be specified and on the other hand they gave less importance to physical injury. Therefore this implies that color and size is given priority criteria used by the buyers in choosing/buying/procuring chayote. The color of chayote attracts buyers and reveals its freshness.

The results had proven the Gronroos (1990) description about technical (product) quality wherein it describes the customer's specifications.

Table 5b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DEGREE OF FREEDOM	ASYMPTOTIC SIGNIFICANCE
1. Chayote are free from chemical residue.	3.95	5.942	3	0.114
2. Chayote are free from pests and diseases.	4.20	1.144	3	0.766
3. Color and size of chayote are specified.	4.28	6.224	3	0.101
4. Chayote are free from physical injury.	4.06	.705	3	0.872
5. Chayote are fresh and clean.	4.43	1.746	3	0.627
6. Chayote are firm.	4.42	2.521	3	0.472

Mean range and descriptive equivalent

1-1.8 strongly disagree 1.9-2.7 moderately disagree 2.8-3.5 undecided
 3.6-4.4 moderately agree 4.5-5 strong agree

Service Quality Perceived by Different Chain Actors

Service quality is the additional requirement a supplier is willing to do to retain customer's business (Parasuraman, 1998). Table 6a shows the perceive service quality criteria used by the buyers in choosing/buying chayote. Some of the trucker-wholesalers (36%), wholesalers (29%) and wholesaler-retailers (37%) are strongly that suppliers (seller) extend credit term to buyers of chayote, while some farmers (27%) and financier-assembler-wholesalers (31%) are undecided. Most of the wholesalers (57%), wholesaler-retailers (23%) and retailers (38%) are strongly disagree that supplier has an outstanding loan/cash advance from the buyer of chayote in the spot market. As to supplier gives notice about supply shortage and price changes to buyers of chayote, most farmers (43%), financier-assembler-wholesalers (50%), trucker-wholesalers (55%), wholesalers (36%) and wholesaler-retailers (40%) are strongly agree. While the retailers (29%) are strongly disagree.

Table 6a. Service quality criteria perceived by different chain actors

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
A. Farmers											
1. Supplier (seller) extend credit term to buyers of chayote.	7	23	7	23	8	27	4	13	4	13	3
2. Supplier has an outstanding loan/cash advance from the buyer.	6	20	9	30	8	27	5	17	2	7	3
3. Supplier gives notice to the buyers about supply shortage and the price changes.	5	17	3	10	1	3	8	27	13	43	4
4. Supplier exerts effort to produce/procure chayote ordered.	3	10	3	10	4	13	11	37	9	30	4
5. Supplier extends support services (comboys, packing) to the buyers.	3	10	4	13	9	30	8	27	6	20	3
6. Supplier has adequate logistics (facilities, workforce etc.) in trading the chayote.	1	3	9	30	8	27	6	20	6	20	3
B. Assembler-Wholesalers											
1. Supplier (seller) extend credit term to buyers of chayote.	5	26	2	11	2	11	6	32	4	21	3
2. Supplier has an outstanding loan/cash advance from the buyer.	5	26	2	11	3	16	7	37	2	11	3
3. Supplier gives notice to the buyers about supply shortage and the price changes.	1	5	2	11	1	5	8	42	7	37	4
4. Supplier exerts effort to produce/procure chayote ordered.	1	5	1	5	5	26	6	32	6	32	4
5. Supplier extends support services (comboys, packing) to the buyers.	0	0	4	21	7	37	5	26	3	16	3
6. Supplier has adequate logistics (facilities, workforce etc.) in trading the chayote.	2	11	2	11	6	32	5	26	4	21	3
C. Financier-Assembler-Wholesalers											
1. Supplier (seller) extend credit term to buyers of chayote.	4	25	2	13	5	31	1	6	4	25	3
2. Supplier has an outstanding loan/cash advance from the buyer.	6	38	1	6	4	25	3	19	2	13	3
3. Supplier gives notice to the buyers about supply shortage and the price changes.	1	6	3	19	3	19	1	6	8	50	4
4. Supplier exerts effort to produce/procure chayote ordered.	1	6	2	13	2	13	3	19	8	50	4
5. Supplier extends support services (comboys, packing) to the buyers.	2	13	1	6	4	25	5	31	4	25	4
6. Supplier has adequate logistics (facilities, workforce etc.) in trading the chayote.	2	13	1	6	2	13	7	44	4	25	4

Numerical value and descriptive equivalent

- | | | |
|---------------------|-----------------------|-------------|
| 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	%	
D. Trucker-Wholesalers											
1. Supplier (seller) extend credit term to buyers of chayote.	2	18	2	18	2	18	1	9	4	36	3
2. Supplier has an outstanding loan/cash advance from the buyer.	2	18	3	27	1	9	4	36	1	9	3
3. Supplier gives notice to the buyers about supply shortage and the price changes.	1	9	1	9	0	0	3	27	6	55	4
4. Supplier exerts effort to produce/procure chayote ordered.	0	0	0	0	1	9	1	9	9	82	5
5. Supplier extends support services (comboys, packing) to the buyers.	3	27	0	0	0	0	2	18	6	55	4
6. Supplier has adequate logistics (facilities, workforce etc.) in trading the chayote.	0	0	1	9	3	27	3	27	4	36	4
E. Wholesalers											
1. Supplier (seller) extend credit term to buyers of chayote.	4	29	1	7	2	14	3	21	4	29	3
2. Supplier has an outstanding loan/cash advance from the buyer.	8	57	3	21	0	0	1	7	2	14	2
3. Supplier gives notice to the buyers about supply shortage and the price changes.	2	14	2	14	3	21	2	14	5	36	3
4. Supplier exerts effort to produce/procure chayote ordered.	1	7	0	0	3	21	1	7	9	64	4
5. Supplier extends support services (comboys, packing) to the buyers.	6	43	0	0	2	14	2	14	4	29	3
6. Supplier has adequate logistics (facilities, workforce etc.) in trading the chayote.	2	14	2	14	5	36	3	21	2	14	3
F. Wholesaler-Retailers											
1. Supplier (seller) extend credit term to buyers of chayote.	3	9	3	9	5	14	11	31	13	37	4
2. Supplier has an outstanding loan/cash advance from the buyer.	8	23	5	14	7	20	8	23	7	20	3
3. Supplier gives notice to the buyers about supply shortage and the price changes.	2	6	4	11	3	9	12	34	14	40	4
4. Supplier exerts effort to produce/procure chayote ordered.	1	3	1	3	7	20	7	20	19	54	4
5. Supplier extends support services (comboys, packing) to the buyers.	5	14	2	6	9	26	12	34	7	20	3
6. Supplier has adequate logistics (facilities, workforce etc.) in trading the chayote.	1	3	8	23	9	26	14	40	3	9	3
G. Retailers											
1. Supplier (seller) extend credit term to buyers of chayote.	14	29	5	10	7	15	13	27	9	19	3
2. Supplier has an outstanding loan/cash advance from the buyer.	18	38	5	10	12	25	9	19	4	8	3
3. Supplier gives notice to the buyers about supply shortage and the price changes.	14	29	7	15	6	13	10	21	11	23	3
4. Supplier exerts effort to produce/procure chayote ordered.	12	25	4	8	6	13	12	25	14	29	3
5. Supplier extends support services (comboys, packing) to the buyers.	21	44	5	10	6	13	10	21	6	13	2
6. Supplier has adequate logistics (facilities, workforce etc.) in trading the chayote.	14	29	15	31	7	15	8	17	4	8	2

About supplier exerts effort to produce/procure chayote ordered by the buyer, majority of all the respondents are strongly agree, but some retailers (25%) are strongly disagree (25%). It implies that not all the respondents are exerting effort to produce/procure chayote ordered by the buyers of chayote. Most farmers (30%) and assembler-wholesalers (37%) are undecided about extending support services (comboys/packing) by the suppliers to the buyers of chayote. About the adequacy of supplier to their logistics (facilities, equipment, workforce etc.) in trading chayote, most of the farmers (30%) and retailers (31%) are moderately disagree. Some of the assembler-wholesalers (31%) and wholesalers (36%) are undecided while some financier-assembler-wholesalers (44%) and wholesaler-retailers (34%) are moderately agreed. It implies that not all the actors have the logistics in trading chayote.

Statistical results, like the descriptive analysis and test statistics are shown in Table 6b. Statistical testing was done purposely for further validation of the data frequency results. The respondents have variations in the perceived service quality criteria. In the mean statistics revealed that the respondents are undecided whether, Supplier (seller) extend credit term to buyers, Supplier extends support services (comboys, packing) to the buyer and Supplier has adequate logistics (facilities, workforce etc.) in trading, and not all the respondents agree to the perceived service quality criteria that Supplier gives notice to the buyers about supply shortage and the price changes and Supplier extends support services (comboys, packing) to the buyer. While the respondents disagree, that Supplier has an outstanding loan/cash advance from the buyer.

In the statistical test, the different actors have more or less the same understanding about supplier (seller) extend credit term to buyers of chayote, supplier has an outstanding loan/cash advance from the buyer and supplier extends support services

Table 6b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DEGREE OF FREEDOM	ASYMPTOTIC SIGNIFICANCE
1. Supplier (seller) extend credit term to buyers of chayote.	3.15	7.691	3	0.053
2. Supplier has an outstanding loan/cash advance from the buyer.	2.71	1.349	3	0.718
3. Supplier gives notice to the buyers about supply shortage and the price changes.	3.58	11.834	3	0.008*
4. Supplier exerts effort to produce/procure chayote ordered.	3.79	14.371	3	0.002**
5. Supplier extends support services (comboys, packing) to the buyer of chayote.	3.16	7.700	3	0.053
6. Supplier has adequate logistics (facilities, workforce etc.) in trading the chayote.	3.17	14.710	3	0.002**

* significant ** highly significant

Mean range and descriptive equivalent

1-1.8 strongly disagree 1.9-2.7 moderately disagree 2.8-3.5 undecided
 3.6-4.4 moderately agree 4.5-5 strong agree

(comboys, packing) to buyers of chayote. However, the respondents have significantly difference on giving notice about supply shortage/price changes to the buyers, exerting effort to produce/procure chayote ordered and the adequacy of logistics in trading.

The chi-square test showed that the respondents give much importance on the adequacy of logistics in trading chayote and the given less importance to the outstanding loan/cash advance from the buyer. Therefore this prove what Parasuraman (1998)description about service quality, as the extra things a supplier is willing to do to retain customer’s business,which Hutt and Speh (1995) further expand that “service” varies with the nature of the product and the requirements of the buying organizations, service may include such variables as providing technical assistance, innovative suggestions, credit arrangements, support for special needs, or providing advance notice of impending price changes or shortages in supply.

Perceived Functional Quality
by Different Chain Actors

Functional quality, describes the way a supplier goes about delivering the product to the customer. Fundamentally, this means being able to deliver the product when the customer wants it. By implications, it involves many inter-related activities such as production, scheduling, storage and warehousing, logistics, ordering and invoicing (Gronroos, 1990).

In Table 7a presents the perceived functional quality criteria used by buyers in choosing/buying chayote. As to supplier (seller) adhere to production/procurement/delivery targets, most of the financier-assembler-wholesalers (38%), wholesaler-retailers (40%) and majority of trucker-wholesalers (55%) are strongly agree and some farmers (27%), assembler-wholesalers (42%), wholesalers (43%) and retailers (33%) are moderately agree to the criterion. Most of the assembler-wholesalers (42%), financier – assembler-wholesalers (31%), wholesalers (43%), wholesaler-retailers (40%) and majority of trucker-wholesalers (55%) are strongly agree that buyers choose the supplier that classifies/grades the chayote properly. implies that to gain respect to the buyers, the actor appropriately classify/grades the chayote. Most of the farmers (47%), financier-assembler-wholesalers (38%), trucker-wholesaler (64%), wholesalers (43%), wholesaler-retailers (49%) and retailers (41%) strongly agree to the criterion, that supplier accurately weighed and packed the chayote. Most of the financier-assembler-wholesalers (56%), trucker-wholesalers (55%), and wholesaler-retailers (46%) strongly agree that buyers choose suppliers who have adequate supply of chayote when buyers want it.

Table 7a. Functional quality criteria perceived by different chain actors

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
A. Farmers											
1. Supplier (seller) adhere to production/procurement/delivery targets.	2	7	6	20	8	27	8	27	6	20	3
2. Supplier classifies/grades the chayote properly.	1	3	2	7	5	17	10	33	12	40	4
3. Supplier accurately weighed and packed the chayote.	0	0	3	10	3	10	10	33	14	47	4
4. Supplier has adequate supply of chayote when the buyers want it.	4	13	4	13	8	27	11	37	3	10	3
5. Supplier accepts orders and delivers the chayote when needed.	3	10	7	23	6	20	9	30	5	17	3
6. Supplier is flexible in pricing the chayote and accepts payment term.	1	3	3	10	11	37	10	33	5	17	4
B. Assembler -Wholesalers											
1. Supplier (seller) adhere to production/procurement/delivery targets.	1	5	1	5	6	32	8	42	3	16	4
2. Supplier classifies/grades the chayote properly.	0	0	3	16	6	32	3	16	7	37	4
3. Supplier accurately weighed and packed the chayote.	0	0	1	5	4	21	8	42	6	32	4
4. Supplier has adequate supply of chayote when the buyers want it.	1	5	2	11	3	16	7	37	6	32	4
5. Supplier accepts orders and delivers the chayote when needed.	0	0	3	16	2	11	7	37	7	37	4
6. Supplier is flexible in pricing the chayote and accepts payment term.	0	0	1	5	3	16	8	42	7	37	4
C. Financier-Assembler-Wholesalers											
1. Supplier (seller) adhere to production/procurement/delivery targets.	0	0	3	19	2	13	5	31	6	38	4
2. Supplier classifies/grades the chayote properly.	1	6	1	6	5	31	4	25	5	31	4
3. Supplier accurately weighed and packed the chayote.	0	0	1	6	5	31	4	25	6	38	4
4. Supplier has adequate supply of chayote when the buyers want it.	0	0	2	13	2	13	4	25	8	50	4
5. Supplier accepts orders and delivers the chayote when needed.	1	6	1	6	3	19	2	13	9	56	4
6. Supplier is flexible in pricing the chayote and accepts payment term.	1	6	0	0	5	31	4	25	6	38	1

Numerical value and descriptive equivalent

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	%	
C. Financier-Assembler-Wholesalers											
1. Supplier (seller) adhere to production/procurement/delivery targets.	0	0	3	19	2	13	5	31	6	38	4
2. Supplier classifies/grades the chayote properly.	1	6	1	6	5	31	4	25	5	31	4
3. Supplier accurately weighed and packed the chayote.	0	0	1	6	5	31	4	25	6	38	4
4. Supplier has adequate supply of chayote when the buyers want it.	0	0	2	13	2	13	4	25	8	50	4
5. Supplier accepts orders and delivers the chayote when needed.	1	6	1	6	3	19	2	13	9	56	4
6. Supplier is flexible in pricing the chayote and accepts payment term.	1	6	0	0	5	31	4	25	6	38	4
D. Trucker -Wholesalers											
1. Supplier (seller) adhere to production/procurement/delivery targets.	0	0	0	0	1	9	4	36	6	55	4
2. Supplier classifies/grades the chayote properly.	2	18	0	0	0	0	2	18	7	64	4
3. Supplier accurately weighed and packed the chayote.	0	0	0	0	1	9	3	27	7	64	5
4. Supplier has adequate supply of chayote when the buyers want it.	0	0	0	0	1	9	4	36	6	55	4
5. Supplier accepts orders and delivers the chayote when needed.	0	0	0	0	2	18	3	27	6	55	4
6. Supplier is flexible in pricing the chayote and accepts payment term.	0	0	0	0	0	0	4	36	7	64	5
E. Wholesalers											
1. Supplier (seller) adhere to production/procurement/delivery targets.	3	21	1	7	1	7	6	43	3	21	3
2. Supplier classifies/grades the chayote properly.	2	14	2	14	2	14	3	21	5	36	4
3. Supplier accurately weighed and packed the chayote.	2	14	0	0	3	21	3	21	6	43	4
4. Supplier has adequate supply of chayote when the buyers want it.	0	0	1	7	3	21	8	57	2	14	4
5. Supplier accepts orders and delivers the chayote when needed.	1	7	1	7	3	21	4	29	5	36	4
6. Supplier is flexible in pricing the chayote and accepts payment term.	0	0	0	0	5	36	1	7	8	57	4

Table 7a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
F. Wholesaler -Retailers											
1. Supplier (seller) adhere to production/procurement/delivery targets.	0	0	3	9	6	17	12	34	14	40	4
2. Supplier classifies/grades the chayote properly.	3	9	2	6	4	11	13	37	13	37	4
3. Supplier accurately weighed and packed the chayote.	2	6	1	3	4	11	11	31	17	49	4
4. Supplier has adequate supply of chayote when the buyers want it.	0	0	1	3	7	20	11	31	16	46	4
5. Supplier accepts orders and delivers the chayote when needed.	1	3	0	0	6	17	14	40	14	40	4
6. Supplier is flexible in pricing the chayote and accepts payment term.	1	3	0	0	6	17	13	37	15	43	4
G. Retailers											
1. Supplier (seller) adhere to production/procurement/delivery targets.	4	8	8	17	10	21	16	33	10	23	3
2. Supplier classifies/grades the chayote properly.	2	4	4	8	9	19	18	38	15	34	4
3. Supplier accurately weighed and packed the chayote.	1	2	6	13	5	10	18	38	18	41	4
4. Supplier has adequate supply of chayote when the buyers want it.	1	2	4	8	15	31	14	29	14	32	4
5. Supplier accepts orders and delivers the chayote when needed.	4	8	6	13	10	21	14	29	14	32	4
6. Supplier is flexible in pricing the chayote and accepts payment term.	3	6	4	8	8	17	17	35	16	36	4

Some of the assembler-wholesalers (37%), financier-assembler-wholesalers (56%), trucker-wholesalers (55%) and wholesaler-retailers (40%) strongly agree to the criterion that supplier accepts orders and delivers the chayote when needed. Majority of the trucker-wholesalers (64%) and wholesalers (57%) strongly agree that buyers choose supplier who is flexible in pricing the chayote and accepts payment term.

The statistical result is shown in Table 7b. The mean statistics revealed that respondents agree to the perceived functional quality criteria used by the buyers as bases in buying/choosing chayote in the spot market.

Table 7b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DEGREE OF FREEDOM	ASYMPTOTIC SIGNIFICANCE
1. Supplier (seller) adhere to production/procurement/delivery targets.	3.65	9.941	3	0.019*
2. Supplier classifies/grades the chayote properly.	3.84	1.088	3	0.780
3. Supplier accurately weighed and packed the chayote.	4.05	2.171	3	0.538
4. Supplier has adequate supply of chayote when the buyers want it.	3.81	14.784	3	0.002**
5. Supplier accepts orders and delivers the chayote when needed.	3.76	13.221	3	0.004**
6. Supplier is flexible in pricing the chayote and accepts payment term.	3.97	11.893	3	0.008**

* significant ** highly significant

Mean range and descriptive equivalent

1-1.8 strongly disagree 1.9-2.7 moderately disagree 2.8-3.5 undecided

3.6-4.4 moderately agree 4.5-5 strong agree

The respondents are very significantly different about the supplier (seller) adherence to production/procurement/delivery targets, supplier has adequate supply when buyers want it, supplier accepts orders and deliveries when needed and supplier is flexible in pricing and accepts payment term. Chi-square test revealed that, the respondents give much importance to the adequacy of supply of chayote by the supplier when buyers want it, and gave lesser importance in classifying/grading the chayote properly by the supplier. The result implied that respondents varies according to perception on functional quality, that is to the functions in terms of being able to deliver the chayote when customer want it, like product scheduling, ordering and invoicing. In terms of proper classification/grading, accurate weighing/packing chayote, the result showed no significant variation among respondents.

Perceive Abilities to Meet the Quality Requirements

In Table 8a, shows the perceived abilities of the different chain actors to meet the criteria used by the market intermediaries in purchasing chayote in the spot market. Abilities refer to the capabilities of the actors in meeting quality requirements. Majority of the farmers (60%), assembler- wholesalers (53%), wholesaler-retailers (51%), retailers (52%) and some financier-assembler-wholesalers (38%), trucker-wholesalers (45%) and wholesalers (36%) are strongly agree that they appropriately classify, weighed and packed the chayote they sold. Most of the assembler-wholesalers (47%), financier-assembler-wholesalers (44%), trucker-wholesalers (45%), and majority of the wholesalers (57%), wholesaler-retailers (71%) and retailers (52%) are strongly agree that they sell/buy chayote at a negotiated price. Some of the farmers (30%) are undecided about delivering the chayote when required. In the assemble-wholesaler (42%), financier-assembler-wholesalers (31%) trucker-wholesalers (27%), wholesaler-retailers (29%), and retailers (37%) are strongly agree that they deliver chayote when required, and some retailers (27%) are strongly disagree about delivering chayote when required. Most of the farmers (40%), assembler-wholesalers (47%), financier-assembler-wholesalers (38%), trucker-wholesalers (45%), wholesalers (36%) and retailers (35%) are strongly agree. Some wholesaler-retailers (46%) are moderately agree about buying chayote which are free from pest and diseases, physical injury and chemical residues. As to freshness, cleanliness and firmness of chayote, most of the respondents strongly agree to this criterion.

Table 8a. Perceived abilities to meet the quality requirements

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
A. Farmers											
1. I appropriately classified, weighed and packed the chayote I sold.	0	0	1	3	1	3	10	33	18	60	5
2. I sell/buy chayote at a negotiated price.	0	0	1	3	7	23	16	53	6	20	4
3. I deliver when required.	4	13	4	13	9	30	8	27	5	17	3
4. I buy chayote free from pest and diseases, physical injury and chemical residues.	0	0	3	10	6	20	9	30	12	40	4
5. I usually buy chayote which are fresh, clean, firm.	1	3	0	0	4	13	13	43	12	40	4
6. I buy chayote from sellers with good reputation.	0	0	2	7	6	20	15	50	7	23	4
7. I buy adequate volume of chayote to meet immediate demand.	1	3	8	27	10	33	5	17	6	20	3
8. I have adequate logistics to buy chayote.	0	0	9	30	12	40	6	20	3	10	3
B. Assembler –Wholesalers											
1. I appropriately classified, weighed and packed the chayote I sold.	1	5	4	21	2	11	2	11	10	53	4
2. I sell/buy chayote at a negotiated price.	0	0	0	0	4	21	6	32	9	47	4
3. I deliver when required.	0	0	3	16	5	26	3	16	8	42	4
4. I buy chayote free from pest and diseases, physical injury and chemical residues.	1	5	3	16	2	11	4	21	9	47	4
5. I usually buy chayote which are fresh, clean, firm.	0	0	2	11	0	0	2	11	15	79	5
6. I buy chayote from sellers with good reputation.	1	5	0	0	5	26	3	16	10	53	4
7. I buy adequate volume of chayote to meet immediate demand.	0	0	1	5	2	11	9	47	7	37	4
8. I have adequate logistics to buy chayote.	0	0	3	16	3	16	9	47	4	21	4
C. Financier-Assembler-Wholesalers											
1. I appropriately classified, weighed and packed the chayote I sold.	0	0	2	13	5	31	3	19	6	38	4
2. I sell/buy chayote at a negotiated price.	0	0	1	6	3	19	5	31	7	44	4
3. I deliver when required.	1	6	2	13	3	19	5	31	5	31	4
4. I buy chayote free from pest and diseases, physical injury and chemical residues.	1	6	2	13	4	25	3	19	6	38	4
5. I usually buy chayote which are fresh, clean, firm.	1	6	1	6	5	31	3	19	6	38	4
6. I buy chayote from sellers with good reputation.	0	0	4	25	3	19	5	31	4	25	4
7. I buy adequate volume of chayote to meet immediate demand.	0	0	3	19	2	13	4	25	7	44	4
8. I have adequate logistics to buy chayote.	0	0	2	13	3	19	9	56	2	13	4

Numerical value and descriptive equivalent

1 strongly disagree

2 moderately disagree

3 undecided

4 moderately agree

5 strongly agree

Table 8a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
D. Trucker –Wholesalers											
1. I appropriately classified, weighed and packed the chayote I sold.	0	0	0	0	1	9	5	45	5	45	4
2. I sell/buy chayote at a negotiated price.	0	0	0	0	1	9	5	45	5	45	4
3. I deliver when required.	3	27	0	0	2	18	3	27	3	27	3
4. I buy chayote free from pest and diseases, physical injury and chemical residues.	0	0	1	9	3	27	2	18	5	45	4
5. I usually buy chayote which are fresh, clean, firm.	0	0	0	0	1	9	2	18	8	73	5
6. I buy chayote from sellers with good reputation.	0	0	0	0	3	27	4	36	4	36	4
7. I buy adequate volume of chayote to meet immediate demand.	0	0	0	0	3	27	3	27	5	45	4
8. I have adequate logistics to buy chayote.	0	0	1	9	2	18	5	45	3	27	4
E. Wholesalers											
1. I appropriately classified, weighed and packed the chayote I sold.	3	21	1	7	1	7	4	29	5	36	4
2. I sell/buy chayote at a negotiated price.	0	0	1	7	2	14	3	21	8	57	4
3. I deliver when required.	4	29	2	14	3	21	1	7	4	29	3
4. I buy chayote free from pest and diseases, physical injury and chemical residues.	0	0	3	21	2	14	4	29	5	36	4
5. I usually buy chayote which are fresh, clean, firm.	1	7	1	7	5	36	1	7	6	43	4
6. I buy chayote from sellers with good reputation.	1	7	1	7	3	21	5	36	4	29	4
7. I buy adequate volume of chayote to meet immediate demand.	0	0	2	14	2	14	6	43	4	29	4
8. I have adequate logistics to buy chayote.	2	14	1	7	6	43	3	21	2	14	3
F. Wholesaler –Retailers											
1. I appropriately classified, weighed and packed the chayote I sold.	0	0	2	6	4	11	11	31	18	51	4
2. I sell/buy chayote at a negotiated price.	0	0	0	0	3	9	7	20	25	71	5
3. I deliver when required.	6	17	1	3	8	23	7	20	13	37	4
4. I buy chayote free from pest and diseases, physical injury and chemical residues.	0	0	1	3	4	11	16	46	14	40	4
5. I usually buy chayote which are fresh, clean, firm.	0	0	0	0	2	6	16	46	17	49	4
6. I buy chayote from sellers with good reputation.	0	0	1	3	10	29	9	26	15	43	4
7. I buy adequate volume of chayote to meet immediate demand.	0	0	1	3	5	14	11	31	18	51	4
8. I have adequate logistics to buy chayote.	3	9	4	11	7	20	13	37	6	17	3

Table 8a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
G. Retailers											
1. I appropriately classified, weighed and packed the chayote I sold.	1	2	5	10	6	13	11	23	25	52	4
2. I sell/buy chayote at a negotiated price.	1	2	1	2	5	10	21	44	20	42	4
3. I deliver when required.	13	27	5	10	10	21	12	25	8	17	3
4. I buy chayote free from pest and diseases, physical injury and chemical residues.	2	4	7	15	8	17	14	29	17	35	4
5. I usually buy chayote which are fresh, clean, firm.	1	2	4	8	8	17	16	33	19	40	4
6. I buy chayote from sellers with good reputation.	1	2	8	17	11	23	15	31	13	27	4
7. I buy adequate volume of chayote to meet immediate demand.	3	6	9	19	11	23	13	27	12	25	3
8. I have adequate logistics to buy chayote.	13	27	11	23	11	23	10	21	4	8	3

About in buying chayote from seller with good reputation, majority of the assembler- wholesalers (53%), some trucker-wholesalers, wholesalers (43%) and wholesaler-retailers (43%) are strongly agree and most farmers (50%), financier-assembler-wholesalers (31%) and retailers (31%) are moderately agree. In buying adequate volume of chayote to meet immediate demand most of the farmers (33%) are undecided. Some assembler-wholesalers (47%), wholesalers (43%) and retailers (27) are moderately agree, and nearly half of the financier-wholesaler-assemblers, trucker-wholesalers (45%) and about half of the wholesaler-retailers (51%) respondents are strongly agree. it implies that there is variations about the actors buying adequate volume of chayote to meet immediate demand. About in the adequacy of logistics to buy/sell chayote, some farmers (40%) and wholesalers (43%) and are undecided, while some retailers (27%) are strongly disagree. About the assembler-wholesalers (47%), financier-assembler-wholesalers (56%) trucker-wholesalers (45%) and wholesaler- retailers (37%)

are moderately agree. it implies that the actors have differences on the adequacy of logistics to buy chayote.

The statistical test shown in Table 8b, the mean revealed that all the respondents agree to the perceived abilities to meet the criteria used by market intermediaries in buying chayote. But the actors disagree to the delivery of chayote when required and the adequacy of logistics in trading chayote. Moreover, the statistical test further supports this findings that different actors have more or less the same understanding about the perceived abilities to meet the criteria used by intermediaries, except selling/buying chayote at a negotiate price, buying adequate volume of chayote to meet immediate demand and having adequate logistics in buying chayote, that there is a highly significance among the actors.

Table 8b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DEGREE OF FREEDOM	ASYMPTOTIC SIGNIFICANCE
1. I appropriately classified, weighed and packed the chayote I sold.	4.12	4.643	3	0.200
2. I sell/buy chayote at a negotiated price.	4.26	13.981	3	0.003**
3. I deliver when required.	3.29	6.940	3	0.074
4. I buy chayote free from pest and diseases, physical injury and chemical residues.	3.95	1.067	3	0.785
5. I usually buy chayote which are fresh, clean, firm.	4.17	3.301	3	0.348
6. I buy chayote from sellers with good reputation.	3.87	2.123	3	0.547
7. I buy adequate volume of chayote to meet immediate demand.	3.80	16.483	3	0.001**
8. I have adequate logistics to buy chayote.	3.22	21.159	3	0.000**

* significant

** highly significant

Mean range and descriptive equivalent

1-1.8 strongly disagree

1.9-2.7 moderately disagree

2.8-3.5 undecided

3.6-4.4 moderately agree

4.5-5 strong agree

Perceive Inabilities to Meet the Quality Requirements

Inabilities refer to the incapability's of the actors in meeting the quality requirement in the spot market. Table 9a shows the perceive inabilities of different chain actors in meeting quality requirements. Some farmers (37%), assembler-wholesalers (42%) and majority of the trucker-wholesalers (64%), wholesalers (57%), wholesaler-retailers (57%) and retailers (50%) are strongly agreed that they are dependent on the quality/ quantity of chayote they produced /procure.

As to perceive inabilities about the insufficiency of capital to produce/procure chayote, some farmers (40%) and wholesaler-retailers (26%) are undecided, and some assembler-wholesalers (32%), financier-assembler-wholesalers (38%) and retailers (29%) are moderately agree to the criterion.

Some farmers (37%), financier-assembler-wholesalers (38%) and trucker-wholesalers (27%) moderately disagree and some assembler-wholesalers (37%) moderately agree to the criterion, that the actors have limited control on the quality/quantity of chayote they produced and sold.

About the dependency from the prevailing market price, most of the farmers (40%), assembler-wholesalers (63%) and financier-assembler-wholesalers (31%) are undecided to the criterion.

On the average of the different actors shown that the different respondents largely depend on the quality/quantity of chayote produced/procure/sell. They moderately consider that they have insufficient capital to produced/procure/sell; have limited control on quality/quantity of chayote they produce/procure and sold; and being largely depend from the prevailing market price.

Table 9a. Perceived inabilities to meet the quality requirements

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
A. Farmers											
1. I am dependent on the quality/quantity of chayote I produced/procured.	1	3	3	10	7	23	8	27	11	37	3
2. I have insufficient capital to produce/procure chayote.	1	3	8	27	12	40	7	23	2	7	3
3. I have limited control on the quality/quantity ofchayote I produced/procured and sold.	1	3	11	37	6	20	10	33	2	7	3
4. I largely depend from the prevailing market price.	0	0	1	3	12	40	9	30	8	27	3
B. Assembler -Wholesalers											
1. I am dependent on the quality/quantity of chayote I produced/procured.	0	0	2	11	5	26	4	21	8	42	4
2. I have insufficient capital to produce/procure chayote.	3	16	4	21	5	26	6	32	1	5	3
3. I have limited control on the quality/quantity ofchayote I produced/procured and sold.	2	11	3	16	4	21	7	37	3	16	3
4. I largely depend from the prevailing market price.	0	0	2	11	12	63	1	5	4	21	3
C. Financier-Assembler-Wholesalers											
1. I am dependent on the quality/quantity of chayote I produced/procured.	1	6	1	6	2	13	7	44	5	31	4
2. I have insufficient capital to produce/procure chayote.	3	19	2	13	3	19	6	38	2	13	3
3. I have limited control on the quality/quantity ofchayote I produced/procured and sold.	0	0	6	38	4	25	5	31	1	6	3
4. I largely depend from the prevailing market price.	1	6	0	0	5	31	5	31	5	31	4
D. Trucker-Wholesalers											
1. I am dependent on the quality/quantity of chayote I produced/procured.	0	0	0	0	1	9	3	27	7	64	5
2. I have insufficient capital to produce/procure chayote.	3	27	4	36	2	18	2	18	0	0	2
3. I have limited control on the quality/quantity ofchayote I produced/procured and sold.	1	9	3	27	1	9	3	27	2	18	3
4. I largely depend from the prevailing market price.	2	18	1	9	2	18	3	27	3	27	3

Numerical value and descriptive equivalent

1 strongly disagree

2 moderately disagree

3 undecided

4 moderately agree

5 strongly agree

Table 9a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
E. Wholesalers											
1. I am dependent on the quality/quantity of chayote I produced/procured.	1	7	2	14	2	14	1	7	8	57	4
2. I have insufficient capital to produce/procure chayote.	4	29	1	7	1	7	2	14	6	43	3
3. I have limited control on the quality/quantity ofchayote I produced/procured and sold.	3	21	1	7	1	7	3	21	6	43	4
4. I largely depend from the prevailing market price.	0	0	1	7	5	36	2	14	6	43	4
F. Wholesaler-Retailers											
1. I am dependent on the quality/quantity of chayote I produced/procured.	0	0	2	6	6	17	7	20	20	57	4
2. I have insufficient capital to produce/procure chayote.	8	23	6	17	9	26	6	17	6	17	3
3. I have limited control on the quality/quantity ofchayote I produced/procured and sold.	2	6	8	23	10	29	6	17	9	26	3
4. I largely depend from the prevailing market price.	1	3	6	17	7	20	8	23	13	37	4
G. Retailers											
1. I am dependent on the quality/quantity of chayote I produced/procured.	2	4	0	0	5	11	17	35	24	50	4
2. I have insufficient capital to produce/procure chayote.	6	13	11	23	5	11	12	25	14	29	3
3. I have limited control on the quality/quantity ofchayote I produced/procured and sold.	2	4	13	27	9	20	9	19	15	31	3
4. I largely depend from the prevailing market price.	1	2	7	15	11	25	13	27	16	33	4

In Table 9b shows the statistical test to further validate the frequency results. Mean statistics revealed that the respondents agree about dependency on the quality/quantity of chayote they produced/procured, and largely depend from the prevailing market price. The respondents are undecided as to insufficiency of capital to produce/procure chayote and have limited control on the quality/quantity produced/procured and sold. The finding is further supported by the statistical test. That respondent have common perception about the inabilities in meeting quality requirements.

Table 9b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DEGREE OF FREEDOM	ASYMPTOTIC SIGNIFICANCE
1. I am dependent on the quality/quantity of chayote I produced/procured.	4.04	5.365	3	0.147
2. I have insufficient capital to produce/procure chayote.	3.13	3.868	3	0.276
3. I have limited control on the quality/quantity of chayote I produced/procured and sold.	3.28	2.981	3	0.395
4. I largely depend from the prevailing market price.	3.69	.873	3	0.832
Mean range and descriptive equivalent				
1-1.8 strongly disagree		1.9-2.7 moderately disagree		2.8-3.5 undecided
3.6-4.4 moderately agree	4.5-5 strong agree			

Constraints to Improve/Maintain Quality Requirements

Table 10a shows the perceive various constraints of the different chain actors. Constraints are those barriers that hinder the actors in meeting the quality requirements in the spot market.

Some farmers (33%), assembler-wholesalers (37%), wholesaler-retailers (26%) and retailer (33%) are moderately agree, most financier-assembler-wholesalers (50%) and wholesalers (43%) are undecided and majority of trucker-wholesalers (55%) are moderately agree that the inadequacy of logistics, facilities/equipments hinders the actors in meeting quality requirements.

About inadequacy of capital to acquire appropriate logistics, facilities/equipments, most farmers (30%), assembler-wholesalers (42%) and wholesaler-retailers (34%) are moderately agree, and to the wholesalers (36%) and retailers (29%), they are strongly agree, while the financier-assembler-wholesalers (31%) and majority of the trucker-wholesalers (55%) are moderately disagree to the criterion.

Table 10a. Constraints to improve/maintain quality requirements

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
A. Farmers											
1. Inadequacy of logistic facilities/equipments.	0	0	7	23	9	30	10	33	4	13	3
2. Inadequacy of capital to acquire appropriate logistic facilities/equipments.	0	0	9	30	6	20	9	30	6	20	3
3. Limited choices on chayote.	6	20	14	47	7	23	1	3	2	7	2
4. Less control in grading/packaging.	4	13	13	43	7	23	5	17	1	3	2
5. Lack of cold storage facility in trading.	6	20	0	0	4	13	2	7	18	60	3
B. Assembler -Wholesalers											
1. Inadequacy of logistic facilities/equipments.	1	5	3	16	5	26	7	37	3	16	3
2. Inadequacy of capital to acquire appropriate logistic facilities/equipments.	1	5	5	26	2	11	8	42	3	16	3
3. Limited choices on chayote.	4	21	8	42	3	16	3	16	1	5	2
4. Less control in grading/packaging.	2	11	2	11	9	47	4	21	2	11	3
5. Lack of cold storage facility in trading.	0	0	3	16	2	11	2	11	12	63	4
C. Financier-Assembler-Wholesalers											
1. Inadequacy of logistic facilities/equipments.	3	19	2	13	8	50	2	13	1	6	3
2. Inadequacy of capital to acquire appropriate logistic facilities/equipments.	2	13	5	31	4	25	4	25	1	6	3
3. Limited choices on chayote.	1	6	7	44	5	31	2	13	1	6	3
4. Less control in grading/packaging.	2	13	5	31	4	25	5	31	0	0	3
5. Lack of cold storage facility in trading.	4	25	2	13	2	13	2	13	6	38	3
D. Trucker -Wholesalers											
1. Inadequacy of logistic facilities/equipments.	2	18	6	55	1	9	1	9	1	9	2
2. Inadequacy of capital to acquire appropriate logistic facilities/equipments.	2	18	6	55	1	9	0	0	2	18	2
3. Limited choices on chayote.	5	45	3	27	2	18	0	0	1	9	2
4. Less control in grading/packaging.	1	9	6	55	1	9	2	18	1	9	3
5. Lack of cold storage facility in trading.	3	27	1	9	1	9	1	9	5	45	3
E. Wholesalers											
1. Inadequacy of logistic facilities/equipments.	1	7	2	14	6	43	2	14	3	21	3
2. Inadequacy of capital to acquire appropriate logistic facilities/equipments.	4	29	0	0	4	29	1	7	5	36	3
3. Limited choices on chayote.	3	21	3	21	4	29	3	21	1	7	3
4. Less control in grading/packaging.	1	7	1	7	3	21	3	21	6	43	4
5. Lack of cold storage facility in trading.	2	14	2	14	2	14	0	0	8	57	4
Numerical value and descriptive equivalent											
1 strongly disagree			2 moderately disagree			3 undecided					
4 moderately agree			5 strongly agree								



Table 10a. Continued...

STATEMENT	1		2		3		4		5		AVE
	N	%	N	%	N	%	N	%	N	%	
F. Wholesaler –Retailers											
1. Inadequacy of logistic facilities/equipments.	3	9	9	26	9	26	9	26	5	14	3
2. Inadequacy of capital to acquire appropriate logistic facilities/equipments.	6	17	8	23	5	14	12	34	4	11	3
3. Limited choices on chayote.	8	23	7	20	7	20	10	29	3	9	3
4. Less control in grading/packaging.	2	6	9	26	5	14	12	34	7	20	3
5. Lack of cold storage facility in trading.	12	34	2	6	4	11	4	11	13	37	3
G. Retailers											
1. Inadequacy of logistic facilities/equipments.	5	10	6	13	8	17	16	33	13	27	4
2. Inadequacy of capital to acquire appropriate logistic facilities/equipments.	7	15	11	23	6	13	10	21	14	29	3
3. Limited choices on chayote.	12	25	12	25	8	17	14	29	2	4	3
4. Less control in grading/packaging.	3	6	10	21	11	23	13	27	11	23	3
5. Lack of cold storage facility in trading.	9	19	5	10	2	4	4	8	28	58	4

About the limited choices of chayote, the farmers (47%), assembler-wholesalers (42%) and financier-assembler- wholesalers (44%) are moderately disagree, about the wholesaler-retailers (29%) and retailers (29%) are moderately agree, about 45% of trucker wholesaler are strongly agree and some wholesaler are undecided. As to less control in grading/packaging, most farmers (43%), financier-assembler-wholesalers (31%) and some truckers are moderately disagreeing to the criterion. In the lack of cold storage facility in trading, majority of all the respondents strongly agree to this criterion.

In Table 10b, shows the statistical results, the mean statistics revealed that all the respondents are undecided to the barriers that hinders the actors in meeting quality requirements in the spot market. Moreover, the statistical further support this finding. The different actors have more or less the same understanding about the barriers that hinders the actors in meeting the quality requirements of chayote in the spot market.



Table 10b. Descriptive analysis and test statistics

STATEMENT	MEAN	CHI-SQUARE	DEGREE OF FREEDOM	ASYMPTOTIC SIGNIFICANCE
1. Inadequacy of logistic facilities/equipments.	3.26	6.945	3	0.074
2. Inadequacy of capital to acquire appropriate logistic facilities/equipments.	3.18	4.026	3	0.259
3. Limited choices on chayote.	2.59	.285	3	0.963
4. Less control in grading/packaging.	3.12	13.288	3	0.004**
5. Lack of cold storage facility in trading.	3.57	2.313	3	0.510

** highly significant

Mean range and descriptive equivalent

1-1.8 strongly disagree

1.9-2.7 moderately disagree

2.8-3.5 undecided

3.6-4.4 moderately agree

4.5-5 strong agree



SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The research locations followed the geographic flow of chayote from the major source (production) to the major market assembly and collection, and the geographic distribution markets. However, the research coverage areas will be from selected production and marketing areas.

A total of 173 respondents were interviewed from their respective respondent group: production group (farmer), assembly group (assembler-wholesalers, financier-assembler-wholesalers), distribution group (trucker-wholesalers, wholesalers, & wholesaler-retailers) and retailing group (retailers) at the La Trinidad Vegetable Trading Post which served as primary markets (assembly/collection). Pangasinan and Metro Manila as secondary markets (distribution) and such as Balintawak market and Urdaneta city, while the tertiary market are Novaliches, Kamuning, Mega Q, Nepa Q, Blumentritt and Basilio.

In the demographic profile, Most of the respondents were in the age bracket of 20-40 years old. Majority of the farmers, assembler-wholesalers and trucker-wholesalers are male, and financier-assembler-wholesaler, wholesaler, wholesaler-retailer and retailer are female. Majority of the different chain actors were married. Almost all of the respondents were catholic. In the educational background most of the farmer, assembler-wholesaler, wholesaler-retailer and retailer are high school level, and majority of financier-assembler-wholesaler, trucker-wholesaler and wholesaler are college level. And most of the respondents was venturing 1-5 years in business.



Majority of the respondents agree that the perceive product quality criteria as bases of the buyers in choosing or buying is that the color and size of chayote are specified, it must be fresh , clean and firm, and the freedom of chayote from chemical residue, pest and diseases, and physical injury. In the descriptive statistics and test statistics shows that there is no significantly difference among the different actors have common understanding. And in the chi-square result shows that they gave much importance on the color and size of chayote must be specified, and they gave less importance on the freedom of chayote from physical injury.

On the service quality criteria, most of the respondents are moderately agree that their perceived service quality criteria as bases of buyers in procuring chayote is that supplier gives notice to the buyers about supply shortage and price changes and supplier exerts effort to produce/ procure chayote ordered. Most respondents are undecided about supplier (seller) extend credit term to buyers of chayote and supplier has an outstanding loan/ cash advance from the buyer. It is because most of the chain actors has limited capital especially the retailers .they are also undecided that supplier extends support services to buyer in the delivery of chayote, because most of them said that the buyer are the one paying those “comboys”.

In the functional quality criteria the respondents agree that the perceive functional quality criteria as bases of buyers in choosing chayote is that the supplier accurately weighed and packed the chayote. Some of the respondents are undecided that supplier adhere to production/procurement/delivery targets, supplier classifies/grades the chayote properly, Supplier has adequate supply of chayote when the buyers want it, supplier accepts orders and deliveries the chayote when needed, and the supplier are flexible in



pricing and accepts payment terms. The respondents also gave much importance on supplier has adequate supply of chayote when buyers want it, and they gave less importance on supplier classifies/grades the chayote properly.

In the perception about their abilities to meet the criteria used by market intermediaries in purchasing chayote. Most of the respondents agreed that they appropriately weighed and packed chayote they sold, they sell/buy chayote at a negotiated price and they buy/sell chayote which are fresh, clean and firm. While in buying adequate volume of chayote to meet immediate demand, adequacy of logistics to buy chayote and buying/selling chayote at a negotiated price there is significantly difference among the chain actors. The respondents also gave much importance on buying adequate volume of chayote to meet immediate demand, while they gave less importance in buying chayote free from pest and diseases, physical injury and chemical residue.

In the inabilities of respondents most of them agree that they are dependent on the quality/quantity of chayote they produce/procured and they gave much importance to it. And the respondents are undecided to agree and in the ranking they gave less importance that they largely depend from the prevailing market price.

The various constraints to improve/ maintain the quality of fresh chayote offered, most of the respondents are undecided about the inadequacy of logistics facilities/equipments, inadequacy of capital to acquire appropriate logistics facilities/ equipment. Limited choices of chayote, less control in grading, and lack of cold storage facility because of the interviewed respondents said that they only sell their produce and the buyers will be the one to handle it already. The retailers agree that the various constraints



are the inadequacy of logistics facilities/equipments and lack of storage facility in trading.

Conclusions

Based from the result and discussion the following conclusions were drawn:

1. The respondents, in general have favorable perception about product quality that is, free from pest and diseases, chemical residue and physical injury, the color and size of chayote are specified, the chayote must be firm, fresh and clean are the bases of buyers in choosing or buying chayote in the spot.

2. In the service quality, buyers choose supplier who gives notice to the buyers about supply shortage and the price changes, and supplier who exerts effort to produce/procure chayote ordered.

3. In the abilities, the actors appropriately classify, weighed and packed the chayote they sold, the sell/buy chayote at a negotiated price, they buy/sell chayote which are fresh, clean and firm, they also buy/sell chayote which are free from pest and diseases, physical injury

5. The actors are dependent on the quality of chayote they produced and procured, and they largely depend on the market prevailing market price.

6. The constraints that hinders the actors in meeting quality requirements is the lack of cold storage facilities.

Recommendations

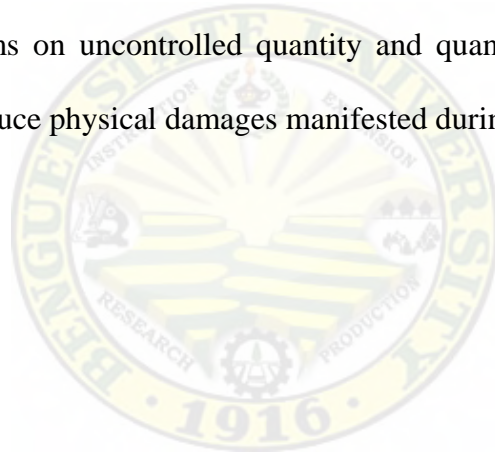
1. The different chain actors should plan and worked together in order to obtain and to improve the quality of chayote sold in the spot market. Efficient and effective production as well as to vegetable quality.



2. The farmer must be given priority for improvement, and they must produced chayote free from pest and diseases, chemical residue and physical injury, the color and size of chayote are specified, the chayote must be firm, fresh and clean to meet the buyers requirements.

3. A proper linkage should be created between buyers and farmers through some kind of institutional arrangements like contract etc. to achieve the requirements of the buyers.

4. The government should concentrate its programs on providing support to vegetable industry as to providing state of the art equipments and facilities. This would help reduce problems on uncontrolled quantity and quantity of vegetables in the spot markets and also reduce physical damages manifested during handling (transporting).



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Appendix A

Letter to the Respondents

Benguet State University
COLLEGE OF AGRICULTURE
La Trinidad, Benguet

November 2010

Sir/ Madam

I am a fourth year student taking up Bachelor of Science in Agribusiness majoring in Enterprise Management at Benguet State University is conducting a research entitled “CHAIN ACTORS’ PERCEPTION ON QUALITY OF CHAYOTE IN THE SPOT MARKET”

In this connection, may I request a part of your time to answer this questionnaire honestly and completely. Rest assured that all data gathered will be kept strictly confidential.

Thank you very much for your kind consideration. God bless.

Very truly yours,

JENIO M. LEGANIO
Researcher

Noted:

LEOPOLDO N. TAGARINO
Adviser



APPENDIX B

Interview Schedule

This research aims to investigate the chayote 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. _____

A. Respondents Group:

1. Production Group: Farmer
2. Assembly (Collection) Group: Assembler- Wholesaler
 Financier-Assembler-Wholesaler;
3. Distribution Group: Trucker-Wholesaler; Wholesaler;
 Wholesaler-Retailer
4. Retailing Group: Retailers

B. Respondents Profile

1. Age: _____
2. Gender: Male Female
3. Marital Status: Single Married Separated Widowed
4. Religion: _____
5. Educational Attainment: Elementary High School College Vocational
6. Number of years engage in chayote business: _____
7. Organizational Affiliation: Farmers Association; _____ Traders Association
_____ Cooperative; _____ Others (Please Specify) _____

C. Who are the buyers of the chayote you produced?

- Assembler-Wholesalers; Financier-Assembler-Wholesalers;
 Trucker-Wholesaler; Wholesalers; Wholesaler-Retailers; Retailers

D. Where do you sell the chayote produced?

- La Trinidad Vegetable Trading Post; Private Trading Center in La Trinidad;
 Metro Manila (Specify) Other Market: Please Specify _____

E. Perceptions on Quality:

I. Product (physical/ technical) quality:

What product quality criteria do you perceive as having been the basis of the buyers in choosing or buying the chayote?

Factors

- | | 1 | 2 | 3 | 4 | 5 | |
|--|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| 1. Chayote are free from chemical residue. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 2. Chayote are free from pest and diseases. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 3. Color and size, of chayote are specified. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 4. Chayote are free from physical injury. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 5. Chayote are fresh and clean | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 6. Chayote are firm. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |



II. Service quality

What service quality criteria used do you perceived as having been the basis of the buyers in choosing or buying the chayote

- | Factors | 1 | 2 | 3 | 4 | 5 | |
|---|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| 1. Supplier (seller) extends credit term to buyers of vegetables. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 2. Supplier has an outstanding loan from the buyer. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 3. Supplier gives notice to the buyers about supply shortage and the price changes. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 4. Supplier exerts effort to produce/procure chayote ordered. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 5. Supplier extends assistance to the buyer in the delivery of chayote. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 6. Supplier has adequate logistics in trading the chayote. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |

III. Functional quality

What functional quality criteria do you perceive as having been the bases of the buyers in choosing or buying chayote?

- | Factors | 1 | 2 | 3 | 4 | 5 | |
|---|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| 1. Supplier (seller) adheres to procurement/delivery targets. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 2. Supplier classifies and grades the chayote properly. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 3. Supplier accurately weighed and packed the chayote. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 4. Supplier has adequate supply of chayote when the buyers want. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 5. Supplier accepts orders and delivers the chayote when needed. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 6. Flexibility of supplier in pricing the chayote and accepts payment term. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |

IV. Perception about their abilities to meet the criteria used by market intermediaries in purchasing chayote?

Abilities refer to the capabilities of the actors in the spot market in meeting quality requirements.

- | Factors | 1 | 2 | 3 | 4 | 5 | |
|--|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| 1. Appropriately classified, weighed and packed the chayote I sold. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 2. I sell chayote at a negotiated price. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 3. I deliver when required. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 4. I buy chayote free from pest and diseases, physical injury and chemical residues. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 5. I usually buy chayote which are fresh, clean, and firm. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 6. I buy chayote from sellers with good reputation. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 7. I buy adequate volume of chayote to meet immediate demand. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 8. I have adequate logistics to buy chayote. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |



V. Perception about Their Inabilities to Meet the Market Intermediary's Needs.

Inabilities are the incapability of the actors in meeting quality requirements in the spot market.

Factors

1 2 3 4 5

- | | | | | | | | |
|--|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| 1. I am dependent on the quality/ quantity of chayote I produced/ procured. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 2. I have sufficient capital to produce/ procure chayote. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 3. I have limited control on the quality/ quantity of chayote I produce/ and sold. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 4. I largely depend from the prevailing market price. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |

VI. Various Constraints To Improve The Quality Of Fresh Offered.

Constraints are barriers that hinder the actors in meeting quality requirements in the spot market.

Factors

1 2 3 4 5

- | | | | | | | | |
|--|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
| 1. Inadequacy of logistics facilities/ equipment. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 2. Inadequacy of capital to acquire appropriate logistics facilities/equipments. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 3. Limited choices on chayote. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 4. Less control in grading/packaging. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |
| 5. Lack of cold storage facility in trading. | Strongly Disagree | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Strongly Agree |

