

## **BIBLIOGRAPHY**

GARCIA, VICTORIA A. APRIL 2012. Market Acceptability of Benguet State University Veggie Enriched Udon Noodles in Baguio City. Benguet State University, La Trinidad, Benguet.

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## **ABSTRACT**

This study was conducted to determine the awareness and perceptions of veggie enriched udon noodles, to interpret the factors and considerations affecting consumers in buying the product, and to know the level of the market acceptability of the product.

Three methods were employed to gather the information needed in the study: survey questionnaire to determine the awareness of the consumers, product testing through sensory evaluation, and market testing data sheet. There were one hundred respondents who evaluated the product classified as to professional, non-professional, household, and students.

Findings showed that the veggie enriched udon noodles is liked and accepted by the respondents. However, since it is newly innovated product, comments and suggestions were solicited from the respondents. Some comments on the improvement were on taste, aroma, and packaging. Factors that affects the acceptability of the product includes: taste, aroma, size, appearance, color, quantity, and price.



Veggie enriched udon noodles is acceptable to the target consumers, however, there are still improvements that should be done and packaging should be improved to make it attractive to consumers.



## RESULTS AND DISCUSSION

### Profile of Respondents/Panels

Table 1 presents the general profile of the respondents according to respondent group, sex, age, civil status, educational attainment, occupation, ethnic affiliation, and religious affiliation.

Students were the most in number (41) who evaluated the product, followed by professional who were twenty five, non-professional who were twenty three and eleven housewives. According to Karanja, opinions of teens matter. Students/teens provide input for everything from grocery purchases to entertainment choices to vacation destination and activities. It is not a secret to us that teens are very active consumers. In this age bracket, people usually begin their careers, get married, and spend money in a big way. Equally important is the fact that today's young adults typically have far different personal values and life-styles from those of their counterparts in the past generations.

Professionals are those who make their art, distinguished from the non-professionals. They have also graduated a degree and have passed the board exam. Non-professionals are the opposite of the professionals which includes the college undergraduate down to the lowest level of educational attainment. Housewives are those who are non-working mothers staying at home, taking care of their children, and doing the household chores. Students are those who are attending educational institutions that include college level, high school level, and elementary level.

Etzel (2001), mentioned that educational level affects the literacy rate, which in turn influences advertising, branding, and labeling. The brand mark may become the



dominant marketing feature if potential consumers cannot read and must recognize the article by the picture on the label.

Gender. Out of one hundred respondents, 72 were females and 28 were males.

Age. There were 34% of the panelist who evaluated the product who belonged to the age range of 12-20 years old. This was followed by thirty one percent who belonged to 21-30 years old, nineteen percent belonged to 41-years old and above, and sixteen percent belonged to 31-40 years old.

Civil status. A single-parent family with dependent children faces social and economic problems quite different from those of a two-parent family. Young married couples with no children typically devote large shares of income to clothing, autos, and recreation. These situations will affect the buying behavior of the consumers. In this study, majority (59%) were single and 41% were married.

Educational attainment. As to educational attainment, some (33%) of the respondents were college student who evaluated the product. There were twenty eight college graduate equivalents to twenty eight percent, twenty two high school graduate equivalents to twenty two percent, ten high school level equivalents to ten percent, three elementary level equivalents to three percent, two college undergraduate equivalents to two percent, and two elementary graduate equivalents to two percent. According to Etzel (2001), education has significant impact on income. A high school diploma has lower worth than a college diploma. It is not new to us that people who graduated higher degree are the one who is on top, valued, and hired first in a job. And the higher the position is, the higher the income. A person's occupation affects the goods and services bought.



Marketers try to identify the occupational groups that have an above-average interest in their product and services.

There were thirty one equivalents to thirty one percent of the respondents came from a variety of occupations ranging from teacher (6%), storekeeper (4%), department manager (1%), office secretary (1%), sales merchandiser (1%), farmer (4%), business man/woman (6%), barangay official (1%), laborer (1%), saleslady (2%), engineer (1%), driver (2%), and technician (1%). The others were students and households.

Household average monthly income. The size of a family's income is an obvious determinant of how that family spends its income. People in a given income bracket spends significantly more pesos in each product category than those in lower brackets. However, the lower-income households devote a larger percentage of the total expenditures to some product categories, such as food. There were 36% of the respondents earning less than Php10, 000 a month, thirty one percent earns Php10, 000 to Php15, 000 a month and the rest are earning more than Php15, 000 a month. Most of the respondent belonged to the lower income group.

Ethnic affiliation. Since the study was conducted in Baguio City; Benguet has the majority (67%) of the respondents who evaluated the product. The rest were from Ifugao, Ilocos Region, Mt. Province, Pangasinan, Tagalog Region, and others. Thus, respondents were a variety from these areas. Culture is the sum total of learned belief, values, and customs that serve to direct the consumer behavior of members of a particular society. Etzel (2001), said that culture is a set of shared values passed down from generation to generation in a society. Socially acceptable behavior was determined by these values. The impact of culture is so natural and automatic that its influence on behavior is usually taken for



granted. For instance, when consumer researchers ask people why they do certain things, they frequently answer, “Because it is the right thing to do”. Thus, a true appreciation of the influence that culture has on our daily life requires some knowledge of one society with different cultural characteristics. We all know that cultures of Benguet are too far from the cultures of other society just like that of Tagalog regions.

By the given definition, it is easy to see how understanding of various cultures of a society helps marketers predicts consumer acceptance of their products.

Religious affiliation. Some (37%) of the respondents belonged to the Roman Catholic sector, twenty eight were Born Again equivalents to twenty eight percent, undetermined religion were 16%, seven percent were Anglican equivalents to seven percent, four which is equivalents to four percent Assembly of God, four equivalents to four percent Baptist, three equivalents to three percent Jehova's Witnesses, and there is only one percent Iglesia ni Cristo.

Table 1. Profile of respondents/taste panels

PARTICULARS	FREQUENCY	PERCENTAGE
Respondent group	25	25
Professional	23	23
Non-professional	11	11
Housewife	41	41
Students	25	25
TOTAL	100	100
Gender		
Female	72	72
Male	28	28
TOTAL	100	100



Table 1. Continued...

PARTICULARS	FREQUENCY	PERCENTAGE
Age bracket		
12-20	34	34
21-30	31	31
31-40	16	16
41-above	19	19
TOTAL	100	100
Civil status		
Single	59	59
Married	41	41
TOTAL	100	100
Educational attainment		
Elementary level		
Elementary graduate	2	2
High school level	10	10
High school graduate	22	22
College level	33	33
College graduate	28	28
TOTAL	100	100
Occupation		
Storekeeper	4	4
Teacher	6	6
Office Secretary	1	1
Sales Merchandiser	1	1
Dept. Manager	1	1
Farmer	4	4
Businesswoman/man	6	6
Barangay Official	1	1
Laborer	1	1
Saleslady	2	2
Engineer	1	1
Driver	2	2



Table 1. Continued...

PARTICULARS	FREQUENCY	PERCENTAGE
Technician	1	1
TOTAL	31	31
Household size		
3-5	47	47
6-10	53	53
TOTAL	100	100
Ethnic affiliation		
Benguet	67	67
Ifugao	9	9
Ilocos Region	7	7
Mt. Province	9	9
Pangasinensi	1	1
Tagalog	3	3
Others	4	4
TOTAL	100	100
Religious affiliation		
Anglican	7	7
Assembly of God	4	4
Baptist	4	4
Born Again	28	28
Iglesia ni Cristo	1	1
Jehova's Witnesses	3	3
Roman Catholic	37	37
Others	16	16
TOTAL	100	100
Household monthly income		
Less than Php10,000	36	36
Php10,000-Php15,000	31	31
Php16,000-Php20,000	19	19
Php21,000-Php30,000	13	13
Php31,000-above	1	1
TOTAL	100	100





Type of Noodles Consumed by  
Taste Panels/Respondents

Table 2 shows the type of noodles consumed by the taste panels/respondents. The respondents were a consumer of noodles and the only need is for them to know that the product exists. The table shows that consumers are not buying udon because udon noodles are not commonly produced in our country. Respondents mostly prefer instant noodles because it is easy to cook. There were 22% of the professionals who are buying instant noodles, while there were 23% non-professionals, 10 % housewife, and 36% students. However, respondents were also buying and consuming canton noodles, miki noodles, macaroni noodles and other variety of noodles. The result implies that respondents were not buying udon noodles and this is because udon is not a common product in the place and not available in any supermarket in Baguio City and La Trinidad, Benguet.

There are no manufacturers /producers of udon noodles in our place. Udon is not usually a common dish prepared in our common kitchen table everyday while instant noodles and canton noodles can be seen everywhere. People today are also getting buzy

Table 2. Type of noodles consumed by taste panes/respondents

CLASSIFICATION OF PANELIST	INSTANT* NOODLES	CANTON* NOODLES	MIKI* NOODLES	UDON* NOODLES	MACA- RONI* NOODLES	OTHER* VARIETY NOODLE
Professional	22	19	12	-	15	2
Non-profesional	23	20	17	-	20	-
Housewife	10	8	4	-	6	-
Students	36	26	14	-	32	-

\*Multiple responses



and there is no time for them to cook especially for morning/breakfast. That is why people rather choose food that is easy to cook or prepare or pre-processed product. In that way, they have more time for other activities.

As to the veggie enriched udon noodles, respondents may buy this but not that frequent because BVPC udon noodles takes too long to cook, while instant noodles would just take three minutes to be cooked.

Taste Panels/Respondents that are Buying and Not Buying Noodles

Table 3 shows the panels/respondents that are buying and not buying noodles. Most (95%) of them were buying instant noodles, canton noodles, miki noodles, macaroni noodles but not udon noodles. Out of the 41 students, there were only 5 who were not buyers of any kind or variety of noodles at all. The result of the study implies that respondents were not consumers of udon noodles, thus, assumes that target consumers were not consumer of veggie enriched udon noodles.

Table 3. Taste panels/respondents that were buying and not buying noodles

CLASSIFICATION OF PANELIST	BUYING NOODLES		NOT BUYING NOODLES	
	F	%	F	%
Professional	25	25	-	-
Non-profesional	23	23	-	-
Housewife	11	11	-	-
Students	36	36	5	5
TOTAL	95	95	5	5



Consumer Awareness of Consumers on Veggie Enriched Udon Noodles

The processing technology employed in the production of udon noodles was too different from the originally produced by other countries. The udon noodles of Benguet Vegetables Processing Center (BVPC) were steamed unlike the udon noodles of Japan that is fried. This was a new innovated product made up of wheat flour, salt, water, and vegetable puree as its natural flavor and color which are nutritious and without additives of food coloring, stabilizers and artificial flavorings. The size and length is different because the udon of other countries are longer than that of the BVPC.

Table 4 shows the awareness of the consumers on the veggie enriched udon noodles. Most (72%) of the respondent have no knowledge at all about the product. However, twenty nine percent (28%) who have some form of knowledge about it but never tried and bought such veggie enriched udon noodles. The result implies that most of the taste panels/respondents were not aware of veggie enriched udon noodles.

Table 4. Awareness of consumers on veggie enriched udon noodles

CLASSIFICATION OF PANELIST	AWARE		UNAWARE	
	F	%	F	%
Professional	5	5	20	20
Non-professional	8	8	15	15
Housewife	3	3	8	8
Student	12	12	29	29
TOTAL	28	28	72	72



## Consumer Perceptions on Veggie Enriched Udon Noodles

Table 5 shows the responses of the consumer perceptions according to their knowledge on veggie enriched udon noodles. Most (88%) of the respondents agreed that the product is for hunger satisfaction and only twelve percent disagree.

Perception is the psychological interpretation of sensations determined by comparison with past experiences. An attitude is a person's view towards something. Attitudes are an important topic for marketers because attitude affects the selective process, learning, and eventually the buying decisions people make.

Because attitudes are usually thought of as involving liking or disliking, have some connection. A belief is a person's opinion about something. Belief may shape a consumer's attitudes but do not necessarily involve any liking or disliking. It is possible to have a belief without really caring what it taste like. On the other hand, belief about a product may have a positive or negative effect in consumer's attitudes. For example, a person with a headache is unlikely to switch to a new pain medicine unless he believes it will be more effective than what he has used in the past. A person may have positive attitudes towards a product but no intention of buying it.

Because of unawareness of the respondents on the veggie enriched noodles, they thought and assume that it is for hunger satisfaction. Respondents may think that the product is not that nutritious food that they can be benefited from it. With so many food products today, many competitors arise and it is too difficult to market newly innovated products like veggie enriched noodles.



Nutritional value of the food is also very important for the consumers because nutrition is what our body need for us to live healthy and wealthy. As shown in the Table 5, respondents less agreed that the product has nutritional value.

Respondents also think that the product is just like other noodles. It may be the same in the taste or in the quality of the noodle they usually consume. Seventy nine of the respondents agreed and twenty one disagreed that udon noodles have the same quality and taste as other commercial noodles available in the market. This implies that the target consumers should know more about the product.

Some foods can cause diseases like those foods that have much artificial flavorings. It may cause urinary tract infection, diabetes, high blood and many more. Sometimes, consumers were not aware of it. For people who are health conscious, they take a look of the ingredients before buying a product. From the result of the study, twenty one percent of the respondents agreed that the veggie enriched udon noodles were unsafe to consume. Despite of Dr. Salda, the manufacturer, claimed that the product is really safe because there are no artificial flavorings, it was not indicated in the packaging material that's why consumer cannot be sure if the product is really safe. Even the Nutrition facts were not printed in the packaging material. The result of the study implies that most (88%) of the respondents thought that the product is for hunger satisfaction. Thus, manufacturer should let the target consumers know the good things about the veggie udon noodles so that they may not merely be thinking that it is just to fill hungry stomach but it is far different from the commonly noodles being bought and consume. The product is not merely for what they think about.



Table 5. Consumer perceptions on veggie enriched udon noodles

PARTICULARS	AGREE*		DISAGREE*	
	F	%	F	%
Hunger satisfaction	88	88	12	12
Nutritional value	86	86	14	14
Its just like other noodles	79	79	21	21
Unsafe food	21	21	79	79

\*Multiple responses

Considerations of the Respondents before  
Buying Veggie Enriched Udon Noodles

Table 6 shows the considerations of the respondents towards buying udon noodles and how many of them agreed or not agree on the presented considerations. The respondents agreed that the availability of the product in the market and safety of the product are the most important to consider before buying a new product like veggie enriched udon noodles of BVPC.

Most (91%) of the respondents mentioned the availability of the product is one consideration in buying. If it is not available, probably, they will buy product that can be an alternative to the product needed. If ever they can order to the manufacturer, it will take time for them to wait. Consumers desire convenience of the needs.

One more important consideration is the safety of the product. Most (93%) mentioned major consideration to buy is the safety of the product/food. The producer should be responsible for this. Consumers should be aware of the safety of a product before buying and consuming it to avoid costs. We all know that many people get sick and died because of unsafe food.



Affordability of the product as mentioned by most (89%) of the respondents is also an important factor to consider by the customer. Most likely, low income people prefer quality products with an affordable price.

Respondents also consider their curiosity in buying new product like veggie enriched udon noodles. People may buy a new product because of curiosity. In this way, consumers can determine whether they will like or not the product. Repeat orders would happen when the consumer were already satisfied with the product he/she tried. Some (84%) of the respondents agreed that curiosity with the product is also a consideration before buying newly innovated product, while 16% disagreed. Most (83%) of the respondents also agreed that sensory evaluation is one consideration before buying new product such as veggie enriched udon noodles. Sensory evaluation may help the consumers to choose what products they would prefer from the many brands existing in our world of unending needs. Result of the study implies that all enumerated considerations were essential to consider before buying new innovated product.

Table 6. Considerations of the respondents before buying veggie enriched udon noodles

PARTICULARS	AGREE*		DISAGREE*	
	F	%	F	%
Safe and no therapeutic claim	93	93	7	7
Availability of the product in the market	91	91	9	9
Affordable price	89	89	11	11
Curiosity with the product	84	84	16	16
Depends on the sensory evaluation	83	83	17	17
Suggestions of friends, family members, and others	76	76	24	24

\*Multiple responses



## Factors Affecting Consumers in Buying Veggie Enriched Udon Noodles

Table 7 shows the responses of the respondent whether they agree or not with the factors presented.

Most (87%) of the respondents agreed that perception affects consumers in buying new product like veggie enriched udon products. The respondents may believe that the product is more salable if and only if the consumer thought that the product is good. Perception is the process by which people select, organize, and interpret information to form a meaningful picture of the world. A product exists in marketing only if consumers perceive that it will satisfy their wants.

Personal factors also affect the buying behavior of the consumer. The respondents were asked whether they agree or not if personal wants based on experiences and motives will be the factor that affects them to buy veggie enriched udon noodles. Eighty two percent agreed and 18 percent disagreed for this factor.

Personal factors are age, occupation, economic situation, lifestyle, and personality. Growing up, children learn basic values, perception and wants from the family and other important groups. People change the goods and services over their lifetimes. Each person's distinct personality influences his or her buying behavior. Moreover, a given product is perceived quite differently by different consumers. A child perceives a color television set as a source of pleasurable entertainment. Mother may view it as a baby-sitter, source of information, and a teacher for her child. Father may view it as an overpriced luxury that prevents him from buying a new outboard motor.

Traditions and behaviors are also factors that affect the buying behavior of consumers. The respondents were also asked whether they agree or not that udon noodles





is more known and traditionally used will be a factor that would affects them to buy the product. One factor could be the attitudes of other people towards the product. Sixty four percent of the respondents agreed and thirty six disagreed on both factors.

Through doing and learning, people acquire beliefs and attitudes. Traditionally, customers in our society buy product which are more known and use by people. Thus, in buying udon noodles, majority (64%) of the panels consider traditions as one factors affecting motives to buy the product. Other factor includes social interest (62%), and cultural (46%).

The result of the study implies that all factors that have enumerated would affects the buying behavior of a consumer but the most factor that can affects would be the perception of every individual towards the product that would be introduced to them especially if this is newly innovated product like veggie enriched udon noodles.

Table 7. Factors affecting consumers in buying veggie enriched udon noodles

PARTICULARS	AGREE*		DISAGREE*	
	F	%	F	%
Perception	87	87	13	13
Personal Factor	82	82	18	18
Traditions	64	64	36	36
Behaviors	64	64	36	36
Social Interest	62	62	38	38
Cultural	46	46	54	54

\*Multiple responses



## Sensory Evaluation of Veggie Enriched Udon Noodles

Sensory evaluation was done to evaluate the acceptability of the product based on the taste, color, aroma, texture, quantity, appearance, price, and including its general acceptability. Panelist was divided into four respondent groups as to professionals, non-professionals, housewife, and students.

Furthermore, sensory evaluation gives real answer regarding consumer quality according to Mason and Nottingham (2002). It is a science of judging and evaluating the quality of the food by the use of senses as stated by Mabesa (1986). Caul (1957) also stated that the respondent should be generally healthy. Minor infections of the nose and throat might affect flavor perception. Nutritional health of the individual may also affect sensitivity.

Acceptability ratings used in the taste test were as follows: extremely like, like, slightly like, neither like or dislike, dislike, slightly dislike, and extremely dislike.

## Preferences on Product Attributes on Veggie Udon Noodles by Professional Respondents

Table 8 shows the acceptability of the professionals to the veggie udon noodles and to the commercial veggie noodle. Furthermore, the table also shows what they would prefer among the preference attributes. The respondents like and mostly prefer the texture which has the highest computed mean. However, they also like the aroma, and slightly like the taste, color, quantity and appearance. Texture of a product is one of the criteria in selecting a commodity including that of a food item. Texture refers to the coarseness or smoothness of a product. Texture may affect the taste of a food, thus it is a significant factor that may affect the acceptability of a product. The texture of the udon is not as smooth as the



common/commercial noodles we often consume. However, despite of the slight coarseness of the product, still respondent like the texture. Result implies that the product is acceptable/liked by the respondents and also assumes that the target consumers will also like it. As to the general acceptability, respondents neither like nor dislike the horse raddish (*Malunggay*) and assume that the target consumer will also be the same.

As to the squash, aroma was most likely preferred by the respondent. However, they also like the taste, color, and appearance, slightly like the texture, and neither like nor dislike the quantity and price. Aroma is the odor arising from the product. Aroma may affect the taste of the food, thus it is also significant factor in the acceptability of the product. Result implies that the respondents most prefer the odor of the product, in terms of odor, variant squash is liked by the respondent, thus, it is assumed that the target consumer also like/accepted it. As to its general acceptability, respondents like the product and assume that the squash is liked by the target consumers.

As to the carrot, respondents mostly like and prefer the color and texture. The color of the product is orange and its texture is the same as to the variant horse raddish (*malunggay*) and squash. Results imply that the respondents more preferred the color and texture than those of other preference attributes. However, they also like the aroma and taste, and slightly like the quantity, appearance and price. Results imply that the carrot is liked by the respondents especially on the texture and color and assume that the target consumer will like carrot. As to its general acceptability, respondents slightly liked the product, thus target consumer follows.

As to the commercial veggie noodles, texture is mostly like and preferred by the respondents. However, they all like the preference attributes except for the price wherein



they slightly like because it is too expensive. As to its general acceptability, the respondents like the product for it has the highest computed mean among the four products. Results imply that the professionals more preferred the commercial veggie noodles than the newly innovated udon noodles, thus, the target consumers prefer this commercial veggie noodles despite of its price.

Table 8. Preferences on product attributes on veggie udon noodles by professional respondents

CRITERIA	RATINGS							MEAN	DE	RANK
	7	6	5	4	3	2	1			
Horseradish variant										
Aroma	3	7	9	4	1	-	-	5.52	L	2
Taste	1	8	7	7	2	-	-	5.39	SL	4
Color	3	5	13	2	-	-	2	5.48	SL	3
Texture	-	11	13	-	1	-	-	5.83	L	1
Quantity	-	3	6	10	5	1	-	4.57	SL	6
Appearance	-	2	10	11	2	-	-	4.87	SL	5
Price	-	1	5	9	7	2	1	3.72	N	7
Gen. Acceptability	-	1	6	16	-	1	1	4.48	N	
Squash variant										
Aroma	1	12	10	1	1	-	-	5.91	L	1
Taste	1	9	10	5	-	-	-	5.70	L	4
Color	2	9	13	-	-	1	-	5.87	L	2
Texture	-	1	13	9	-	2	-	4.83	SL	5
Quantity	-	3	9	6	-	5	2	4.30	N	6
Carrot variant										
Aroma	4	9	7	3	1	-	-	5.74	L	3
Taste	2	11	8	3	-	-	1	5.78	L	2
Color	4	7	12	1	1	-	-	5.96	L	1.5
Texture	2	10	11	2	-	-	-	5.96	L	1.5
Quantity	-	3	10	6	-	5	1	4.48	SL	7
Appearance	3	3	7	9	-	3	-	5.04	SL	5



Table 8. Continued...

CRITERIA	RATINGS							MEAN	DE	RANK
	7	6	5	4	3	2	1			
Appearance	3	3	7	9	-	3	-	5.04	SL	5
Price	1	5	4	11	2	2	-	4.83	SL	6
Gen. Acceptability	2	4	9	7	2	1	-	5.17	SL	
Commercial veggie noodles										
Aroma	7	8	9	1	-	-	-	6.35	L	3
Taste	6	7	7	4	1	-	-	6.00	L	5
Color	7	9	7	2	-	-	-	6.35	L	3
Texture	9	7	8	1	-	-	-	6.48	L	1
Quantity	5	8	8	2	2	-	-	5.96	L	6
Appearance	6	11	6	2	-	-	-	6.35	L	3
Price	2	8	6	3	2	3	-	5.04	SL	7
Gen. Acceptability	5	13	6	1	-	-	-	6.39	L	

## Legend:

Statistical limit	Descriptive equivalent (DE)
1.00-1.49	1 Extremely dislike (ED)
1.50-2.49	2 Slightly dislike (SD)
2.50-3.49	3 Dislike (D)
3.50-4.49	4 Neither like nor dislike (N)
4.50-5.49	5 Slightly like (SL)
5.50-6.49	6 Like (L)
6.50-7.00	7 Extremely like (EL)

Preferences on Product Attributes on Veggie Udon Noodles by Non-professional Respondents

Table 9 shows the non-professional acceptability of the preference attributes of the products. Respondents mostly prefer the taste and texture of the horse radish as shown in the computed mean that this two has the highest, while as to aroma, color, quantity, appearance, and price, the product is neither like nor dislike. Result implies that in terms of the two preference attributes, respondents slightly liked the product and assumes that



the target consumers slightly liked the horseradish. As to its general acceptability, respondents slightly liked the product and assume that the target consumers slightly liked the product.

As to squash, respondents preferred the color and texture among the preference attributes. However, all the preference attributes except for the price were slightly like by the respondents. And as to the general acceptability, respondents slightly like squash. As to the general acceptability, respondents slightly liked the squash, thus assume that the target consumers will slightly liked this squash variant.

For the commercial veggie noodles, non-professional respondents rated this as the highest among the four products. The computed means of the preference attributes of the product were higher than the others and so as to the computed mean of the general acceptability. Respondents preferred the color of the commercial noodle; however, all were slightly liked. Result implies that respondents more preferred this product than the others and assume that the target consumers prefer this also.

Table 9. Preferences on product attributes on veggie udon noodles by non-professional respondents

CRITERIA	RATINGS							MEAN	DE	RANK
	7	6	5	4	3	2	1			
Horseradish variant										
Aroma	1	3	8	7	-	4	-	4.04	N	6
Taste	-	7	7	7	1	1	3	4.52	SL	1.5
Color	-	3	8	6	2	1	-	3.60	N	7
Texture	-	7	11	3	-	2	-	4.52	SL	1.5
Quantity	-	7	10	4	-	2	-	4.48	N	3
Appearance	-	8	7	6	-	-	2	4.36	N	5
Price	-	6	10	6	-	-	1	4.44	N	4
Gen. Acceptability	-	9	7	6	-	-	1	4.56	SL	



Table 9. Continued...

CRITERIA	RATINGS							MEAN	DE	RANK
	7	6	5	4	3	2	1			
Squash variant										
Aroma	2	3	13	4	-	1	-	4.60	SL	3
Taste	2	6	8	4	1	2	-	4.52	SL	4.5
Color	1	10	6	4	1	-	1	4.68	SL	2.5
Texture	1	7	13	1	-	1	-	4.80	SL	1
Quantity	1	5	11	4	1	1	-	4.52	SL	4.5
Appearance	2	4	12	4	1	-	-	4.68	SL	2.5
Price	2	5	7	8	-	-	1	4.48	N	6
Gen. Acceptability	-	7	10	5	-	-	1	4.52	SL	
Carrot variant										
Aroma	2	5	13	-	1	2	-	4.64	SL	5
Taste	-	8	10	3	1	1	-	4.60	SL	6
Color	3	7	8	5	-	-	-	4.92	SL	1.5
Texture	2	6	13	2	-	-	-	4.92	SL	1.5
Quantity	1	8	9	4	-	1	-	4.72	SL	4
Appearance	2	6	12	2	1	-	-	4.84	SL	3
Price	2	5	9	5	1	-	1	4.52	SL	7
Gen. Acceptability	-	5	13	4	-	-	1	4.48	SL	
Commercial veggie noodles										
Aroma	2	9	6	2	4	-	-	4.72	SL	4.5
Taste	1	9	7	4	2	-	-	4.72	SL	4.5
Color	4	8	9	2	-	-	-	5.16	SL	1
Texture	1	6	13	3	-	-	-	4.80	SL	3
Quantity	1	5	12	5	-	-	-	4.68	SL	6
Appearance	4	8	8	3	-	-	-	5.12	SL	2
Price	1	4	8	5	3	2	-	4.16	N	7
Gen. Acceptability	4	7	10	2	-	-	-	5.12	SL	

Legend:



Statistical limit		Descriptive equivalent (DE)
1.00-1.49	1	Extremely dislike (ED)
1.50-2.49	2	Slightly dislike (SD)
2.50-3.49	3	Dislike (D)
3.50-4.49	4	Neither like nor dislike (N)
4.50-5.49	5	Slightly like (SL)
5.50-6.49	6	Like (L)
6.50-7.00	7	Extremely like (EL)

Preferences on Product Attributes on Veggie Udon Noodles by Housewife Respondents

Table 10 shows the acceptability of the housewives on the product attributes. Respondents preferred the quantity of the product; however, all preference attributes were slightly liked. Quantity is the amount (grams) of the product per pack. As to the general acceptability, respondent rated it as slightly like. Result implies that the target consumers slightly liked the horseradish.

As to squash, respondents mostly preferred texture and quantity and the descriptive equivalents of the computed means were slightly like, while as to the aroma, taste, and color were neither like nor disliked. As to the general acceptability, respondent also neither liked nor disliked the squash. Result implies that the product is neither liked nor disliked by the target consumers.

As to carrots, respondents preferred the quantity, appearance and price which they slightly like, while as to aroma, taste, color, and texture were neither like nor disliked. Appearance is the physical thing that can be seen by our naked eye. Appearance may affect the perception of the consumer, thus it is a significant factors that may affect the buying behavior of the consumer. The appearance speaks for the whole characteristics of the product. Consumer may think that the product is bad if the appearance is not attractive and





probably will not buy the product. As to the general acceptability, respondents neither liked nor dislike the carrot. Result implies that the target consumers neither liked nor disliked the product.

As to the commercial veggie noodles, respondents preferred the appearance, however they like the quantity, while as to the others attributes were slightly liked. Respondents also rated the product as the highest among the four though the description equivalent is slightly like just like the non-professionals. This has also the highest mean among the four products. As to the general acceptability, respondent slightly like the commercial veggie noodles. Result implies that housewife preferred the commercial veggie noodles as compared to the veggie udon noodles. Respondents also mostly preferred the appearance, thus assume that the target consumer will also prefer the appearance.

#### Preferences on Product Attributes on Veggie Udon Noodles by Student Respondents

Table 11 shows the acceptability of the students on the consumer preferences on product attributes on veggie udon noodles. Respondents most prefer and slightly like the price among the product preferences on horseradish, however, they slightly like the taste, texture, and quantity. While as to the aroma, color, and appearance were neither like nor disliked. As to their general acceptability, respondents slightly like the horseradish. Thus, result implies that target markets slightly like the product as well as they prefers the price. As to squash, respondents slightly like and prefer price, however, taste color texture is also slightly liked. While as to aroma, it is neither like nor disliked, and as to quantity, it is disliked. As to the general acceptability, the product is slightly liked.

Table 10. Preferences on product attributes on veggie udon noodles by housewife respondents



CRITERIA	RATINGS							MEAN	DE	RANK
	7	6	5	4	3	2	1			
Horseradish variant										
Aroma	-	2	7	1	-	-	1	4.73	SL	5
Taste	-	4	4	1	-	1	1	4.64	SL	6
Color	1	1	4	3	-	-	2	4.27	N	7
Texture	-	1	9	-	-	-	1	4.73	SL	3.5
Quantity	2	4	3	1	-	-	1	5.27	SL	1
Appearance	1	2	4	3	-	-	1	4.73	SL	3.5
Price	2	2	4	2	-	-	1	5.00	SL	2
Gen. Acceptability	1	1	7	1	-	-	1	4.82	SL	
Squash variant										
Aroma	-	-	4	5	2	-	-	4.18	N	6
Taste	-	-	4	5	1	1	-	4.09	N	7
Color	-	-	7	2	2	-	-	4.45	N	5
Texture	-	-	6	4	2	-	-	4.73	SL	1.5
Quantity	-	2	5	3	1	-	-	4.73	SL	1.5
Appearance	-	1	5	4	1	-	-	4.55	SL	3.5
Price	-	2	4	3	2	-	-	4.55	SL	3.5
Gen. Acceptability	-	1	4	5	1	-	-	4.45	N	
Carrot variant										
Aroma	-	-		9	2	-	-	3.82	N	7
Taste	-	-	2	7	2	-	-	4.00	N	6
Color	-	1	2	5	3	-	-	4.09	N	5
Texture	-	1	2	8	-	-	-	4.36	N	4
Quantity	-	2	3	5	1	-	-	4.55	SL	2
Appearance	-	2	2	7	-	-	-	4.55	SL	2
Price	-	2	2	7	-	-	-	4.55	SL	2
Gen. Acceptability	-	1	2	8	-	-	-	4.36	N	
Commercial veggie noodles										
Aroma	1	3	6	-	1	-	-	5.27	SL	5
Taste	-	5	6	-	-	-	-	5.45	SL	3

Table 10. Continued...



CRITERIA	RATINGS							MEAN	DE	RANK
	7	6	5	4	3	2	1			
Color	1	3	6	1	-	-	-	5.36	SL	4.5
Texture	-	5	5	1	-	-	-	5.36	SL	4.5
Quantity	2	3	5	1	-	-	-	5.55	L	2
Appearance	3	2	5	1	-	-	-	5.64	L	1
Price	2	3	4	1	-	1	-	5.27	SL	5
Gen. Acceptability	1	3	6	1	-	-	-	5.36	SL	

Legend:

Statistical limit		Descriptive equivalent (DE)
1.00-1.49	1	Extremely dislike (ED)
1.50-2.49	2	Slightly dislike (SD)
2.50-3.49	3	Dislike (D)
3.50-4.49	4	Neither like nor dislike (N)
4.50-5.49	5	Slightly like (SL)
5.50-6.49	6	Like (L)
6.50-7.00	7	Extremely like (EL)

As to carrot, respondents slightly like the price, however, all the preference attributes were also slightly liked except for the appearance which is neither like nor dislike. As to the general acceptability, it is slightly liked, thus result implies that target consumer slightly like carrot.

As to the commercial veggie noodles, respondents liked and preferred the appearance, however color and quantity is also liked. While as to the aroma, taste, and texture, it is slightly liked. The price was neither like nor disliked. As to the general acceptability, respondent like the product. Computed mean of the product has the highest among the four products. Result implies that respondent preferred this commercial veggie noodles as compared to udon noodles. Thus, it is assume that the target consumers prefer commercial veggie noodles.

Table 11. Preferences on product attribute on veggie udon noodles by student respondent



CRITERIA	RATINGS							MEAN	DE	RANK
	7	6	5	4	3	2	1			
Horseradish variant										
Aroma	4	6	10	12	3	3	2	4.37	N	5.5
Taste	6	7	13	11	1	3	-	4.93	SL	2
Color	2	9	11	10	3	1	5	4.37	N	5.5
Texture	1	15	13	5	4	1	3	4.85	SL	3
Quantity	3	5	16	14	-	1	2	4.66	SL	4
Appearance	3	5	9	13	6	3	2	4.24	N	7
Price	8	6	17	9	-	1	-	5.24	SL	1
Gen. Acceptability	7	5	19	7	2	-	1	5.10	SL	
Carrot variant										
Aroma	3	7	11	11	1	5	2	4.32	N	5
Taste	7	6	10	14	1	2	1	4.85	SL	4
Color	9	2	20	4	4	1	1	5.02	SL	3
Texture	1	16	12	6	3	5	1	5.05	SL	2
Quantity	-	3	5	13	9	6	5	3.39	D	7
Appearance	3	5	9	13	6	3	2	4.24	N	6
Price	8	6	17	9	-	1	-	5.24	SL	1
Gen. Acceptability	4	12	17	6	-	2	-	5.20	SL	
Carrot variant										
Aroma	4	8	18	6	3	-	2	4.90	SL	6
Taste	5	12	13	8	-	-	3	5.05	SL	3.5
Color	5	9	19	4	2	1	1	5.10	SL	2
Texture	3	9	21	4	3	-	1	5.02	SL	5
Quantity	5	9	18	5	1	2	1	5.05	SL	3.5
Appearance	7	8	6	7	1	1	1	3.93	N	7
Price	7	8	18	6	-	1	1	5.22	SL	1
Gen. Acceptability	8	8	10	6	5	2	2	4.85	SL	
Commercial veggie noodles										
Aroma	8	8	15	9	-	1	-	5.29	SL	6
Taste	8	15	8	7	1	2	-	5.39	SL	4

Table 11. Continued...



CRITERIA	RATINGS							MEAN	DE	RANK
	7	6	5	4	3	2	1			
Color	7	15	13	4	2	-	-	5.51	L	3
Texture	5	17	8	9	1	1	-	5.32	SL	5
Quantity	8	15	9	9	-	-	-	5.54	L	2
Appearance	9	14	10	7	1	-	-	5.56	L	1
Price	7	7	7	3	5	4	8	4.12	N	7
Gen. Acceptability	13	12	10	5	1	-	-	5.76	L	

Legend:

Statistical limit	Descriptive equivalent (DE)
1.00-1.49	1 Extremely dislike (ED)
1.50-2.49	2 Slightly dislike (SD)
2.50-3.49	3 Dislike (D)
3.50-4.49	4 Neither like nor dislike (N)
4.50-5.49	5 Slightly like (SL)
5.50-6.49	6 Like (L)
6.50-7.00	7 Extremely like (EL)

### Preferences of Respondents in Terms of Price

The respondents were asked to choose the variant they prefer when the price is the same and when the commercial veggie noodles will be higher in price than the veggie udon noodles. The commercial veggie noodles are made from Durum wheat. This product is a product of Singapore and had been distributed by a Philippine company. The product has no artificial flavorings and preservative and the brands name is San Remo. The packaging is attractive unlike the packaging of the newly innovated product veggie udon noodles. All the necessary information about the product is printed in the packaging itself that includes the manufacturer, the brands name, the ingredients, nutritional information, recipes, and expiry date. The product cost is high but it is worth payable.



It is shown in Table 12, few respondents had chosen the veggie enriched udon noodles and mostly prefer the commercial veggie noodles even if the price of the udon will be lower or the same as to the commercial veggie noodles. The respondents' reason for choosing the commercial was that it is worth the price. The result of the study implies that the respondent rather chose the commercial veggie noodles than the veggie udon noodles. This implies also that the veggie enriched udon noodles will not be competitive in the market in terms of the preference attribute.

Table 12. Preferences of respondents in terms of price

CLASSIFICATION OF PANELIST	HORSERADISH VARIANT	SQUASH VARIANT	CARROT VARIANT	COMMERCIAL VEGGIE NOODLES
	%	%	%	%
Same price				
Professional	1	1	2	21
Non-professional	5	1	6	11
Housewife	1	2	6	23
Students	7	7	9	18
<b>TOTAL</b>	<b>14</b>	<b>11</b>	<b>23</b>	<b>73</b>
Commercial veggie noodles is higher than the rest				
Professional	2	1	1	21
Non-professional	5	2	7	9
Housewife	1	2	3	5
Students	7	7	9	18
<b>TOTAL</b>	<b>15</b>	<b>12</b>	<b>20</b>	<b>53</b>



Importance of Nutritional Contents of the Veggie Enriched Udon Noodles

Knowing the nutritional contents of a food product is very important. Some people who have disease are careful on the food they intake. They have to know the ingredients or the contents of the food before buying and consuming it to avoid conflicts on their health. What if some contents of the products have negative side effects on their health?

The respondents were asked if the nutritional contents of a food product are important to them or not. As shown in Table 13, respondents gave importance to the nutritional contents of the food product they buy. However, few (15%) mentioned especially the students that nutritional value of food products are important for sometimes, most (85%) of the respondent still mentioned that the nutrition content is important. The result of the study implies that professionals were much aware of the importance of knowing the nutritional contents of the food products they bought.

Table 13. Importance of nutritional contents of the veggie enriched udon noodles

CLASSIFICATION OF PANELIST	IMPORTANT	NOT IMPORTANT	SOMETIMES
	%	%	%
Professional	25	-	-
Non-professional	20	-	3
Housewife	10	-	1
Students	30	-	11
TOTAL	85	-	15



Correlation of the Product to Respondents

Table 14 presents the correlation of the product to the respondents. Correlation analysis shows that the relationship of the product to the respondents is not significant which means that the difference in terms of preferences (like or disliked) is negligible. That the difference also among the different sets of taste panel is not significant (at a probability of 0.918 ( $r = 0.091$ ), which means that whether the taste panels were professionals, students, non-professionals and housewives, the difference negligible or no difference at all or maybe a slight difference on their preferences.

As to commercial veggie noodles, there has no significant correlation with the respondents. Just like the horseradish, commercial veggie noodles is not affected whether what respondent group the consumer belonged. While squash and carrot variant have significant correlation with the respondents. This result shows that difference in terms of preferences (liked or dislike) is significant which means preferences differs. Result implies that horseradish and commercial veggie noodles were not affected by the respondents, while squash and carrot variant were affected as to their respondent groups.

Table 14. Correlation of the product to respondents

PRODUCT	r	PROBABILITY
Horse raddish variant	0.019 <sup>ns</sup>	0.918
Squash variant	-0.462*	0.008
Carrot variant	-0.373*	0.035
Commercial veggie noodles	-0.212 <sup>ns</sup>	0.243
*significant	prob.<0.05	ns-not significant prob.>0.05





## Comments and Suggestions on the Improvement of the Product

Respondents gave their comments and suggestions on the product. This would serve as basis in the improvement of the product to suit the taste and preferences of the consumers. Common comments were as follows: put the expiry date and nutritional facts, reduce the price, improve the appearance of the product to make it attractive, labeling should be printed on the plastic itself, and improve packaging material used. Some of the respondents mentioned that they will buy the product if the packaging is attractive. Although, there were some respondents who mentioned that they cannot distinguish the difference in flavor or taste and aroma.

From the comments of the respondents, it is obvious that there are lots more to improve product especially on its taste, aroma, and packaging. Packaging must be appealing because it will serve as the manufacturer's silent sales person.

As an outgrowth of the increase in purchasing power and the importance of time, there has been a substantial increase in the consumer's desire for convenience. They want products ready and easy to use or preference on pre-processed product. They want these products packed in a variety of sizes, quantity and forms. How potential customers see a firm's product affects how much they are willing to pay for it, where it should be made available, and how eager they are for it and if they want it all.

## Acceptability as to the Packaging of the Product

Since more of the panelists were students and they knew that the product is new, the panelist accepted the simplicity of the packaging of the product. Majority (89%) of the panelist mentioned that the packaging is accepted and 11% mentioned it is not and need



more improvements. Panelists gave their comments regarding on the packaging of the product especially on the labeling. Suggestions were to make the packaging colorful and attractive to the consumer. In the labeling, there should be nutritional facts so that the consumers will know what nutrients can be derived from the product, and there should be expiry date because it is very important to avoid spoilage. Furthermore, the panelists suggest that the labeling should be printed directly in the packaging material.

The result this study implies that the packaging is accepted by the consumers, however it still needs improvements. Some mentioned that the packaging is accepted as long as the content is nutritious.

Table 15. Comments and suggestions of the respondents on the product

PARTICULARS	F	%
Put the expiry date and nutritional facts	15	15
Put some tips to cook	9	9
Lower the price	11	11
Improve the appearance	7	7
Labelings should be printed on the plastic itself	5	5
No taste and aroma	4	4
Variants are difficult to distinguish	13	13

\*Multiple responses

Table 16. Acceptability as to the packaging of the product

CLASSIFICATION OF PANELIST	ACCEPTABLE		NOT ACCEPTABLE	
	F	%	F	%
Professional	20	20	5	5
Non-profesional	21	21	2	2
Housewife	10	10	1	1
Students	38	38	3	3
TOTAL	89	89	11	11



Consumer Willingness to Buy Veggie Enriched Udon Noodles

Table 17 shows that there is potential market of the product. Seventy five of the respondents were willing to buy, while there were only twenty five percent who were not willing to buy. However, producer should take into consideration the comments and suggestions of the panelist/respondents to improve the product and make it more suitable to their taste and preferences.

There are factors affecting consumer behavior whether they buy or not the product. Family members can strongly influence buyer behavior. The family is the most important consumer buying organization in society according to Stanton (1985). The table shows the responses of consumer respondents according to their willingness to buy the veggie enriched udon noodles. Majority (75%) of the respondents who have not yet tried buying veggie enriched udon noodles are willing to buy. Twenty five percent are not willing to buy. The result implies that respondents are willing to buy the newly innovated veggie udon noodles.

Table 17. Consumer willingness to buy veggie enriched udon noodles

CLASSIFICATION OF PANELIST	WILLING TO BUY		NOT WILLING TO BUY	
	F	%	F	%
Professional	17	17	8	8
Non-professional	15	15	8	8
Household	10	10	1	1
Students	33	33	8	8
<b>TOTAL</b>	<b>75</b>	<b>75</b>	<b>25</b>	<b>25</b>



## Market Testing of Veggie Enriched Udon Noodles

Introducing a new product or service without first testing the market is like jumping off a cliff into the sea. The more you test your product before you produce and sell it, the more likely you are to earn the sales and profits that you desire. Market testing can be an expensive and time consuming process, however, it is a small, effective investment when compared to the overall risk of possible losing one's entire lifesavings from product failure. Entrepreneurs should always market test their ideas to the general public before taking the risk of starting their business in order to ensure their product and company's success.

Customers may want some products but if suppliers are not willing to supply it, then there is no market. They also want outlet located close by, and open at all hours.

For the market test of the veggie enriched product shown in Table 18, observations in selling the product was that consumers bought at first, but seem just for curiosity because there are no reorder or return orders. Actually, there is no more outlet market of the product in the area where consumers could buy the product. How can consumer buy the product if it is not available in the market? Some of the respondents were asking where they could buy the product, and are not willing to order directly to the manufacturer because it is time consuming, and they are ordering in bulk. One already tried going in the production area and refuse to order because she only need a little and she needs to go back the next day to get her order. The result of the study implies that there is no market for the veggie enriched udon noodles.



Table 18. Market testing of veggie enriched udon noodles

DATE OF OBSERVATION	QUANTITY (grams)	PRICE/PACK (pesos)	SALES TURNOVER (packs)
Jan. 20	200	20	10
Feb. 3	200	20	38
Feb. 7	200	20	35
Feb.16	200	20	30



## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### Summary

This study was conducted to determine the awareness of the consumers on the veggie enriched udon product, to analyze and interpret consumer perceptions on the product, to identify the factors and considerations that would influence consumers to buy the product, and its level of market acceptability. Three tools were employed in the data gathering a) product testing through sensory evaluation, b) survey questionnaire for the awareness of the product, and c) market data sheet for the market acceptability of the product.

There were one hundred panelist/respondents who were chosen and classified as to respondent group; professional, non-professional, household, and students. The data gathered were examined and analyzed using the descriptive method like frequency, mean, and percentage. Respondents evaluated the product whether they like it according to its taste, texture, aroma, appearance, color, size, quantity, price and packaging.

Results showed that most (71%) of the respondents were not aware of the product. The main perception of the respondent against the product is just food that can fill hungry stomach, followed by it is valuable energy provider, it is just like other noodles, and it is a food that can cause related diseases.

Result showed that commercialized veggie noodles are most preferred by the panelists who have evaluated the product though they have accepted the veggie enriched udon noodles. Respondents also mentioned that they accepted the packaging but still need improvements. The main factor that is affecting the consumers in buying the product is their perception on how they think about the product since it is newly innovated product.



Consumers also considered the safety and availability of the product in the market before buying it.

Respondents also gave their comments and suggestions on the product. Some mentioned about the packaging to be more colorful and attractive to look at, and some improvements in the taste and aroma to determine the differences of the variants. On the market test, it was found out that there was no reorder or return order for the product.

### Conclusions

Based on the findings of the study, the following conclusions were made:

1. Most of the respondents were not aware of the veggie enriched udon noodles.
2. The main perception of the respondent on the product is just to fill hungry stomach. However, respondents considered the safetiness and availability of the product in the market.
3. The main factor that influence consumer to buy the product is their perception.
4. The consideration that influences the consumer to buy the product is its safety and market availability.
5. As to the sensory evaluation, the taste panels like/accept the product, but when compared with commercial product, the later is most preferred.
6. There is no reorder or return order for the veggie enriched udon noodles, thus concluded that there is no market for the product. However, there were consumers who are willing to buy, thus concluded that there is potential market for the product.



## Recommendations

Being an entrepreneur or food processors who introduced a newly innovated product in the market, strategies are considered like pricing, promotions, distribution, place/location are important matters to study the competitors in the market.

Since veggie enriched udon noodles are new in the local market, further introduction of the product are recommended to the producer. It should also be proven that the product is safe and nutritious. Promotional measures could be done such as serving udon noodles on festive community occasions, preparing udon noodles using local recipes, distinguishing the veggie enriched udon noodles from other popular noodles could be a means of gaining local acceptance.

Negative comments have been solicited from the respondents; the processor/manufacturer should therefore look into these comments and improve the product to meet the requirements of the target market or consumers of the product. Suggestions also have been solicited, thus these will be the basis of the processor to improve the product.





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