

BIBLIOGRAPHY

MARCOS, JONALYN T. OCTOBER 2012. Consumer Behavior towards Veggie Bread. Benguet State University, La Trinidad, Benguet.

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ABSTRACT

The study was conducted to determine the consumers of veggie bread; to determine the properties of food, person-related factors and environmental factors affecting consumers behavior and buying decision process.

There were ninety respondents who were chosen and classified as to respondent group; thirty employees, thirty households, and thirty students.

The result of the study showed that most of the employees and students consumed wheat bread while for the households, most of them consumed carrot cheese rolls. Generally, most of the respondents were consumers of veggie bread. Respondents perceived that eating veggie bread helps them gain weight and has a good impact to their health.

As for the ethnic affiliation, majority of the respondents were Kankana-ey from Benguet and Ibaloi. Majority of the employees and households respondents have monthly income of Php10000 or less and for the students, majority has monthly allowance of Php 3000 – 4000. For the frequency in buying veggie bread, majority of the respondents buy veggie bread weekly. BSU marketing was the main outlet which the respondents buy



veggie bread. When buying, the respondents considered the health benefits and quality. Majority of the respondents can afford the price of veggie bread.

For the decision process, respondents buy veggie bread because it is a healthy food. As to the sources of information about veggie bread, majority sources of the respondents were friends and family members. As to the sources of information about veggie bread as a healthy food, majority source of the respondents is by reading books. As to the preferences of respondents in buying veggie bread, majority of the respondents considered the following, health benefit of the product, taste, and ingredients of the product. And as for the choice, the respondents most prefer the carrot cheese rolls and wheat bread.



RESULTS AND DISCUSSIONS

Profile of the Respondents

Table 1 presents the general profile of the respondents in terms of age, gender, civil status, religious affiliation, household size, number of years living in the area, occupation/employment status and educational attainment.

Age. Greater proportion of the employees and households belonged to the age range of 26-35 years old. For the students respondents, all of them belonged to 15-25 years old. The result showed that most of the respondents belong to 26-35 years old.

Gender. Majority of the employees, households and student respondents were female as shown in the table.

Civil status. Most (83.3%) of the employees were single and 13.3% were married. For the households majority (56.7%) were married and (43.3%) are single. For the students all of them were single.

Religious affiliation. Majority of the employees (76.7%), most (80%) households and majority (63.3%) student respondents were Roman Catholic. Other religion of the respondents were Anglican, Baptist, Jehovah Witnesses, Lutheran, Pentecostal, Iglesia Ni Cristo, Born Again, and evangelical.

Household size. Majority (66.7%) of the employees, households (63.3%) and the student respondents (53.3%) have big family size which composes of 6-10 members.

Number of years living in the area. For the number of years the respondents are living in the area it was concluded that greater proportions of the respondents were residents in the area. Employees (63.3%), households (73.3%), and student respondents (76.7%) lived in the area for over ten years and the rest lived there for less than ten years.



Main occupation. Majority (60%) of the employees were government employees and 40% were private employees. For the households, most (80%) were businessmen/women and the rest were laborer and housekeeper.

Educational attainment. Most (76.7%) of the employees were degree holder, some were high school and vocational/ course graduate. All the student respondents belonged to college level. For the households most of them reached college level. Thus, all the respondents have attended formal education.

Table 1. Demographic profile of the respondents

PARTICULARS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Age						
15 – 25	9	30.0	4	13.3	30	100
26 – 35	11	36.7	15	50.0	-	-
36 – 45	7	23.3	5	16.7	-	-
46 – 55	2	6.7	4	13.3	-	-
56 – 65	1	3.3	2	6.7	-	-
TOTAL	30	100.0	30	100.0	30	100
Gender						
Male	11	36.7	11	36.7	5	16.7
Female	19	63.3	19	63.3	25	83.3
TOTAL	30	100.0	30	100.0	30	100.0
Civil Status						
Single	25	83.3	13	43.3	30	100
Married	4	13.3	17	56.7	-	-
Widow	1	3.3	-	-	-	-
TOTAL	30	100.0	30	100.0	30	100



Table 1 Continued...

Religion						
Roman Catholic	23	76.7	24	80.0	19	63.3
Anglican	2	6.7	-	-	1	3.3
Iglesia ni Cristo	-	-	1	3.3	-	-
Jehovah's Witnesses	2	6.7	1	3.3	-	-
Evangelical	-	-	-	-	1	3.3
Born again	-	-	1	3.3	1	3.3
Pentecostal	1	3.3	2	6.7	1	3.3
Lutheran	1	3.3			1	3.3
Baptist	1	3.3	1	3.3	6	20.0
TOTAL	30	100.0	30	100.0	30	100.0
Household Size						
1 – 5	10	33.3	11	36.7	14	46.7
6 – 10	20	66.7	19	63.3	16	53.3
TOTAL	30	100.0	30	100.0	30	100.0
Number of years living in the area						
0– 5	9	30.0	6	20.0	6	20.0
6 – 9	2	6.7	2	6.7	1	3.3
Above 10	19	63.3	22	73.3	23	76.7
TOTAL	30	100.0	30	100.0	30	100.0
Occupation						
Businessman	-	-	24	80.0	-	-
Woman						
Government Employee	18	60.0	-	-	-	-
Private Employee	12	40.0	-	-	-	-
Laborer	-	-	2	6.7	-	-
Student	-	-	-	-	30	100
Housekeeper	-	-	4	13.3	-	-
TOTAL	30	100.0	30	100.0	30	100
Educational Attainment						
High school Graduate/Level	6	20.0	5	16.7	3	10.0
College graduate /level	23	76.7	24	80.0	26	86.7
Vocational	1	3.3	1	3.3	1	3.3
TOTAL	30	100.0	30	100.0	30	100.0



Consumers of Veggie Bread

Table 2 shows whether the respondents were consumers of veggie bread or not. Majority (66.7%) of the employees, households (73.3%) and students (66.7%) were consumers of veggie bread. This result implies that most of the respondents were consumers of veggie bread.

Table 2. Respondents consuming veggie bread

PARTICULARS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Consumers	20	66.7	22	73.3	20	66.7
Not consumers	10	33.3	8	26.7	10	33.7
TOTAL	30	100.0	30	100.0	30	100.0

Types of Bread that Consumer Buy / Consume

Table 3 shows the different types of veggie breads that consumers bought in the market. Some of the employees (33.3%), households (40%) and greater proportion of students (40%) were consuming carrot cheese rolls. The rest are consuming squash cheese rolls, Malungay cheese rolls, Sugar beets cheese rolls, choco muffins, veggie putok and veggie coco knot.

Factors Influencing Consumption of Veggie Bread

Shown in Table 4 were the factors influencing consumption of veggie bread. Greater proportion of the employees and household consume veggie bread because they were curious about the product and also because of the health benefit derived from the product. As for the students, majority were influenced by their friends followed by being



curious about the product. The result implies that for the students who are in their early age, influence of their friends is the main reason for consuming veggie bread.

Table 3. Types of bread that consumer buy / consume

TYPES OF BREADS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Carrot cheese rolls	10	33.3	12	40.0	12	40.0
Squash cheese rolls	5	16.6	9	30.0	4	13.3
Malungay cheese rolls	7	23.3	7	23.3	2	6.6
Sugar beets cheese rolls	6	20.0	4	13.3	-	-
Choco muffins	6	20.0	4	13.3	5	16.6
Veggie putok	1	3.3	-	-	-	-
Spanish bread	7	23.3	10	33.3	3	10.0
Veggie coco knot	-	-	1	3.3	-	-

*multiple responses

Table 4. Factors influencing consumption of veggie bread

CONSIDERATIONS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Influenced by Friends	5	16.6	4	13.3	13	43.3
Taste	8	26.6	5	16.6	4	13.3
Health benefit product	12	40.0	15	50.0	7	23.3
Curiosity	13	43.3	13	43.3	12	40.0



*multiple responses

Factors that Influenced not to Consume Veggie Bread

Table 5 shows the factors that influenced not to consume veggie bread. Some (20%) of the employees do not consume veggie bread because they never heard yet about the product. Some of the households (23.3%) and students (20%) answered that the product has high price. The other factors stated below show lesser influence to the respondents in not consuming veggie bread.

Consumers of Veggie Bread in the Family

Shown in Table 6, the family members that consume veggie bread, majority (66.3%) of the employees, (80%) of the households and (70%) of the students answered that all the members of their family are the consumers of veggie bread. The result shows that all the respondents considered all the members of their family as consumers of veggie bread.

Table 5. Factors that influenced not to consume veggie bread

FACTORS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
High price	5	16.6	7	23.3	6	20
Never heard of Veggie Bread	6	20.0	3	10.0	3	10
Not interested	1	3.3	1	3.3	-	-
Never seen yet	1	3.3	-	-	-	-

*multiple responses



Table 6. Consumers of veggie bread in the family

CONSUMERS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
All members of the family	19	66.3	24	80.0	21	70.0
Parents	4	13.3	-	-	4	13.3
Grandparents	1	3.3	1	3.3	-	-
Siblings	3	10.0	10	33.3	3	10.0
Children	6	20.0	33	10.0	2	6.7

*multiple responses

Perceived Effect of Veggie Bread Consumption

Table 7 shows how the respondents perceived the product. According to Blundell et al. (1988) eating of food reduces hunger, leads satiation, and causes people to stop eating and the satiation effect of food has considerable significance for consumers. Employees (36.7%) said it reduces hunger. Most (90%) of the households said it is a healthy food and 23.3% for it reduces hunger. Majority (70%) of the students perceived the product as healthy food and (40%) it also reduces hunger.

Table 7. Perceived effect of veggie bread consumption

EFFECTS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Reduces hunger	11	36.7	7	23.3	12	40.0
Healthy food	17	56.7	27	90.0	21	70.0
Gaining weight	-	-	2	6.7	1	3.3
Detox of human body	4	13.3	1	3.3	2	6.7

*multiple responses



Perceived Effect of Veggie Bread to Body

Table 8 shows the perceived effects of consuming veggie bread to body. According to employees were: gaining weight (50%) and it has a good impact to their health (23.3%). Households (53.3%) answered that gaining weight and it has a good impact to their health (26.7%) was the effect of veggie bread to the body and for the students majority (53.3%) effect was gaining weight and it has a good impact to their health (20%). The result implies that the effect of veggie bread is the same to all respondents, whether they are employees, households and students.

Table 8. Perceived effect of veggie bread to body

EFFECTS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Gaining weight	15	50.0	16	53.3	16	53.3
Losing weight	6	20.0	4	13.3	4	13.3
Getting thin	1	3.3	1	3.3	2	6.7
Getting fat	1	3.3	1	3.3	2	6.7
Healthy	7	23.3	8	26.7	6	20.0

*multiple responses

Preferences of Respondents on the Criteria towards Veggie Bread

Table 9 presents the preferences of respondents on the criteria towards veggie bread, the employees agree that they prefer to eat veggie bread, veggie bread is a healthy food, nutritious food and they also agree to the labels and nutrifacts of veggie bread. The rest remain neutral as to the plain design of the packaging, bag design, plastic design, ethnic design, elegant design and some don't really mind any design in veggie bread. The households group agrees that they prefer to eat veggie bread, because it is a healthy food,



nutritious food and they also agree on the labels and nutrifacts and they prefer bag design packaging. The others remain neutral when asked if they prefer plain design packaging, plastic design, ethnic design, and elegant design. The group agreed to the overall acceptability on veggie bread. For the students prefers to eat veggie bread because they agree that veggie bread is a healthy food and nutritious food, also they agree on the labels and nutrifacts of veggie bread. They also answered neutral when asked if they prefer to eat veggie bread. However they still remain neutral as to the plain design, bag design, plastic design, ethnic design, elegant design, and some don't really mind any design in veggie bread.

Sensory Evaluation of Veggie Breads

Sensory evaluation was done to evaluate the acceptability of the product based on the aroma, taste, color, texture, quantity, appearance including its general acceptability. Respondents were divided into three groups as to employees, households and students. Furthermore, sensory evaluation gives real answer regarding consumer quality according to Mason and Nottingham (2002). It is science of judging and evaluating the quality of the food by the use of senses as stated by Mabesa (1986). 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.



Table 9. Preferences of respondents on the criteria towards veggie bread

CRITERIA	EMPLOYEES			HOUSEHOLDS			STUDENTS		
	MEAN	Std. Dev.	DE	MEAN	Std. Dev.	DE	MEAN	Std. Dev.	DE
a.I prefer to eat veggie bread	3.63	0.765	A	3.76	0.689	A	3.43	0.774	N
b.Veggie bread is a healthy food	3.83	0.791	A	4.07	0.868	A	4.13	0.629	A
c.Veggie bread is nutritious food	4.07	0.740	A	4.07	0.828	A	4.10	0.712	A
d.I prefer plain design packaging	3.37	0.850	N	3.37	1.098	N	3.27	0.828	N
e.I prefer bag design packaging	3.33	1.155	N	3.70	0.952	A	3.27	0.785	N
f.I prefer plastic design packaging	3.17	1.147	N	3.17	1.147	N	3.07	0.944	N
g.I prefer ethnic design packaging	3.07	0.868	N	3.43	0.971	N	3.17	0.950	N
h.I prefer elegant design packaging	2.90	0.803	N	3.03	1.066	N	2.83	1.167	N
i.I don't mind any design in veggie bread	2.83	1.234	N	3.00	1.203	N	2.53	1.042	N
j.Labels and nutrifacts	3.70	1.149	A	4.07	0.828	A	3.93	0.923	A
k.overall acceptability of veggie bread	3.83	0.834	A	3.71	0.810	A	3.79	0.861	A

Legend:

1- SD	Strongly Disagree	4- A	Agree	Std. Dev.	Standard Deviation
2- D	Disagree	5- SA	Strongly Agree		
3- N	Neutral	DE	Descriptive Equivalent		



Preferences of Respondents on Product
Attributes of Carrot Cheese Rolls

Table 10 shows the preferences of the respondents towards veggie bread. Furthermore, the table also shows what they would prefer among the preference attributes such as aroma, taste, color, texture, quantity, appearance and their overall acceptability. The employees like the aroma, taste, color, quantity and appearance of carrot cheese rolls. Result implies that the respondents like the product. As to the overall acceptability, respondents also like the carrot cheese rolls. Households respondents like the attributes of the carrot cheese rolls such as aroma, taste, color, texture, quantity and appearance. Result implies that respondents liked all the attributes. As to the overall acceptability, respondents liked the product. For the students, they like the taste, color, texture, quantity and appearance of the product. The respondents slightly like the aroma. As to the overall acceptability, respondents also like the carrot. Generally, the product is accepted to the consumers.

Preferences of Respondents on Product
Attributes of Squash Cheese Rolls

Table 10 shows the preferences of the respondents towards veggie bread. The employees most likely preferred the texture of squash cheese rolls. They all like the aroma, taste, color, quantity and appearance. Result implies that the respondents like all the attributes of the product. As to the overall acceptability, respondents also like the product. Households preferred the taste among the product attributes. All the product attributes were liked by the respondents. As to the overall acceptability, respondents liked the squash cheese rolls. For the students, they like the texture, quantity and appearance of the product.



While as to aroma, taste and color was slightly like. As to the overall acceptability, respondents like the squash.

Preferences of Respondents on Product Attributes of Malunggay Cheese Rolls

Table 10 shows the preferences of the respondents towards veggie bread. The employees liked all the attributes of the malunggay cheese rolls. As to the overall acceptability of malunggay cheese rolls, the respondents like the product. Households also preferred the color of the product, all the product attributes were liked by the respondents. As to the overall acceptability respondents liked the malunggay cheese rolls. The students slightly like all the product attributes such as aroma, taste, color, texture, quantity and appearance. As to the overall acceptability, respondents slightly like the malunggay.

Preferences of Respondents on Product Attributes of Sugar beets Cheese Rolls

Table 10 shows the preferences of the respondents towards veggie bread. The employees most prefer the aroma of sugar beets cheese rolls, they also like the taste, color, texture, quantity and appearance. As to the overall acceptability, respondents like the product. Households also prefer the aroma. They also like the taste, color, texture, quantity and appearance. As to the overall acceptability, respondents like the product. For the students respondents, they like the aroma, taste, texture, quantity, and appearance. While as to color was slightly like. As to the overall acceptability, respondents like the sugar beets.



Preferences of Respondents on Product Attributes of Wheat Bread

Table 10 shows the preferences of the respondents towards veggie bread. The employees like the taste of the wheat bread and they all like the product attributes such as aroma, color, texture, quantity and appearance. As to the overall acceptability, the respondents like the product. Households mostly like the aroma. They also like the taste, color, texture, quantity and appearance. Result implies that the respondent most prefer the odor of the product. As to the overall acceptability respondents like the product. For the student respondents, they like the appearance of the product. They also like the aroma, taste, color, texture and quantity. As to the overall acceptability, respondents liked the wheat bread.

Table 10 Preferences of respondents on product attributes of Carrot Cheese Rolls

Kinds of Veggie breads/attributes	EMPLOYEES			HOUSEHOLDS			STUDENTS		
	MEAN	DE	RANK	MEAN	DE	RANK	MEAN	DE	RANK
Carrot Cheese Rolls									
Aroma	5.67	L	5.5	5.77	L	2.0	5.47	SL	7.0
Taste	5.70	L	4.0	5.73	L	3.0	5.70	L	1.5
Color	5.83	L	2.5	5.80	L	1.0	5.67	L	4.0
Texture	5.87	L	1.0	5.57	L	6.5	5.70	L	1.5
Quantity	5.63	L	7.0	5.57	L	6.5	5.50	L	6.0
Appearance	5.67	L	5.5	5.67	L	4.5	5.70	L	1.5
Overall acceptability	5.83	L	2.5	5.67	L	4.5	5.53	L	5.0
Squash Cheese Rolls									
Aroma	5.55	L	6	5.63	L	3	5.30	SL	7
Taste	5.77	L	2	5.77	L	1	5.43	SL	5
Color	5.63	L	5	5.73	L	2	5.37	SL	6
Texture	5.80	L	1	5.60	L	4.5	5.50	L	4
Quantity	5.47	L	7	5.50	L	7	5.67	L	1
Appearance	5.73	L	3	5.60	L	4.5	5.63	L	2
Overall acceptability	5.70	L	4	5.57	L	6	5.53	L	3



Table 10 Continued...

Malunggay Cheese Rolls									
Aroma	5.60	L	6.0	5.73	L	3.5	5.13	SL	7.0
Taste	5.77	L	2.0	5.67	L	6.0	5.43	SL	1.5
Color	5.67	L	4.5	5.87	L	1.0	5.43	SL	1.5
Texture	5.80	L	1.0	5.77	L	2.0	5.30	SL	5.0
Quantity	5.73	L	3.0	5.53	L	7.0	5.40	SL	3.0
Appearance	5.57	L	7.0	5.73	L	3.5	5.37	SL	4.0
Overall acceptability	5.67	L	4.5	5.70	L	5	5.20	SL	6.0
Sugar Beets Cheese Rolls									
Aroma	5.93	L	1.0	5.80	L	1.0	5.63	L	3.0
Taste	5.63	L	6.5	5.60	L	6.0	5.60	L	4.5
Color	5.70	L	2.5	5.70	L	2.5	5.43	SL	7.0
Texture	5.70	L	2.5	5.70	L	2.5	5.73	L	1.0
Quantity	5.70	L	2.5	5.63	L	5.0	5.60	L	4.5
Appearance	5.63	L	6.5	5.57	L	7.0	5.53	L	6.0
Overall acceptability	5.67	L	5.0	5.69	L	4.0	5.66	L	2.0
Wheat Bread									
Aroma	5.73	L	3.5	5.67	L	1.0	5.60	L	5.5
Taste	5.87	L	1.0	5.60	L	5.5	5.70	L	4.0
Color	5.67	L	5.5	5.63	L	2.5	5.60	L	5.5
Texture	5.77	L	2.0	5.60	L	5.5	5.60	L	5.5
Quantity	5.63	L	7.0	5.63	L	2.5	5.80	L	3.0
Appearance	5.67	L	5.5	5.63	L	2.5	5.90	L	1.0
Overall acceptability	5.73	L	3.5	5.60	L	5.5	5.90	L	2.0

Legend:

Scale Descriptive equivalent (DE)

- 1 Extremely dislike (ED)
- 2 Slightly dislike (SD)
- 3 Dislike (D)
- 4 Neither like nor dislike (N)
- 5 Slightly like (SL)
- 6 Like (L)
- 7 Extremely like (EL)

Perceived Effect of Consuming Veggie Bread to Age and Body Weight

Age. Table 11 shows the biological factor, most (80%) of employees find no effects on their age, 60% of households and 66.7% of the students. The result shows that majority of the respondents found no effect on their age.



Body weight. Majority (70%) of the employees perceived consumption of veggie bread has no effect to their body weight. Sixty percent of the households and 66.7% of the students had the same perception. Some of the respondents said that it has an effect because it is a healthy food and they said that it is nutritious. The result shows that majority of the respondents have the same answer which was the veggie bread has no effect in their body weight.

Perception about Veggie Bread Consumption

Table 12 shows the different perceptions in buying veggie bread. Most (90%) of the employees, households (90%) and students (93.3%) answered that one of their perception is good for the health. This indicates that all the respondents have the same perceptions for buying veggie bread.

Table 11. Person – related factors on consumption of veggie bread to respondents

PARTICULARS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Age						
Have effect to age	6	20	12	40	10	33.3
No effect to age	24	80	18	60	20	66.7
TOTAL	30	100	30	100	30	100.0
Body Weight						
Have effect to body	9	30	12	40	11	36.7
No effect to body weight	21	70	18	60	20	66.7
TOTAL	30	100	30	100	30	100.0



Table 12. Perception about veggie bread consumption

PERCEPTIONS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Good for the health	27	90.0	27	90.0	28	93.3
It helps to maintain body size and weight	6	20.0	6	20.0	1	3.3
Greater confidence	1	3.3	2	6.6	-	-
I Feel comfortable when I eat veggie bread	3	10.0	6	20.0	1	3.3
I feel like a rich person	1	3.3	1	3.3	2	6.6

*multiple response

Ethnic Affiliation

Majority (53.3%) of employees were Ibaloi and kankana-ey from Benguet, for the households (53.3%) were Ibaloi and (40%) were kankanaey from Benguet, for the students (53.3%) were Ibaloi and (40%) were Kankanaey from Benguet. The rest were Kankanaey from Mt. Province, Ilokano and Ifugao.

Monthly Income / Allowance

Table 14 shows that most (63.3%) of the employees and households (46.7%) have monthly income of Php 10,000 or less. For the students, forty percent has monthly allowance of Php 3,000 – 4,000 and the rest have Php 1,000 – 3,000.



Table 13. Environmental factors (Ethnic affiliation)

ETHNIC AFFILIATION	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Ibaloi	16	53.3	16	53.3	16	53.3
Kankanaey (Benguet)	16	53.3	12	40.0	12	40.0
Kankanaey (Mt. Province)	2	6.7	4	13.3	4	13.3
Ilokano	2	6.7	4	13.3	1	3.3
Ifugao	3	10.0	1	3.3	-	-
Tagalog	-	-	1	3.3	-	-
Pangasinanense	-	-	1	3.3	1	3.3

*multiple responses

Table 14.a Monthly income/allowance of students

AMOUNT	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
1000 – 3000	-	-	-	-	11	36.6
3001 – 4000	-	-	-	-	12	40.0
4001 – 5000	-	-	-	-	7	23.3
TOTAL	-	-	-	-	30	100.0

Table 14.b Monthly income/allowance of households and employees

AMOUNT	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
10000 or Less	19	63.3	14	46.7	-	-
10001 – 20000	10	33.3	15	50.0	-	-
20001- 30000	1	3.3	1	3.3	-	-
TOTAL	30	100	30	100.0	-	-



Weekly Expenditure on Veggie Bread

Table 15 shows the expenditure of the respondents on veggie bread. Greater proportion of employees spends Php 101 – 200 and Php 200 in above, households also spend Php 200 in above and for the students, greater proportion (43.3%) spends Php 30 – 50 and the rest spends Php 51 – 100 and Php 101 – 200. This result shows that the households has a higher expenditure followed by the employees.

Table 15. Weekly expenditure on veggie bread

AMOUNT	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
30 – 50	5	16.7	9	30	13	43.3
51 – 100	8	26.7	5	16.7	9	30.0
101 – 200	4	13.3	4	13.3	3	10.0
Above 200	9	30.0	10	33.3	2	6.7
None	4	13.3	2	6.7	3	10.0
TOTAL	30	100.0	30	100.0	30	100.0

Frequency in Buying Veggie Bread

Table 16 shows that greater proportion of the employees (40%) buy veggie bread once and (30%) twice a week. The households also buy veggie bread twice a week (43.3%) and (23.3%) anytime. Students buy veggie bread once (40%) and 36.7% twice a week. It shows that majority of the respondents buy veggie bread once and twice a week.



Table 16. Frequency in buying Veggie Bread

FREQUENCY	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Once a week	12	40.0	6	20.0	12	40.0
Twice a week	9	30.0	13	43.3	11	36.7
Everyday	1	3.3	4	13.3	2	6.7
None	3	10.0	-	-	1	3.3
Anytime	5	16.7	7	23.3	4	13.3
TOTAL	30	100	30	100	30	100

Sources of Veggie Bread

As shown in table 17, the BSU marketing was the main outlet which the employees (50%), households (53.3%) and students (63.3%) bought veggie bread. This result shows that Benguet State University is the producer of veggie bread and BSU marketing was the outlet of veggie bread.

Table 17. Sources of veggie bread

MARKET OUTLET	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
BSU marketing	15	50.0	16	53.3	19	63.3
Public market	11	36.7	12	40.0	8	26.7
Organic food stores / stalls	3	10.0	3	10.0	1	3.3
Sari – sari store	5	16.7	3	10.0	5	16.7
Street vendor	-	-	3	10.0	-	-

*multiple responses



Considerations in Buying Veggie Bread

Shown in Table 18, greater proportion of the employees considered health benefit (60%) and quality (40%) of veggie bread when buying. Households (86.7%) also consider health benefit and 33.3% considered also the quality and for the students, the health benefit (60%) and price (53.3%) were the major considerations in buying. From the results, the health benefit was the major consideration. For the students, price comes next as a consideration while for the employees and households, quality comes next

Table 18. Considerations in buying veggie bread

CONSIDERATIONS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Brand	4	13.3	3.0	10.0	2	6.7
Quality	12	40.0	10	33.3	12	40.0
Price	3	10.0	6	20.0	16	53.3
Health benefit	18	60.0	26	86.7	18	60.0
Always available	2	6.7	1	3.3	2	6.7

*multiple responses

Price Affordability

Table 19 shows whether the respondents can or cannot afford the price of veggie bread. Majority (66.7%) of the employees, households (76.7%) and students (63.3%) agreed that the price of veggie bread was affordable.

Reasons for Buying Veggie Bread

Table 20 shows the people have different reason for buying a commodity. Majority (66.7) of the employees, households (73.3%) and students (70%) agreed that their reason



for buying veggie bread was healthy food. This result indicates that majority of the respondents buy the product because it is a healthy food.

Table 19. Price affordability

PRICE AFFORDABILITY	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Afford	20	66.7	23	76.7	19	63.3
Cannot Afford	10	33.3	7	23.3	11	36.7
TOTAL	30	100.0	30	100.0	30	100.0

Table 20. Reasons for buying veggie bread

PARTICULARS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Don't have time to prepare meal	7	23.3	6	20.0	4	13.3
Always available in the market	3	10.0	2	6.7	2	6.7
Healthy foods	20	66.7	22	73.3	21	70.0
Something to offer to visitor	3	10.0	1	3.3	3	10.0
Less costly	1	3.3	1	3.3	1	3.3

*multiple responses

Source of Information about Veggie Bread

Table 21 shows the source of information about veggie bread. This involves searching for information about alternative solution. The most important information source is consumer previous experience with the food products as stated by Steenkamp et. Al. 1986). Half (50%) of employees know about the product because it was introduced by



their friends and (43.3%) family members. Sources of information for households were friends (46.7%), family members (43.3%). Most (96.7%) source of information for students were friends. This indicates that majority of the source of information were the people who is close to us, friends and family.

Table 21. Sources of information about veggie bread

SOURCES	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Family members	13	43.3	13	43.3	4	13.3
Friends	18	60.0	16	53.3	29	96.7
Relatives	2	6.7	3	10.0	1	3.3
Flyers posters	1	3.3	4	13.3	3	10.0
Books	2	6.7	3	10.0	4	13.3

*multiple responses

Source of Information about Veggie Bread as a Healthy Food

As shown in Table 22, (56.7%) both of the employees and households and 60% students answered that their source of information about veggie bread as a healthy food is by reading books.

Table 22. Sources of information about veggie bread as a healthy food

PARTICULARS	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Reading books	17	56.7	17	56.7	18	60.0
Through the internet	4	13.3	7	23.3	4	13.3
Relatives	13	43.3	13	43.3	15	50.0

*multiple responses



Preferences of Respondents in Buying Veggie Breads

Table 23 shows the product attributes that the respondents usually consider when buying or consuming veggie bread. Majority of the respondents considered first the health benefit of the product, second the taste and third the ingredients of the product. A health benefit of the products is the most preferred by all the respondents which has the highest computed mean. Result implies that health benefit of the product is the first attribute which respondents consider.

Preferences of Respondents on Veggie Bread

It is shown in Table 24 were the products which are Carrot cheese rolls, Squash cheese rolls, Malunggay cheese rolls, Sugar beets cheese rolls and wheat bread where in the respondents would choose the product they prefer most. For the employees wheat bread was the first rank which has a highest computed mean that is 2.40, followed by Malunggay cheese rolls, Sugar beets cheese rolls, Carrot cheese rolls, and Squash cheese rolls. For the households, Carrot cheese rolls was the first rank which has a highest computed mean that is 2.73, followed by Malunggay cheese rolls, wheat bread, Squash cheese rolls, and Sugar beets cheese rolls. For the students, wheat bread was the first rank which has a highest computed mean that is 2.33, followed by Sugar beets cheese rolls, Carrot cheese rolls, and Squash cheese rolls and lastly was the Malunggay cheese rolls. Result implies that the product which is wheat bread was the most preferred by the employees, Carrot cheese rolls for households and wheat veggie bread for the students.



Table 23. Preferences of Respondents in buying Veggie breads

PARTICULARS	EMPLOYEES			HOUSEHOLDS			STUDENTS		
	Mean	Std. Deviation	Rank	Mean	Std. Deviation	Rank	Mean	Std. Deviation	Rank
Health benefits/Nutritional facts	1.70	1.264	1	1.93	1.639	1	1.73	1.363	1
Color	4.10	1.155	4	3.77	1.382	4	3.97	1.217	4
Taste	2.53	0.973	2	2.43	0.858	2	2.63	1.098	2
Packaging	4.97	1.217	6	5.10	1.269	6	5.00	1.313	6
Appearance	4.77	1.223	5	4.10	1.398	5	4.53	1.306	5
Ingredients of the product	2.93	1.530	3	3.67	1.539	3	3.53	1.634	3

Table 24. Preferences of Respondents on Veggie Bread

PARTICULARS	EMPLOYEES			HOUSEHOLDS			STUDENTS		
	Mean	Std. Deviation	Rank	Mean	Std. Deviation	Rank	Mean	Std. Deviation	Rank
Carrot cheese rolls	3.10	1.863	4	2.73	1.639	1	2.73	1.507	3
Squash cheese rolls	3.63	1.273	5	3.07	1.507	4	3.63	0.850	4
Malunggay cheese rolls	2.83	1.392	2	2.97	1.450	2	3.73	1.484	5
Sugar beets cheese rolls	3.03	1.033	3	3.20	0.997	5	2.57	1.040	2
Wheat bread	2.40	1.192	1	3.03	1.474	3	2.33	1.539	1



Importance of the Nutritional Quality of Food to the Respondents

According to Kottler (2000), 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 to avoid side effects on their health. As shown in Table 26 most (86.7) of the employees, households (90%) and students (76.7%) answered that the nutritional quality of the product is important to them. The result of the study implies that all the respondents were aware of the importance of knowing the nutritional contents of the food products they bought.

Acceptability of the Packaging used in Veggie Bread

Most (76.7) of the employees, households (86.7%) and students (86.7%) agreed that the packaging of veggie bread was acceptable. The result of this study implies that the packaging is accepted by the consumers, however it still needs improvements.

Table 25. Importance of the nutritional quality of food to the respondents

CLASSIFICATION	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Important	26	86.7	27	90.0	23	76.7
Unimportant	-	-	1	3.3	-	-
Sometimes	4	13.3	2	6.7	7	23.3
TOTAL	30	100.0	30	100.0	30	100.0



Table 26. Acceptability of the packaging used in veggie bread

CLASSIFICATION	EMPLOYEES		HOUSEHOLDS		STUDENTS	
	F	%	F	%	F	%
Acceptable	23	76.7	26	86.7	26	86.7
Not acceptable	7	23.3	4	13.3	4	13.3
TOTAL	30	100.0	30	100.0	30	100.0

Chi-Square Values of the Product Attributes to the Respondents

Table 27 presents the chi-square values of the product to the respondents. Chi-square values shows that the relationship of the product attributes to the respondents is not significant which means that the difference in terms of preferences (like or disliked) is negligible. As to the health benefits of the product, color, taste, packaging, appearance and ingredients of the product, there is no significant correlation with the respondents which means that whether the taste panels were employees, households and students the difference negligible or no difference at all or maybe a slight difference on their preferences.



Table 27. Chi- Square Values of the product attributes to the respondents

ATTRIBUTES	CHI – SQUARE VALUES	MEAN
Health benefits	0.044 ^{ns}	1.70
Color	1.674 ^{ns}	4.10
Taste	0.348 ^{ns}	2.53
Packaging	0.265 ^{ns}	4.97
Appearance	4.224 ^{ns}	4.77
Ingredients of the product	3.922 ^{ns}	2.93



SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was conducted to determine the consumers of veggie bread, the properties of food, person-related factors and environmental factors and buying decision process. Two tools were employed in the data gathering product testing through sensory evaluation, and survey questionnaire for the consumer behavior towards the product. There were ninety respondents who were chosen and classified as to respondent group; thirty employees, thirty households and thirty students. The data gathered were examined and analyzed using the descriptive statistics/analysis like frequency, mean, and percentage. Respondents evaluated the product whether they like it according to its aroma, taste, color, texture, quantity, and appearance.

Result showed that most of the employees and students consumed wheat bread while for the households, most of them consumed carrot cheese rolls. Generally, most of the respondents were consumers of veggie bread.

In terms of the properties of food, which is the physiological effect of eating veggie bread, most of the respondents perceived that eating veggie bread is healthy. They also perceived that eating veggie bread helps them gain weight and has a good impact to their health.

The following were the criteria that usually preferred by the respondents; they prefer to eat veggie bread, veggie bread is a healthy food, veggie bread is a nutritious food and labels and nutrifacts of veggie bread.



As for the person-related factors, consumers perceived that veggie bread consumption has no effect on their age and to their body weight. The main perception about veggie bread consumption of the respondents in buying veggie bread is good for the health.

As for the ethnic affiliation, majority of the respondents were Kankanaey from Benguet and Ibaloi. Majority of the employees and households respondents have monthly income of Php10,000 or less and for the students, majority has monthly allowance of Php 3,000 – 4,000. For the frequency in buying veggie bread, majority of the respondents buy veggie bread weekly.

BSU marketing was the main outlet which the respondents buy veggie bread. When buying, the respondents considered the health benefits and quality. Majority of the respondents can afford the price of veggie bread.

For the decision process, respondents buy veggie bread because it is a healthy food. As to the sources of information about veggie bread, majority sources of the respondents were friends and family members. As to the sources of information about veggie bread as a healthy food, majority source of the respondents is by reading books. As to the preferences of respondents in buying veggie bread, majority of the respondents considered the following, health benefit of the product, taste, and ingredients of the product. And as for the choice, the respondents most prefer the carrot cheese rolls and wheat bread. Nutritional qualities were also important to the respondents and the packaging used in veggie bread is acceptable to the respondents.



Conclusions

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

1. Most of the employees and students consumed wheat bread while for the households, most of them consumed carrot cheese rolls. Generally, most of the respondents were consumers of veggie bread;

2. In terms of the properties of food, the main physiological effect of eating veggie bread to the respondents is because it is healthy food;

3. Consumers perceived that veggie bread consumption has no effect on the body of the respondents;

4. The main preferences of the respondents on the criteria towards veggie bread were the following: they prefer to eat veggie bread, veggie bread is a healthy food, veggie bread is a nutritious food and labels and nutrifacts;

5. The main perception of the respondents in buying veggie bread is good for the health;

6. Majority of the respondents were Kankanaey from Benguet and Ibaloi;

7. Majority of the employees and households respondents have monthly income of Php 10000 or less and for the students, majority has monthly allowance of Php 3000 – 4000;

8. The main frequency of the respondents in buying veggie bread is weekly basis;

9. BSU marketing was the main outlet which the respondents buy veggie bread;

10. Most of the respondents can afford the price of veggie bread;

11. The main consideration and factor that influence consumer to buy veggie bread were the following: health benefit of the product, taste and ingredients of the product;



12. Majority sources of the respondents were friends and family members;

13. As to the sources of information about veggie bread as a healthy food, majority source of the respondents is by reading books;

14. The employees and households most prefer the wheat bread while for the households, they prefer carrot cheese rolls; and,

15. Nutritional qualities were important to the respondents and the packaging used in veggie bread is acceptable to the respondents;

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.

Since veggie breads are new in the local market, further introduction of the product are recommended to the producer. It should be proven that the product is safe and nutritious. Promotional measures can be done like distinguishing the veggie bread from other popular bread. The product should be subjected for further market testing covering other market segments to determine the real potential market. Have more market outlets for the product.



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