

BIBLIOGRAPHY

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ABSTRACT

The choice of packaging material for any product is crucial to the success of marketing it as it protects the product, gives convenience to the buyers, and sells itself to the buyers. This study was conducted to evaluate five different easily accessible packaging materials for etag and to determine what demographic variables could be associated to the preference on packaging materials. Two hundred respondents in Baguio and La Trinidad, Benguet were randomly selected to evaluate the features of the packaging materials.

Packaging materials were rated by the respondents as to the appearance, convenience of handling and sanitation.

Finding showed that the hard plastic and cardboard is highly preferred by the respondents. Among the packaging materials evaluated, these materials rated the highest in terms of aesthetics, handling, convenience, and ability to keep the product sanitary. The aluminium foil rated the worst in these evaluated features and hence was the least preferred packaging material.

Chi-square analysis revealed no distinct demographic profile to determine the differences in choices nor ratings given by respondents indicating similarities in answers of respondents.

Aside from the packaging material itself, other factors such as labels are important to the consumers.

Among readily available packaging materials, hard plastic may be the better choice. However, creativity in packaging the product should not be discounted. Entrepreneurs are encouraged to further explore other options for the packaging material of etag if aggressive marketing for this product would be done.



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INTRODUCTION

Rationale

The first packages using natural materials are thousands of years old. Large plant leaves were used to preserve food and still in use in certain culture. Animal skin were utilized as packaging materials in prehistoric times. Ceramic containers for the storage of olive oil-dating from the 1st century where excavated in Pompeii. Barrels of wine and other liquids were commonly used in classical Greece. The invention of weaving permitted the introduction of new materials such as linen or burlap to wrap object of various kinds.

Metal containers to preserve foods were introduced in the early 19th century, but it was only in the past 50 to 75 that packaging in the modern sense develop. Cellophane wrappings are widely used in the 1920's and 1930's and plastic packaging becomes widespread after World War II. Art right aseptic packaging of foods-in several layers of polyethylene, foil and paper a method invented years earlier become popular in the 1980's as public taste and awareness develop further revolution changes in packaging can be expected (Dichter, 1983).

The importance of consumer packaging was elevated in the United States in the late 1970's. Rapid post-war economic expansion and market growth waned during that period, forcing companies to focus increasingly on luring consumers to their product or brand at the expense of the competition. Package designs become a marketing science. And as a new corporate cost-consciousness developed in response to increased competition, companies began to alter packaging techniques as a way to cut production, storage, and distribution expenses. Furthermore, marketers began to view packaging



to exploit existing product lines by adding new items and pump new life into maturing products.

Today, good package design is an essential part of successful business practice. Since many potential customers first notice a new product after it has arrived on the shelf of a store, it is vital that the packaging provide consumers with the information they need and motivate them to make a purchase. But packaging decisions involve a number of tradeoffs. While making a product visible and distinctive may be the top priority, for example, business must also comply with a variety of laws regarding product labeling and safety. Protecting products during transport is important, but business also needs to keep their shipping cost as low as possible. The following provides an overview of some of the factors to consider in packaging products for consumer markets (Anonymous, 2009).

“ Etag ” is the Cordillera’s version of smoked ham. Pork is salted and smoked in the cooking area (if you’re using firewood to cook) and left in the area for further smoking. It is only taken when needed. Some people store *Etag* in earthenware and age it there.

According to Bulalat (2004) as cited by Bolinao (2008) *Etag* is the Mountain Province’s variant “inassin”, for which the Igorots of the Cordillera highlands are famous. Dubbed by foreigners as “Igorots ham”, it is made by smoking that is done repeatedly for at least 30 minutes or maximum of three hours a day for at least two weeks. The is stored, usually in clay jars. The term innasin is derived from the Bontoc/Igorot term “innasinan” meaning salted. This is used to describe salted pork meat. This is actually smoke ham, but more salty, and in many ways, better. Some Igorots call



this “*Etag*”, but according to Ayochock, the *Etag* could also apply to Beef, Carrabao, and wild Boar meat.

“*Etag*” is now gaining its popularity and commercially that is why it is needed to be packaged so that it will be presentable and eye-catching to the consumers.

Statement of the Problem

One of the factors affecting the commodity’s commercial value is the type of packaging used. *Etag* has been made available in the wet market of Baguio City and in most part of the Cordillera. It is also sold in stores selling live chicken without any wrappers or protection from any contamination.

Five simple packaging option for “*etag*” were evaluated. This study aimed to answer the following question that will look in to the acceptability of packaging materials for “*Etag*”.

1. What are consumers/buyers evaluate the different packaging materials of “*Etag*” in terms of:

- a. appearance
- b. sanitation
- c. convenience

2. What other packaging factor would the consumer prefer?

Null Hypothesis

There are no significant different in preference of packaging for “*Etag*” between respondents as classified by their demographic profile;

- a.) Age



- b.) Education
- c.) Income
- d.) House hold size

Objective of the Study

Generally, the study evaluated the different packaging materials for “*Etag*” products.

Specially, the study aimed to:

1. To determine the acceptability of different packaging materials for “*Etag*” by the consumer in relation to:

- a. appearance
- b. sanitation
- c. convenience

2. To determine the most preferred packaging material for “*Etag*” by each demographic group.

3. To determine the reasons for preferring the packaging material for “*Etag*”.

4. To determine demographic factors related to preference of packaging

Importance of the Study

The result of this study will help the potential entrepreneur to improve the product’s presentation to suit the satisfaction of the consumers. This study will be useful to potential entrepreneur who will be conducting similar studies in the future. It is also be a basis for further researcher to improve the product quality.

Scope and Limitation



The study is to be conducted in Baguio City and La Trinidad, Benguet where the data is to be gathered. The product package evaluators/panelist will focus in determining the acceptability of different materials packaging of “*Etag*”.



REVIEW OF LITERATURE



Importance of Packaging

Packaging is an important component for many products. A package is container or wrapper for a product. It typically includes a label a printed description of the product on the package. Packaging is important to both consumers and distributors of a product. A product's package might perform a number of different functions, including protecting the product until consume, storing the product until consumed, facilitating consumption of the product, promoting the product, and facilitating disposal of the product (Anynomous, 2009).

Because many retailers are self-service sellers, a product's package must communicate the brand's image and help to sell the product. Distinctive packages help capture the attention of consumers as they view competitive products. Both package and label also provide important information that consumers use in evaluating competing brands (Bearden, 2007).

As stated by Pride, (1989) marketers must consider many factors as they develop packages. Obviously, one major consideration is not cost. Although a variety of packaging materials, processes, and designs are available, some are rather expensive. In recent years buyers have shown willingness to pay more for improvement packaging, but there are limits. Marketers must also decide whether to package the product singly or in multiple units. Multiple packaging is likely to increase demand because the amount of the available at the point of consumption (in one's home, for example). However, multiple packaging is not appropriate for infrequently used products because buyers not like to tie up their dollars or store these products for a long time. Multiple packaging can, however, make products easier to handle and store (such as six-packs used for soft drinks); and



special price offers, such as a two-for-one sale, are facilitated through multiple packaging. In addition, multiple packaging may increase consumer acceptance of a product by encouraging the buyer to try it several times. On the other hand, because they must buy several units, customer may hesitate to try the product the first time.

A package's promotional role should be considered; will it be used to attract customer's attention and encourage them to examine the product? Through verbal and nonverbal symbols, the package can inform potential buyers about the product's content, features.

A new package can make the important difference in a new marketing strategy by meeting customer's needs better. A better box, wrapper, can or bottle may help create a "new" product – or a new market (Parker, 2003).

Sometimes a new package improves a product by making it easier or safer to use. Many drug and food products now have special seals to prevent product tampering.

Packaging can tie the product to the rest of the marketing strategy. Expensive perfume may come in a crystal bottle, adding to the prestige. Lay eggs pantyhose come in plastic eggs to make the product stand out in store displays and remind customers of the name (McCarthy, 1990).

In a way, the service provides or the area where a service is provided is a form of packaging. Disney sends the message that its parks are a good place for family vacation by keeping them spotless. Lawyers put their awards and diplomas on the wall so that clients know they provide a highly quality product (McCarthy, 1990).



Better productive packaging is very important to manufacture and wholesalers. They often heard to pay the cost of goods damage in shipment, and goods damaged in shipment also may delay production or cause lost sales (Hui, 1991).

Retailers need good packaging, too. Package that provide better protection can reduce storing cost by cutting breakage, preventing discoloration, and stopping theft. Packages that are easier to handle can cut cost by spreading price marking, improving handling and display, .and saving space (Sacharow, 1970).

A good package sometimes gives a firm more promotion effect than it could possibly afford with advertising. The package is seen in stores-when customers are actually doing the buying. The package may be seen by many more potential customers than the company's advertising. An attractive package may speed turnover so much that total cost will drop a percentage of sales (Dichter, 1983).

In other cases cost (and price) may rise because of packaging. But customers may be more satisfied because the packaging improves the product by offering much greater convenience waste (Fellows and Axtell, 1993).

Elements of a Packaging

The package design involves more than the surface of the aesthetics of the package. It is influence by the entire marketing program like package-product combination, the corporate symbol, the distribution and pricing policy and the promotional effort. A package has the following aims:

1. Attraction to buyer
2. Communication to buyer
3. Creating a desire to product



4. Selling to product

Attraction of the Buyer

Package must have enough shelf impact to stand out among a myriad of package. The package must draw attention to itself. This can be done through the effective choice of color, shape, copy, trademark, logo, and other features.

Communication to the Buyer

Every packaging element communicates something, so the image projected by the package must converge with the image being sought for the product. The package design must show at once the intended use, method of application and intended results. A container of talcum powder, nor should not look as if it contains scouring powder, nor should face cream jars resemble shoe polish containers. All necessary information must be clearly visible or implied though the design. This communication may either be direct or subtle. Direct communication describes the product, its benefits and how to use it. Indirect communication uses color, shape, design forms and texture to convey intrinsic attributes like purity, value, fun, elegance, femininity or masculinity. Here color is seen to be the primary aspect involved in subtle consumer communication. This is the reason cosmetics products are usually in pastel color, black or gold to communicate classic elegance. Pharmaceutical products use light colors or a white background to denote cleanliness, purity, and efficacy. In cigarettes, white packaging suggests low tar while red packaging suggests a strong flavor. Companies targeting Asian markets have to be careful in choosing packaging colors and logos. Failure to consider cultural factors may be disastrous. Still another communication role of packaging is providing information to



the consumer through the label or immediate package. Information on contents, instructions on use and information required by law should assist rather than confused by the costumer. Manufacturers and marketers are guilty of placing instructions that often hard to read without magnifying glass. When the instructions are readable, they are frequently vague and ambiguous. Thus, instructions should be tested for understanding since lack of instruction clarity leads to errors that might become a reason for non repeat purchase (O'Shughnessy, 1995).

Creating a Desire for the Product

The package can convince the consumer that the product can fill a need or satisfy an inner desire. Packages usually add value like the convenience now being offered by microwaveable packaged foods. A shampoo or lotion bottle can shaped in such a way that its normal position is inverted (less time to remove a viscous product), or it can be easily hung on the shower handle. Special pump dispensers have promoted the liquid soap form over the traditional bar soap. Convenience should also consider the ease of disposability of the package. Advances in packaging technology have kept pace with the demand for convenient packaging. In addition, rising consumer affluence appears to show that consumers are willing to pay more for convenience, appearance, dependability, and prestige of better packages (Kotler, 1984).

Selling the Product

Package must not only sell the product but also create desire for repeat purchases. This can be in form of reusable features, special giveaways or easy dispensing devices which promote repeat sales and add value. To ensure that the good design elements are



captured or not overlooked during product development, a checklist can be useful. Prepare a checklist of activities and question for the packaging consultant or the product manager. This checklist can be used at the beginning of the design program, during its implementation and is also useful when new design ideas.



METHODOLOGY



Locale and Time of the Study

The evaluation of packaging was conducted in last January 2011 at Baguio City and La Trinidad, Benguet.

Respondent/Evaluator of the Product

Product evaluator is the source of data. The respondent of the study were specially college student, faculty/employees and other consumer. The evaluators were determining as to their age and profession. For evaluation of packaging panelist were composed of 100 from La Trinidad and 100 from Baguio these panelist were chosen randomly.

Data Collection

Simple evaluation of packaging was conducted to determine the most prefer packaging for “*Etag*”. An evaluation sheet was provided to the panelist.

Data Gathering Procedure

The data gathered included the following: primary: a.) appearance b.) sanitation c.) convenience and the types of packaging are: a.) card board box with wax paper inside b.) Styrofoam box covered with cling wrap c.) zipper storage bag with card board d.) hard plastic with card board e.) Aluminum foil.

Data Analysis

The data were tabulated, analyzed using simple statistical tools such as frequency count, percentage, ranking, rating scale and other appropriate statistical tools.

RESULT AND DISCUSSION

Profile of the Respondents



There were 200 respondents who evaluated the packaging materials and they are distributed as to their demographic profile and their utilization of *etag* in Table 1.

Age. Table 1 shows that of the 200 respondents who evaluated the different packaging materials for *etag*, 60 (30%) were younger than 30 years of age and 53 (26.50%) were between 31 to 40 years old. Most of the respondents of this study are less than 40 years old or from the younger generation.

Gender. Most (71.50%) of the respondents were males. Only a few (28.50%) were females.

Educational Attainment. Most (71.50%) of the respondents are college graduates. The others have either reached college level, graduated from high school or have finished at least a vocational course.

Occupation. Respondents come from a variety of occupations ranging from office workers, professionals, public servants, and businessmen or self-employed individuals.

Individual Income. Majority (51%) of the respondents earn Php10,000 or less in a month, 67 (33.5%) earn between Php10,000 to Php20,000 a month, and the rest earn more than 20,000 in a month. Most respondents belong to the lower income group.

Household Size. Majority (68%) come from households of 1 to 4 members, 17 (22.5%) come from households of 5 to 7 members, and only a few (8.5%) come from households with 8 to 10 members.

Ethnic Affiliation. Majority (52%) of the respondents were of Mt. Province Kankana-ey ethnicity, 10.5% were of Benguet Kankana-ey ethnic origin, 8.5% were of Ibaloi origin, and others were of other ethnic Cordilleran origin while very few of the respondents were of Ilocano, Pangasinan, or Tagalog origin.



Frequency of *Etag* Use. Of the 200 respondents, 185 (92.50%) were occasional users of *etag*. Very few were regular, users of *etag*.

Respondent rated as use of *etag*. The most popular use of *etag* to most of the respondents was to further flavor pinikpikan. Only a few use it to season vegetable dishes or as a viand.

Table 1. Demographic profile and *etag* utilization of respondents

PROFILE	FREQUENCY OF USE OF <i>ETAG</i>			USES OF <i>ETAG</i>				TOTAL	%
	Once a week	Once a month	Occasional	Seasoning Vegetable Dish	Flavoring Pinikpikan	As Viand	For Soup Flavoring		
Age									
30 yrs and below	4	2	54	17	31	0	12	60	30.00
31 – 40 yrs	3	2	48	11	36	0	6	53	26.50
41 – 50 yrs	1	2	30	4	27	1	1	33	16.50
51 – 60 yrs	1	0	22	2	21	0	0	23	11.50
Above 60 yrs	0	0	31	4	22	4	1	31	15.50
Gender									
Female	2	3	52	14	32	0	11	57	28.50
Male	7	3	133	24	105	5	9	143	71.50
Educational Attainment									
College Level	1	0	26	5	17	0	5	27	13.50
College Graduate	8	4	131	27	99	5	12	143	71.50
Vocational	0	1	18	3	15	0	1	19	9.50
High Sch. Grad	0	1	6	2	4	0	1	7	3.50
Graduate School	0	0	4	1	2	0	1	4	2.00

Table 1. (continued.....)

PROFILE	FREQUENCY OF USE OF <i>ETAG</i>			USES OF <i>ETAG</i>				TOTAL	%
	Once a week	Once a month	Occasional	Seasoning Vegetable Dish	Flavoring Pinikpikan	As Viand	For Soup Flavoring		
Occupation									
Student	1	0	12	4	5	0	4	13	6.50
Unemployed	1	0	24	2	22	0	1	25	12.50
Blue Collar	0	0	6	0	6	0	0	6	3.00



White Collar	1	2	13	3	11	0	2	16	8.00
Gov't Employee	1	0	31	6	22	1	3	32	16.00
Self Employed	0	1	30	10	15	0	6	31	15.50
Retiree	0	0	11	2	8	1	0	11	5.50
Health Worker	4	1	29	6	26	1	1	34	17.00
Farmer	0	0	9	2	5	1	1	9	4.50
Engineer	1	2	6	2	5	0	2	9	4.50
Sales	0	0	13	1	11	1	0	13	6.50
Public Security	0	0	1	0	1	0	0	1	0.50
Income									
Less than 10,000	6	1	95	13	78	4	7	102	51.00
10,000 – 20,000	1	3	63	16	43	1	7	67	33.50
21,000 – 30,000	2	2	27	9	16	0	6	31	15.50
Household Size									
1 – 4	5	4	127	24	95	2	15	136	68.00
5 – 7	2	1	42	10	30	2	3	45	22.50
8 – 10	2	1	14	4	10	1	2	17	8.50
More than 10	0	0	2	0	2	0	0	2	1.00
Ethnicity									
Kankana-ey (Mt Province)	3	4	97	18	75	2	9	104	52.00
Kankana-ey (Benguet)	1	1	19	6	13	0	2	21	10.50
Ibaloi	4	1	12	6	10	1	0	17	8.50
Ibaloi – Kankanaey	0	0	22	2	16	1	3	22	11.00

Table 1. (continued . . .)

PROFILE	FREQUENCY OF USE OF ETAG			USES OF ETAG				TOTAL	%
	Once a week	Once a month	Occasional	Seasoning Vegetable Dish	Flavoring Pinikpikan	As Viand	For Soup Flavoring		
Ethnicity Ifugao	1	0	9	3	3	0	4	10	5.00
Kalinga	0	0	16	2	13	1	0	16	8.00



Itneg	0	0	1	0	1	0	0	1	0.50
Pangasinanse	0	0	2	0	2	0	0	2	1.00
Tagalog	0	0	5	0	3	0	2	5	2.50
Ilocano	0	0	2	1	1	0	0	2	1.00
TOTAL	9	6	185	38	137	5	20	200	100.0

Respondents' Preference Rating Packaging Materials.

Table 2 shows how the respondents rated each of the packaging materials for *etag*. Results show that the hard plastic packaging is highly preferred over the other packaging materials while the aluminum foil is not preferred at all.

Table 2. Respondents' preference rating on packaging materials

PACKAGING MATERIAL	MEAN	DESCRIPTION
Cardboard with waxpaper	4.09	Preferred
Styrofoam tray with clingwrap	3.04	Fairly Preferred
Zipper bag	2.12	Less Preferred
Hard plastic	4.80	Highly Preferred
Aluminum foil	1.00	Not Preferred

Respondents' Ratings on Appearance of Packaging Materials.

Respondents were asked to rate the appearance of the five packaging materials for *etag*. Tables 3 to 15 present the respondents' ratings for aesthetics of the packaging materials as grouped by respondents' demographics.



Rating of appearance for cardboard with wax paper. Table 3 shows that the respondents gave an overall rating of 4.52 points or Very Good for the cardboard and wax paper packaging material in terms of its attractiveness. It, however, received a Good rating in terms of clean and pleasing look, its being presentable, and its ability to attract the attention of buyers.

Results of the computed chi-squares for each aesthetic category as against respondents' demographics show significant differences in ratings given by age and ethnic demographic groupings only. This indicates a considerable difference in ratings given by respondents when grouped by age and ethnicity. Thus, the null hypothesis for the differences on ratings given for age and ethnic demography is rejected.

When grouped by age, and when compared to those younger than 50 years old, respondents older than 50 years of age gave a higher rating as to the packaging material's clean and pleasing look, its being presentable, and its ability to attract the attention of buyers.

There also are variations in rating given on the packaging material depending on the ethnic grouping. Generally, and although all ratings given are at least within the category of good to very good, there is a relatively consistent lower rating on all factors relating to aesthetics of the packaging material by Pangasinenses, Tagalogs, Ilocanos, and even by Benguet Kankanaeys.



Table 3. Rating of appearance for cardboard with wax paper

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	4.35	VG	3.36	G	3.97	G	3.92	G	4.10	G
31 – 40	4.66	VG	4.06	G	4.09	G	4.09	G	4.09	G
41 – 50	4.52	VG	3.97	G	4.12	G	4.36	VG	4.45	VG
51 – 60	4.57	VG	4.30	VG	4.26	VG	4.30	VG	4.30	VG
61 - >	4.55	VG	4.19	G	4.19	G	4.23	VG	4.19	VG
	0.03*		0.00*		0.105		0.00*		0.00*	
Educational Attainment										
College Level	4.33	VG	3.89	G	4.22	G	4.19	G	4.30	G
College Grad.	4.54	VG		G	4.10	G	4.15	G	4.20	G
Vocational	4.68	VG	3.89	G	3.95	G	4.05	G	4.11	G
High School Grad.	4.29	VG	4.14	G	4.00	G	4.00	G	4.14	G
Occupation										
Student	4.08	G	3.69	G	4.23	VG	4.23	VG	4.31	VG
Unemployed	4.38	VG	3.81	G	3.87	G	4.20	VG	4.28	VG
Blue Collar	4.59	VG	4.06	G	4.16	G	4.09	G	4.19	G
White Collar	4.55	VG	3.84	G	3.97	G	4.06	G	4.13	G
Gov't Employee	4.55	VG	4.09	G	4.18	G	4.27	VG	4.45	VG
Self Employed	4.59	VG	3.97	G	4.12	G	4.15	G	4.18	G
Retiree	4.56	VG	4.33	G	4.33	VG	4.44	VG	4.33	VG
Health Worker	4.44	VG	4.00	G	4.22	VG	4.00	G	4.00	G
Farmer	4.23	VG	4.00	G	4.00	G	4.08	G	4.08	G
Engineer	5.00	VG	4.00	G	4.00	G	4.00	G	4.00	G
Public Security	4.67	VG	4.00	G	4.00	G	4.50	VG	4.50	VG
X ²	0.50		0.04*		0.13		0.13		0.01*	



Table 3. (Continued...)

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Income										
< 10,000	4.55	VG	3.94	G	4.03	G	4.11	G	4.19	G
10,000 – 20,000	4.60	VG	4.09	G	4.22	VG	4.22	VG	4.24	VG
21,000 – 30,000	4.32	VG	3.77	G	4.03	G	4.00	G	4.13	G
X ²	0.05*		0.09		0.22		0.28		0.35	
Household Size										
1 – 4	4.53	VG	3.96	G	4.07	G	4.13	G	4.18	G
5 – 7	4.51	VG	3.98	G	4.16	G	4.16	G	4.29	VG
8 – 10	4.41	VG	4.00	G	4.12	G	4.06	G	4.06	G
More than 10	4.50	VG	4.00	G	4.00	G	4.00	G	4.00	G
X ²	0.55		0.50		0.55		0.58		0.49	
Ethnicity										
Kankana-ey (Mt. Province)	4.68	VG	4.06	G	4.17	G	4.26	VG	4.28	VG
Kankana-ey (Benguet)	4.71	VG	3.38	G	3.76	G	3.76	G	4.19	G
Ibaloi	3.94	G	3.38	G	4.12	G	4.06	G	4.06	G
Ibaloi – Kankanaey	4.59	VG	4.18	G	4.14	G	4.14	G	4.14	G
Ifugao	4.00	G	3.90	G	4.00	G	3.90	G	4.10	G
Kalinga	4.44	VG	4.00	G	4.00	G	4.06	G	4.06	G
Itneg	5.00	VG	3.00	G	5.00	G	4.00	G	4.00	G
Pangasinanse	3.00	G	4.00	G	4.00	G	4.00	G	4.00	G
Tagalog	3.80	G	4.00	G	4.00	G	4.00	G	4.00	G
Ilocano	4.00	G	4.00	G	4.00	G	4.00	G	4.00	G
OVERALL AVERAGE	4.52	VG	3.96	G	4.10	G	4.13	G	4.19	G
X ²	0.00*		0.00*		0.00**		0.00*		0.732	

*Significant

**Highly Significant

Legend:

Very Good (VG)

Good (G)



Rating of appearance for Styrofoam box with cling wrap. Table 4 shows that the respondents gave an overall rating of very good the cardboard with wax paper packaging material in terms of its attractiveness, cleanliness, its being presentable, and its ability to attract buyers.

Results of the computed chi-squares for each aesthetic category against the respondents' demographics show significant differences in ratings given by age, occupation, income, and household size. However, the observed significant differences were not observed in all categories of aesthetics. The categories with consistent significant differences across income, occupation, and household size were its being presentable, and its being pleasing to look at. Thus the null hypothesis relating the ratings given by respondents is rejected in these particular demographics and categories.

The significant difference only indicates a considerable difference in rating given by grouping in each demography. The general description of the ratings however is Very Good for all categories.

Table 4. Rating for appearance on styrofoam box with cling wrap

	Looks Attractive		Looks Clean		Looks Presentable		Pleasing to look at		Ability to invite buyers	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	4.72	VG	4.77	VG	4.70	VG	4.63	VG	4.63	VG
31 – 40	4.36	VG	4.58	VG	4.62	VG	4.75	VG	4.64	VG
41 – 50	4.36	VG	4.42	VG	4.45	VG	4.85	VG	4.67	VG
51 – 60	4.35	VG	4.39	VG	4.43	VG	4.61	VG	4.52	VG
61 - >	4.65	VG	4.81	VG	4.77	VG	4.77	VG	4.81	VG
χ^2	0.00*		0.00*		0.06		0.68		0.52	
	*		*							



Table 4. (continued . . .)

	Looks Attractive		Looks Clean		Looks Presentable		Pleasing to look at		Ability to invite buyers	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Gender										
Female	4.46	VG	4.65	VG	4.63	VG	4.65	VG	4.53	VG
Male	4.53	VG	4.62	VG	4.62	VG	4.75	VG	4.71	VG
χ^2	0.26		0.16		0.24		0.38		0.12	
Educational Attainment										
Col. Level	4.74	VG	4.78	VG	4.78	VG	4.78	VG	4.74	VG
Col. Graduate	4.49	VG	4.62	VG	4.60	VG	4.73	VG	4.66	VG
Vocational	4.37	VG	4.47	VG	4.53	VG	4.68	VG	4.63	VG
High School Grad.	4.43	VG	4.43	VG	4.43	VG	4.29	VG	4.29	VG
Graduate School	4.50	VG	4.75	VG	5.00	VG	4.75	VG	4.75	VG
χ^2	0.45		0.59		0.08		0.46		0.56	
Occupation										
Student	4.85	VG	4.85	VG	4.85	VG	4.69	VG	4.69	VG
Unemployed	4.50	VG	4.69	VG	4.50	VG	4.38	VG	4.31	VG
Blue Collar	4.50	VG	4.50	VG	4.59	VG	4.72	VG	4.69	VG
White Collar	4.61	VG	4.68	VG	4.61	VG	4.77	VG	4.71	VG
Gov. Employee	4.45	VG	4.45	VG	4.64	VG	4.91	VG	4.73	VG
Self Employed	4.35	VG	4.62	VG	4.59	VG	4.71	VG	4.68	VG
Retiree	4.44	VG	4.56	VG	4.56	VG	4.67	VG	4.67	VG
Health Worker	4.11	G	4.67	VG	4.67	VG	4.67	VG	4.67	VG
Farmer	4.69	VG	4.77	VG	4.77	VG	4.85	VG	4.77	VG
Engineer	4.00	G	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Sales	4.60	VG	4.64	VG	4.64	VG	4.80	VG	4.64	VG
Public Security	4.33	VG	4.33	VG	4.33	VG	4.67	VG	4.50	VG
χ^2	0.02		0.07		0.00*		0.00*		0.07	
	*				*		*			



Table 4. (continued...)

	LOOK ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Household Size										
1 – 4	4.51	VG	4.62	VG	4.64	VG	4.74	VG	4.65	VG
5 – 7	4.51	VG	4.64	VG	4.60	VG	4.73	VG	4.69	VG
8 – 10	4.47	VG	4.65	VG	4.59	VG	4.59	VG	4.65	VG
others	4.50	VG	4.50	VG	4.00	G	4.00	G	4.00	G
χ^2	0.99		0.99		0.00**		0.00*		0.00*	
Ethnicity										
Kankanaey (Mt.Prov.)	4.45	VG	4.56	VG	4.61	VG	4.73	VG	4.70	VG
Kankanaey (Benguet)	4.57	VG	4.81	VG	4.76	VG	4.71	VG	4.52	VG
Ibaloi	4.59	VG	4.65	VG	4.65	VG	4.76	VG	4.71	VG
Ibalio – Kankanaey	4.64	VG	4.77	VG	4.68	VG	4.68	VG	4.64	VG
Ifugao	4.60	VG	4.80	VG	4.70	VG	4.70	VG	4.50	VG
Kalinga	4.50	VG	4.50	VG	4.50	VG	4.69	VG	4.62	VG
Itneg	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Pangasinan	4.50	VG	4.50	VG	4.00	VG	4.50	VG	4.50	VG
Tagalog	4.40	VG	4.40	VG	4.20	VG	4.60	VG	4.40	VG
Ilocano	4.50	GV	5.00	GV	5.00	GV	5.00	GV	5.00	GV
Overall Average	4.51	VG	4.62	VG	4.62	VG	4.72	VG	4.66	VG
χ^2	0.99		0.83		0.33		0.99		0.93	

*Significant

**Highly Significant

Legend:

Very Good (VG)

Good (G)



Rating of appearance for zipper storage bag with cardboard. Table 5 shows that the respondents gave an overall rating of Moderately Good for the zipper storage bag with wax paper packaging material in terms of attractiveness, cleanliness, its being presentable, its being pleasing to look at, and its ability to attract attention of buyers.

Results of the computed chi-squares for each category against the respondents' demographic variables show no significant differences in ratings given, hence, the null hypothesis is accepted across all demographic variables and all categories on aesthetics. This indicates that all the respondents have the same moderate rating of the zipper bag's appearance as a packaging material.

Table 5. Rating for appearance on zipper storage with cardboard

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	3.02	MG	3.02	MG	3.02	MG	3.02	MG	3.03	MG
31 – 40	2.28	MG	2.98	MG	2.98	MG	2.96	MG	2.96	MG
41 – 50	3.00	MG	3.06	MG	3.00	MG	3.03	MG	3.12	MG
51 – 60	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
61 and above	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
χ^2	0.863		0.830		0.863		0.765		0.765	
Gender										
Female	3.02	MG	3.05	MG	3.02	MG	3.02	MG	3.04	MG
Male	2.99	MG	2.99	MG	2.99	MG	2.99	MG	3.01	MG
χ^2	0.224		0.062		0.224		0.0430		0.093	

Legend:

Moderately Good (MG)



Table 5. (continued...)

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Educational Attainment										
Col. Level	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Col. Graduate	3.00	MG	3.01	MG	3.00	MG	2.99	MG	3.01	MG
Vocat'nl	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
High School Grad.	3.00	MG	3.00	MG	3.00	MG	3.14	MG	3.29	MG
Graduate School	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
χ^2	0.99		0.990		0.996		0.008		0.349	
Occupation										
Student	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Unemployed	2.24	MG	2.94	MG	2.94	MG	2.94	MG	3.13	MG
Blue Collar	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.06	MG
White Collar	3.00	MG	3.06	MG	3.00	MG	3.00	MG	3.06	MG
Gov. Employee	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Self Employed	2.79	MG	2.97	MG	2.97	MG	2.94	MG	2.94	MG
Retiree	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Health Worker	3.22	MG	3.22	MG	3.22	MG	3.22	MG	3.22	MG
Farmer	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Engineer	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Sales	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Public Security	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
χ^2	0.15		0.60		0.15		0.09		0.98	
Income										
< 10,000	2.99	MG	2.99	MG	2.99	MG	2.98	MG	3.00	MG
10,000 – 20,000	3.03	MG	3.06	MG	3.03	MG	3.03	MG	3.03	MG



Table 5. (continued...)

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Income										
21,000 – 30,000	2.97	MG	2.97	MG	2.97	MG	3.00	MG	3.06	MG
χ^2	0.379		0.184		0.379		0.022*		0.779	
Household Size										
1 – 4	3.01	MG	3.02	MG	3.01	MG	3.00	MG	3.03	MG
5 – 7	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
8 – 10	2.94	MG	2.84	MG	2.94	MG	3.00	MG	3.00	MG
More than 10	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
χ^2	0.527		0.467		0.527		0.983		0.927	
Ethnicity										
Kankanaey (Mt. Prov.)	3.02	MG	3.02	MG	3.02	MG	3.00	MG	3.00	MG
Kankanaey (Benguet)	2.95	MG	2.95	MG	2.95	MG	2.90	MG	2.90	MG
Ibaloi	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.12	MG
Ibalio – Kankanaey	3.00	MG	3.00	MG	3.00	MG	3.09	MG	3.09	MG
Ifugao	2.90	MG	2.90	MG	2.90	MG	3.00	MG	3.00	MG
Kalinga	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Itneg	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Pangasinanse	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
Tagalog	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.40	MG
Ilocano	3.00	MG	3.00	MG	3.00	MG	3.00	MG	3.00	MG
OVERALL AVERAGE	3.00	MG	3.01	MG	3.00	MG	3.00	MG	3.02	MG
χ^2	0.742		0.021*		0.742		0.982		0.978	

*Significant

**Highly Significant

Legend:

Very Good (VG)

Good (G)



Rating of appearance for hard plastic with cardboard. Table 6 shows that the respondents gave an overall rating of Very Good for the hard plastic with cardboard packaging material in terms of its attractiveness but only a Good cleanliness, presentable, pleasing to look at, ability to attract attention of buyers.

Results of the computed chi-square for each category as to the demographic show significant difference in rating given by the by income, household size, and ethnicity grouping only.

When grouped by income as compared to these having income less than 10,000 and 21,000 to 30,000 gave a higher rating as to the packaging materials clean and pleasing to look, its resentabilityp, and ability to attract buyers.

Like wise also in grouped of household size gave an higher rating as to the packaging materials clean and pleasing to look, its presentability, and its ability to attract buyers.

There are also variations in rating given on the packaging material depending on the ethnic grouping. Generally, and although all rating given are at least with in the category of good to very good, there is an relatively consistent lower rating on all factors relating to aesthetic of the packaging material by Ilocanos, Tagalogs, Pangasinanse, Itneg, Kalinga, Ifugao, Ibaloi, and even Kankana-eyes.



Table 6. Rating for appearance on hard plastic with card board paper

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	4.92	VG	4.95	VG	4.95	VG	4.93	VG	4.93	VG
31 – 40	5.00	VG	4.94	VG	5.00	VG	5.00	VG	5.00	VG
41 – 50	4.94	VG	5.00	VG	4.94	VG	4.94	VG	4.91	VG
51 – 60	5.00	VG	4.97	VG	5.00	VG	5.00	VG	5.00	VG
61 - >	4.97	VG	4.97	VG	4.97	VG	4.97	VG	4.97	VG
χ^2	0.164		0.374		0.374		0.269		0.161	
Gender										
Female	4.98	VG	4.98	VG	4.98	VG	4.98	VG	4.96	VG
Male	4.95	VG	4.97	VG	4.97	VG	4.96	VG	4.96	VG
χ^2	0.306		0.514		0.514		0.396		0.823	
Educational Attainment										
Col. Level	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Col. Graduate	4.94	VG	4.96	VG	4.96	VG	4.95	VG	4.94	VG
Vocational	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
High School Grad.	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Graduate	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
χ^2	0.50		0.65		0.95		0.57		0.50	
Occupation										
Student	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Unemployed	4.88	VG	4.94	VG	4.88	VG	4.88	VG	4.88	VG
Blue Collar	4.97	VG	4.97	VG	4.97	VG	4.97	VG	4.97	VG
White Collar	4.94	VG	4.97	VG	4.97	VG	4.94	VG	4.90	VG
Gov. Employee	4.91	VG	4.91	VG	4.91	VG	4.91	VG	4.91	VG
Self Employed	5.00	VG	4.97	VG	5.00	VG	5.00	VG	5.00	VG



Table 6. (continued...)

LOOKS ATTRACTIVE			LOOKS CLEAN		LOOKS PRESENTABLE		PEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description	
Educational										
Retiree	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Health Worker	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Farmer	4.92	VG	4.92	VG	4.92	VG	4.92	VG	4.92	VG
Engineer	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Sales	4.96	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
Private Security	5.00	VG	5.00	VG	5.00	VG	5.00	VG	5.00	VG
χ^2	0.73		0.93		0.49		0.54		0.45	
Income										
< 10,000	4.55	VG	3.94	G	4.03	G	4.11	G	4.19	G
10,000 – 20,000	4.60	VG	4.09	G	4.22	VG	4.22	VG	4.24	VG
21,000 – 30,000	4.23	VG	3.77	G	4.03	G	4.00	G	4.13	G
χ^2	0.05*		0.09		0.22		0.28		0.35	
Household Size										
1 – 4	4.53	VG	3.96	G	4.07	G	4.13	G	4.18	G
5 – 7	4.51	VG	3.98	G	4.16	G	4.16	G	4.29	VG
8 – 10	4.41	VG	4.00	G	4.12	G	4.06	G	4.06	G
More than 10	4.50	VG	4.00	G	4.00	G	4.00	G	4.00	G
χ^2	0.55		0.50		0.55		0.58		0.50	
Ethnicity										
Kankana-ey (Mt. Province)	4.68	VG	4.06	G	4.17	G	4.26	VG	4.28	VG
Kankana-ey (Benguet)	4.71	VG	3.38	G	3.76	G	3.76	G	4.19	G
Ibaloi	3.94	G	3.88	G	4.12	G	4.06	G	4.06	G
Ibalio – Kankanaey	4.59	VG	4.18	G	4.14	G	4.14	G	4.14	G



Table 6. (continued.....)

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Ethnicity										
Ifugao	4.00	G	3.90	G	4.00	G	3.90	G	4.10	G
Kalinga	4.44	VG	4.00	G	4.00	G	4.06	G	4.06	G
Itneg	5.00	VG	3.00	G	5.00	VG	4.00	G	4.00	G
Pangasinanse	3.00	G	4.00	G	4.00	G	4.00	G	4.00	G
Tagalog	3.80	G	4.00	G	4.00	G	4.00	G	4.00	G
Ilocano	4.00	G	4.00	G	4.00	G	4.00	G	4.00	G
OVERALL AVERAGE	4.52	VG	3.36	G	4.10	G	4.13	G	4.19	G
χ^2	0.00*		0.00*		0.00*		0.00*		0.732	

*Significant

**Highly Significant

Legend:

Very Good (VG)

Good (G)

Rating of Appearance for Aluminum Foil. Table 7 shows that respondents gave a Poor overall rating on all categories of appearance of the aluminum foil packaging material.

Result of the computed chi-square for each aesthetic category as to the respondents' demographic shows significant differences in ratings given by gender and household size groupings, thus, the null hypothesis is rejected for these demographic groupings.

Although the overall ratings fall under the description of Poor, females gave a much lower rating than males for all categories of aesthetics of the aluminum foil. Those



from households with 5 to 7 members and from households of 8 to 10 family members gave a consistently lower rating on each category of aesthetics of the aluminum foil package than those from households of less than 5 members or more than 10 members.

When evaluated by aesthetic features, the Styrofoam had the highest average rating of Very Good. Additionally, The cardboard and hard plastic received an average rating of Good. The zipperbag had an average rating of Moderately Good and the Aluminum Foil received a poor rating.

Table 7. Rating of appearance of aluminum

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	2.03	P	2.02	P	2.00	P	2.00	P	1.98	P
31 – 40	2.04	P	2.04	P	2.04	P	2.04	P	2.04	P
41 – 50	2.03	P	2.03	P	2.03	P	2.03	P	2.03	P
51 – 60	1.96	P	1.096	P	1.96	P	1.96	P	1.96	P
61 - >	1.90	P	1.90	P	1.96	P	1.90	P	1.90	P
X ²	0.29		0.23		0.25		0.25		0.23	
Gender										
Male	2.09	P	2.09	P	2.09	P	2.09	P	2.09	P
Female	1.97	P	1.97	P	1.96	P	1.96	P	1.95	P
X ²	0.05*		0.04*		0.02*		0.02*		0.00*	*
Educational Attainment										
College Level	2.04	P	2.00	P	1.96	P	1.96	P	1.96	P



Table 7. (continued...)

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Educational Attainment										
College Graduate	1.99	P	1.99	P	1.99	P	1.99	P	1.99	P
Vocational	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
High School Graduate	2.29	P	2.29	P	2.29	P	2.29	P	2.29	P
Age										
< 30	2.03	P	2.02	P	2.00	P	2.00	P	1.98	P
31 – 40	2.04	P	2.04	P	2.04	P	2.04	P	2.04	P
41 – 50	2.03	P	2.03	P	2.03	P	2.03	P	2.03	P
51 – 60	1.96	P	1.096	P	1.96	P	1.96	P	1.96	P
61 - >	1.90	P	1.90	P	1.96	P	1.90	P	1.90	P
X ²	0.29		0.23		0.25		0.25		0.23	
Gender										
Male	2.09	P	2.09	P	2.09	P	2.09	P	2.09	P
Female	1.97	P	1.97	P	1.96	P	1.96	P	1.95	P
X ²	0.05*		0.04*		0.02*		0.02*		0.00*	*
Educational Attainment										
College Level	2.04	P	2.00	P	1.96	P	1.96	P	1.96	P
College Graduate	1.99	P	1.99	P	1.99	P	1.99	P	1.99	P
Vocational	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
High School Graduate	2.29	P	2.29	P	2.29	P	2.29	P	2.29	P
Occupation										
Student	2.15	P	2.08	P	2.00	P	2.00	P	2.00	P
Unemployed	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
Blue Collar	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
White Collar	2.13	P	2.19	P	2.13	P	2.13	P	2.13	P



Table 7. (continued...)

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Occupation										
Gov't Employee	2.06	P	2.03	P	2.06	P	2.03	P	2.03	P
Self Employed	1.90	P	1.90	P	1.90	P	1.90	P	1.90	P
Retiree	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
Health Worker	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
Farmer	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
Engineer	1.89	P	1.89	P	1.89	P	1.89	P	1.89	P
Public Security	1.92	P	1.92	P	1.92	P	1.92	P	1.92	P
X ²	0.40		0.11		0.35		0.24		0.24	
Income										
< 10,000	1.99	P	1.98	P	1.99	P	1.99	P	2.77	P
10,000 – 20,000	1.97	P	1.97	P	1.97	P	1.97	P	2.66	P
21,000 – 30,000	2.13	P	2.13	P	2.06	P	2.06	P	2.68	P
X ²	0.62		0.09		0.89		0.89		0.07	
HOUSE HOLD SIZE										
1 – 4	2.03	P	2.03	P	2.03	P	2.03	P	2.02	P
5 – 7	2.00	P	1.98	P	1.96	P	1.96	P	1.96	P
8 – 10	1.82	P	1.82	P	1.82	P	1.82	P	1.82	P
More than 10	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
X ²	0.00*		0.00*		0.00*		0.00*		0.00*	
	*		*		*		*		*	
Ethnicity										
Kankana-ey (Mt. Province)	1.94	P	1.95	P	1.94	P	1.94	P	1.94	P
Kankana-ey (Benguet)	2.19	P	2.19	P	2.19	P	2.19	P	2.19	P
Ibaloi	2.24	P	2.00	P	2.12	P	2.12	P	2.12	P



Table 7. (continued...)

	LOOKS ATTRACTIVE		LOOKS CLEAN		LOOKS PRESENTABLE		PLEASING TO LOOK AT		ABILITY TO INVITE BUYERS	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Ethnicity										
Kankanaey (Mt. Province)	1.94	P	1.95	P	1.94	P	1.94	P	1.94	P
Kankanaey (Benguet)	2.19	P	2.19	P	2.19	P	2.19	P	2.19	P
Ibaloi	2.24	P	2.00	P	2.12	P	2.12	P	2.12	P
Ibaloi – Kankanaey	2.00	P	1.90	P	2.00	P	2.00	P	2.00	P
Ifugao	1.90	P	1.87	P	1.90	P	1.90	P	1.90	P
Kalinga	1.94	P	2.00	P	1.94	P	1.94	P	1.87	P
Itneg	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
Pangasinan	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
Tagalog	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
Ilocano	2.00	P	2.00	P	2.00	P	2.00	P	2.00	P
X ²	0.54	P	0.89	P	0.78	P	0.78	P	0.68	P
OVERALL AVERAGE	2.00		2.00		1.99		1.99		1.99	

*Significant

**Highly Significant

Legend:

Poor (P)

Respondents' Ratings on Sanitation of Packaging Materials.

Respondents rated the ability of the packaging materials to keep the product clean and prolong its shelf life.

Rating of sanitation for card board with wax paper. Table 8 shows that the respondents gave an overall rating of Acceptable for the cardboard and wax paper



packaging material in terms of its ability to act as a barrier to moisture, protect the product, protect against ingress of odors, provide resistance to physical damage, and suppress the odor of the product.

Results of the computed chi-squares for each category on sanitation against the demographic profiles show significant differences in each category when grouped by age and income. The null hypothesis is hence rejected for demographics of age and income.

Respondents from the age group of 31 to 40 and 41 to 50 tended to give consistently higher ratings on sanitation capabilities of the cardboard box than the older or younger respondents. Likewise, those belonging to the income bracket of Php10,000 to Php20,000 earned per month gave a higher rating on sanitation for the cardboard packaging material than those with higher or lower monthly income.

Table 8. Rating of sanitation for card board

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	3.36	A	3.22	MA	3.35	MA	3.55	A	3.55	A
31 – 40	4.36	HA	4.17	A	3.26	MA	3.64	A	4.17	A
41 – 50	4.33	HA	4.15	A	3.79	A	3.97	A	4.33	HA
51 – 60	4.48	HA	3.87	A	3.17	MA	3.52	A	4.13	A
61 - >	4.42	HA	4.35	A	4.16	A	4.29	HA	4.29	HA
χ^2	0.00**		0.00**		0.00**		0.02*		0.00**	



Table 8. (continued...)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Gender										
Female	4.84	HA	4.86	HA	4.86	HA	4.89	HA	4.88	HA
Male	4.93	HA	4.96	HA	4.92	HA	4.92	HA	4.93	HA
χ^2	0.05*		0.01*		0.23		0.49		0.22	
Educational Attainment										
Col. Level	3.36	A	3.59	A	3.67	A	3.89	A	3.96	A
Col. Graduate	4.18	A	3.90	A	3.51	A	3.73	A	4.04	A
Vocational	4.47	HA	4.05	A	3.32	A	3.63	A	4.05	A
High School	3.86	A	3.86	A	3.00	A	3.86	A	3.86	A
Grad. Graduate School	4.50	HA	4.00	A	4.00	A	4.00	A	4.00	A
χ^2	0.79		0.90		0.65		0.99		0.99	
Occupation										
Student	3.77	A	3.31	A	3.62	A	3.77	A	3.77	A
Unemployed	4.12	A	3.88	A	3.25	A	4.00	A	4.25	HA
Blue Collar	3.88	A	3.75	A	3.25	A	3.25	A	3.81	A
White Collar	3.97	A	3.52	A	3.45	A	3.65	A	3.71	A
Gov. Employee	4.64	HA	4.45	HA	3.55	A	4.09	A	4.27	HA
Self Employed	4.47	HA	4.06	A	3.59	A	3.94	A	4.24	HA
Retiree	4.56	HA	4.56	HA	4.33	HA	4.33	A	4.33	HA
Health Worker	4.00	A	3.33	A	3.33	A	3.78	A	4.00	A
Farmer	4.23	HA	3.77	A	3.15	A	3.46	A	3.92	A
Engineer	3.00	A	3.00	A	3.00	A	3.00	A	3.00	A
Sales	4.28	HA	4.20	HA	3.72	A	3.96	A	4.20	HA



Table 8. (continued...)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Occupation										
Public Security	4.67	HA	4.33	HA	4.00	A	3.67	A	4.33	HA
χ^2	0.50		0.04*		0.13		0.13		0.01*	
Income										
< 10,000	4.16	A	3.88	A	3.41	A	3.65	A	3.96	A
10,000 – 20,000	4.30	HA	3.97	A	3.70	A	3.85	A	4.12	A
21,000 – 30,000	3.97	A	3.65	A	3.39	A	3.90	A	4.03	A
χ^2	0.278*		0.32*		0.09*		0.28*		0.48*	
Household Size										
1 – 4	4.21	HA	3.89	A	3.48	A	3.76	A	4.02	A
5 – 7	4.07	A	3.84	A	3.62	A	3.80	A	4.07	A
8 – 10	4.18	A	3.82	A	3.35	A	3.59	A	3.94	A
More than 10	4.00	A	4.00	A	4.00	A	4.00	A	4.00	A
χ^2	0.96		0.99		0.87		0.97		0.99	
Ethnicity										
Kankanaey (Mt. Prov.)	4.28	HA	3.93	A	3.74	A	3.80	A	4.11	A
Kankanaey (Benguet)	4.05	A	3.76	A	3.19	A	3.95	A	3.95	A
Ibaloi	4.18	A	3.82	A	3.12	A	3.59	A	4.06	A
Ibaloi – Kankanaey	4.18	A	4.18	A	3.36	A	3.82	A	4.09	A
Ifugao	4.00	A	3.60	A	3.40	A	3.80	A	3.80	A
Kalinga	3.88	A	3.75	A	3.25	A	3.38	A	3.88	A
Kalinga	3.88	A	3.00	A	3.00	A	3.00	A	3.00	A
Itneg Pangasinan	3.00	A	4.00	A	3.00	A	4.00	A	3.00	A
Tagalog	4.00	A	4.00	A	3.00	A	4.00	A	3.00	A
Tagalog	3.80	A	3.40	A	3.00	A	3.40	A	3.80	A



Table 8 (continued...)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Occupation										
Ilocano	5.00	HA	3.00	A	4.00	A	4.00	A	4.00	A
OVER ALL AVERAGE	4.18	A	3.87	A	3.51	A	3.75	A	4.02	A
χ^2	0.97		0.97		0.27		0.99		0.99	

*Significant

**Highly Significant

Legend:

Highly Acceptable (HA)

Acceptable (A)

Rating of sanitation for Styrofoam with cling wrap. Table 9 shows that the respondents gave an overall rating of moderately acceptable for the Styrofoam box in terms of its ability to be a barrier to moisture but a rating of Acceptable for its qualities of being able to protect the product, protect against ingress of odorous, physical resistance to physical damage, and suppression of the odor of the product.

Results of the computed chi-square for each aesthetic category as to respondents' demographics significant differences particularly in the gender and educational attainment groupings. The null hypothesis is hence rejected for these categories. This means that there are significant differences in ratings given by respondents when grouped by gender and by educational attainment.

Females gave consistently higher ratings on the Styrofoam box's ability to keep the product's sanitation than the male respondents. Likewise, those who have finished their high school education, have reached college or have graduated from college gave a higher rating than those with higher or lower level education.



Table 9. Rating for sanitation on styrofoam box

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	3.20	A	3.52	A	3.52	A	3.52	A	3.52	A
31- 40	3.13	A	3.60	A	3.60	A	3.60	A	3.60	A
41- 50	3.24	A	3.52	A	3.52	A	3.52	A	3.52	A
51- 60	3.26	A	3.78	A	3.78	A	3.78	A	3.78	A
61 ->	3.19	A	3.65	A	3.65	A	3.65	A	3.65	A
χ^2	0.04*		0.93		0.93		0.93		0.93	
Gender										
Female	2.95	MA	3.44	A	3.44	A	3.44	A	3.47	A
Male	3.29	MA	3.65	A	3.65	A	3.65	A	3.64	A
χ^2	0.00*		0.02*		0.02*		0.02*		0.07	
Educational Attainment										
Col. Level	3.19	MA	3.59	A	3.59	A	3.59	A	3.59	A
College Grad.	3.23	MA	3.63	A	3.63	A	3.63	A	3.62	A
Vocational	3.05	MA	3.53	A	3.53	A	3.53	A	3.53	A
High School Grad.	3.29	MA	3.57	A	3.57	A	3.57	A	3.57	A
Graduate	2.50	LA	2.50	LA	2.50	LA	2.50	LA	3.00	LA
χ^2	0.94		0.00**		0.00**		0.00**		0.96	
Occupation										
Student	3.15	MA	3.77	A	3.77	A	3.77	A	3.77	A
Unemployed	2.27	MA	3.31	MA	3.31	MA	3.31	MA	3.31	MA
Blue Collar	3.09	MA	3.63	A	3.63	A	3.63	A	3.63	A
White Collar Gov. Employee	2.94	MA	3.42	A	3.42	A	3.42	A	3.35	A
Self Employed	3.64	A	3.55	A	3.55	A	3.55	A	3.73	A
Retiree	3.21	MA	3.59	A	3.59	A	3.59	A	3.59	A
	3.00	MA	3.67	A	3.67	A	3.67	A	3.67	A



Table 9. Rating for sanitation on styrofoam box

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	3.20	A	3.52	A	3.52	A	3.52	A	3.52	A
31- 40	3.13	A	3.60	A	3.60	A	3.60	A	3.60	A
41- 50	3.24	A	3.52	A	3.52	A	3.52	A	3.52	A
51- 60	3.26	A	3.78	A	3.78	A	3.78	A	3.78	A
61 - >	3.19	A	3.65	A	3.65	A	3.65	A	3.65	A
χ^2	0.04*		0.93		0.93		0.93		0.93	
Gender										
Female	2.95	MA	3.44	A	3.44	A	3.44	A	3.47	A
Male	3.29	MA	3.65	A	3.65	A	3.65	A	3.64	A
χ^2	0.00*		0.02*		0.02*		0.02*		0.07	
Educational Attainment										
Col. Level	3.19	MA	3.59	A	3.59	A	3.59	A	3.59	A
College Grad.	3.23	MA	3.63	A	3.63	A	3.63	A	3.62	A
Vocational	3.05	MA	3.53	A	3.53	A	3.53	A	3.53	A
High School Grad.	3.29	MA	3.57	A	3.57	A	3.57	A	3.57	A
Graduate	2.50	LA	2.50	LA	2.50	LA	2.50	LA	3.00	LA
χ^2	0.94		0.00**		0.00**		0.00**		0.96	
Occupation										
Student	3.15	MA	3.77	A	3.77	A	3.77	A	3.77	A
Unemployed	2.27	MA	3.31	MA	3.31	MA	3.31	MA	3.31	MA
Blue Collar	3.09	MA	3.63	A	3.63	A	3.63	A	3.63	A
White Collar Gov. Employee	2.94	MA	3.42	A	3.42	A	3.42	A	3.35	A
Self Employed	3.64	A	3.55	A	3.55	A	3.55	A	3.73	A
Retiree	3.21	MA	3.59	A	3.59	A	3.59	A	3.59	A
	3.00	MA	3.67	A	3.67	A	3.67	A	3.67	A



Table 9. (continued...)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Occupation										
Health Worker	3.22	MA	3.44	A	3.44	A	3.44	A	3.44	A
Farmer	3.62	A	3.62	A	3.62	A	3.62	A	3.62	A
Engineer	2.00	LA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
Sales	3.48	A	3.80	A	3.80	A	3.80	A	3.80	A
Public Security	3.50	A	4.00	A	4.00	A	4.00	A	4.00	A
χ^2	0.35		0.62		0.62		0.62		0.43	
Income										
< 10,000	3.28	MA	3.62	A	3.62	A	3.62	A	3.64	A
10,000 – 20,000	3.12	MA	3.57	A	3.57	A	3.57	A	3.54	A
21,000 – 30,000	3.06	MA	3.55	A	3.55	A	3.55	A	3.55	A
χ^2	0.09		0.94		0.94		0.94		0.78	
Household Siz										
1 – 4	3.21	MA	3.59	A	3.59	A	3.59	A	3.57	A
5 – 7	3.13	MA	3.67	A	3.67	A	3.67	A	3.67	A
8 – 10	3.18	MA	3.35	MA	3.35	MA	3.35	MA	3.47	MA
More than 10	4.00	A	4.00	A	4.00	A	4.00	A	4.00	A
χ^2	0.94		0.60		0.60		0.60		0.95	
Ethnicity										
Kankana-ey (Mt. Pro.)	3.06	MA	3.52	A	3.52	A	3.52	A	3.50	A
Kankana-ey (Benguet)	3.05	MA	3.48	A	3.48	A	3.48	A	3.48	A
Ibaloi	3.12	MA	3.35	A	3.35	A	3.35	A	3.35	A
Ibalio – Kankanaey	3.64	A	3.91	A	3.91	A	3.91	A	4.00	A
Ifugao	3.20	MA	3.80	A	3.80	A	3.80	A	3.80	A



Table 9. continued...

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCETO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Ethnicity										
Kalinga	3.63	A	4.00	A	4.00	A	4.00	A	4.00	A
Itneg	5.00	MA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
Pangasinanse	3.00	MA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
Tagalog	3.20	MA	3.40	A	3.40	A	3.40	A	3.40	A
Ilocano	3.50	A	4.00	A	4.00	A	4.00	A	4.00	A
OVERALL AVERAGE	3.20	MA	3.59	A	3.59	A	3.59	A	3.59	A
χ^2	0.72		0.73		0.73		0.73		0.86	

*Significant

**Highly Significant

Legend:

Moderately Acceptable (MA)

Acceptable (A)

Rating of sanitation for the zipper storage bag with card board. Table 10 shows an overall Acceptable rating by respondents on the zipper bag in terms of its ability to act as a barrier to moisture, protect the product, protect against ingress of odorous, provide resistance to physical damage, and to suppress the odor of the product.

Results of the computed chi-square show significant differences in ratings given when grouped by age, gender and income. When grouped by age, there are differences in ratings in the product protection and protection against ingress of odors categories. When grouped by gender, there are differences in ratings on the package's acting as a barrier to moisture, product protection and protection against ingress of odors categories. And when grouped by income, there are differences in ratings on protection on the product's



physical form and the suppression of the product's odor. The null hypothesis is rejected under these demographics and categories.

Respondents in their middle ages (41-50) gave lower ratings than other age groups. Females gave lower ratings than males. And those with more than Php21,000 monthly income gave lower ratings than the lower income groups.

Table 10. Rating on sanitation for zipper bag

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	3.32	MA	3.30	MA	3.30	MA	4.03	A	4.10	A
31 – 40	3.53	A	3.53	A	3.53	A	4.11	A	4.09	A
41 – 50	3.73	A	3.73	A	3.70	A	4.09	A	4.12	A
51 – 60	3.13	MA	3.13	MA	3.13	MA	4.00	A	4.00	A
61 - >	3.71	MA	3.71	A	3.17	A	4.03	A	4.03	A
χ^2	0.33		0.00**		0.00**		0.15		0.09	
Gender										
Female	3.33	MA	3.33	MA	3.32	MA	3.98	MA	3.98	MA
Male	3.54	A	3.53	A	3.53	A	4.09	A	4.12	A
χ^2	0.00**		0.00**		0.00**		0.16		0.19	
Educational Attainment										
Col. Level	3.41	A	3.37	A	3.41	A	3.96	A	4.04	A
Col. Graduate	3.45	A	3.45	A	3.45	A	4.06	A	4.08	A
Vocational	3.68	A	3.68	A	3.68	A	4.26	A	4.21	A
High School Grad.	3.71	A	3.71	A	3.57	A	4.00	A	4.00	A
Graduate School	3.50	A	3.50	A	3.50	A	3.75	A	3.75	A
χ^2	0.49		0.24		0.32		0.07		0.22	



Table 10. continued....

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCETO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Occupation										
Student	3.31	MA	3.23	MA	3.31	A	3.92	A	4.08	A
Unemployed	3.50	A	3.50	A	3.38	A	3.88	A	3.87	A
Blue Collar	3.50	A	3.50	A	3.50	A	4.12	A	4.12	A
White Collar	3.52	A	3.52	A	3.52	A	4.13	A	4.23	A
Gov. Employee	3.55	A	3.55	A	3.55	A	4.00	A	4.00	A
Self Employed	3.44	A	3.44	A	3.44	A	4.00	A	4.00	A
Retiree	3.89	A	3.89	A	3.89	A	4.00	A	4.00	A
Health Worker	3.33	A	3.33	A	3.33	A	4.22	A	4.22	A
Farmer	3.46	A	3.46	A	3.46	A	4.15	A	4.08	A
Engineer	3.00	A	3.00	A	3.00	A	4.00	A	4.00	A
Sales	3.44	A	3.44	A	3.44	A	4.08	A	4.08	A
Public Security	3.50	A	3.50	A	3.50	A	4.17	A	4.17	A
χ^2	0.15		0.60		0.15		0.09		0.98	
Income										
< 10,000	3.45	A	3.45	A	3.45	A	4.05	A	4.06	A
10,000 – 20,000	3.55	A	3.55	A	3.55	A	4.15	A	4.16	A
21,000 – 30,000	3.42	A	3.39	MA	3.35	MA	3.90	A	3.97	A
χ^2	0.13		0.20		0.24		0.00**		0.00**	
Household Size										
1 – 4	3.48	A	3.47	A	3.46	A	4.07	A	4.10	A
5 – 7	3.49	A	3.47	A	3.49	A	4.07	A	4.09	A
8 – 10	3.41	A	3.47	A	3.47	A	4.00	A	3.94	A
More than 10	4.00	A	4.00	A	4.00	A	4.00	A	4.00	A
χ^2	0.81		0.79		0.85		0.99		0.68	



Table 10. (continued.....)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Ethnicity										
Kankana-ey (Mt. Prov.)	3.56	A	3.56	A	3.54	A	4.09	A	4.10	A
Kankana-ey (Benguet)	3.19	MA	3.14	MA	3.14	MA	3.95	A	3.90	A
Ibaloi	3.47	A	3.41	A	3.47	A	4.06	A	4.12	A
Ibalio – Kankanaey	3.45	A	3.45	A	3.45	A	4.14	A	4.23	A
Ifugao	3.30	MA	3.40	A	3.40	A	4.00	A	3.90	A
Kalinga	3.44	A	3.44	A	3.44	A	4.00	A	4.00	A
Itneg	3.00	A	3.00	MA	3.00	MA	4.00	A	4.00	A
Pangasinanse	3.50	A	3.50	A	3.50	A	3.50	A	4.00	A
Tagalog	4.00	A	4.00	A	4.00	MA	4.20	A	4.40	A
Ilocano	3.00	MA	3.00	MA	3.00	MA	4.00	A	4.00	A
OVERALL AVERAGE	3.48	A	3.47	A	3.47	MA	4.06	A	4.08	A
x ²	0.20		0.20		0.21		0.99		0.17	

*Significant

** Highly Significant

Legend:

Moderately Acceptable (MA)

Acceptable (A)

Rating of sanitation for hard plastic with card board. Table 11 shows that the respondents gave an overall rating of Acceptable for the hard plastic cardboard packaging material in terms of its ability to act as a barrier to moisture, protect the product, protect against ingress of odorous, provide resistance to physical damage, and suppression of the odor of the product.



Results of the computed chi-squares for each aesthetic category as to the respondents' demographic show a significant difference in ratings given under gender grouping but only for the packaging material's ability to act as a barrier against moisture and protect the product. Females gave lower ratings than the male respondents.

Table 11. Rating for sanitation on hard plastic with card board

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
< 30	4.93	HA	4.92	HA	4.87	HA	4.88	HA	4.90	HA
31 – 40	4.96	HA	4.94	HA	4.94	HA	4.98	HA	4.98	HA
41 – 50	4.85	HA	4.85	HA	4.88	HA	4.88	HA	4.85	HA
51 – 60	4.87	HA	4.96	HA	4.87	HA	4.87	HA	4.87	HA
61 - >	4.84	HA	5.00	HA	4.94	HA	4.94	HA	4.94	HA
χ^2	0.22		0.18		0.61		0.54		0.21	
Gender										
Female	4.84	HA	4.86	HA	4.86	HA	4.89	HA	4.88	HA
Male	4.93	HA	4.96	HA	4.92	HA	4.92	HA	4.93	HA
χ^2	0.05*		0.01*		0.23		0.49		0.22	
Educational Attainment										
Col. Level	4.96	HA	4.96	HA	4.93	HA	4.96	HA	4.93	HA
Col. Graduate	4.90	HA	4.92	HA	4.89	HA	4.90	HA	4.92	HA
Vocational	5.00	HA	4.95	HA	5.00	HA	5.00	HA	4.95	HA
High. School Grad.	4.71	HA	4.86	HA	4.86	HA	4.86	HA	4.86	HA
Graduate School	4.75	HA	5.00	HA	4.75	HA	4.75	HA	4.75	HA
χ^2	0.12		0.82		0.45		0.76		0.73	



Table 11. (continued)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Occupation										
Unemployed	4.81	HA	4.75	HA	4.75	HA	4.69	HA	4.81	HA
Blue Collar	4.97	HA	4.97	HA	4.97	HA	4.97	HA	4.97	HA
Self Employed	4.94	HA	4.91	HA	4.94	HA	4.97	HA	5.00	HA
Retiree	4.78	HA	5.00	HA	5.00	HA	5.00	HA	5.00	HA
Health Worker	5.00	HA	5.00	HA	5.00	HA	5.00	HA	5.00	HA
Farmer	4.92	HA	4.92	HA	4.92	HA	4.92	HA	4.92	HA
Engineer	5.00	HA	5.00	HA	5.00	HA	5.00	HA	5.00	HA
Sales	4.96	HA	5.00	HA	4.96	HA	4.96	HA	4.96	HA
Public Security	5.00	HA	5.00	HA	5.00	HA	5.00	HA	5.00	HA
χ^2	0.33		0.16		0.11		0.33		0.05	*
Income										
< 10,000	4.16	A	3.88	A	3.41	A	3.65	A	3.96	A
10,000 – 20,000	4.30	HA	3.97	A	3.70	A	3.85	A	4.12	A
21,000 – 30,000	3.97	A	3.65	A	3.39	A	3.90	A	4.03	A
χ^2	0.27		0.32		0.09		0.28		0.48	
Household Size										
1 – 4	4.21	HA	3.89	A	3.48	A	3.76	A	4.02	A
5 – 7	4.07	A	3.84	A	3.62	A	3.80	A	4.07	A
8 – 10	4.18	A	3.82	A	3.35	A	3.59	A	3.94	A
More than 10	4.00	A	4.00	A	4.00	A	4.00	A	4.00	A
χ^2	0.96		0.99		0.87		0.97		0.99	
Ethnicity										
Kankana-ey (Mt. Province)	4.28	A	3.93	A	3.74	A	3.80	A	4.11	A
Kankana-ey (Benguet)	4.05	A	3.76	A	3.19	A	3.95	A	3.95	A



Table 11. (continued.....)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE INGRESS OF ODOUR		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Ethnicity										
Ibaloi	4.18	A	3.82	A	3.12	A	3.59	A	4.06	A
Ibalio – Kankana-ey	4.18	A	4.18	A	3.36	A	3.82	A	4.09	A
Ifugao	4.00	A	3.60	A	3.40	A	3.80	A	3.80	A
Kalinga	3.88	A	3.75	A	3.25	A	3.38	A	3.88	A
Itneg	3.00	A	3.00	A	3.00	A	3.00	A	3.00	A
Pangasinanse	4.00	A	4.00	A	3.00	A	4.00	A	3.00	A
Tagalog	3.80	A	3.40	A	3.00	A	3.40	A	3.80	A
Ilocano	5.00	A	3.00	A	4.00	A	4.00	A	4.00	A
OVER-ALL AVERAGE	4.18	A	3.87	A	3.51	A	3.75	A	4.02	A
χ^2	0.97		0.26		0.27		0.99		0.99	

* Significant

** Highly Significant

Legend:

Highly Acceptable (HA)

Acceptable (A)

Rating for sanitation of aluminum. Table 12 shows that respondents gave an overall rating of Moderately Acceptable for the aluminum foil packaging material in terms of its ability to act as a barrier to moisture, protect the product, protect against ingress of odor, provide resistance to physical damage, and suppression of odor of the product.

Result of the computed chi-squares for each sanitation category against the demographics show significant differences in the ratings given by the age, occupation,



and income groupings. The null hypothesis is rejected for these demographic variables.

Respondents younger than 30 years old and those from 31 to 40 years of age consistently gave higher ratings for the packaging material than those from older age groups. Likewise, those with no source of income gave consistently higher ratings than those with income of any bracket.

When evaluated for their ability to keep the product sanitary, only the aluminum foil received a Moderately Acceptable rating while the other 4 packaging materials got an average rating of Acceptable.

Table 12. Rating of sanitation for aluminum

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE PRODUCT		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Age										
30 and below	4.77	MA	2.92	MA	2.93	MA	2.90	MA	2.90	MA
31 - 40	2.94	MA	2.98	MA	2.98	MA	2.98	MA	2.98	MA
41 - 50	2.82	MA	2.82	MA	2.82	MA	2.82	MA	2.18	MA
51 - 60	2.61	MA	2.78	MA	2.78	MA	2.78	MA	2.04	MA
More than 10	2.23	MA	2.84	MA	2.84	MA	2.84	MA	2.00	MA
χ^2	0.00*		0.02*		0.03*		0.13		0.00*	
Gender										
Female	2.74	MA	2.84	MA	2.86	MA	2.86	MA	2.86	MA
Male	2.17	MA	2.91	MA	2.91	MA	2.90	MA	2.90	MA
χ^2	0.80		0.41		0.33		0.46		0.46	



Table 12. (continued . . .)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE PRODUCT		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Educational Attainment										
Col. Level	2.56	MA	3.00	MA	3.00	MA	2.96	MA	2.41	MA
Col. Graduate	2.74	MA	2.86	MA	2.87	MA	2.86	MA	2.19	MA
Vocational	2.95	MA	3.00	MA	3.00	MA	3.00	MA	2.26	MA
High School Grad	2.57	MA	3.00	MA	3.00	MA	3.00	MA	2.57	MA
High School Level	2.25	MA	2.50	MA	2.50	MA	2.50	MA	2.00	MA
Graduate School	2.72	MA	2.89	MA	2.90	MA	2.88	MA	2.23	MA
X ²	0.18		0.12		0.11		0.21		0.32	
Occupation										
Student	2.15	MA	2.08	MA	2.00	MA	2.92	MA	2.92	MA
Occupation										
Unemployed	2.13	MA	2.19	MA	2.13	MA	2.88	MA	2.88	MA
Blue Collar	2.06	MA	2.03	MA	2.06	MA	3.03	MA	3.03	MA
Government Employee	2.00	MA	2.91	MA	2.91	MA	2.91	MA	2.91	MA
Self Employed	2.00	MA	2.91	MA	2.91	MA	2.91	MA	2.91	MA
Retiree	2.65	MA	2.89	MA	2.89	MA	2.89	MA	2.89	MA
Health Worker	2.91	MA	2.78	MA	2.78	MA	2.78	MA	2.78	MA
Farmer	2.71	MA	2.85	MA	2.85	MA	2.85	MA	2.85	MA
Engineer	1.89	MA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
Sales	2.67	MA	2.92	MA	2.92	MA	2.92	MA	2.92	MA
Public Security	2.69	MA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
X ²	0.00*		0.00*		0.00*		0.02*		0.02*	
Income										
< 10,000	1.99	MA	2.89	MA	2.89	MA	2.89	MA	2.18	MA
10,000 – 20,000	1.97	MA	2.85	MA	2.87	MA	2.87	MA	2.87	MA



Table 12. (continued . . .)

	ACT AS A BARRIER TO MOISTURE		PROTECT THE PRODUCT		PROTECTS THE PRODUCT		PROVIDE RESISTANCE TO PHYSICAL DAMAGE		SUPPRESSES ODOUR OF THE PRODUCT	
	Mean	Description	Mean	Description	Mean	Description	Mean	Description	Mean	Description
Income										
No source	2.13	MA	2.97	MA	2.97	MA	2.90	MA	2.90	MA
X ²	0.62		0.00*		0.00*		0.00*		0.00*	
House hold Size										
1 – 4	2.76	MA	2.88	MA	2.88	MA	2.88	MA	2.88	MA
5 – 7	2.64	MA	2.98	MA	2.98	MA	2.96	MA	2.96	MA
8 – 10	2.65	MA	2.76	MA	2.76	MA	2.76	MA	2.76	MA
More than 10	2.00	MA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
X ²	0.19	MA	0.91	MA	0.91	MA	0.93	MA	0.93	MA
Ethnicity										
Kankana-ey (Mt. Province)	2.69	MA	2.90	MA	2.90	MA	2.89	MA	2.89	MA
Kankana-ey (Benguet)	2.81	MA	2.86	MA	2.90	MA	2.90	MA	2.90	MA
Ibaloi	2.94	MA	3.06	MA	3.06	MA	3.00	MA	3.00	MA
Ibalio – kankana-ey	2.50	MA	2.77	MA	2.77	MA	2.77	MA	2.77	MA
Ifugao	2.70	MA	2.60	MA	2.60	MA	2.60	MA	2.60	MA
Kalinga	2.75	MA	2.88	MA	2.88	MA	2.88	MA	2.88	MA
Itneg	3.00	MA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
Pangasi-nanse	2.50	MA	3.50	MA	3.50	MA	3.50	MA	3.50	MA
Tagalog	3.00	MA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
Ilocano	2.00	MA	3.00	MA	3.00	MA	3.00	MA	3.00	MA
OVERALL AVERAGE	3.00	MA	2.89	MA	2.90	MA	2.88	MA	2.88	MA
X ²	0.70		0.10		0.01*		0.00**		0.00**	

*Significant

**Highly Significant

Legend:

Moderately Acceptable (MA)



Respondents' Ratings on Convenience of Packaging Materials.

Respondents rated the convenience of handling the different packaging materials.

These are presented in Tables 13 to 17.

Rating of convenience for card board with wax paper. Table 13 presents the overall rating of Very Convenient for the cardboard packaging material.

Result of the computed chi-square indicate significant differences in the ratings given by gender. For this demographic variable, the null hypothesis is rejected. Female respondents gave lower ratings on convenience than male respondents.

Table 13. Rating for convenience on card board box with wax paper

	EASY TO OPEN		CONVENIENCE TO HANDLE		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Age						
< 30	4.63	VC	4.58	VC	4.70	VC
31 – 40	4.70	VC	4.70	VC	4.75	VC
41 – 50	4.73	VC	4.73	VC	4.76	VC
51 – 60	4.65	VC	4.65	VC	4.65	VC
61 - >	4.77	VC	4.61	VC	4.81	VC
χ^2	0.86		0.82		0.84	
Gender						
Female	4.82	VC	4.82	VC	4.82	VC
Male	4.97	VC	4.97	VC	4.97	VC
χ^2	0.00**		0.00**		0.00**	



Table 13. (continued.....)

	EASY TO OPEN		CONVENIENCE TO HANDLE		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Educational Attainment						
Col. Level	4.78	VC	4.74	VC	4.81	VC
Col. Graduate	4.69	VC	4.65	VC	4.74	VC
Vocational	4.63	VC	4.58	VC	4.68	VC
High School Grad.	4.57	VC	4.57	VC	4.57	VC
Graduate School	4.50	VC	4.50	VC	4.50	VC
χ^2	0.93		0.96		0.86	
Occupation						
Student	4.85	VC	4.77	VC	4.85	VC
Unemployed	4.81	VC	4.75	VC	4.88	VC
Blue Collar	4.56	VC	4.56	VC	4.66	VC
White Collar	4.58	VC	4.58	VC	4.65	VC
Gov. Employee	4.82	VC	4.82	VC	4.82	VC
Self Employed	4.76	VC	4.65	VC	4.76	VC
Retiree	4.67	VC	4.33	VC	4.67	VC
Health Worker	4.44	VC	4.44	VC	4.44	VC
Farmer	4.77	VC	4.77	VC	4.77	VC
Engineer	4.00	C	4.00	C	4.00	C
Sales	4.68	VC	4.72	VC	4.80	VC
Public Security	5.00	VC	5.00	VC	5.00	VC
χ^2	0.03*		0.26		0.06	



Table 13. (continued . . .)

	EASY TO OPEN		CONVENIENCE TO HANDLE		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Income						
< 10,000	4.68	VC	4.65	VC	4.74	VC
10,000 – 20,000	4.66	VC	4.61	VC	4.69	VC
21,000 – 30,000	4.81	VC	4.74	VC	4.84	VC
χ^2	0.40		0.53		0.42	
Household Size						
1 – 4	4.71	VC	4.67	VC	4.76	VC
5 – 7	4.64	VC	4.67	VC	4.71	VC
8 – 10	4.65	VC	4.47	VC	4.65	VC
More than 10	4.50	VC	4.50	VC	4.50	VC
χ^2	0.90		0.71		0.84	
Ethnicity						
Kankana-ey (Mt. Province)	4.72	VC	4.66	VC	4.76	VC
Kankana-ey (Benguet)	4.71	VC	4.71	VC	4.86	VC
Ibaloi	4.76	VC	4.71	VC	4.76	VC
Ibalio – Kankanaey	4.59	VC	4.64	VC	4.68	VC
Ifugao	4.70	VC	4.60	VC	4.60	VC



Table 13. (continued)

	EASY TO OPEN		CONVENIENCE TO HANDLE		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Ethnicity						
Kalinga	4.63	VC	4.56	VC	4.63	VC
Itneg	4.00	C	4.00	C	4.00	C
Pangasinanse	4.50	VC	4.50	VC	4.50	VC
Tagalog	4.40	VC	4.40	VC	4.60	VC
Ilocano	5.00	VC	5.00	VC	5.00	VC
OVERALL AVERAGE	4.69	VC	4.65	VC	4.74	VC
χ^2	0.95		0.98		0.91	

*Significant

**Highly Significant

Legend:

Very Convenient (VC)

Convenient (C)

Rating of Convenient on Styrofoam box and cling wrap. Table 14 shows that the respondents gave an overall rating of very convenient for the Styrofoam box and cling wrap packaging material in terms of its easiness to open, convenience to handle, and easy storage.

Result of the computed chi-squares for each convenience category as against respondents' demographics show significant differences in ratings given by gender, educational attainment, occupation, income and household size. The null hypothesis is rejected for these categories.



Females gave lower ratings on convenience than males. Those who have gone to college, finished college or vocational courses tended to give higher ratings than others. Respondents with income more than Php21,000 a month gave lower ratings on convenience for this packaging material than those from the lower income levels. And those from households of more than 8 members gave lower ratings than others.

Table 14. Rating in convenience on styrofoam box

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Age						
< 30	4.87	VC	4.78	VC	4.75	VC
31 – 40	4.87	VC	4.87	VC	4.91	VC
41 – 50	4.73	VC	4.73	VC	4.76	VC
51 – 60	4.78	VC	4.78	VC	4.78	VC
61 - >	4.94	VC	4.94	VC	4.94	VC
χ^2	0.52		0.49		0.40	
Gender						
Female	4.77	VC	4.68	VC	4.70	VC
Male	4.94	VC	4.87	VC	4.87	VC
χ^2	0.01*		0.02*		0.03*	



Table 14. (continued.....)

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Educational Attainment						
Col. Level	4.69	VC	4.89	VC	4.89	VC
Col. Graduate	4.90	VC	4.84	VC	4.83	VC
Vocational	5.00	VC	4.84	VC	4.95	VC
High School Grad.	4.43	VC	4.43	VC	4.43	VC
Graduate	4.25	VC	4.25	VC	4.25	VC
χ^2	0.00**		0.03*		0.05*	
OCCUPATION						
Student	4.92	VC	4.85	VC	4.85	VC
Unemployed	4.62	VC	4.50	VC	4.44	VC
Blue Collar	5.00	VC	4.94	VC	4.94	VC
White Collar	4.90	VC	4.87	VC	4.87	VC
Gov. Employee	4.73	VC	4.73	VC	4.73	VC
Self Employed	4.91	VC	4.85	VC	4.85	VC
Retiree	4.89	VC	4.89	VC	4.89	VC
Health Worker	4.78	VC	4.67	VC	4.78	VC
Farmer	5.00	VC	4.69	VC	4.85	VC
Engineer	4.00	VC	4.00	VC	4.00	VC



Table 14 (continued...)

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Occupation						
Sales	4.92	VC	4.88	VC	4.84	VC
Public Security	5.00	VC	5.00	VC	5.00	VC
x^2	0.02*		0.09*		0.04*	
Income						
< 10,000	4.91	VC	4.84	VC	4.86	VC
10,000 – 20,000	4.91	VC	4.87	VC	4.88	VC
21,000 – 30,000	4.77	VC	4.65	VC	4.58	VC
x^2	0.48*		0.21*		0.02*	
Household Size						
1 – 4	4.90	VC	4.85	VC	4.83	VC
5 – 7	4.93	VC	4.84	VC	4.89	VC
8 – 10	4.76	VC	4.65	VC	4.71	VC
More than 10	4.00	C	4.00	C	4.00	C
x^2	0.00**		0.00**		0.00**	
Ethnicity						
Kankana-ey (Mt. Province)	4.91	VC	4.87	VC	4.87	VC
Kankana-ey (Benguet)	4.90	VC	4.86	VC	4.81	VC
Ibaloi	4.94	VC	4.76	VC	4.82	VC
Ibalio – Kankanaey	4.68	VC	4.64	VC	4.68	VC



Table 14. (continued)

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Ethnicity						
Ifugao	4.80	VC	4.60	VC	4.60	VC
Kalinga	5.00	VC	4.88	VC	4.88	VC
Itneg	5.00	VC	5.00	VC	5.00	VC
Pangasinanse	4.50	VC	4.50	VC	4.50	VC
Tagalog	5.00	VC	5.00	VC	5.00	VC
Ilocano	5.00	VC	4.50	VC	4.50	VC
OVERALL AVARAGE	4.89	VC	4.82	VC	4.83	VC
χ^2	0.10		0.13		0.22	

*Significant

** Highly Significant

Legend:

Very Convenient (VC)

Convenient (C)

Rating to convenience on Zipper bag with Cardboard. Table 15 shows that the respondents' gave an overall rating of Convenient in terms of ease to open the zipper bag, but only a Moderate Convenience in terms of convenience of handling and ease of storage.

The result of computed chi-squares at the 5% level of significance indicate no significant differences in ratings given across the various demographics across each category of convenience. The null hypothesis is thus rejected for all these demographics.



Table 15. Rating of convenience zipper storage bag with card board

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Age						
< 30	3.43	C	3.33	MC	3.30	MC
31 – 40	3.30	MC	3.30	MC	3.30	MC
41 – 50	3.48	C	3.36	MC	3.42	C
51 – 60	3.00	MC	3.00	MC	3.00	MC
61 - >	3.71	C	3.58	C	3.71	C
x^2	0.09		0.21		0.21	
Gender						
Female	3.35	MC	3.32	MC	3.32	MC
Male	3.42	C	3.34	MC	3.36	MC
x^2	0.27		0.27		0.28	
Educational Attainment						
Col. Level	3.30	MC	3.30	MC	3.30	MC
Col. Graduate	3.29	MC	3.29	MC	3.32	MC
Vocational	3.53	C	3.53	C	3.53	MC
High School Grad.	3.57	C	3.29	MC	4.00	MC
Graduate School	4.00	C	4.00	C	3.35	MC
x^2	0.87		0.75		0.81	



Table 15. (continued . . .)

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Occupation						
Student	3.46	C	3.46	C	3.46	C
Unemployed	3.38	MC	3.13	MC	3.13	MC
Blue Collar	3.31	MC	3.25	MC	3.25	MC
White Collar	3.58	C	3.52	C	3.52	C
Gov. Employee	3.18	MC	3.00	MC	3.18	MC
Self Employed	3.18	MC	3.18	MC	3.18	MC
Retiree	4.78	C	4.33	C	4.78	C
Health Worker	3.44	C	3.44	C	3.44	C
Farmer	3.31	MC	3.31	MC	3.31	MC
Engineer	3.00	MC	3.00	MC	3.00	MC
Sales	3.24	MC	3.24	MC	3.16	MC
Public Security	3.33	MC	3.33	MC	3.33	MC
χ^2	0.0		0.17		0.00**	
Income						
< 10,000	3.25	MC	3.22	MC	3.22	MC
10,000 – 20,000	3.60	C	3.51	C	3.60	C
21,000 – 30,000	3.45	C	3.32	MC	3.26	MC
χ^2	0.11		0.18		0.03*	



Table 15. (continued)

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Household Size						
1 – 4	3.38	MC	3.31	MC	3.31	MC
5 – 7	3.44	C	3.36	MC	3.44	C
8 – 10	3.35	MC	3.35	MC	3.35	MC
More than 10	4.00	C	4.00	C	4.00	C
χ^2	0.94		0.91		0.84	
Ethnicity						
Kankana-ey (Mt. Prov.)	3.44	C	3.37	MC	3.42	C
Kankana-ey (Benguet)	3.19	MC	3.10	MC	3.10	MC
Ibaloi	3.47	C	3.35	MC	3.35	MC
Ibalio – Kankanaey	3.64	C	3.55	C	3.55	C
Ifugao	3.40	C	3.40	C	3.20	MC
Kalinga	3.00	MC	3.00	MC	3.00	MC
Itneg Pangasinanse	3.00	MC	3.00	MC	3.00	MC
	3.00	MC	3.00	MC	3.00	MC
Tagalog	3.80	C	3.80	C	3.80	C
Ilocano	3.00	MC	3.00	MC	3.00	MC
OVERALL AVARAGE	3.40	C	3.33	MC	3.35	MC
χ^2	0.48		0.50		0.45	

*Significant

** Highly Significant

Legend:

Moderately Convenient (MC)

Convenient (C)



Rating of Convenience on hard plastic with cardboard. Table 16 show that the respondents gave an overall rating of 4.23 or very convenient for the hard plastic and cardboard packaging materials in terms of its easy to open, convenient to handle and easy to store.

Result of the completed chi-square indicate significant differences in ratings given by gender and educational attainment demographic groupings for each category. The null hypothesis is rejected for these demographics.

Females gave lower ratings than male respondents. Likewise, respondents who either have reached the college level, have finished college or vocational courses consistently give higher ratings on convenience of the packaging material.

Table 16. Rating for convenience on hard plastic with card board

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Age						
< 30	4.95	VC	4.95	VC	4.95	VC
31 – 40	4.96	VC	4.96	VC	4.96	VC
41 – 50	4.76	VC	4.76	VC	4.76	VC
51 – 60	5.00	VC	5.00	VC	5.00	VC
61 - >	4.97	VC	4.97	VC	4.97	VC
χ^2	0.10		0.10		0.10	



Table 16. (convenient)

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Gender						
Female	4.82	VC	4.82	VC	4.82	VC
Male	4.97	VC	4.97	VC	4.97	VC
χ^2	0.00**		0.00**		0.00**	
Educational Attainment						
Col. Level	4.93	VC	4.93	VC	4.93	VC
Col. Graduate	4.96	VC	4.96	VC	4.96	VC
Vocational	4.95	VC	4.95	VC	4.95	VC
High School Grad.	4.86	VC	4.86	VC	4.86	VC
Graduate	4.00	VC	4.00	VC	4.00	VC
χ^2	0.00**		0.00**		0.00**	
Occupation						
Student	4.85	VC	4.85	VC	4.85	VC
Unemployed	4.81	VC	4.81	VC	4.81	VC
Blue Collar	5.00	VC	5.00	VC	5.00	VC
White Collar	4.87	VC	4.87	VC	4.87	VC
Gov. Employee	4.64	VC	4.64	VC	4.64	VC



Table 16. (convenient)

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Household Size						
Self Employed	4.97	VC	4.97	VC	4.97	VC
Retiree	5.00	VC	5.00	VC	5.00	VC
Health Worker	5.00	VC	5.00	VC	5.00	VC
Farmer	5.00	VC	5.00	VC	5.00	VC
Engineer	5.00	VC	5.00	VC	5.00	VC
Sales	5.00	VC	5.00	VC	5.00	VC
Public Security	5.00	VC	5.00	VC	5.00	VC
χ^2	0.34		0.34		0.34	
Income						
< 10,000	4.68	VC	4.65	VC	4.74	VC
10,000 – 20,000	4.66	VC	4.61	VC	4.69	VC
21,000 – 30,000	4.81	VC	4.74	VC	4.84	VC
χ^2	0.40		0.53		0.42	
Household Size						
1 – 4	4.71	VC	4.67	VC	4.76	VC
5 – 7	4.64	VC	4.67	VC	4.71	VC
8 – 10	4.65	VC	4.47	VC	4.65	VC
More than 10	4.50	VC	4.50	VC	4.50	VC
χ^2	0.90		0.71		0.84	



Table 16. (convenient)

	EASY TO OPEN		CONVIENCE TO OPEN		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Ethnicity						
Kankana-ey (Mt. Prov.)	4.72	VC	4.66	VC	4.76	VC
Kankana-ey (Benguet)	4.71	VC	4.71	VC	4.86	VC
Ibaloi	4.76	VC	4.71	VC	4.76	VC
Ibalio – Kankanaey	4.59	VC	4.64	VC	4.68	VC
Ifugao	4.70	VC	4.60	VC	4.60	VC
Kalinga	4.63	VC	4.65	VC	4.63	VC
Itneg	4.00	VC	4.00	VC	4.00	VC
Pangasinanse	4.50	VC	4.50	VC	4.50	VC
Tagalog	4.40	VC	4.40	VC	4.60	VC
Ilocano	5.00	VC	5.00	VC	5.00	VC
OVERALL AVARAGE	4.69	VC	4.65	VC	4.74	VC
x^2	0.95		0.98		0.91	

*Significant

** Highly Significant

Legend:

Very Convenient (VC)



Rating of Convenience for Aluminum Foil. Table 17 shows an overall Poor rating given by respondents on the convenience of aluminum foil packaging.

Results of the computed chi-squares for each category as to the respondents' demographics show significant differences in terms of age, gender, and income demographics. The null hypothesis is rejected for these demographic variables.

Respondents younger than 30 years old gave higher ratings on convenience of the aluminum foil than older respondents. Female respondents gave higher ratings than male respondents. The respondents earning Php10,000 to Php 20,000 a month gave lower ratings on convenience than those earning more or lesser than this range.

When evaluated for handling convenience, the cardboard box, Styrofoam tray, and the hard plastic received an average rating of Very Convenient. Additionally, the zipper bag received an average Moderately Convenient rating while the aluminum foil received a Poor rating.

Table 17. Rating of convenience for aluminum

	EASY TO OPEN		CONVENIENCE TO HANDLE		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Age						
30 and below	2.50	P	2.62	P	2.58	P
31 - 40	2.19	P	2.19	P	2.15	P
41 – 50	2.18	P	2.18	P	2.18	P
51 – 60	2.04	P	2.04	P	2.04	P
60 and above	2.00	P	2.00	P	2.00	P
χ^2	0.00**		0.00**		0.00**	



Table 17. (continued . . .)

	EASY TO OPEN		CONVENIENCE TO HANDLE		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Gender						
Female	2.49	P	2.44	P	2.39	P
Male	2.13	P	2.20	P	2.20	P
χ^2	0.00**		0.00**		0.00**	
Educational Attainment						
Col. Level	2.41	P	2.52	P	2.41	P
Col. Graduate	2.19	P	2.20	P	2.22	P
Vocational	2.26	P	2.37	P	2.16	P
High School Grad	2.57	P	2.71	P	2.71	P
High School Level	2.00	P	2.00	P	2.00	P
Graduate School	2.23	P	2.27	P	2.25	P
X^2	0.32		0.00**		0.12	
Occupation						
Student	2.69	P	2.85	P	2.69	P
Unemployed	2.63	P	2.63	P	2.63	P
Blue Collar	2.19	P	2.19	P	2.22	P
White Collar	2.16	P	2.29	P	2.29	P
Government Employee	2.18	P	2.27	P	2.27	P
Self Employed	2.24	P	2.24	P	2.24	P
Retiree	2.00	P	2.00	P	2.00	P
Health Worker	2.22	P	2.22	P	2.22	P



Table 17. (continued . . .)

	EASY TO OPEN		CONVENIENCE TO HANDLE		EASY TO STORE	
	Mean	Description	Mean	Mean	Mean	Description
Occupation						
Farmer	2.08	P	2.15	P	2.15	P
Engineer	2.00	P	2.00	P	2.00	P
Sales	2.16	P	2.12	P	2.69	P
Public Security	2.00	P	2.00	P	2.00	P
X^2	0.15		0.10		0.04*	
Income						
< 10,000	2.18	P	2.21	P	2.21	P
10,000 – 20,000	2.09	P	2.12	P	2.09	P
No source	2.74	P	2.81	P	2.74	P
X^2	0.00*		0.00**		0.00**	
Household Size						
1 – 4	2.21	P	2.28	P	2.56	P
5 – 7	2.27	P	2.24	P	2.22	P
8 – 10	2.29	P	2.24	P	2.24	P
More than 10	2.50	P	2.50	P	2.50	P
X^2	0.89		0.72		0.72	



Table 17. (continued . . .)

	EASY TO OPEN		CONVENIENCE TO HANDLE		EASY TO STORE	
	Mean	Description	Mean	Description	Mean	Description
Ethnicity						
Kankana-ey (Mt. Province)	2.13	P	2.16	P	2.13	P
Kankana-ey (Benguet)	2.52	P	2.48	P	2.38	P
Ibaloi	2.35	P	2.35	P	2.41	P
Ibalio – kankana-ey	2.27	P	2.36	P	2.36	P
Ifugao	2.60	P	2.50	P	2.580	P
Kalinga	2.00	P	2.06	P	2.19	P
Itneg	2.00	P	2.00	P	2.00	P
Pangasinanse	3.50	P	3.50	P	3.50	P
Tagalog	2.20	P	2.40	P	2.40	P
Ilocano	2.50	P	3.00	P	2.50	P
OVERALL AVERAGE	2.23		2.27		2.25	
X²	0.00**		0.00**		0.00**	

*Significant

**Highly Significant

Legend:

Poor (P)

Additional Packaging Features.

Respondents determined the other features they would like to see on a product package. Table 18 shows that all respondents would like to see the brand (name and logo) and product name, nutritional facts, product weight, processor's address and contact number on the packaging material.



Table 18. Additional Features Needed on Packaging Materials

FEATURE	N	Percentage (%)
Brand	200	100.00
Nutritional Information	200	100.00
Net Content	200	100.00
Name of the Product	200	100.00
Address of the Processor	200	100.00
Contact No. of the Processor	200	100.00
Other Information	3	1.50

Other Reasons for Choice of Packaging Material.

As respondents have indicated their preferred packaging materials in Table 2, Table 19 presents the other reasons for their choice of these packaging materials. Majority (85.50%) of the respondents have indicated their preference as influenced by its recyclability more than its being environmental friendliness, thus the popularity or preference of the hard plastic packaging over the other packaging materials.

Table 19. Other Reasons for Choice Packaging Materials

REASONS	N	Percentage (%)
Environment Friendly	29	14.50
Recyclable	171	85.50



SUMMARY, CONCLUSIONS AND RECOMENDATION

Summary

The choice of packaging material for any product is crucial to the success of marketing it as it protects the product, gives convenience to the buyers, and sells itself to the buyers. This study was conducted to evaluate five different easily accessible packaging materials for *etag* and to determine what demographic variables could be associated to the preference on packaging materials. Two hundred respondents in Baguio and La Trinidad, Benguet were randomly selected to evaluate the features of the packaging materials.

Packaging materials were rated by the respondents as to the appearance, convenience of handling and sanitation.

Results showed that hard plastic with cardboard packaging is the highly preferred, over other packaging materials. The second preferred packaging material is the cardboard box with wax paper while the least preferred was the aluminum foil wrapping.

When evaluated by aesthetic features, the Styrofoam had the highest average rating of Very Good. Additionally, The cardboard and hard plastic received an average rating of Good. The aluminum foil received a Poor rating.

When evaluated for their ability to keep the product sanitary, only the aluminum foil received a Moderately Acceptable rating while the other 4 packaging materials got an average rating of Acceptable.

When evaluated for handling convenience, the cardboard box, Styrofoam tray, and the hard plastic received an average rating of Very Convenient. Additionally, the



zipper bag received an average Moderately Convenient rating while the aluminum foil received a Poor rating.

The chi-square computations done reveal inconsistency of demographics being associated to the various factors evaluated. The null hypothesis stating that there is no relation between demographic variables with the factors evaluated is often accepted.

Additionally, respondents choose the recyclability of the material over environmental friendliness as a factor in their choice of preferred packaging material. They also would like to see other important features and facts placed on the packaging material such as brand, nutritional and weight information as well as production address and contact number.

Conclusions

Based on the findings of this study, the following are deduced:

1. Hard plastic with cardboard is the respondents' most preferred packaging material for *etag* over other materials. It consistently rates high with respondents in terms of aesthetics, ability to keep the product sanitary, and handling convenience. The Styrofoam, however, rates higher in terms of aesthetics. The aluminium foil consistently rates low in these factors, hence, its being the least preferred packaging material for *etag*;
2. The demographic profile could not be consistently used to define market segments as to choices of packaging materials for *etag*;
3. There are other factors to consider, other than aesthetics, sanitation, and convenience, in determining the most appropriate packaging material for the aggressive marketing of *etag*.



Recommendation

If an entrepreneur is left to use the most available and cheaper packaging materials for etag marketing, hard plastic would seem to be the wiser choice. However, creativity in packaging the product should not be discounted. Entrepreneurs are hence encouraged to explore, along with the aid of concerned government institutions such as the DTI, other options for the packaging material of *etag* if aggressive marketing for this product would be done.



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APPENDICES

APPENDIX A

Sample of Cardboard and Wax Paper Packaging



APPENDIX B

Sample of Styrofoam Box covered of Cling Wrap



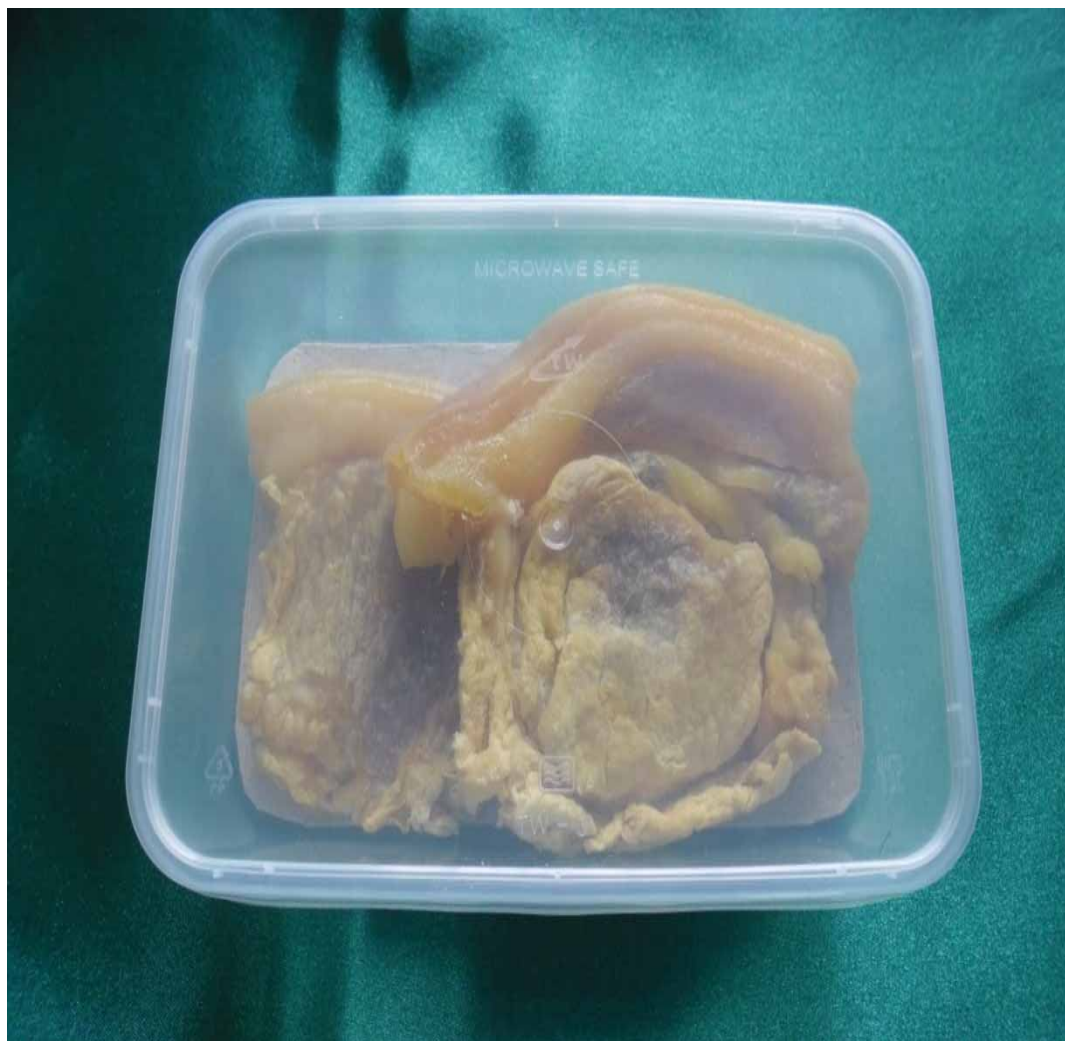
APPENDIX C

Sample of Zipper Bag Packaging with Cardboard inside



APPENDIX D

Sample of Hard plastic Packaging with Cardboard inside



APPENDIX E

Sample of Aluminum Foil Packaging



APPENDIX F

CONSUMER EVALUATION OF DIFFERENT PACKAGING MATERIALS FOR
“ETAG” MARKETING

Dear Judges/Evaluator,

Kindly evaluate the different packaging materials used in “Etag” products.

Jack S. Aprog

Researcher

Name of Judge/Evaluator (Optional): _____

Age; _____ Sex; _____ Educational Attainment: _____

Occupation: _____

Monthly Income: (please check)

 Less than 10,000 10,000-20,000 21,000-30,000

Household Size: (please check)

 1-4 5-7 8-10 Others (specify)

Frequency

 Once a week Once a month Occasional Twice a year Once a year Lesser Other (specify)

Ethnic Origin: (please check)

 Kankana-ey (Mt. Province) Kankana-ey (Benguet) Ibaloi Ibalio – Kankana-ey Ifugao Kalinga Itneg Pangasinanse Tagalog Ilocano

Using of “Etag”. (please check)

 For seasoning of vegetable For flavoring pinikpikan For viand For soup savoring:

_____ Others (specify)

CRITERIA EVALUATION FOR (A.) CARDBOARD WITH WAX PAPER

RATING					
APPEARANCE	Very Poor	Poor	Moderately Acceptable	Acceptable	Very Acceptable
1.Looks attractive					
2.Looks clean					
3.Looks presentable					
4.Pleasing to look at					
5.Ability to invite buyers					

RATING					
SANITATION	Not Acceptable	Less Acceptable	Moderately Acceptable	Acceptable	Highly Acceptable
1.Act as a barrier to moisture					
2.Protect the product					
3.Protect against ingress of odors					
4.Provide resistance to physical damage					
5.Suppressing the odor of the product					

RATING					
CONVENIENCE	Very Poor	Poor	Moderately Convenient	Convenient	Very Convenient
1.Easy to open					
2.Convenience to handle					
3. Easy to store					



CRITERIA EVALUATION FOR (B.) STYROFOAM BOX COVERED WITH CLING WRAP

RATING					
APPEARANCE	Very Poor	Poor	Moderately Acceptable	Acceptable	Very Acceptable
1.Looks attractive					
2.Looks clean					
3.Looks presentable					
4.Pleasing to look at					
5.Ability to invite buyers					

RATING					
SANITATION	Not Acceptable	Less Acceptable	Moderately Acceptable	Acceptable	Highly Acceptable
1.Act as a barrier to moisture					
2.Protect the product					
3.Protect against ingress of odors					
4.Provide resistance to physical damage					
5.Suppressing the odor of the product					

RATING					
CONVENIENCE	Very Poor	Poor	Moderately Convenient	Convenient	Very Convenient
1.Easy to open					
2.Convenience to handle					
3.Easy to store					



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CRITERIA EVALUATION FOR (C.) ZIPPER STORAGE BAG WITH CARD BOARD

RATING					
APPEARANCE	Very Poor	Poor	Moderately Acceptable	Acceptable	Very Acceptable
1.Looks attractive					
2.Looks clean					
3.Looks presentable					
4.Pleasing to look at					
5.Ability to invite buyers					

RATING					
SANITATION	Not Acceptable	Less Acceptable	Moderately Acceptable	Acceptable	Highly Acceptable
1.Act as a barrier to moisture					
2.Protect the product					
3.Protect against ingress of odors					
4.Provide resistance to physical damage					
5.Suppressing the odor of the product					

RATING					
CONVENIENCE	Very Poor	Poor	Moderately Convenient	Convenient	Very Convenient
1.Easy to open					
2.Convenience to handle					
3.Easy to store					



CRITERIA EVALUATION FOR (D.) HARD PLASTIC WITH CARD BOARD

RATING					
APPEARANCE	Very Poor	Poor	Moderately Acceptable	Acceptable	Very Acceptable
1.Looks attractive					
2.Looks clean					
3.Looks presentable					
4.Pleasing to look at					
5.Ability to invite buyers					

RATING					
SANITATION	Not Acceptable	Less Acceptable	Moderately Acceptable	Acceptable	Highly Acceptable
1.Act as a barrier to moisture					
2.Protect the product					
3.Protect against ingress of odors					
4.Provide resistance to physical damage					
5.Suppressing the odor of the product					

RATING					
CONVENIENCE	Very Poor	Poor	Moderately Convenient	Convenient	Very Convenient
1.Easy to open					
2.Convenience to handle					
3.Easy to store					



CRITERIA EVALUATION FOR (E.) ALUMINUM FOIL

RATING					
APPEARANCE	Very Poor	Poor	Moderately Acceptable	Acceptable	Very Acceptable
1.Looks attractive					
2.Looks clean					
3.Looks presentable					
4.Pleasing to look at					
5.Ability to invite buyers					

RATING					
SANITATION	Not Acceptable	Less Acceptable	Moderately Acceptable	Acceptable	Highly Acceptable
1.Act as a barrier to moisture					
2.Protect the product					
3.Protect against ingress of odors					
4.Provide resistance to physical damage					
5.Suppressing the odor of the product					

RATING					
CONVENIENCE	Very Poor	Poor	Moderately Convenient	Convenient	Very Convenient
1.Easy to open					
2.Convenience to handle					
3.Easy to store					



Kindly indicate also what more would you like to see/have on the packaging materials such as:

Product information: (please check)

- Brand
- Nutritional info
- Content (wgt.)
- Other please specify

Source of the product: (please check)

- Name of producer
- Address
- Contact No.
- Other please specify

Which package would you prefer to buy? _____

Preference of the packaging if you are going to buy?

PACKAGING	Rating				
	Not Preferred (1)	Less Preferred (2)	Fairly Preferred (3)	Preferred (4)	Highly Preferred (5)
1.) Card board box					
2.) Styrofoam Box covered with cling wrap					
3.) Zipper storage					
4.) Hard plastic					
5.) Aluminum foil					

Reason of choosing the packaging? _____

