

FRUITFUL PACKAGING: CONSUMER PREFERENCES TOWARD FRESH FRUIT PACKAGING FOR GIFT

Dimas Ammar Azhari and Reza Ashari Nasution
School of Business and Management
Institut Teknologi Bandung, Indonesia
dimas.ammar@sbm-itb.ac.id

Abstract. Indonesia is one of the biggest fruit producer country which face low fruit consumption according to WHO. There is this condition where in Indonesia people are more used to consume fruit that they get from someone as a gift. It that can be a potential cause to raise Indonesian fruit consumption. Having a business in packaging design service and production vendor called Boxing Panda, the researchers intended to raise the consumption of fresh fruit in Indonesia by applying a design approach, which is analyzing the ideal product packaging for fruit gift to raise its fame as gift choice. Therefore, the research of customer preference of fruit-gift packaging is essential in knowing what features the customer wanted. Young mid-low Indonesian customer preference in packaging visual elements, informational elements, convenience, eco-efficiency, and packaging inserts were found. The result also in-line with the theory that changing the way a product is packed can affect the sales of the product. Even a low investment in changing the package can drive significant gain in brand sales compared to advertising and promotion activities (Rundh, 2005), this research proven that most people were more convinced to buy fruit if their packaging preferences were met.

Keywords: marketing, consumer behavior, fruit, gift, packaging

1. Introduction

In 2014, Indonesia ranks 20th in the world fruit exporter list. It was based on the data from UN Food and Agriculture Organization (FAO). Being surrounded by the Ring of Fire, Indonesia is blessed by fertile soil bearing many variances of fruits with the best quality and quantity.

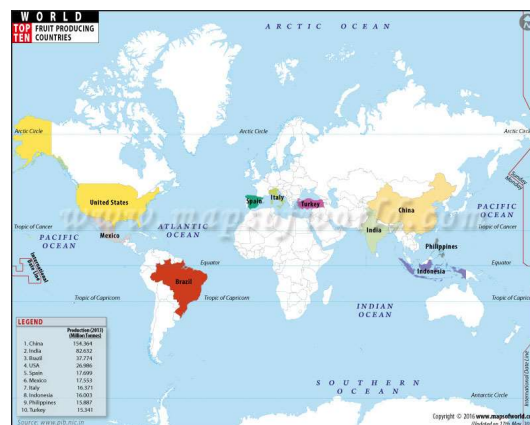


Image 1.1 Top Ten Fruit Producing Countries

There was a research in the United States in 2012 that specific packaging and produce attributes affect consumer purchasing decisions of fresh produce like fruit. Based on the reported results, a successful commercialization of fresh produce in general could be expected if this is packaged in containers made from bio-based materials and with an extended "best by" date. This matches with the containers larger than 8 oz, made of bio-based rigid plastic and capable of extending shelf life to 6–9 days preferred for stem-free sweet cherries. These results show that consumers are concerned about the impact of food packaging on the environment. However, there is a lack of knowledge about materials in bio-based containers and disposal methods available after use since there was no preference for the disposal method, and a considerable fraction of consumers (45.5%) was not able to identify the sources of bio-based plastic packaging materials. Unfortunately there is no recent research regarding this issue in Indonesia. If we could analyze the consumers' preferences of fresh produce packaging, especially fruits, the fruit producers can do something to increase consumers willingness to buy fresh fruit and increase their fruit consumption.

2. Problem Statement

Dissimilar with the number of production, the fruit consumption in Indonesia is really low. According to the data from Research and Development Division of Indonesian Ministry of Agriculture, in 2011, Indonesian fruit consumption was the lowest in Asia. Indonesian fruit consumption was only 50 kilograms per person per year, lower than the FAO's minimum recommendation (73kg) and health recommendation (91.25kg). In 2014 Indonesia's Central Bureau of Statistics released a data showing that from 46.45 percents of their income per capita are used for food consumption, but only 2.12 percents of it is used for fruit consumption.

There are actual challenges regarding the low fruit consumption, related to the willingness-to-pay for fruit. Critical challenges in consumer's WTP have been identified including education and salary, lack of knowledge and confidence in certified fruits, as well as consumer preferences in fruits such as nutritional value and production place etc (Wang and Huo, 2015). "This year's study (2016) continued to emphasize the strong link between packaging satisfaction and consumer purchasing behavior. Packaging plays a key role in brand perception, product trial and repeat purchase," said Pete Durette, senior vice president, MWV. "Consumers in this year's study indicated that brands are moving in the right direction in terms of how packaging is evolving. That being said, consumers continue to want more from packaging, especially when it comes to function and safety. Brands, and their packaging partners, have a critical opportunity to build on this positive momentum with continued innovations that will make a real impact on satisfaction and behavior." The questions discussed in this research are:

- 1) How fruit-gift product are packed today, in terms of packaging design aspect?
- 2) What are the consumer preference for fruit-gift product packaging?
- 3) How much fulfillment of the preferred packaging will raise consumers' willingness to buy for fruit-gift product?

3. Theoretical Foundation

Applied research is a form of systematic inquiry involving the practical application of science. It accesses and uses some part of the research communities' (the academia's) accumulated theories, knowledge, methods, and techniques, for a specific, often state-, business-, or client-driven purpose. Applied research is contrasted with pure research (basic research) in discussion about research ideals, methodologies, programs, and projects (Roll-Hansen 2009).

Consumer behavior is the study of individuals, groups, or organizations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy their needs and wants. It is also concerned with the social and economic impacts that purchasing

and consumption behavior has on both the consumer and wider society (Kuester, 2012). Regarding the issue of low fruit intake in Indonesia, low intake of fruit and vegetable has scientifically proven to be the cause of several life-threatening diseases risk all around the world (WHO, 2002). Experts have already recommended the daily intake of fruit of at least 400 g (WHO, 2003) or 80 g per standard serving (Agudo, 2005).

Gifts can be broadly classified into two categories – those gifts that are given at formal occasions or rituals (e.g., Christmas, Valentine’s Day, weddings, and birthdays), and those that are given under more spontaneous circumstances. In Indonesia, the occasions when people do gift exchange are usually at first business meeting, family meeting, birthday, anniversary, as something brought from a trip, religious holiday such as Iedul Fitr and Christmas, and as a congratulation gift for someone’s achievement. In general, gifts given at formal occasions (obligatory) will be less valued than spontaneous gifts (Larsen, 2001). and in Indonesian culture, fruit sometimes made as the gift choice.

A research done in 2011 shown that the decision of the consumer regarding fruits and vegetables is taken in the store and not taken before they go for shopping. For this reason, the focus of the marketing strategy of a company which sells fruits and vegetables should be on instruments of the point of sale (Nicolae and Corina, 2011). In this research what we packaging means specifically primary packaging, the packaging of product at the point of sales (Hellstrom and Saghir, 2006). Even a low investment in changing the package can drive significant gain in brand sales compared to advertising and promotion activities (Rundh, 2005). Most of the variables in this research were taken from a paper by Silayoi and Speece in 2004 entitled “the importance of packaging attributes”. In the paper they mentioned **Shape, Size, Color, and Graphic** in Visual Element group, mentioned **Convenience**, and had Informational Element but with **Product Information** factor only. The other additional elements were **Eco-efficiency** (Vermuccio, Cozzolino, and Micheline 2010), **Packaging Inserts** (discount card, gift card, or other inserts) (shopify.com Lazazzera, 2015), also the additional elements in the Informational Element which are **Labeling** (Coulson, 2000) and **Nutrition Panel** (Mitchell and Papavassiliou, 1999). Therefore, it is also a mean of face validity from the past researches.

4. Methodology

The research method that being used in this research was the descriptive method. Descriptive research is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred. Rather it addresses the "what" question (what are the characteristics of Minnesota state population or situation being studied?) (Shields and Rangarjan, 2013). Descriptive research is also known as statistical research and fit best with exploratory research.

The data collection was done with casual observation and survey. A survey consists of a predetermined set of questions that is given to a sample. (Shaugnessy, Zechmeister, Jeanne, 2011). The survey questionnaires were distributed in Jakarta Region and Bandung Region through online media. From 111 respondents, the profile of this research respondents were varied in the city and age but they were mostly gains less than 3 million rupiahs a month (78%). The earning related to the occupation as student (74%), and had quite big significance score against gift-giving frequency (shown later in this chapter). That can be summarized that the profile of our research respondents were young mid-low economic people.

The data analysis was done using SPSS Statistics version 24. Before really analyze the data we convert several nominal data into ordinal data and convert multiple response questionnaire data into one variable for each response with 1 and 0 numerical factor as a “yes” or “no”. Then,

we were analyzing the reliability of the questionnaire. We used Cronbach's Alpha Test to Visual Element and Informational Element group of variables only because there are three other elements which are not really into a group of factors to be analyzed. We did not really do validity test since the variables were all derived from designers research papers because design is not our actual expertise of study. There were also Multiple Response analysis and Crosstab analysis.

5. Analysis

The data achieved in this research is reliable for the test result of Chronbach's Alpha Test showing the score of 0.788 and 0.712 for Viasual Elements and Informational Elements. In a Cronbach's Alpha Test, a score 0.7 and bigger shows that the data analyzed is qualified as a reliable data. The Chronbach's Alpha if Item Deleted in the Visual Elements showed that all of the data added up to make them reliable. Eliminating any of them would make the score lower. In the Informational Elements, there was one data (Label-Imp made) that if eliminated will raise the reliability. It would raise from 7.12 to 7.17. Since the change was not so significant, we decided to leave them as it was.

The gift-giving behavior mapped from this research is interesting. The top three occasion when people give gifts were Souvenirs from a Trip (46.8%), Anniversary (43.2%), and as a Token of Appreciation (40.5%). In a year, according to the highest valid percent data (55%), most of them only practice gift-giving 1-3 times. The top three gift priority that Indonesian usually choose were handicrafts, foods, and clothes. Fruits were on the bottom list with the same score as electronics, jewelry, and others even with just small gap with clothes.

Gift Priority

Table 4.9 Descriptive Frequency Analysis for Gift Priority

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------|-----------|---------|---------------|--------------------|
| Valid | Clothes | 11 | 9.9 | 9.9 | 9.9 |
| | Electronics | 7 | 6.3 | 6.3 | 16.2 |
| | Foods | 19 | 17.1 | 17.1 | 33.3 |
| | Fruits | 7 | 6.3 | 6.3 | 39.6 |
| | Handicrafts | 53 | 47.7 | 47.7 | 87.4 |
| | Jewelry | 7 | 6.3 | 6.3 | 93.7 |
| | Others | 7 | 6.3 | 6.3 | 100.0 |
| | Total | 111 | 100.0 | 100.0 | |

Open-ended question sure is a pain to fill. From only 56.8% valid response we achieve, the data showed that the top three reasons people choose a gift were because it was useful (28.6%), durable (25.4%), and special (20.6%). Then, from 60.4% valid answers for reasons not to choose fruit as gift, we picked the top three. They were due to the lack in durable (55.2%), fit all moments (34.3%)--mostly due to the mindset that fruit were meant to be given only to the sick ones--, and special aspect (23.9%) in percent of cases top scores.

With multiple response and frequency analysis, we mapped the customer preferences for a fruit-gift packaging. For the convenience variable, people prefers a convenient handle (44.1%),

For packaging inserts, processing tool was chosen as best (32.4%). For eco-efficiency it was reusable (23.4%). In visual elements, they prefer parcel size (55.1%), angular shape (36%), fruit illustration as graphic (44.1%), and bright color (67.6%). In the Informational Elements, based on the percent of cases, the top three product information people prefer were fruit name (72.1%), benefits (59.5%), and inside the box information (48.6%) for example number of fruits or weight. While for the label, the top three were organic/non-organic sign (69.4%), import/local product sign (48.6%), and country/region producer sign (37.8%). They would also love to have a simple infographic for the nutrition panel (32.4 valid percents). There were 56% of respondents were positive to buy if their packaging preferences were met in the new fruit-gift packaging design, 43% unsure, and only 1% responded negative.

6. Conclusion

According to the result of this research, we could see that young mid-low economic people in Indonesia were thinking that packaging of fruit-gift is an important thing but were not really pleased with the quality of the existing packaging of fruit-gifts, especially in terms of its Informational Elements and eco-efficiency. There were several aspects of the consumers' packaging preferences that can be found in the existing fruit-gift package. It is shown above highlighted. But, there were many things still need to be enhanced, including in the packaging Visual Aspect knowing that even the good satisfaction level were only 4 of 6.

Table 5.1 Existing Fruit Packaging Features

| | Ready to Eat | Household | Gift |
|-----------------------|--------------|--|-------------------------|
| Convenience | Easy to open | Convenient Handle | Convenient Handle |
| Eco-efficiency | - | - | Reusable, biodegradable |
| Inserts | - | - | - |
| Size | < 1/2 parcel | < 1/2 parcel | 1 parcel |
| Shape | Rectangular | Angular | Angular |
| Graphic | - | Decorative Illustration | - |
| Color | - | Bright Color | Pale/Bright Color |
| P. Information | Producer | Producer, fruit name, inside the packaging | - |
| Nutrition P. | - | - | - |
| Label | Fruit code | Import/local | - |

From the research result we can see that the consumers prefer fruit-gift packaging which has convenient handle, processing tool inserted, and is reusable. It should have fruit illustration graphic design (not-photograph) and bright color with angular shaped parcel-size (family size) packaging. The information of fruit name, benefits of the fruit inside, and the inside-the-box information such as quantity of fruit inside the packaging should be there alongside with organic/non-organic mark, import/local mark, country/region of origin of the fruit, and a simple infographic showing the fruit's important nutrition facts.

Table 5.1 Preferred Fruit-Gift Packaging Features

| | |
|-----------------------|---|
| Convenience | Convenient Handle |
| Eco-efficiency | Reusable |
| Inserts | Processing Tools |
| Size | Parcel Size |
| Shape | Angular |
| Graphic | Fruit Illustration |
| Color | Bright color |
| P. Information | Fruit name, Benefits, InsideTheBox |
| Nutrition P. | Simple Inforgraphic |
| Label | Organic/Non-Organic, Import/Local, Country/Region |

The other important variables that should be considered in designing the fruit-gift packaging are the consumers' behavior. There were two identified behavior that designers might found useful. The first one is the consumer favorite occasion of gift-giving which are post-trip souvenir, anniversary, and as a token of appreciation. The second one is the top reasons why consumer choose not to buy fruit as their gift that in-line with the reason why they choose their gift, which are durability (long lasting) and specialty (how people see thing as special gift), followed by their opinion that fruit-gift were not fit for every occasion (only for hospital visit). So, in order to make a favored fruit-gift packaging, designer should be able to make one that not only fulfill the design preferences but also long-lasting--in line with the re-usability-- and looks so special that it fits as a post-trip souvenir, an anniversary gift, and as a token of appreciation. We found that there was a fruit packaging concept design by Ninette Saraswati on Behance that almost fulfill the customer preferences. It only lacks a fruit processing tool inserted, infographic designed nutrition panel, and several labels. Here is the packaging concept:



Image 5.1 Packaging Design Sample

Finally, in-line with the theory that changing the way a product is packed can affect the sales of the product. Even a low investment in changing the package can drive significant gain in brand sales compared to advertising and promotion activities (Rundh, 2005), this research proven that most people were more convinced to buy fruit if their packaging preferences were met. And applying a better fruit-gift packaging will raise fruit-gift purchase that will lead to the raise in fruit consumption.

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