

## 음료 분류별 일반적으로 사용되는 패키징 타입 및 형태적 특징 고찰

Research on most commonly used packaging types and physical characteristics of beverage categories

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#### 요약

#### 중심어

물품의 특징적인 형태 혹은 실루엣은 매장에서 소비자가 더욱 쉽게 제품의 종류를 알아볼 수 있게 도움을 주는 요소 중 하나다. 소비자는 낮은 형태적 특징으로 제품을 인지하고, 패키지에 쓰인 정보를 읽거나 라벨을 자세히 관찰하지 않고도 제품 카테고리를 분별하기도 한다. 음료 패키지의 경우 카테고리, 브랜드, 맛의 종류가 점점 늘어나고 있으며, 기술 및 신소재의 빠른 발달로 패키지 모양 또한 매우 다양하게 변화하고 있다. 수백 가지의 음료가 각기 다른 모양으로 경쟁하는 환경에서 카테고리 분야별 형태적 특징을 감안해 디자인 하는 것은 보다 쉽게 원하는 종류의 제품을 인지해 구매로 연결될 수 있다. 브랜딩 프로세스에서 일관성이 중요한 것과 마찬가지로, 패키지디자인에도 제품 카테고리별 적절한 일관적 특징이 적용되어야 한다. 기존의 특징이 적절히 함유된 새로운 패키지디자인은 현재와 같은 너무 다양해진 형태의 패키지들 사이에서 소비자가 품목을 더욱 쉽게 식별할 수 있도록 도움을 줄 수 있다. 본 논문은 현재 대중마트에서 유통되고 있는 총 11가지 음료 카테고리의 형태적 특징 및 가장 익숙한 패키징 타입(packaging type)에 관한 연구이다. 연구의 단계는 첫째, 효율적인 패키지디자인 및 패키지의 형태에 따른 이해에 관한 서적과 논문을 바탕으로 고찰하였으며, 둘째, 간행본, 신문, 인터넷 포털사이트를 바탕으로 음료의 종류와 패키징 재질에 관한 조사를 하였다. 셋째, 음료 분류별 패키지 샘플들의 수집과 수집한 샘플들을 바탕으로 설문조사가 이뤄졌다. 마지막으로, 설문의 조사결과와 결과분석을 바탕으로 한 결론으로 구성되어 있다. 본 논문에서 제시하는 카테고리 별 형태적 특징과 패키징 타입을 활용함으로, 향후 다양한 형태의 음료 패키지디자인 시도에서 소비자가 보다 쉽게 제품의 분류를 식별하도록 도움을 줄 수 있다.

#### ABSTRACT

#### Keyword

structural packaging design  
beverage packages  
packaging types  
beverage goods  
physical characteristics

Physical attributes or silhouette of a product can work as a supportive element in finding the right product in the market environment. Consumers can recognize a product through its familiar physical attributes, that people understand the product's category without having to check written information or going through package labels. There is constant increase in categories, brands and flavors of beverage products, and the forms of packages are becoming more diverse with the rapid development of new technologies and new materials. While hundreds of beverage products with unique physical forms compete with one another in market environments, designing a package with physical attributes of its own category can be easier for consumers to recognize the kind of product, which can ultimately lead to sales. Just like consistency is essential in branding process, there must be an appropriate amount of consistency applied to different types of categories in package design. With great deal of diversity in physical forms in product packages, it is easier for consumers to distinguish different lines of products if a new package design contains certain familiar physical qualities of past designs. This paper is a study of most distinct physical attributes and most familiar packaging types of 11 categories of beverage goods sold in mass markets. The process of the study is first, literary reviews of effective packaging design and comprehension through physical form of packages based on related books and papers. Second part include research of beverage product categories and different packaging types of beverages based on articles, newspapers and internet sites. Third part deals with collecting package samples and survey conducted utilizing the samples. Last part is conclusion of the study through analysis of the survey result. This study can be a supporting resource to explore diverse forms of beverage package designs, yet, recognizable of its category to consumers' eyes, by utilizing physical characteristics and packaging types of each categories.

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# 1. Introduction

## 1.1. Background

When shoppers walk around different isles of supermarket placed with vast variety of displayed products, a package should be immediately recognizable. Words and graphics in package labels often describe details of products and it may be challenging to understand the products' message instantly, especially from a distance. While graphic labels work as supporting design element to explain and promote more detailed aspect of a product, physical form should tell consumers that 'this is what you are looking for' by applying elements of expected shape to physical packages. Designing an outer package in a familiar physical form can guide consumers to find products easily without the need to go over the written details. "Form-coding" of product packages such as milk-cartons or ketchup bottles provide fast recognition of products regardless of cultural boundaries. There are certain physical form of packages that consumers' expect according to its categories and this may help consumers find what they are looking for in current busy shopping environment.

## 1.2. Aim of the Study

The aim of the study is to investigate: (i) Most familiar shape of selected beverage categories, (ii) most recognizable physical characteristics of selected beverage categories and (iii) Most familiar packaging type used for selected beverage categories in current markets.

# 2. Literature Review

## 2.1. Qualities of effective package design

The fundamental criteria for effective packaging are, to be seen on shelf, to engage shoppers, to communicate key messages and lastly to close the sale. Unless the package is noticed on shelf, it cannot be selected for purchase fundamentally, unseen is unsold.<sup>1)</sup>

The visual elements of packaging design influence consumers' decision and choice, as it has become an advantage in competition. Packaging can attract consumers' attention, transform the message of the product, impress consumers with the image of the product, and distinguish one product from another.<sup>2)</sup>

A good package can properly communicate a product for better comprehension. Design and marketing personnel expose product contents through such visual elements as word, graphics, color, trade mark, shape, size and texture so that people can more easily find and comprehend them.<sup>3)</sup> Some studies indicate that "comprehensibility" is the basic condition of design.<sup>4)</sup> Package design expresses distinguishing features of a product in a visual manner, and help specific group of consumers conduct expected behavior of purchase.<sup>5)</sup> Effective package design will help consumers to find their desired products easily.<sup>6)</sup>

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1) Jonathan Asher, Effective Packaging. 'An Essential Tool for Success'. Special Report Packaging Commentary, Private Label Buyers, 2010

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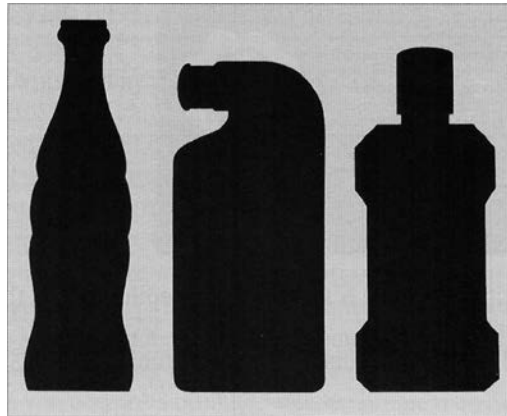
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6) P. Gold, Assessing what consumers see'. Brand Packaging, 4: 40–42, 2004

## 2.2 Comprehension through physical attributes of packages

Consumers are mainly focused on three kinds of “trade dress” when looking for differences in beverage packaging designs which are property of commodity, label design and bottle shape design, while “Shape of bottle” being the key factor in distinguishing packaging design differences among the three. Two factors must be set for discerning the packaging design: the stimulus produced by the differences in the outer packaging design and the one's past knowledge and experience in packaging design differences. These two factors interact and lead to the discernment of the packaging design.<sup>7)</sup>



〈Pic 1〉 Silhouette images of Coca-Cola, Odol mouthwash, Listerine bottles.

Therefore, designing an outer package in a familiar physical form can allow consumers to find products easily without having to go over written details and provide better understanding of products' function. Package shapes can directly affect viewers' perception, for example, wine bottles can make viewers aware immediately that the content of the product is wine.<sup>8)</sup> We see a big s-shaped curvy shape of bottle and immediately associate the shape with Coca-Cola. A long-necked octagonal shape of bottle can allow many consumers to associate with Heinz

Ketchup. Certain shapes lead consumers to associate a product to a brand. Some of successful package examples such as Odol mouthwash, Listerine, Coca-Cola are distinguishable by seeing only its silhouettes.<sup>9)</sup>

## 2.3. Drastic change may lead to failure of design

Due to excessive competition among brands and similar products, some designs lack the qualities that given category used to own for a long period of time. Development of technology and new materials make packages go wild with physical forms, it seems there are no boundaries existing between different categories of consumer goods. Although uniqueness is required to win the competition, drastic changes may provide consumers some unintentional misleading information of a product. If there are too much change happening in a short period of time, it could cause difficulty in finding the products in market environments even though the product may be the kind that a shopper used to purchase for a number of years. Tropicana, for example, had a completely new packaging design done for their juice packaging back in 2009, but they had to switch back to their old design because most of Tropicana's consumers could no longer associate the new design with the old, and that new design no longer looked like Tropicana juice to them. Consumers can feel uncomfortable and detached from a brand or a line of products if the design direction changes to unfamiliar way. Gap had to make an embarrassing u-turn from their new logo design to 20 year old predecessor only a week after its release in 2010 because of the enraged loyal customers. Marka Hansen, president of Gap North America, defended the logo on The Huffington Post mentioning, “We chose this design as it's more contemporary and current. It honors our

7) Regina W.Y. Wang, Mu-Chien Chou, 『Findability of Commodities by Consumers』, IJBRM 1:2 36-42, 2012

8) Wang, R. W. Y., & Chou, M. C. 『Research on forms of comprehension derived from visual communication of package designs』, IASDR, Hong Kong, 2007

9) Herbert M. Meyers & Richard Gerstma, 『The Visionary Package』, Palgrave Macmillan, 2004, p.44



〈Pic 2〉 Tropicana's original package design (left), changed package design in 2009 (right).



〈Pic 3〉 Gap's original logo design (left), change logo design in 2010 (right).

heritage through the blue box while still taking it forward.”<sup>10)</sup> Soon after her comment on Huffington Post, she conceded that "We heard them say over and over again they are passionate about our blue box logo, and they want it back. So we've made the decision to do just that – we will bring it back across all channels“.<sup>11)</sup>

## 2.4. Consistency within each categories of products

Re-designing can be a risk taking process as above examples of Tropicana and Gap, loyal consumers may find the new design awkward and unfamiliar if a design went through a drastic change. Some elements of the past design should be applied to the new design and it is important to understand which element of design make it look familiar to people's eyes.

Similar to how providing consistent image of a company is one of the functional criterias in brand ideals, designing a product to have

some consistent physical qualities of the typical physical shapes may be helpful for consumers to create association between the product and its category. Consistency may apply to designing of certain categories of product packages for better recognition.<sup>12)</sup> Distinct and competitive design is necessary in order to win the crowd's attention, but still, adding some classic qualities of original design within the given category should be considered for people to recognize the product and feel familiarity.

## 3.1. Beverage Categories

Although there are diverse categories of beverages, the major categories of beverage products can be divided as bottled water, carbonated drinks, still and juice drinks, dilutables, energy drinks, fruit juices and sports drinks.<sup>13)</sup> Water beverages can be divided into carbonated sparkling water and non-carbonated bottled water including, mineral water, spring water and processed water. Still beverage category include a number of different beverage sector including juice drinks, sport drinks, energy drinks and ready-to-drink teas and coffees. Coca-cola, Sprite and Fanta are some of the most widely known examples of carbonated drinks. Korean traditional drinks and dairy beverages are also widely sold in most of Korean markets.

## 3.2. Beverage Packaging Types

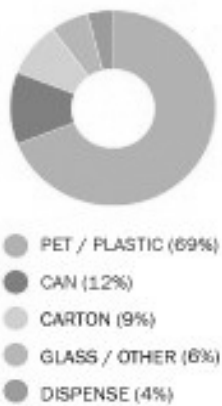
Beverage products are produced in different packaging formats, and the main types include

10) [http://money.cnn.com/2010/10/08/news/companies/gap\\_logo/](http://money.cnn.com/2010/10/08/news/companies/gap_logo/)

11) <http://www.theguardian.com/media/2010/oct/12/gap-logo-redesign>

12) Alina wheeler, 『Designing Brand Identity』28, John Wiley & Sons, Inc., 2013, p.28

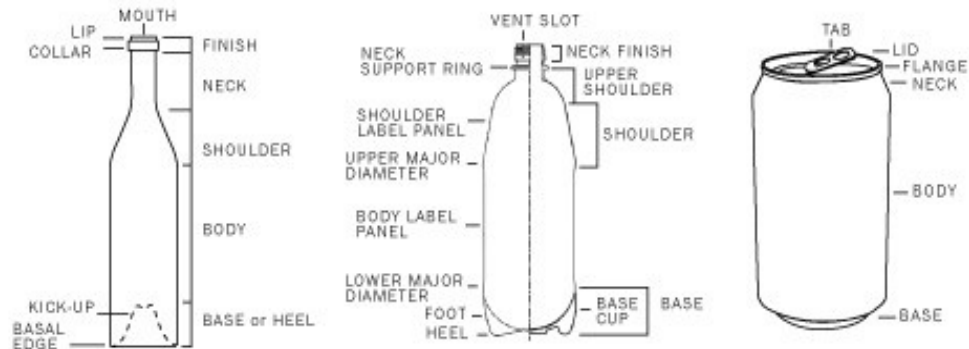
13) <http://www.britishsoftdrinks.com/Dilutables>



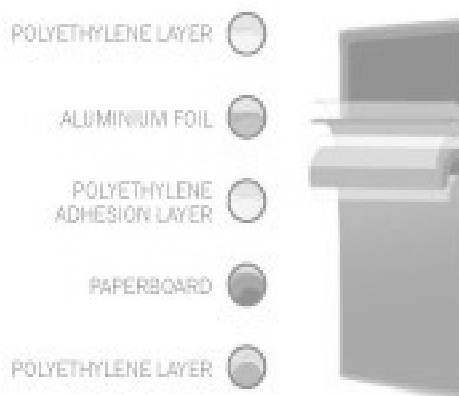
〈Chart 1〉 Beverage packaging types of British Soft Drinks Association.

glass, plastic, cans and cartons. Glass is the oldest type of packaging for soft drinks, fruit juices and waters while plastic or polyethylene terephthalate (PET) is the most popular choice for packaging because it is lightweight, flexible and recyclable. Cans, including aluminium and steel, are mainly used for carbonated drinks. Cartons are a major packaging format for still drinks and fruit juices. They protect the freshness, flavors and nutritional qualities of both fresh and long-life drink products, enabling distribution at ambient temperatures or under refrigerated conditions. Picture3 is a chart percentage of materials used for creating beverage packages in UK.

### 3.3. Physical Attributes of Typical Packaging Types



〈Pic 4〉 Anatomy of typical glass, PET, aluminum can beverage packages.



〈Pic 5〉 Lamaterials in beverage cartons.

There are only a few physical differences between typical glass bottle packages and typical plastic bottle packages as shown in picture 4. Typical aluminum can beverage packages are relatively simple in physical shape with much simple body parts. It is difficult to distinguish typical anatomy of beverage carton packages, since there are diverse forms of beverage carton packages. As shown in the picture 5, beverage carton is combined with materials such as polyethylene, aluminum foil, adhesive polyethylene layer and paperboard, it is flexible and foldable, similar to qualities of paper, that shapes that could be created with carton packaging is endless, like origami.

## 4. Research Method

This research takes selected categories of beverage packaged goods as examples in order to investigate unique physical characteristics of different categories of beverage goods. The research process is conducted in three parts: Part one involves collecting beverage package samples, part two consists of conducting survey interviews. Part three includes a summary and analysis of the survey result.

### 4.1 Selection of Beverage Categories

Bottled water and carbonated water, carbonated beverage, sports drink, ready-to-drink tea beverage, ready-to-drink coffee beverage, energy drink, juice beverage, dilutable beverage were selected as investigation categories as these are the main categories in beverage

according to British Soft Drinks Association, Yogurt beverage and traditional beverage categories were added to this research since most of the major retailer stores in Korea have competitive market for these beverage categories.

#### 4.2 Collecting Package Samples

Samples were collected from Emart, one of the largest retailer in South Korea with over 140 retail stores across the country. E-mart is the first discount retailer in South Korea founded by Shinsegae, a South Korean department store franchise along with several other businesses. 5 samples of 4 packaging types (glass, PET, can, carton) for all 11 categories (20 samples from each beverage category) and a total of 220 beverage packages were gathered from pool of products in Emart. 3 samples with the most contrasting physical attributes per packaging type from each categories (total of 12 samples per category) were selected for the actual survey samples as the test to investigate which physical characteristics and package types provide most recognition of its category.























#### 4.3. Survey

40 members aged 20–35, those who shop at retail stores at least once a week volunteered to participate in the survey. The survey was conducted in a closed, quiet meeting room to avoid interruptions. In order for participants to pay maximum attention on physical forms of the samples, all graphic labels were detached, covered, erased or colored in black and white. All samples were placed within the same category groups, positioned on an eye level height with fronts facing forward as products are shown in actual markets. Participants were provided with basic anatomy diagrams of glass, PET, can and carton packages for better communication. Participants were requested to do the following: i) Select a sample package which you think is most suitable/familiar form for each categories. ii) Define up to 3 characteristics or attributes of selected samples to support your opinion. iii) Select most suitable and/or familiar package type/material for each categories.

### 5. Research Results and Analysis

The most recognizable feature of non-carbonated water was the consistent ribbed texture throughout the body. However, the most recognizable feature of carbonated water was quite different from non-carbonated water, which was the tapered and slender upper shoulder. Although both are in water category, they showed different physical characteristics; non-carbonated was more subtle and bold, whereas carbonated was more curvy in general from shoulder to body to base heels. Both categories were most familiar in plastic (PET) bottle packages.

Aluminum can was the most recognizable form of packaging in the carbonated beverage category. Most participants responded bold, cylindrical, stocky body as its dominant distinction from other beverages. Sports drink was mostly recognized by its wild texture around shoulder and body, as well as its relatively wide diameter of neck and lid. Ready-to-drink tea and dilutable beverage showed similar physical characteristics including curvy shoulder and soft texture around base packaged in plastic bottles, but most respondents were able to distinguish tea from others with its distinctive groove texture between shoulder and body. Dilutable beverage was recognized mostly with its wide neck diameter and lid.

Category	Most familiar sample	Most recognizable physical characteristics	%	Most familiar package type / Material	Visualized Results
Water		Smooth, rectangular shoulder	85%	Plastic (PET) Bottle	
		<b>Ribbed body</b>	92.5 %		
		Smooth curvy basal edge	65%		
Carbonated Water		<b>Tapered, slender upper shoulder</b>	92.5 %	Plastic (PET) Bottle	
		Smooth, big curvy body with much wider lower major diameter	87.5 %		
		Bumpy base with feet and heels	85%		
Carbonated Beverage		Very short flange	85%	Aluminum can	
		<b>Bold, cylindrical, stocky body with same upper and lower major diameter</b>	97.5 %		
		Short base	87.5 %		
Sports Drink		Mid to wide diameter neck and lid	85%	Plastic (PET) Bottle	
		<b>Wild texture around shoulder and body</b>	97.5 %		
		Kick-up base	70%		
Tea		Curvy shoulder	80%	Plastic (PET) Bottle	
		<b>Distinction between shoulder and body</b>	92.5 %		
		Soft texture around base	70%		
Juice		Wide diameter neck and lid	87.5 %	Plastic (PET) Bottle	
		<b>Circular shoulder</b>	92.5 %		
		Cylindrical body	60%		
Energy Drink		<b>Aluminum lid</b>	85%	Glass bottle	
		Tapered, long shoulder	82.5 %		
		Simple, bold body	62.5 %		
Coffee		Mid to wide diameter neck and lid	87.5 %	Aluminum bottle	
		<b>Bold, cylindrical, stocky body with same upper and lower major diameter</b>	95%		
		Short base	45%		
Dilutable Beverage		Wide neck diameter and lid	90%	Plastic (PET) Bottle	
		<b>Curvy shoulder</b>	85%		
		Soft texture around base	55%		
Traditional Beverage		Mid-sized lid diameter	55%	Plastic (PET) Bottle	
		<b>Short shoulder</b>	70%		
		Slight texture around body and base	60%		
Yogurt Beverage		Wide diameter neck and lid	92.5 %	Plastic bottle	
		Short shoulder	90%		
		<b>Big concave curve around body and base</b>	100%		

〈Chart 2〉 Chart analysis of survey result.



Although there were a number of similar characteristics between juice beverage packaging and the rest of the plastic bottled beverage packages, juice beverage was easily distinguished by its circular shoulder. Juice was also most familiar in participants eyes in bottled plastics. Interestingly, energy drink's most recognizable feature was the material of its lid. Also, energy drink was the only category of beverage which was most familiar to be packaged in glass bottles.

Coffee beverage was easily recognizable by its bold, cylindrical, stocky body with same upper and lower major diameter. Most participants also pointed out its relatively wide neck and lid as the unique characteristics.

The most recognizable feature of traditional beverage was its short shoulder although there were many different responses of its recognizable physical characteristics with relatively low recognition in general. Participants have commented this category has least dominant characters among all eleven categories. On contrary, yogurt beverage was recognized from all participants by its big concave curvy body and base. Yogurt beverage was also most familiar in plastic bottle packages.

## 6. Conclusion

With the development of technology and new materials, there will always be constant exploration challenges of designers to come up with package designs more unique and distinct to outpace the competition. Comparable to numerous neon signs in urban busy streets, when everything is flashing out for attention, having even a flashier sign is not enough to win the crowd's interest.

When consumers are shopping in a hurry or if they are shopping in an unfamiliar environment, people sometime primarily look for products that could serve its purpose. While consumers are interested in new forms of package designs, providing clear information of a product is still in one of the most essential elements a package must serve. A package must speak for itself and it should reveal its function without much detailed description.

This does not necessarily suggest that the beverage packages should not be challenged with creative forms and new materials, however, utilizing classic characteristics and applying its attributes to new concept may balance the new and the old. Exploring boundaries of design while keeping in mind of applying its classical physical attributes, may create beverage packages that are both unique and familiar at the same time, allowing the product to look fresh, yet recognizable to people's eyes.

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