

Discovering Shifts and Trends in Beverage Packaging

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The purpose of this study is to better understand beverage packaging trends of today and what trends are necessary in order to profit in the industry today. It addresses aspects such as sustainability, marketing, labeling, and size and shape. In addition to determining trends on the rise, this study suggests methods in order to increase consumer appeal as well as lower production costs.

This study was based on specialized interviews with experts from different levels of the supply chain. Their insight was beneficial in understanding the current trends and the specific rationale for these shifts.

The results consist of addressing sustainability from a consumer and production perspective, light weighting materials of beverage packaging, utilizing various sizes and shapes of packages, and lastly new marketing methods and print techniques. Innovation and cost savings were factors that all experts felt crucial to success in the beverage packaging industry today.

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Chapter One:

Introduction and Purpose of Study

According to the Global Association for Marketing at Retail, or POPAI, shoppers spend two thirds of their time on the visual elements of a package, and only five to ten seconds viewing beverages before making a purchasing decision. This attraction to packaging from the consumer standpoint has driven the development of packaging as a whole, which has resulted in the growth in the attention to packaging elements. With the increasing number of products on the market, there must inherently be some sort of external packaging to attract a buyer – it is no longer just a matter of the product itself. This packaging acts not only as protection for what is inside, but also as a method of communication to consumers – signifying value, quality, and identity. As the beverage market continues to grow, the need to differentiate a product from its competitors in the market also increases, and one way to achieve this is through various packaging techniques. From wine and spirits, to bottled water, and to juice and sodas, beverage packaging is changing and developing. This study addresses current methods and techniques for beverage packaging that are on the rise.

However, due to the nature of beverage packaging, there is another major consideration – production costs. This includes cost of shipping, sustainability, ease of use for the consumer, and shelf appeal. Methods of addressing these considerations can include light weighting of the bottles and packages in order to decrease shipping weight, eco-friendly considerations for a sustainability standpoint, and new print technologies and techniques to enhance market appeal.

Added value to the consumer, combined with lowering cost of production, can lead to an increase in revenue for the company, and ultimately benefit both the suppliers and the consumers. This study will ask the question: What methods are being used in beverage packaging specifically to lower production costs and raise consumer appeal, in order to ultimately increase revenue?

It seems as though the trend in beverage packaging aims to decrease production costs while increasing customer appeal through various packaging methods and trends. This lowered cost and boosted attention has the potential to increase revenue for the producers, while giving the consumer a sense of added value and quality. The goal of this study is to identify the benefits of these new developments. Items such as shipping costs, added value, environmental considerations, size and shape, processing and labeling techniques, and consumer preference will be considered.

The purpose of this investigation is to delve deeper into the packaging field of graphic communication and determine the benefits for beverage packaging modifications and shifts. This includes the savings as a result of lowering production costs, as well as the increase in revenue due to increased consumer response.

With the necessity for containment of products, especially beverages, the graphic communication industry has been gradually shifting towards an emphasis in packaging design and structure. This growth and development prompts innovation – which will become more prevalent in the beverage packaging industry of tomorrow.

Chapter Two:

Literature Review

This study addresses how the historical uses and purposes of packaging have influenced the current state of the packaging industry, specifically beverage packaging. In order to compete, the beverage packaging industry must balance design, materials, and overall production cost.

History of Packaging

According to historians, packaging came about as a method of preservation in the pre-historic era. The need to store and protect food from decay, as well as pests such as insects, drove the necessity for development. The first types of packaging were made of natural materials – skins on fruits, gourds, carved wood, and hides. The first glass bottles were used approximately 2,000 years ago. Paper as a popular packaging medium is newer and became viable about 200 years ago. The newest packaging developments were tin cans about 150 years ago, and plastic about 75 years ago. (Singh) The packaging industry has developed new materials quickly, and this development has shown to be toward more lightweight and durable materials. The need to innovate and think creatively has become highly important in order to maintain a competitive advantage in the beverage and packaging industry. (Singh)

Purposes of Packaging

There are essentially four main purposes of packaging. They include protection and containment, transportation, convenience, and most recently communication and marketing.

Protection and containment are imperative in order to protect a product from the elements such as moisture and air. A package must be stable while simultaneously protecting its contents. One instance that spurred protective packaging was the Tylenol poisonings of 1982. Unfortunately, seven people died due to cyanide laced Tylenol. This case demonstrated the extreme need for protection. “Several major developments arose from the first major product-tampering case to receive global publicity: It spurred the creation of the first malicious product tampering insurance product and introduced tamper-resistant package.” (Roberts) Tamper resistant packaging means that there are built in methods to tell whether or not a package has been previously opened or violated. By creating ultra resistant packaging, beverages are able to make it to the consumer safely and without spoilage.

Transportation is also a main focus of packaging. With the amount of products that are shipped worldwide, there can be physical abuse inflicted on the packages themselves. This abuse could potentially damage the product inside, so it is important that packaging can withstand a certain level of abuse, while still maintaining its consumer appeal. This includes the process of stacking and shipping boxes. A box must be able to withstand the normal stresses placed on it during these occurrences. Shipping costs are also a consideration in transportation. The cost of moving goods has become increasingly important, and the reason for many package modifications. (Bayer)

Convenience is a growing trend in packaging due to consumers’ ‘on the go’ mentality. This means that people tend to gravitate towards a product or package that allows for ease of use – divided serving sizes, tear mechanisms, or a method to cook in the package, for example.

Modern lifestyles demand convenience in this way. If a product is easy for someone to open, use, reseal, and take with them, it becomes an added value item, which a consumer is likely to spend more to purchase. Soups that can be cooked in the package, self-heating devices for instant coffee, and single serving portions are all examples of convenience items, and in the beverage industry travel size and carriers have become popular. (Singh) This is due to the ability to take one serving with you, and also to have the option to share or reuse.

Communication in packaging refers to the appeal to a consumer on the shelf, while overshadowing similar products or competitors. Package communication began as a way to convey to a consumer what the contents of a box were. (Singh) This includes nutritional facts, ingredients, serving suggestions, and a brand identity. In fact, a brand can be a consumers' sole reason for purchasing a product – loyalty. The importance of brand and image are becoming ever more noticeable, and are a major consideration for this increased attention to packaging. Packaging needs to stand out, which is established through brand specific colors and innovative shapes, sizes, or colors of containers.

While a package is aimed to serve the primary purposes of containment, transportation, convenience, and communication, there are also secondary considerations. As packaging continues to develop, the beverage packaging industry must find a balance between consumer appeal and cost reduction for the producer.

Packaging Today

The Green Movement

According to the environmental protection agency of the United States, “Sustainable development reflects not the trade-off between business and the environment but the synergy between them.” (EPA) This means that there is a movement between integrated eco-friendly policies with business policies, in order to protect the future of our earth.

Sustainable development can foster policies that integrate environmental, economic, and social values in decision-making. From a business perspective, sustainable development favors an approach based on capturing system dynamics, building resilient and adaptive systems, anticipating and managing variability and risk, and earning a profit. (EPA)

Sustainability has become increasingly important due to the importance of becoming more eco-friendly. Whether or not a material can be reused or recycled can have a major impact on not only production costs, but consumer appeal as well. According to Sarah Theodore from *The Beverage Industry* magazine, “Beverage packagers make sure sustainability is more than just an afterthought.” (Theodore) It appears that companies are taking the initiative to make the shift toward integration of sustainable and recyclable practices into the manufacturing process, instead of acknowledging whether or not something can be recycled afterwards. This means that materials and material reduction are being considered. In addition to the primary packaging of a product, secondary packaging, such as cases or transportation containers, factor into this sustainability movement as well. Whether or not secondary containers can be recycled or reused in their current form or for other processes is being addressed. These primary and secondary packaging

issues are principal drivers for beverage packaging trends such as reduction in size and weight of materials.

Light-Weighting

Shipping costs are a crucial consideration and main concern to the beverage industry. The problem is weight, which increases shipping costs. Unfortunately due to the inherent weight of liquid, it is important to minimize costs of additional materials that are not included in the liquid weight itself. An example of this light weighting process would be the POM juice line. POM entered the market with glass bottles but due to high shipping costs, POM light weighted to a less expensive, lighter plastic bottle. Lynda Resnick, owner of the Pom Wonderful brand, was asked the question, “How can she maintain consumer thirst for her premium-price beverages?” (Resiner) Her response was to switch from a heavy glass to a lighter weight plastic. This innovation has managed to keep consumers interested in the quality product, but lowered costs for production and shipping.

According to Rick Bayer of the Glass Packaging Institute, it seems that wine bottles are also light weighting. A heavier weight bottle may have signified status or quality at some point, however shipping costs are quickly increasing, and bottlers decided to try and save money on transport costs. This light weighting trend is a result of the sustainability movement. For instance, light weighting not only reduces freight costs, but also energy costs and raw material usage, while increasing production speeds and production line efficiency. (Bayer)

Size and Shape

Variation in size and shape of beverage packaging can have a huge impact on consumers. However, the size and shape of a package tend to focus more on the customer appeal, than the sustainable level – although size alterations do play a significant role in materials usage.

Small bottles and cans are staking serious claim in the beverage segment. Slim canned energy beverages and specialty drinks such as Starbucks' Double Shot Espresso are great examples of how small packages can create big brand recognition. Bigger-than-average-packages can achieve the same result, and on an obviously more noticeable scale. At one time, 2-liter bottles were a dominant presence, and more recently, brands such as Arizona have found success with large glass bottles. (Casgrove)

The size variation on shelf can easily attract a consumer's view, and beverage packages seem to be implementing the most drastic and eye-catching changes.

Labeling, Print Processes, and Marketing

There are many printing methods that can be used for the beverage packaging industry. Although flexography is typically associated with packaging, lithography, and gravure are often used. Flexography has the capability to print on flexible substrates such as foils, films, and plasticized papers, lithography is commonly laminated to corrugate, and gravure has the capability for long

runs of high image quality packaging. New and innovative methods for print are even being used, such as screen-printing.

Developments in the print industry are even allowing for printing to be used on wet bottling lines. “UK-developed print system uses air knives and a specially designed ink to allow it to print directly onto moist bottles.” (Baker) This is a significant development because it lends itself to efficiency of the production line, which can ultimately increase revenue. With these developing print processes, beverage packagers can take advantage of different print techniques and applications of these techniques in order to help differentiate themselves from their competitors, as well as increase efficiency.

Typically, luxury beverage companies invest money in order to make their product stand out. With the amount of competitors on the market consumers have a wide variety to choose from when selecting beverages. From wine and spirits, to juice and sodas, and even bottled water, beverage-packaging companies are facing these issues. (Lukas) In order for a beverage packaging company to succeed, cutting and managing costs while innovating and establishing an appealing look and feel are crucial.

Chapter Three: Research Methods

It is important to understand current trends in beverage packaging in order to better understand the shifts that are occurring and why. Because of the current established methods and rate of development of new practices, it is important to speak with those in the beverage industry. In this study, there was a focus on elite and specialized interviewing to better determine and compare the beverage packaging trends of today with the beverage packaging trends of the past. This research proved the reasons for the shifts in the beverage packaging industry today and why.

In *Some Ideas About Doing Research in Graphic Communications*, Harvey Levenson discusses the proper methods for elite and specialized interviews. He writes that in elite and specialized interviews “each interviewee is treated as a special and important individual.” (Levenson) This method lends itself to delving deeper into the personal experience and knowledge of the individual. It is assumed here that well-informed individuals who perceive themselves to be important may not accept the investigator’s assumptions about a topic and may insist on explaining how they see the situation or problems in question. (Levenson)

Conversations with experts in beverage manufacturing and industry were conducted, in order to gain their perspective. Using prior knowledge, the conversation was lead in a way that helped to determine what methods are being used in the beverage industry in order to increase revenue while decreasing production costs. “To establish rapport with ‘elite’ respondents, the researcher

must enter the interview knowledgeable on the subject to be discussed.” (Levenson) Interviews consisted of packaging printer, a worldwide beverage company, as well as a packaging design firm, all of which possess knowledge of current beverage packaging trends.

Due to the distance, phone and Skype interviews were conducted. In this way, the interview became more of a conversation, and made “the informed interviewee become part of the research team.” (Levenson) The main questions asked included:

1. What are some packaging trends you have purchased?
2. What are some packaging trends you have seen in the market?
3. What packaging trends do you feel are currently gaining popularity?
4. What are the most memorable packages you have seen for beverages?
5. How important is sustainability in beverage packaging?
6. How do shipping costs affect beverage packaging?
7. What factors are important in order to profit in the beverage packaging industry?

By asking specific questions, the industry experts’ stance on beverage packaging became tangible. These base questions gave answers to what beverage packaging trends are gaining popularity in order to increase consumer appeal while decreasing production costs.

The first interviewee was Lou Iovoli, with Hammer Packaging located in Rochester, New York. Being on the print side of the process allows him to understand the final end processing of printing beverage packaging, as well as the challenges that are inherent with it. He addressed shipping

costs and design trends, as well as material changes. A main question asked was in regard to the printing side.

The second interview was with Aldo Saldana, the materials and purchasing manager with S. Martinelli & Company, the producers of the famous Martinelli's Apple Cider. They specialize in high quality beverages, and invest their marketing money in different, specialty packaging. He addressed the consumer preference trends they have experienced, as well as how production costs determine their projects. He helped compare how these two elements must balance in order to profit. I inquired as to the reasons they have opted for some of the packaging designs they currently have and why?

The third interview was with the owners of PackagingARTS, a privately owned packaging designer and broker. John Swain and Dave Miller were my contacts. Their primary focus is the beverage industry. This includes anything from wineries and breweries, to producers of waters and juices. Because they have many suppliers and extensive involvement overseas, mainly Asia, their experience with shipping costs and production was very helpful. Their jobs also include managing budgets and client demands, which gave insight into methods they use to meet a predetermined budget while delivering what the client requested. In regard to creating custom packaging they say, "We create solutions and efficiencies that deliver value. We do not compromise quality for budget." (PackagingARTS)

Although elite and specialized interviews are crucial in determining current beverage packaging trends, secondary research is also relevant. By finding data through research journals regarding material usage and trends, it became apparent that the current trends according to industry specialists are different from trends of the past. This data also verified a shift in the purposes of packaging, sustainability, light weighting, size and shape, and labeling and print processes.

“From this evidence the researcher hopes to show what may be contributed by past experience to a greater understanding of present situations and what might happen in the future.” (Levenson)

By conducting elite and specialized interviews, it was determined that by decreasing production costs while adding market appeal to the consumer, a beverage packaging company will in fact benefit and differentiate from the past trends.

Chapter Four: Results

Specialized interviews were conducted with three different industry experts. Being that all three interviewees contributed knowledge from three different industry sectors, seven broad questions were asked, giving each expert an opportunity to elaborate on their personal experiences with each. The seven questions were as follows:

1. What are some packaging trends you have purchased?
2. What are some packaging trends you have seen in the market?
3. What packaging trends do you feel are currently gaining popularity?
4. What are the most memorable packages you have seen for beverages?
5. How important is sustainability in beverage packaging?
6. How do shipping costs affect beverage packaging?
7. What factors are important in order to profit in the beverage packaging industry?

Upon completion of elite and specialized interviews, an understanding of various beverage packaging solutions in order to lower production costs and raise consumer appeal was attained. Since all interviewees were from different levels of the supply chain, their varying opinions were essential for a complete understanding of beverage packaging trends today.

The first interviewee was with Lou Iovoli from Hammer Packaging. His expertise in the print and converting aspects of beverage packaging was insightful. He addressed factors such as innovation in the print process itself, as well as the converting process. He spoke to sustainability on

a small scale, and gave his input to its value in the beverage packaging industry. He pointed out how beverage packages and labels are a wide array of sizes, and therefore Hammer Packaging has had to take this into consideration and be on the forefront of this facet. For instance, innovation, form, and function are all necessary considerations for Hammer Packaging. With the influx of new beverage packaging shapes and sizes, Hammer Packaging has had to adjust accordingly. Iovoli said that labels will always be integral in the beverage packaging industry, however they are always changing, and therefore the packaging, converting, and printing methods are as well.

The second interview was with Aldo Saldana, of the world famous S. Martinelli & Company. Being from the materials and purchasing side of the company, his insight into material shifts and reasons for them, including sustainability, were helpful in confirming the importance of sustainability in the beverage industry – for more reasons than simply consumer appeal. His understanding of how material changes can increase the level of market appeal was also beneficial to this research. Saldana gave various examples as to the shifts that S. Martinelli & Company has experienced personally. Saldana's interpretations of these shifts were monumental in understanding the cost savings that comes from a materials shift, as well as how packaging modifications can raise consumer appeal. Various materials and graphics can factor into a consumer's purchasing decision and overall opinion according to Saldana, which is why companies must be on the forefront of innovation and cost savings in order to remain viable to the market.

The third and final interview was with the owners of PackagingARTS – John Swain and Dave Miller. Being a packaging design firm and broker has given them experience with customer

requests, budgets, and timelines. Because many of their projects must be shipped worldwide, their understanding of shipping costs and weight were crucial and of the utmost importance. Swain and Miller have worked extensively with all aspects of the beverage packaging industry and therefore they addressed everything from wine and spirits, to waters and juices, and how the pricing and profit margins affect these specific products. Swain and Miller contributed information about TetraPak – a company specializing in aseptic packaging, which is currently popular in the beverage industry, as well as a more sustainable option. In addition to seeing change in the industry first hand, being a broker has provided insight into what their clients' preferences are shifting to as well. Although shipping costs affect them, the final budget for a project is up to their client. Therefore, Swain and Miller try extensively to stay ahead of beverage packaging trends and provide alternative suggestions for cost savings and visual interest to their clients.

With the feedback received from these three interviews with experts on the topics, the major current trends in the beverage packaging today became very apparent. Cost savings from the production standpoint, combined with innovation to differentiate in the market were two major aspects addressed in order to profit in the beverage packaging industry today.

Chapter Five: Conclusions

Based on the conducted interviews, several conclusions can be made in each area of change addressed earlier – the green movement, light weighting, size and shape, and lastly, labeling, print, and marketing. While all three interviewees had slightly differing opinions and emphasis, there were some consistent shifts that can be noted, and in the end, they all suggested what they felt was necessary in order to profit in the beverage industry through innovation and cost savings combined.

The first area of interest for each of the interviewees was the green movement. According to Lou Iovoli with Hammer Packaging, sustainability is definitely becoming more important. He stated, “From a business perspective, it’s something we have to address.” Aldo Saldana acknowledged that recyclable plastics are highly important, as well as sustainability as a whole, but only if it can be measured consistently and accurately. He discussed how the sustainability practices by companies such as Wal-Mart have also affected the beverage packaging industry by having very strict requirements. John Swain from PackagingARTS, mentioned how the sustainability movement has been big in the bottled water sector of the industry already, and also recognized that there has been a shift to PET bottles, specifically wine bottles. He did however acknowledge the fact that “It is not yet clear if the sustainability movement is going to be sustainable or not.” All of the interviewees recognized that sustainability is growing in importance, but it has not yet been determined to what extent.

The next area of change is light weighting of bottles and materials. This addresses the cost effective perspective of the beverage packaging trend. Iovoli, being a printer, said that shipping labels is good because they are condensed and can fit a lot on a single roll. This eliminates extra shipping costs. With a job title emphasizing a focus on materials, Saldana stated that they have made efforts to lightweight materials, such as smaller caps and containers. He has had significant experience in shipping and said that shipping heavy products, especially glass, has a substantial effect on cost. "A truck will weigh-out before it hits max capacity. Your freight cost is spread across a smaller volume, therefore increasing the price of your product." Swain agreed with Saldana in shipping, but simply stated that many companies are using local contract packing and filling companies to avoid the shipping weight. He also said this is part of the reason companies are considering plastic bottles for lower end spirits and wine. Iovoli had an alternative, but still relevant viewpoint on light weighting. He stated that although people claim that their light weighting process is to protect the environment, it is really for cost savings for the company. In all cases, the interviewees knew that there is an inherent cost savings involved, which is of utmost importance in order to profit in the beverage packaging industry of today.

Size and shape was an area where the least amount of feedback was received from the interviewees. However, Iovoli noted that the complexity of bottles has come a long way from where it was before. He stated that plastic bottles are now specializing in form and function. Swain mentioned the bag-in-a-box trend, and also aseptic beverage packaging, such as the ones produced by TetraPak. TetraPak products are paper based and able to contain liquids, all while being more functional than a carton, for example.

Marketing through labeling and printing techniques was something that all three interviewees felt was a main focus for the consumer of beverages and should be a main focus for companies looking to increase revenue. Iovoli, Saldana, and Swain all spoke very highly of shrink sleeves, since they can produce higher image quality and graphics, which in turn increases consumer appeal. Iovoli and Swain both referred to the spirits and wine industry as specialized, and “works of art,” but accredited this to higher cost margins. For Iovoli, being on the print side has allowed him and his team to innovate in the printing, and they are now using a variable sleeve web offset press, which is much more efficient than past processes.

At the end of each interview, the question was asked, “What factors do you feel are necessary in order to profit in the beverage packaging industry today?” Iovoli determined that innovation was imperative. Saldana suggested that niche markets and a focus on marketing particularly were the way to go. He affirmed, “Price, consistency, function, and quality will drive each individual purchase” and “The beverage market seems to be flooded with many niche markets for each of our lifestyles and needs.” Lastly, Swain felt that low waste, high quality, and a continued investment in technology to reduce costs and increase the speed to market were vital. A compilation of these three perspectives demonstrates how current beverage packaging trends emphasize the importance of increasing consumer appeal and reducing production costs.

With this feedback in mind, it is important to realize the extent of changes that have occurred in the beverage packaging industry today, and how companies are adapting and accepting these changes in order to profit. It is obvious that there is a constant movement toward impressing the

consumer, while benefiting a company simultaneously. These changes and modifications are the future of the beverage packaging industry.

Bibliography

“About Us.” Diageo. Web. 26 Feb. 2010.

<<http://www.diageo.com/ourbusiness/aboutus/Pages/default.aspx>>.

Baker, Berenice. “Printing Systems: Bottle up.” *The Engineer* 1 Jun 2009: ABI/INFORM Global, ProQuest. Web. 5 Feb. 2010.

Bayer, Rick. “Glass, the Ideal Package.” Cal Poly, San Luis Obispo, California. 6 Dec. 09. Industrial Technology 330 Class – Issues of Packaging. Lecture.

Cosgrove, Joanna. “Does Size Matter?” *Beverage Industry* 1 Sep. 2003: ABI/INFORM Global, ProQuest. Web. 29 Jan. 2010.

Fuhrman, Elizabeth. “Labeling Materials Worth Their Weight.” *Beverage Industry* 1 Oct. 2009: ABI/INFORM Global, ProQuest. Web. 29 Jan. 2010.

Iovoli, Lou. Phone Interview with Hammer Packaging. 25 Apr. 2010.

Levenson, Harvey R. *Some Ideas About Doing Research in Graphic Communication*. Atascadero: Good Neighbor & Services, 93423. Print.

Lukas, Paul. “If It Ain’t Got Glass, It Ain’t Got Class.” *Fortune* 139.7 (1999): 40-42. Academic Search Elite. EBSCO. Web. 5 Feb. 2010.

“What We Do - Packaging.” *Packaging Arts*. Web. 26 Feb. 2010.

<http://www.packagingarts.com/what_packaging.aspx>.

Reisner, Rebecca. “Keeping Pom Wonderful; Lynda Resnick Made Pomegranate Juice Glamorous, but How Can She Maintain Consumer Thirst for Her Premium-price Beverages?” *BusinessWeek.com*. 2009.

Roberts, Sally. “Tragedy Spurred Innovation.” *Business Insurance* 21 Oct. 2002: ABI/INFORM Global, ProQuest. Web. 5 Feb. 2010.

Saldana, Aldo. Phone Interview with S. Martinelli & Co. 15 Apr. 2010.

Singh, Jay. "Perspective on Packaging." Cal Poly, San Luis Obispo, California. 25 Sept. 09.
Industrial Technology 330 Class – Issues of Packaging. Lecture.

Swain, John, and Dave Miller. Skype Interview with PackagingARTS. 15 Apr. 2010.

Theodore, Sarah. "Secondary Considerations." Beverage Industry 1 Jun 2009: ABI/INFORM
Global, ProQuest. Web. 29 Jan. 2010.

What is Sustainability? U.S. Environmental Protection Agency, 2 Feb. 2010. Web. 16 Feb. 2010.
<<http://www.epa.gov/Sustainability>>.