

Making the Transition from Rigid to Flexible Packaging

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Figure 1: Examples of Rigid Packaging That Has Transitioned to Flexible Formats

The transition from rigid to flexible packaging continues to be active in many segments of the food and beverage markets. Flexible packaging serves to facilitate and offer a solution to the everchanging needs of the consumer for enhanced differentiation, more eco-conscious packaging, and convenience. Brand owners benefit from improved efficiencies, lower costs, as well as shipping and transportation efficiencies.

While there are many good examples of rigid packaging that have transitioned to flexibles, many brand owners still struggle with how to make the transition occur. This article will review the benefits of flexible packaging, discuss potential strategies to making the transition, and offer some guidance that brand owners can use to help aid them in this transition.

Benefits of Flexible Packaging

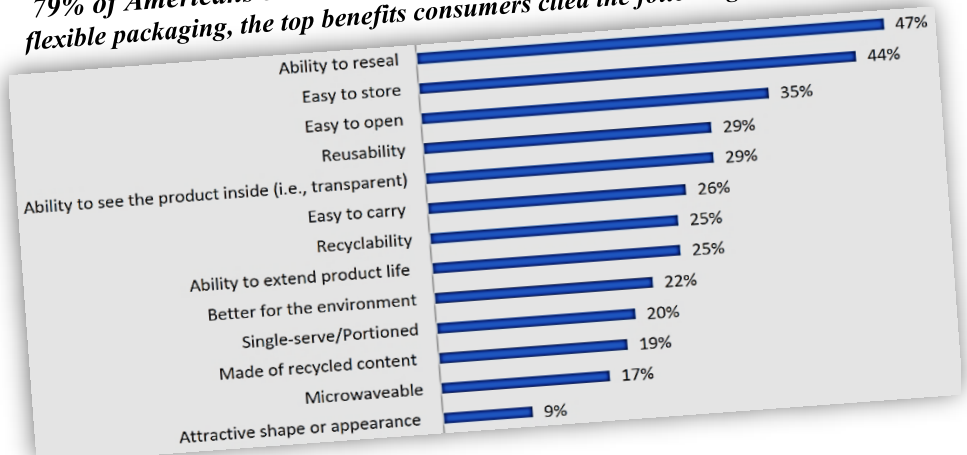
Materials used in flexible packaging applications are thinner and lighter than those of other rigid packaging

formats. These materials result in improved product to packaging ratio, lower energy consumption and emissions.

To further promote the benefits of flexible packaging, the Flexible Packaging Association (FPA) has sponsored several cradle-to-grave life cycle assessments (LCA). In one beverage package example², a flexible pouch was compared to alternative rigid formats including a glass bottle with closure, polyester bottle with closure, and an aluminum can. The results conclude that the flexible package offers a significant reduction in carbon footprint, energy consumption, product to packaging ratio, as well as waste to landfill if recycling was not employed. Additionally, flexible packaging utilizes less resources and offers significant transportation efficiencies.

Of the brand owners who have switched to flexible packaging, the top-rated benefits cited in a recent

79% of Americans believe there are benefits of having food stored in flexible packaging, the top benefits consumers cited the following benefits¹:



Beverage Packaging



Beverage Packaging	Product Weight	Packaging Weight	Product-to-Packaging Ratio	Packaging Weight per 100 g Product	MSW Landfill per 100 g Product*	Energy Consumption MJ/8 oz	Emissions Kg CO ₂ e /8 oz
Glass Bottle & Metal Cap	8 ounces (236 g)	198.4 g	1:1	83.9 g	54.5 g	3.36	0.29
Plastic PET Bottle & Cap	8 ounces (236 g)	22.7 g	10:1	9.6 g	6.0 g	3.00	0.18
Aluminum Can	8 ounces (236 g)	11.3 g	21:1	4.7 g	2.4 g	0.99	0.08
Stand-up Flexible Pouch	6.75 ounces (199 g)	5.7 g	35:1	2.8 g	2.8 g	0.45	0.02

Cradle-to-grave life cycle energy consumption and CO₂ emissions data developed for the FPA by Battelle Memorial Institute.

Product assumed to be water.
*Recycling rates factored: U.S. EPA 2007 MSW Report.
Packaging weight, product weight, and product-to-packaging ratio calculated by Packaging & Technology Integrated Solutions, LLC (PTIS).

Figure 2: FPA sponsored Cradle to Grave Life Cycle Assessment for Beverage Packaging

Packaging World survey include reduced production costs, customer convenience, supportive of consumer life style trends, and reduced environmental impact. Additionally, flexible packaging has a higher density than alternate rigid formats. The tight density requires less trucks for shipping of raw materials, requires less warehouse space for

formats, sizes, features, shapes, and closures offering convenience and portability. Consumers also see flexible packaging as eco-conscious and “more modern” compared to rigid alternatives. In retail situations, the flexible package becomes the “silent salesperson” as the package is the last form of communication the brands have with the consumer during the purchasing process.

FUN FACTS

Brand owners who increased use of flexible packaging over the past five years experienced ³.

57% Lowered costs of production

49% Supply chain efficiencies and lower costs

39% Sales increase

37% Improved competitive positioning



Figure 3 Flexible rollstock is typically supplied in dense rolls compared to alternatives such as stacks of paperboard used in bag-in-box packaging

storage, and fewer changeovers on the converting equipment.

From the consumer perspective, flexible packaging is viewed a differentiator with a multitude of

Brand Owner Strategies to Transition

New brands have the benefit of putting their marketing dollars into the package, as opposed to ad campaigns. A look at recent new products on the market confirms the focus on unique packaging design to attract consumers. Flexible packaging makes it easy to execute differentiation.

One of the strategies brand-owners are using to quickly connect with the desires of the consumers includes the acquisition of smaller companies. The advantages of these companies are numerous. They often have a better connection with the needs of the consumer, are efficient at production, have already launched their products in differentiated formats, and offer the types of



Figure 4: Packaging from small, entrepreneurial brands that are connected with the tastes and desires of the consumer.

products consumers are seeking. The acquisition of these companies provides the brands with an opportunity for quick engagement with the consumer. Figure 4 is a snapshot of a number of small brands with products already packaged in flexible packaging deriving the benefits from flexible packaging.

Brands Making Strides

There are many good examples of brand owners who have successfully transitioned to a product from rigid to flexible.

Daisy Brands transitioned from a tub to an inverted pouch with cap. The goal of this transition was to drive



more occasions for use. The tub format posed many challenges as it often ended up in

the back of refrigerator and often becoming watery and forming mold. The potential for contamination was also a concern due to repeated scooping of sour cream onto a taco and back into the tub. The flexible package offered easier dispensing, convenience, and reduced product waste with the ability to almost completely dispense the product. This resulted in a 70% sales increase.

Kellogg's Morningstar Farm Brand desired greater shelf differentiation and

consumer convenience. The frozen specialties shelf was



dominated by bag in box packaging. Kellogg's desired to differentiate and transitioned to a flexible package with recloseable zipper. This format takes up less space for consumer storage as the package can be compressed after consumption. On

average, this format utilized 30% less material than the bag in box version.

Perdue was seeking differentiation and created a new category for its refrigerated aisle. Sales were slumping. Consumer research



showed customers were satisfied with the

product quality and taste but the packaging wasn't convenient, easy to open, and it was overpackaged. It turned out that the current product was resealable but this wasn't evident to the consumers. Perdue needed to attract new customers and the packaging wasn't attractive to consumers. In a package redesign, they enhanced the graphics, made the zipper more visible and enhanced a transparent window to show the product. Year over year sales increase was 20%.

Kraft Brands wanted to increase the convenience, yield, and efficiencies of the food service salad dressing line and

established the Yes Pack. This new format offered easy carry handles, a



smaller spout for controlled dispensing, and less product waste. This design resulted in 50% less energy consumption, 60% less plastic, and 70% fewer CO2 emissions from transportation.

Will this Transition Benefit my Company?

Ultimately, sales and customer satisfaction are the utmost considerations for transitioning. The goal is to better cater to the needs and desires of the consumer so they purchase more and grow the brand.

Economics are also a

factor that needs to be considered as the company needs to make a profit. When comparing the economic benefits, you need to consider all aspects of the circular economy as shown in Figure 5. The elements of each stage in the cycle needs to be compared and considered. A list of potential considerations can include but is not limited to the following:

- Sourcing – Raw materials and transportation (# of trucks, fuel)
- Manufacture – Throughput, labor savings (# of changeovers), storage space
- Distribute – Transportation (# of trucks, fuel, pallets)
- Recover – Cost of disposal or a benefit to recycle, compost, etc.

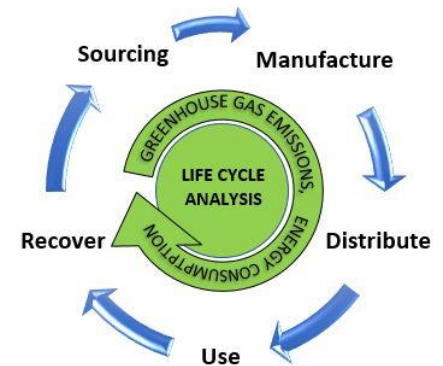


Figure 5: Stages of the Circular Economy

The sustainable aspects of the transition should also be calculated using a comparative life cycle analysis (LCA). This LCA would evaluate the various states of sourcing through recovery ultimately revealing a comparison of the carbon footprint.

Steps toward a Successful Transition

Having a difficult time considering where to employ a transition? Why not consider a line extension? The benefit of a line extension is you already have relevant sales and costing data related to items such as raw materials, manufacturing

efficiencies, inventory costing, transportation, and other relevant details that provide a baseline for comparison. These values can be compared for economical and sustainable benefits.

Consider the following steps as a guide to success:

Collaborate... On the packaging development side, improved chances of a successful transition can be facilitated through collaboration. Beyond the internal team, consider engaging the graphics developers, the flexible packaging supplier(s), equipment provider(s), copacker(s), ingredient supplier(s), and others that can offer guidance in the transition. Collaboration should start early in the process to ensure all possible ideas are considered.

Innovate ... The transition often provides an opportunity for the brand owner to dramatically change the packaging to entice new consumers to their brand. Changes can include new graphics, the use of transparent windows to see the product, new materials, changes to the packaging format, addition of new features to enhance consumer convenience, sustainable materials, etc. This provides a unique opportunity for ideation to ensure the package incorporates all the attributes and features possible.

Investigate ... The transition provides a unique opportunity to assess different package formats and equipment. Consider utilizing copackers who have the capability to produce the targeted package. Use this as a learning opportunity to discover what equipment or technologies should be considered.

Fabricate ... Consider producing printed package mock-ups to share the concepts both internally and with external collaborative team to gather feedback. These concepts would also be helpful for consumer validation.

Test and Validate ... Once the concepts are narrowed to a manageable few, consider a test launch. The test launch enables assessment of the entire system. In this test, materials would be printed and converted, like typical production; the copacker can convert and fill the packages; and the packages are distributed to a controlled group of stores.

The test and validate step puts packages on the shelf for customer validation. Sales data and targeted consumer surveys can be used to assess if the new package is soliciting the desired sales and forms of convenience it was designed to provide.

Launch ... The assessments have been completed and the results are as desired, utilize your chosen converter and copacker to prepare products for broader distribution.

Summary

The transition from rigid to flexible packaging can be a challenging pursuit. Following a step by step process ensures a consistent and measurable approach. The flexible package provides consumers with a more desired and eco-conscious format offering convenience. The brand owner benefits from improved efficiencies, lower costs, as well as shipping and transportation efficiencies.

Follow the steps outlined as a guide for success. Utilize your partners as early and often as possible to gain the most benefit. Consider utilizing American Packaging Corporation (APC) as a partner in this transition.

American Packaging can assist with the various aspects of the transition including the economic and sustainability justifications.

The APC Center for Packaging Innovation utilizes a collaborative approach to innovation. Working together with both internal and external partners, we can create a range of packaging ideas, formats, and materials that are tailored to the desired needs of the customers. The concepts generated can be printed and fabricated on-site for further review.

When it comes to new equipment, APC has a highly trained staff of Field Technical Service Engineers that are familiar with packaging equipment. They can help in troubleshooting start-ups as well as recommendations for equipment that is suitable for your needs.

For the validation phase, APC can utilize its digital print technology which can produce either rotogravure or flexographic printing at lower quantities. This technology is complemented with custom lamination and coating capability to replicate any package design.

In the launch phase, APC can produce at scale the desired packages using its high-quality rotogravure and flexographic print processes.

¹Flexible Packaging Association: 2016 [Flexible Packaging Transition Advantages Study](#): Final Report, November 2016

²FPA Battelle Sustainability Assessment of Flexible Packaging Report

³Flexible Packaging Association: 2016 [Flexible Packaging Transition Advantages Study](#): Final Report, November 2016