YOUNGER SHOPPERS WANT MORE AND BETTER PRODUCT INFORMATION, AND THEIR HABITS ARE FUELING A MOVEMENT IN THE CONSUMER PACKAGED GOODS (CPG) INDUSTRY KNOWN AS PRODUCT TRANSPARENCY. IN THIS WHITE PAPER, WE EXAMINE HOW BRANDS CAN EMBRACE PRODUCT TRANSPARENCY AS AN OPPORTUNITY TO MODERNIZE, ENGAGE MORE DIRECTLY WITH CONSUMERS AND DRIVE NEW CUSTOMER LOYALTY.
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Consumers Want More Data

The Emergence of Product Transparency

There is a revolution underway. Consumers are demanding more product information than ever before. We know this anecdotally from talking to friends and family members: many of them follow special diets (organic only, vegan, sugar-free, etc.) and hosting a dinner party now involves navigating people’s various allergies to dairy, wheat, peanuts or soy products. This change in health, lifestyle and social consciousness translates into more consumers wanting more information about their food products than ever before.

According to a 2017 shopper trends study by Label Insight, an organization that helps consumers find product data, 44% of consumers say food allergies, intolerances or sensitivities affect the way they shop. And nearly half of shoppers reveal they follow a specific diet or health-related eating program.

Consumer interest in additional “data” is so significant that it has created a movement in the food and CPG (Consumer packaged goods) industry known as “product transparency.” This movement reflects efforts by brands to release as much product information as possible, and to make access to integrated marketing campaigns easy and engaging.

Recent survey data confirms product transparency is popular with shoppers: 94% of respondents in a Label Insight Food Revolution Study said it is important that food brands are transparent about a product’s contents, and how it is made.

When Label Insight queried consumers in 2016 with the question: “What causes you to trust a manufacturer or product more?” The overwhelming majority (78%) ticked the box, “Complete product label information (ingredients, nutritional information or allergens).” And if there was any doubt future shoppers will continue to expect more product information, the same Label Insight study found 86% of millennial mothers (18 to 34-year-old) would pay more for completely transparent food products.

Inspiration & Ideas Over Price Checking

When we think of shoppers in the aisles with their phones, we might assume they are price checking; maybe deciding if it’s cheaper to buy their detergent in-the-store, or to choose a cheaper alternative online, but surprisingly enough, recent survey data* doesn’t support this theory.

What it reveals is a year-over-year shift of 30% from price checking, to seeking inspiration and ideas. And it’s important to pay attention to shoppers who spend ample time on their mobile devices (so-called “high mobilizers”), because they spend 25% more.

But what does inspiration really look like in the real world?

Picture a shopper standing before a shelf of whole-bean coffee bags. She might be thinking about whether to cut back on caffeine or trying to recall how this coffee smells, but she may also want to know more about the product, and looks to her phone to check consumer reviews. After a moment she may bounce from reviews to searching for discount offers, but we can’t discard the possibility she cares about the issue of “Fair Trade Coffee,” for example, and is hoping to make a decision based on her values. There are many types of consumers with a variety of motives, but inspiration comes into play when we begin talking about changing social values or the kinds of special diets we referenced in the introduction.

This, of course, presents a real challenge for brands. They now have to gather, create and distribute new digital information and data to satisfy these complex demands. But, as we indicated previously, high mobilizers expect to be able to get more content—and they are an important audience for brands to nurture, because they spend 25% more than other shoppers.

New Consumer Drivers

For decades, price, taste and convenience were the factors that drove purchase intent—but this is no longer the case. Consumers are now looking at products in new ways, and what they value is quite different from what their parents and grandparent did in previous eras.

A 2016 Deloitte survey of 5,000 consumers reveals a trend toward what the survey firm is calling the new, “evolving drivers,” with a slight majority of consumers wanting to know:

- Provenance—where and how was my food grown?
- How will this product affect my health and wellness?
- What is the social impact of this product?
- What is the company’s position on safety and transparency?

In contrast, the “traditional drivers” are best exemplified by a shopper who looks at a food product and asks: “How does it taste?”

The demand for new types of information is not confined to one age group, income bracket, geographic area or gender, and represents a true sea change in shopper behavior. And brands that resist the movement toward product transparency may find themselves adrift in the marketplace, and handicapped when trying to adapt at a later date.
Transparency as a Brand Opportunity

Many brands are understandably wary about a movement toward transparency. Hard experience has taught them that revealing too much information, for example, can sometimes backfire. Instances of information taken by competitors, consumers, regulators or even the media—and used against the company—have made some brands understandably cautious.

Yet a crucial part of the product transparency learning curve is knowing that if a company doesn’t take control of information about its own brand—someone else will, and with potentially negative consequences. A simple Google search reveals there is a lot of information online by third parties, some of it misrepresenting or damaging to brands. Many companies turn to search engine marketing firms to help them with online reputation management (ORM), a series of tactics to control a brand image online. One easy way to start “owning” your brand’s message online is with a corporate blog. On a blog, brands can reveal more about their products within a context that is fun, interesting and responsive to consumers.

When conducting focus groups, the Grocery Manufacturers Association (GMA) learned consumers would rather see less-than-flattering information about food products than no information at all. Their views proved surprisingly pragmatic: They understand some food products, snacks and sweets, for example, contain excessive sugar and other additives, but this wasn’t a problem in their eyes.

There is now an expectation that brands will deliver the good, the bad and the ugly, and do it in real time, and without any equivocation or vagueness.

How Regulatory Bodies & Industry Are Responding

Update to Nutrition Facts Label

Food industry executives and government regulatory agencies have been paying attention to these trends. They are studying evolving shopper habits, and they have been working to get ahead of the changes in an organized and deliberate manner. To date, there are three major developments that every brand manager, retail executive and CPG executive needs to understand.

The first is the May 2016 update to the Nutrition Facts Label, the ubiquitous ingredients label on food packaging. The Food & Drug Administration (FDA) regulates the label, and its inception dates to the early 1990s and the passage of the Nutrition Labeling and Education Act (NLEA).

The 2016 update adjusts the label’s ingredient emphasis, updates the serving size statistic and changes other features of the label. The changes are based on updated health studies from recent years and reflect the latest scientific information, including the link between diet and chronic diseases, such as obesity and heart disease.
One example of the change involves “Fat” listings. The FDA still requires “Total Fat,” “Saturated Fat” and “Trans Fat” to appear on the label, but “Calories from Fat” is being removed, because research has shown that the type of fat is more important than the amount.

The 2016 update applies only to companies with $10 million or more in annual food sales. The implementation deadline for packaging is July 26, 2018.

The SmartLabel™ Initiative

One of the most significant transparency initiatives to emerge in the last few years is SmartLabel, which is a joint initiative by GMA and the Food Marketing Institute to provide transparency regarding product ingredients and other product attributes.
The initiative began in 2015 and is a direct result of the new consumer behaviors. The idea behind SmartLabel is a simple one: Make it easy for consumers to instantly access digital product details, such as:

- Ingredient definitions
- Sourcing practices
- Third-party certifications
- Social compliance and sustainability programs
- Usage instructions
- Advisories and safe handling instructions
- Company/brand information

And there are several ways for consumers to get this data:

- Visit a participating company or brand’s website
- Scan a SmartLabel QR Code on packages
- Call the 1-800 number printed on packages
- Visit SmartLabel’s website and their Product Search page

Currently there are over 210 brands participating in SmartLabel and more than 6,500 live SmartLabel landing pages with an industry commitment to pass the 30,000 threshold by end of 2017, early 2018. And although SmartLabel began as a food industry initiative, it is expanding to include a wide range of products, such as pet care, household and personal care products – even paint in the hardware store.
The GMO Labeling Bill

The topic of genetically modified organisms (GMOs) has been a hot topic in the news over the last decade. A GMO is created when DNA from one species, corn for example, is extracted from it and then inserted into another species by a genetic engineer. Farmers do this for many reasons, including to make crops harder against harsh weather conditions or to make the plants resistant to herbicides.

In 2016, interest and concern over GMO product transparency made its arrival in Washington when President Obama signed a bill creating standard federal labeling for food products containing GMOs. The National Bioengineered Food Disclosure Law requires the U.S. Department of Agriculture (USDA) to develop a national mandatory system for disclosing the presence of bioengineered material.

According to the USDA website, they have "established a working group to develop a timeline for rulemaking and to ensure an open and transparent process for effectively establishing this new program, which will increase consumer confidence and understanding of the foods they buy, and avoid uncertainty for food companies and farmers."

The language of the bill remains “agnostic” as to how industry chooses to identify the presence of GMO ingredients on packaging. The legislation reads:

“Congress intends for the standard to be technology neutral and reflect technological changes over time. Congress recognizes that consumers are interested in increased access to information about their food.”

This language is important for brands and technology developers, because it means Congress recognizes that technology constantly evolves, and it is not prudent to “bet” on a particular technology. There will be a period for internal review and rulemaking, then additional time for brands to implement over a number of years.

What’s Coming Next?

Despite these timely actions by industry and government, there is still an air of uncertainty circling the next round of product label requirements. A new presidential administration began in January 2017 and the USDA is trying to determine how to implement and link to GMO content, while also working on what is actually a GMO ingredient.
And because redesigning and updating product packaging involves a number of internal stakeholders and finely tuned production processes, it’s important that organizational leaders keep their ears to the ground—so when new regulations are introduced, internal teams can be educated and trained as quickly as possible to work on the new product packaging requirements. This will also help minimize costs and disruption as well.

**Connected Packaging Takes Center Stage**

**The Need for Digital Transparency**

Product transparency is not a one-size-fits-all proposition—consumers have different sensibilities, and are looking for different information. Parents who have a child with a soy allergy require different information than a retired person on a fixed income who, for example, might be interested primarily in discount offers. A product package can and often does contain some of this information, but the limited nature of packaging real estate hampers detailed product transparency efforts.

This diversity of consumer need must be reflected in product transparency efforts, and one of the most effective ways to do this is with “digital transparency,” which leverages digital channels, namely a website and mobile apps, to address transparency in a comprehensive way. And the big challenge is delivering such a wide array of information, in light of the fact that current packaging real estate is already visually exhausted.
Technology Options

QR codes, while not ubiquitous in any sense, are a steady feature of the CPG landscape. Consumers have gradually been exposed to QR codes, and there seems to be a basic understanding of scanning the sybmology to get a digital payoff. QR codes are effective with special offers, or specific calls-to-actions, such as “scan here to watch a video,” etc., but several problems remain. The most significant challenge is the absence of one standard consumer app for scanning QR codes. Ask someone to name her favorite QR code app, and you’re likely to get a puzzled expression. And on the brand side, QR codes can negatively impact package design and present available-space issues for package designers.

Because there is no standard for QR codes, brands should be aware that they potentially open themselves to lawsuits when using them. Recently, there have been several patent-infringement suits brought against companies employing QR codes. A Texas company, for example, claimed a well-known brand and retailer infringed on their sybmology technology when they used a QR code in an advertisement.

NFC/RFID technology is easily serialized and scalable (though you must have equipment in your converter operation). On the downside, it is not intuitive to scan, and is not compatible with most smartphones. It can also come with considerable costs, with marginal costs being added to every unit.

Finally, there is image recognition technology, which is the identification of objects in an image. Many brands turn to this technology to make their print media campaigns more interactive.

But there are certain limitations with image recognition. It can sometimes misidentify two similar images, and it is not effective on irregular package surfaces, such as pouches or yogurt cups.

Three Types of Connected Packaging

When we talk about product packaging linking consumers to digital content, what we're really talking about is the phenomenon known as “connected packaging.” And despite the recent popularity of the term, there is still some confusion about what constitutes connected packaging and the technologies involved.

Active Packaging
Interactive Packaging
Intelligent Packaging

The first type is Active Packaging, which allows customers to engage with products that include additional product information and exclusive content controlled by the brand; Digimarc Barcode, QR codes and image recognition technology are the best examples of this usage.
Next we have Interactive Packaging, which includes specialty substrates and technologically advanced materials that are capable of communicating information. Batteries, for example, that can communicate whether they still contain a charge.

Finally, there is Intelligent Packaging, which sends and receives information for dynamic interaction with sensors. Two prominent examples are RFID and NFC chips.

### Making the Package Interactive

#### Looking at Digimarc Barcode

One of the most innovative and potentially groundbreaking solutions for delivering on product transparency and unifying the various element of this movement is Digimarc Barcode.

Digimarc Barcode technology is a product identification and consumer engagement solution that makes the package interactive through the use of a visually imperceptible barcode. Digimarc Barcode combines the unique product identification of the UPC code with dynamic mobile content about that product. Consumers can scan the enhanced portions of the package with an enabled smartphone app, and then easily access brand-owned and created content, such as allergen information, recipes, video content—whatever the brand owner decides.

The Digimarc Barcode enhancement process is straightforward, involving the process of subtly enhancing an art file to create a visually imperceptible code replicated throughout the media. Although this cannot be discerned by humans, the code can be detected by computing devices, such as a phone or front-of-store. The package is printed just as it was before; there is no need for special printers, ink or the development of new printing processes. And, it works across all substrates and processes such as offset, gravure and flexographic printing. Brands can continue the relationships they now have with their print vendors.

Also, there is no additional cost per unit after the one-time enhancement fee. Once the file has been digitally enhanced, billions of packages could be theoretically printed with no additional cost per unit as with RFID or NFC.

Along with aiding product transparency efforts, the brand benefits of Digimarc Barcode include:

- Leverage connected packaging
- Broaden brand awareness
- Lower advertising impression costs
- Improve consumer education
- Boost brand loyalty
How to Get Started with Connected Packaging

Assess Opportunities & Educate Stakeholders

The first step to getting started with Digimarc Barcode is to begin with a few select designs or short-run packaging. This is an effective, low-risk way to measure consumer interest. Plus, packaging and design specialists at Digimarc can help brands pick the right packaging candidates and guide the process from conception to the shelf.

Along with starting on a small scale, it is also important to educate internal stakeholders before adoption. Make sure these individuals understand what connected packaging is, and how it will benefit the brand. In addition, draft a list of the key individuals and teams (i.e., graphic designers and external print vendors) who will be closest to the enhancement process. Help them see “the big vision” of connected packaging. Emailing team members a copy of this white paper is an excellent way to begin the education process. Digimarc also has tools and documents for other parties, such as executive management, printers, designers, etc.
Prepare the Data & Create Compelling Content

The third step of the adoption process—preparing your product transparency data—might prove to be the most challenging part for brands, depending upon their product information systems. Companies need to work collectively to gather data to share with consumers. And as we’ve outlined, consumer demand for product transparency, as well as new regulations, require more and better data.

Prepare the Data

And while a rich variety of data and a robust digital transparency effort is the ideal way to get started, it’s important brands do not delay on connected packaging implementation just because their efforts are still in the infancy stage. In place of mobile landing pages with recipes or how-to videos, there is nothing wrong with starting now, and sending visitors to a wide range of potential experiences.

Some Inspiration

And while the crawl, walk, run analogy of progress applies to product transparency efforts, it is never too early to look to fully mature transparency efforts for inspiration. Here are examples* of the kind of content that has been made available to customers in the interests of transparency:

- **Explain the Supply Chain**—Starbucks has an interactive map of its coffee plantation travels, which helps customers visualize where the coffee beans are coming from.

- **Track the Potatoes**—Lays features its “Lays Chip Tracker,” which lets people find out where the potatoes in their bag of chips came from. Consumers enter a code from the bag to find out the potatoes’ origins.

- **User-Generated Content**—The Dove Real Beauty Campaign lets Dove customers show real pictures of themselves wearing the company’s beauty products.

And while none of these are examples of connected packaging, it’s easy to imagine how the efforts could be made even better with Digimarc Barcode. Think about it: A consumer scans a Starbucks coffee container with a phone, and is immediately taken to the supply chain map. Or a customer standing in the aisle of her favorite retailer: She scans the package of Dove soap with her phone and is taken to a mobile site where she can browse through usage information, discover how to get ‘more’ out of the product or find inspiration and ideas on products and lifestyle habits that complement Dove soap.

Additional Resources

The world continues moving toward greater transparency and the most successful brands won't simply respond reflexively, but will actually use the opportunity to differentiate themselves and drive growth.

Learn more about how you can be part of the product transparency movement by visiting the links below:

- The USDA website on GMO disclosure and labeling
- The GMA resource page on SmartLabel
- The FDA website detailing the May 2016 update to Nutrition Facts Label
- The Food Marketing Institute (FMI) is a major voice in food retail
ABOUT DIGIMARC CORPORATION

Digimarc Corporation (NASDAQ: DMRC) is a pioneer in the automatic identification of everyday objects such as product packaging and virtually any media, including print, images, music and audio files. Based on the patented Intuitive Computing Platform (ICP™), Digimarc provides innovative and comprehensive automatic recognition technologies to simplify search, and transform information discovery through unparalleled reliability, efficiency and security. Digimarc has a global patent portfolio, which includes over 1,100 granted and pending patents. These innovations include state-of-the-art identification technology, Digimarc Barcode, as well as Digimarc Discover® software for barcode scanning, image recognition, and more. Digimarc is based in Beaverton, Oregon, with technologies deployed by major retailers and consumer brands, global banks, U.S. states, film companies and professional sports franchises, among others. Visit digimarc.com and follow us @digimarc to learn more about The Barcode of Everything™.