



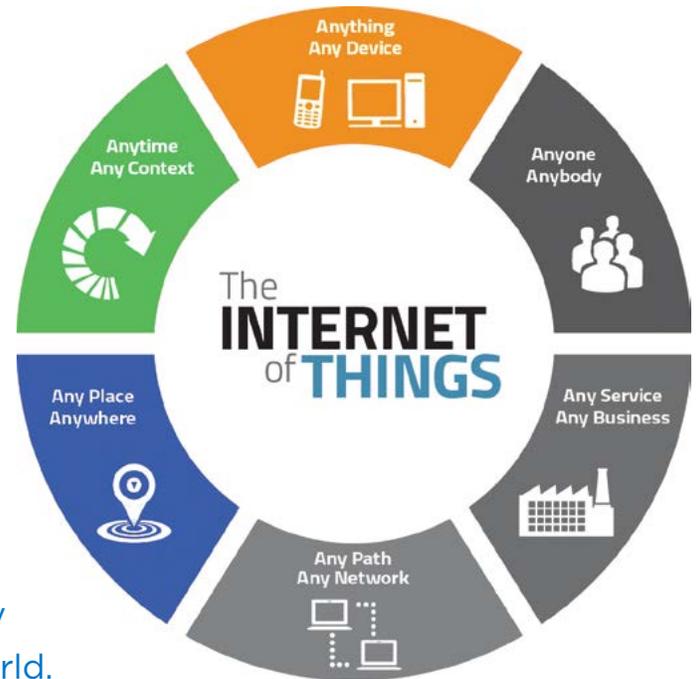
MARKETINSIGHTS | NOVEMBER 2014

CONNECTED Future

Imagine a world where anything from cars to paper towel dispensers can alert you when it is time for maintenance or a refill. That world may be closer than you think. Growth of the Internet of Things (IoT) is exploding, but businesses may not be ready to capitalize on a completely connected world.

WHAT IS IT?

According to a May 2014 study by **Edelman Berland**, 44% of business executives have never heard of the Internet of Things, and among those that have, more than half do not know what it means.¹ The Internet of Things is an environment in which smart objects (such as sensors) can transmit data to each other and to centralized databases without any human interaction required.² Estimates for the IoT solutions market vary widely and skew high. **Gartner** forecasts 26 billion connected objects worldwide by 2020 (excluding PCs, smartphones and tablets); they anticipate that IoT product and service suppliers will generate incremental revenue exceeding \$300 billion, mostly in services, by 2020.³ At the higher end of the spectrum, **IDATE** projects 80 billion internet-connected things in 2020 (including PCs, TVs and smart devices). IDATE estimates that 85% of connected things will be objects like car tires or shipping pallets that may communicate with the web via an intermediate device. Devices that interact directly with people (such as PCs, TVs and mobile phones) will only account for 11% of the 2020 estimate.⁴



NEAR-TERM OPPORTUNITIES

IoT begins by leveraging existing technologies to create an integrated manufacturing environment that reacts quickly to changes in the marketplace. Most manufacturers already have several of the key components of IoT in their supply chain processes, such as smart equipment and flexible networking, which enables them to deploy IoT concepts in stages. Manufacturers who implement IoT benefit from greater visibility into machine operation and plant performance. One example of this concept in action is machine-to-machine (M2M) technology; the integration of data and systems helps reduce lost production time and wasted materials through automated self-correction and M2M communication.⁵



BEYOND the Barcode

Retail and package design are changing dramatically in the face of new label technologies. Among these advances, radio frequency identification (RFID), quick response (QR) codes, and near field communications (NFC) have transformed labels into information portals – downloadable product details, ingredient information, coupons and promotional offers, recipes, tutorials, videos and more are readily accessible to consumers.⁶ Every product that can be counted, inventoried, or sold represents an opportunity for RFID. Although inventory and point-of-sale activities will comprise the majority of the RFID tag market, applications that go a step beyond identification are growing faster.⁷



CUSTOMER SATISFACTION

RFID technology helps retail apparel brands manage inventories and supply chains much more accurately and efficiently than barcodes.

Chico's Soma stores recently piloted RFID as a tool to deliver on their positioning of “enabling customers to shop anywhere, anytime and anyhow they choose.” The use of RFID in Soma stores provided accurate and timely inventory visibility into items across all pilot stores and distribution centers, extending from store receipt to customer purchase, and through the exit door. Pilot stores experienced compelling results, maintaining 90-95% accuracy in weekly full-store inventory counts.⁸

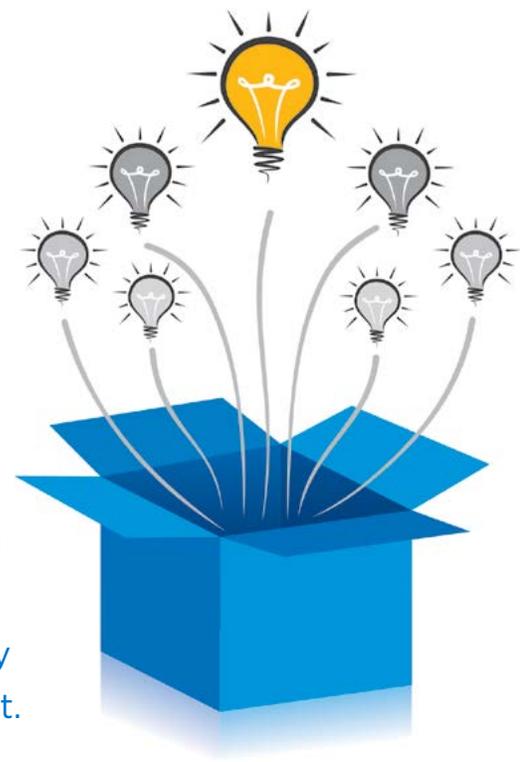
WHEN AUTHENTICITY COUNTS

Avery Dennison is launching the **FiberTracker**, a new labeling solution that features a QR code printed on paper facestock with unique fiber patterns.⁹ The label acts as an anti-counterfeiting solution; its unique “fingerprint” verifies a product’s authenticity and protects against the counterfeiting of high-end goods.



THINKING Outside the Box

From cereal boxes to ready meals, folding cartons are a key product in the global packaging market. Valued at \$140MM in 2012, the folding carton segment is projected to be worth \$184MM by 2018,¹⁰ fueled mostly by growth in emerging markets. Smithers Pira has identified five key trends that will affect this dynamic and evolving segment.



MIGRATION BARRIERS

The migration of contaminants through cartonboard used in food packaging has been a cause for concern since 2010, with the identification of mineral oils from recycled newsprint as a potential threat to consumer health. Norwegian company **Mayr-Melnhof Karton's** new FOODBOARD is a high-quality,

coated, recyclable, food-grade

cartonboard with a unique functional barrier on the food contact side of the board that shields packaged food from unintended substances.¹¹

DOWNSIZING

Cost reduction and sustainability initiatives have converged as companies seek



to reduce the amount of packaging used in their products. **Kraft Foods'** "Better World" sustainability program has netted strong results for the company, with reductions like the U.S. **Maxwell House** coffee jar material change introducing recycled content into their packaging supply.¹²

SINGLE-SERVE PACKS

The growing number of single-person households has stimulated demand for single-serve packs, despite the fact that smaller packs consume more material in their packaging per volume of packed product than the larger sizes they replace. **Mother Parkers Tea & Coffee** recently launched the EcoCup capsule for brewing loose-leaf tea.¹³ The innovative design gives consumers the ability to enjoy the best of all worlds – the convenience of single serve, an authentic tea experience and the choice of an environmentally friendly product.

The growth of single-serve packaging has also been influenced by two important consumer lifestyle trends:



PACKAGING



portion control and on-the-go convenience. UK-based **Burton's Biscuit Company** intends to capitalize on this insight with the launch of three single-serve packs projected to further boost biscuit category growth.¹⁴ The single-serve snack packs are a first for Burton's and the category as a whole, allowing consumers to savor the traditional at-home treat during their morning and afternoon snacking occasions.



PRINTING TECHNIQUES

The advent of digital printing has spurred increased demand from brand owners to leverage packaging

as another tool to differentiate their products in a crowded marketplace. Digital printing allows for exciting additions to packaging such as QR codes, holographic images, Fresnel lenses, and other 3D devices. In celebration of the 2014 FIFA World Cup, **McDonald's** launched their first ever-global French fry packaging redesign.¹⁵ The high-impact graffiti art, designed by local artists in each country, was brought to life by digital printing.

SMART PACKAGING

Printed electronics have brought the development of smart packaging closer to reality by reducing the prohibitive cost barriers. Solutions like **HP's Smart Labels and Packaging** help address issues with counterfeiting and product diversion in the pharmaceutical industry.¹⁶ Brand owners can also implement e-pedigree complaint processes, providing a drug's complete history to meet individual tracking and value requirements of specific drugs.



UNPACKING Package Waste

Food-related packaging and packaging containers account for more than 23% of the materials landfilled in the United States.¹⁷ The three main packaging reduction strategies are Reduce, Reuse and Recycle, and companies employ these strategies to varying, but positive results.

A GLASS ACT

UK-based grocer **Sainsbury's** claimed to reduce their salad dressing packaging by 90% by switching from glass to PET bottles. This change removed 224 tons of glass per year from their packaging stream.¹⁸

SLIMMING DOWN

An employee-led packaging minimization team helped save 800,000 pounds of packaging material by eliminating excess space inside the brown carton of **Hormel Natural Choice** deli meat packaging.¹⁹ By resizing the package, Hormel was able to reduce the amount of paperboard, film, zipper and corrugated materials.



ideas on how to increase resource efficiency while offering them a forum to share best practices. One supplier saved approximately £200,000 after learning about an energy-efficient cold store through the supplier forum. Another supplier, a family-owned vegetable business, is predicted to save £3.5MM over 25 years by installing solar panels.²⁰



SUPPLIER SUPPORT

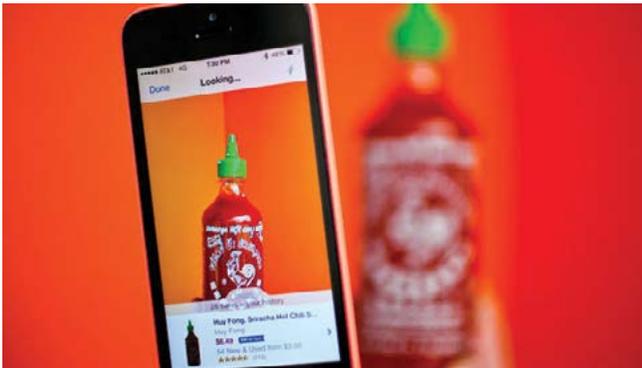
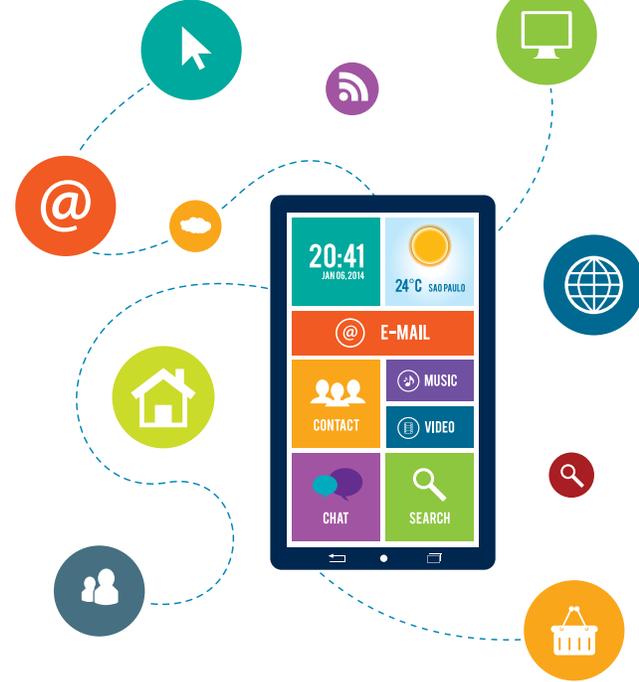
Over 90% of **ASDA's** environmental impact lies within its supply chain, so the UK-based supermarket chain has made it the focus of their sustainability initiatives. ASDA's online tool, the Sustain & Save Exchange (SSE), helps their suppliers reduce their environmental impact while making the overall supply chain more efficient. The web-based exchange hosts free live events, giving suppliers access to information and

BYOP (BRING YOUR OWN PACKAGING)

in.gredients, an independent US-based grocery store, is a zero-waste grocery store concept.²¹ Shoppers are encouraged to bring their own reusable packaging for items such as grains, dairy, wine, soaps and organic produce. The store's commitment to sustainability also extends to sourcing products from locally based farmers and manufacturers.

A new REALITY for mobile

Capitalizing on the intersection between packaging and mobile phones is not a new concept for marketers, but as smartphones become more tightly integrated into consumers' lives, is there room left to maximize engagement? Are marketers taking full advantage of the opportunity to leverage packaging as a consumer conversation starter?



GOING WITH THE FLOW

Amazon recently launched a smartphone app that uses image recognition technology, an upgrade from the visual search feature they launched in 2009. Using the Amazon Flow app, the consumer points the smartphone camera at a product; the app recognizes the item and adds it to a shopping list.²² Though the software has some limitations with nontraditional packaging, the app itself could change shoppers' behavior as they can instantly compare online pricing and availability against what is available in their brick-and-mortar retail store.

“BRAND” NEW CONVERSATIONS

Mobile image-recognition company **Blippar** has developed a self-service augmented reality platform, Blippbuilder.²³ This new feature within the Blippar app allows brands and agencies to add a layer of interactive digital content to static images in a few clicks by scanning their products, packaging or advertising. **Heinz Ketchup** used this technology to promote a 3D animated recipe book.²⁴ Bundled with a daily competitive game for app users, the brand gained more than 267,000 unique users and has been accessed more than 650,000 times.



Credits

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