

Twelve Transformational Digital Retail Technologies Explained (Part 2)

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Twelve Transformational Digital Retail Technologies Explained (Part 2)

- Will these 12 emerging technologies transform retailing?

You decide!

Twelve Transformational Digital Retail Technologies Explained (Part 2)

1. The Interface Explosion
2. Responsive Web Design
3. Open A.P.I. Platforms
4. Cloud Computing
5. Big Data
6. Mobile Payments
7. **Augmented Reality**
8. **Geofencing**
9. **Beacons**
10. **3-D Printing**
11. **The Internet of Things**
12. **Bitcoins**

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7. Augmented Reality:

- **Google's Project Glass** revived interest in accelerating augmented reality / *wearable computing*
- 10 thousand test users paid \$1500 to own
 - Eight initial applications (facebook, Twitter, CNN, etc)
 - Plan was to roll-out late this year at \$500 price point, but developer interest slowed down
 - March, 2013: Google announce alliance with Luxottica to create Oakley and Ray-Ban frames for a roll-out
 - Today, project is pretty well deemed a failure



Augmented Reality

Here are some links to some more “practical” retail experiments:

- [Sephora–Modiface Milan](#)
- [Ikea 2014 Catalog](#)
- [American Apparel Shopping Assistant-Vuforia](#)
- [Walgreen-Aisle411 3D store map](#)

Is the jury still out?

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8. Geofencing:

- A **SOLOMO** commerce technology using GPS to set a virtual perimeter for a geographic area
- When customer enters “fenced in” area, special offer text messages are pushed to the phone (opt-in)
- A mall or a shopping center can be geofenced
 - Benefit the small business owners without large marketing budgets
- A drawback is that the constant ping of GPS to track location data negatively impacts battery life

SOLOMO = Social + Local + Mobile

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9. Beacons:

- **Indoor space (stores, malls) often block cell signals and are nearly impossible for GPS**
- Beacons: low cost hardware, small enough to attach to a wall or shelf (quarter size sensors)
- Beacons use battery-friendly low energy bluetooth connections to transmit messages to cellphones
- Can provide offers, product details, contactless payment for checkout
- Barrier 1: Customers must have Bluetooth enabled
- Barrier 2: Customer must accept the relevant app (opt-in)

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9. Beacons:

- Apple's iBeacon is the leader. Built into its iPhone 4S and iOS 7 software
- PayPal and Qualcomm developing competing hardware
- 200 Safeway and Giant Eagle supermarkets testing in Seattle, San Francisco, Cleveland:at store entrances transmitting offers
- Tesco single store test in U.K. (different approach)
 - They believe customer service utility more important than offers
 - Notification in-store when pre-ordered items are ready to pickup
- Lord & Taylor / Hudson Bay testing targeted offers in specific merchandise locations
- Macy's, American Eagle Outfitters, Apple stores said to be testing (promotional offers)
- Walgreen testing web beacons for mobile couponing
- **Expect 5 million beacons to be deployed in next few years**

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10. 3-D Printing:

- First devices up to \$500 thousand in use in Defense Department, NASA, etc.
- Staples was first to offer consumer version \$1300 printer
- For the consumer, make anything from plastic products to chocolates to ??
- Hershey's and 3D Systems working on a consumer 3-D printer

Meaning for retailers?



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10. 3-D Printing:

➤ Applications for retailers:

- 3-D printed items as a new category (see Amazon.com's 3-D Printing Store: they are selling primarily decorative accessories and cellphone covers)
- Office super stores can offer 3-D printing services
- Fashion ? Victoria's Secret wings (2012 fashion show)
- Shoppers may choose to "print their own" for one-third the price
- Some estimate 10% of consumer goods will be 3-D printed by 2025



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11. The Internet of Things (IoT):

- Definition: A network of physical objects with embedded technology (sensors, wi-fi, software) to communicate internally and with other objects
- **Example: Refrigerator lets smartphone know you are out of milk**
 - See Cisco link for great simulation of IoT: [\(Cisco\)](#)
- For the consumer, “the smart home”: refrigerators, lighting, heating, A.C., etc.
- By 2018, over 50% of homes will have 200 devices connected to the internet of things (Gartner)
- In addition to smart homes, health applications such as medical diagnostics and dispensing medication
- Vehicles will be connected to the internet of things (accident prevention, self-driving cars)

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11. The Internet of Things (IoT):

- 26 Billion Internet of Things devices by 2020 (Gartner)
- Google and General Electric are among the big investors in IoT
- **Google acquired Nest Labs (2014): Smart thermostats with artificial intelligence**
- **The McKinsey global institute predicts IoT will revolutionize retail:**
 - Smart POS eliminates checkout
 - Smart shelves monitor inventory
 - Store traffic patterns analysis
 - Customized kiosk messaging
 - ... and more

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12. Bitcoins:

- Definition: An online currency that allows one-to-one transactions, buy goods and services, and exchange money across borders
- Bitcoins bypass banks and credit card issuers
- Popular with tech enthusiasts, speculators, libertarians, and criminals
- Lines of code with a digital signature each time it changes owners
- Bitcoins have been around since 2009 with a small group of tech enthusiasts
- Counterfeiting not an issue: “Miners” (tech-savvy users) keep a secure global tally of every transaction for occasional bitcoin gifts

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12. Bitcoins:

- **While counterfeiting may not be an issue, fraud is.**
- **Fraud can occur if exchanges are not secure.**
- Mt. Gox, the most established exchange, based in Tokyo, had security issues since 2011
 - Went bankrupt in Feb. 2014
 - Lost more than 740,000 Bitcoins over several years
 - Lost \$740 million worth of Bitcoins
 - In November 2013, a Bitcoin was worth \$1200
 - Bitcoins have now stabilized at around a \$500 value
 - This case could setback the technology five or more years

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12. Bitcoins:

- Bitpay (Atlanta) and Coinbase (San Francisco) are two popular exchanges in the U.S.
- First US ATM for Bitcoins opens (Seattle, April 2014)
- Overstock.com becomes the largest online retailer to accept Bitcoins (2014)
- Tiger Direct (computer products) also now accepts Bitcoins
- eBay and PayPal said to be considering acceptance of Bitcoins

Thirteen Transformational Digital Retail Technologies Explained (Part 2)

12. Bitcoins:

- Two additional issues that are slowing consumer acceptance:
 - Consumer Finance Protection Bureau (CFPB) issued list of risks (8/2014):
 - Scammers taking advantage of a growing market
 - Cost to use
 - Limited consumer protections
 - Hackers
 - IRS decision to treat bitcoins as property and not currency means additional and more complicated tax complications

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Have any of these six impacted your retail business?
Are you investing or plan to invest in any of these
Technologies?
Interested in sharing a case study?
We are here to assist and advise.

Contact [rlast @theretailthinktank.com](mailto:rlast@theretailthinktank.com) for comments,
Feedback or additional information about TRTT

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- Will these 12 emerging technologies transform retailing? You decide!
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