Evaluation of QR Code Effectiveness for GMO Labeling

HZ | Just Label It

2.26.16

Our POV

Using QR codes to disclose GMO ingredients on grocery products is not an effective or ideal option for food labeling.

HZ POV: Cons Outweigh Pros

Pros

- Direct access and ability to deliver detailed information
- Universal, free apps for all smartphones
- Real-time data tracking

Cons

- Requires shift in consumer behavior
- Lack of consumer awareness and familiarity
- Requires smartphone and app download
- Unrealistic on an online shopping platform
- Scanning each product is tedious and unreasonable
- Aisle congestion issues
- Code scannability limitations
- In-store accommodations

QR code technology is rife with challenges

Feasibility Challenges

Impact on Consumer

- Time required to scan each product
- Load time

Impact on Stores

- Internet connectivity
- Employee training for customer support
- Aisle congestion
- Store-provided scanners needed

Technical Challenges

Scannability Challenges

- Size of code, lighting, irregular packaging

QR Code Size Requirements

- QR codes must be large enough to be scannable, which creates a major issue for the packaging design, especially for smaller items
- A ratio of 10:1 is needed between scan distance and QR code size

See here for a test completed on QR size effectiveness: http://tapwalk.com/minimum-practical-size-of-a-qr-code/
Sources: *http://www.qrstuff.com/blog/2011/01/18/what-size-should-a-qr-code-be
Food Marketing Institute: FMI.org Supermarket Facts

QR Codes Must Be Large to Be Effective

In the table below, colors indicate the reliability of scanning: green indicating very reliable, red meaning failure. Testing recorded different sized QR codes, different phones, and varying lighting.

QR Code		Read Distance		
Size	Device	Low Density Max Range	High Density Max Range	Low Light:
2″	iPhone 4s	16″	16″	In low light, no problem
	iPhone 4	16″	16″	In low light, no problem
	Android LG Optimus V	30″	30″	Takes a while to focus in low light
	Android Galaxy	30″	30″	Takes a while to focus in low light

QR Code		Read Distance		
Size	Device	Low Density Max Range	High Density Max Range	Low Light:
1″	iPhone 4s	6″	6″	Takes a while to focus in low light
	iPhone 4	6″	6″	Takes a while to focus in low light
	Android LG Optimus V	12″	12″	Takes a while to focus in low light
	Android Galaxy	12″	12″	Takes a while to focus in low light

QR Code		Read Distance		
Size	Device	Low Density Max Range	High Density Max Range	Low Light:
.5″	iPhone 4s	4″	4″	Takes a while to focus in low light
	iPhone 4	4″	3″	Takes a while to focus in low light
	Android LG Optimus V	6″	6″	Will not read in low light
	Android Galaxy	6″	6″	Will not read in low light

Source: http://tapwalk.com/minimum-practical-size-of-a-qr-code/

Online Challenges

Online Purchasing

- If users are purchasing food online, packaging will not be looked at. We recommend having more information available there on the website on GMOs
- The purpose of the QR code is to bring offline users online; this would not be proper usage for a QR code
- In order to scan a QR code online, users would have to download a tool; however, the size of the QR code on the packaging would be minimal

QR codes’ usage in decline

Downward Trend for Consumer Usage

- 33% of U.S. adults do not have smartphones, thus don't have access to QR code readers
- 7% of adults used a QR code in the last 30 days,
- Relative to smartphone penetration, QR code usage has flattened (see chart on following page)
    - Embedded in iPhone passbook and Android, but owners unaware
- Popularity has declined to the point where research beyond 2013 is extremely limited

Sources: MRI 2015 Doublebase; Smartphone activity last 30 days: QR code Unitag.io, "The Power of QR Code Marketing" infographic excerpt (2014).

Flat QR Code Usage Relative to Smartphone Penetration

Striking Results

- **# of mobile subscribers scanning codes has virtually stalled despite increase in the # of smartphone owners**

- Findings imply an ever-shrinking proportion of mobile owners who have scanned a code

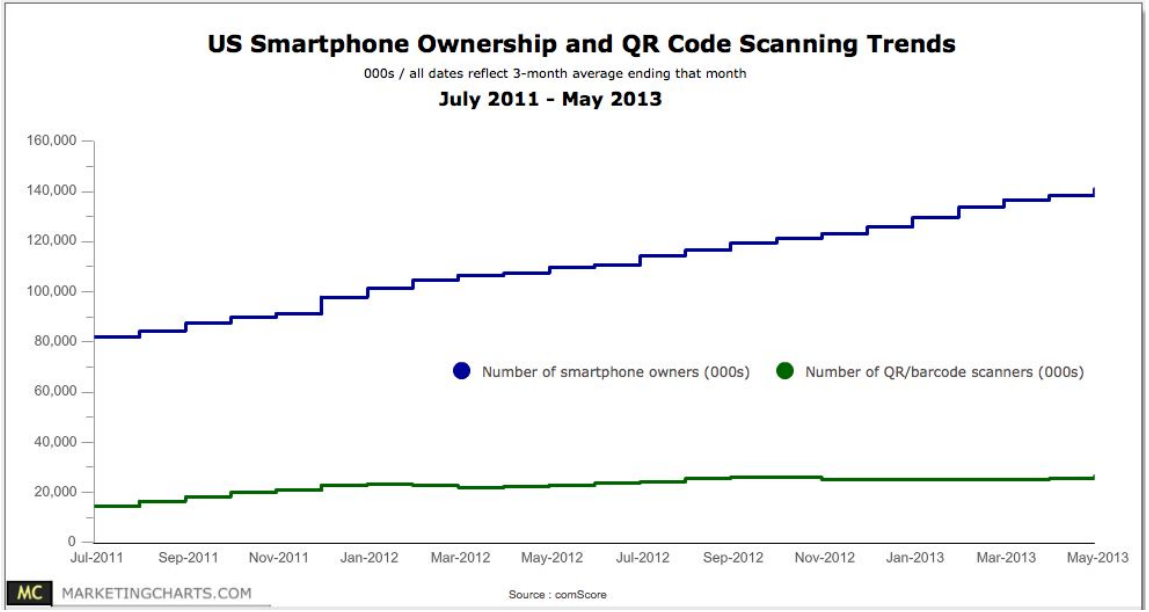
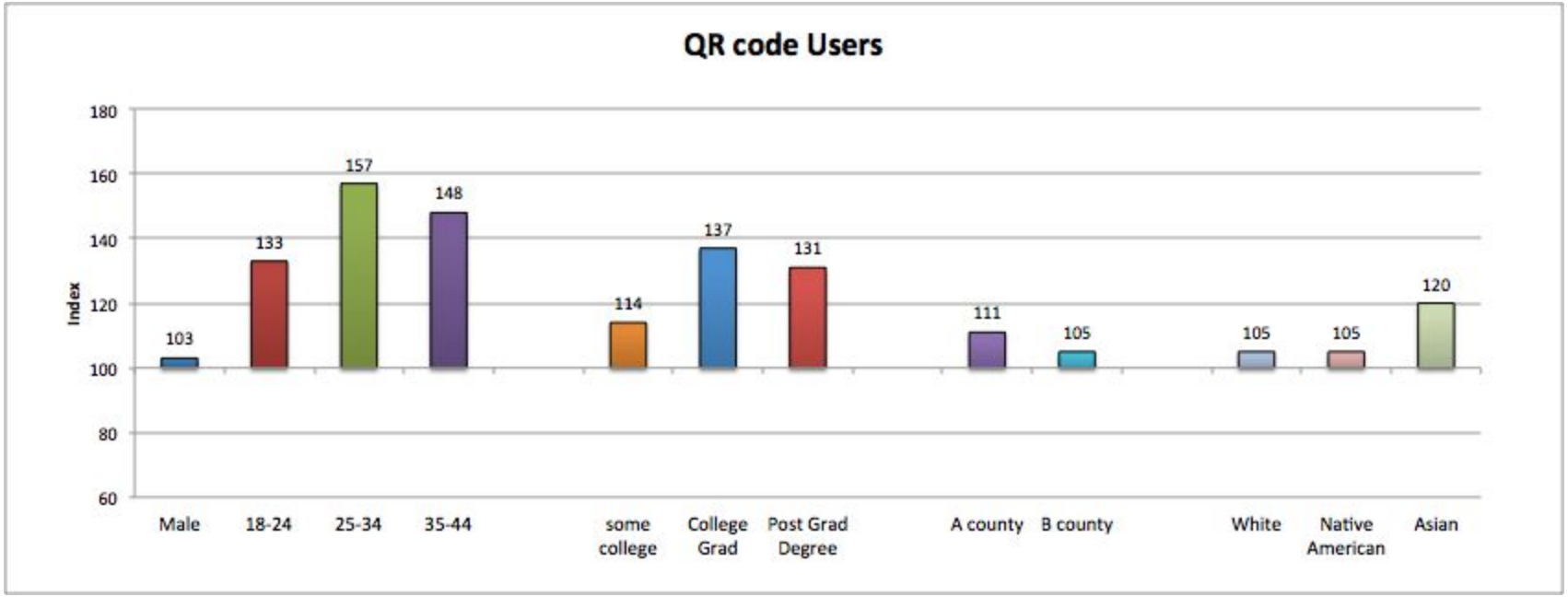


Chart Details: # of mobile subscribers who scanned a QR or barcode between the 3-month average ending in July 2011 and the 3-month average in May 2013. # of smartphone owners in the U.S. in that time period.

Sources: www.marketingcharts.com/online/data-dive-qr-codes-29525; comScore.

Identifying QR Code Users

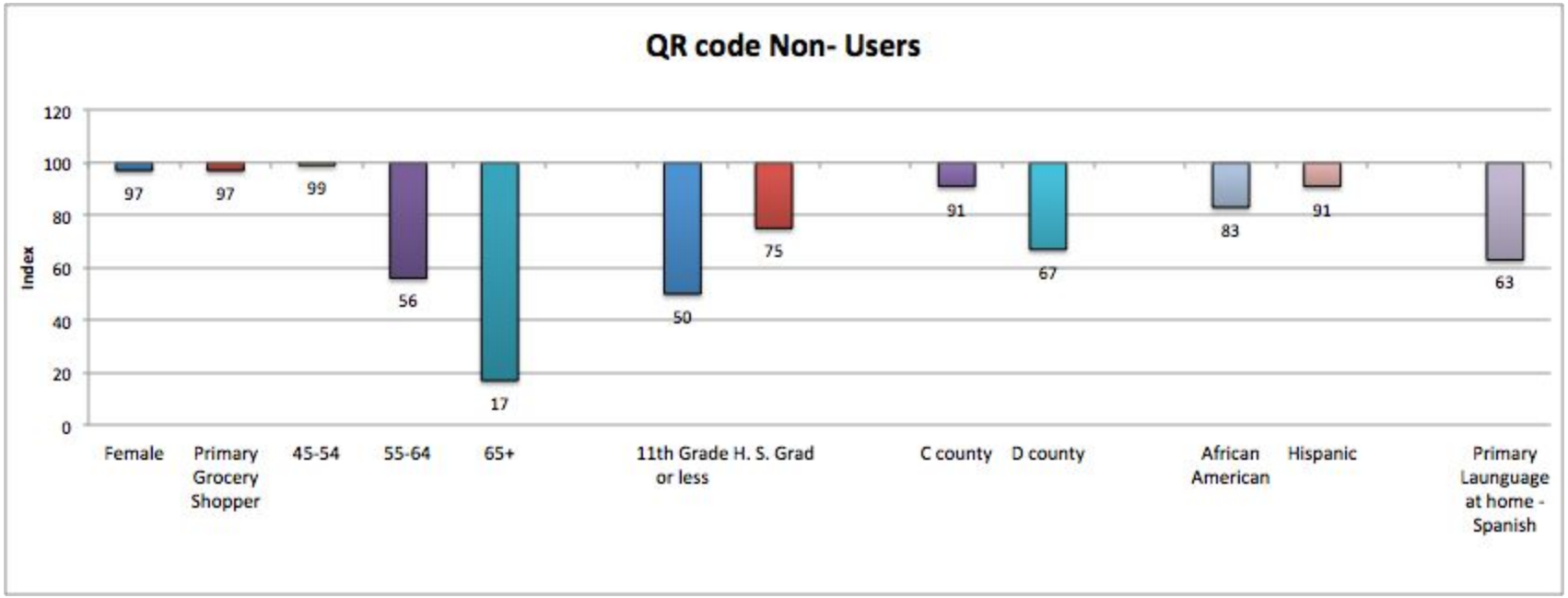
- Skews male, young, educated, urban/suburban, and White, Native American and Asian



Source: MRI 2015 Doublebase; Smartphone activity last 30 days: QR code

Identifying QR Code Non-Users

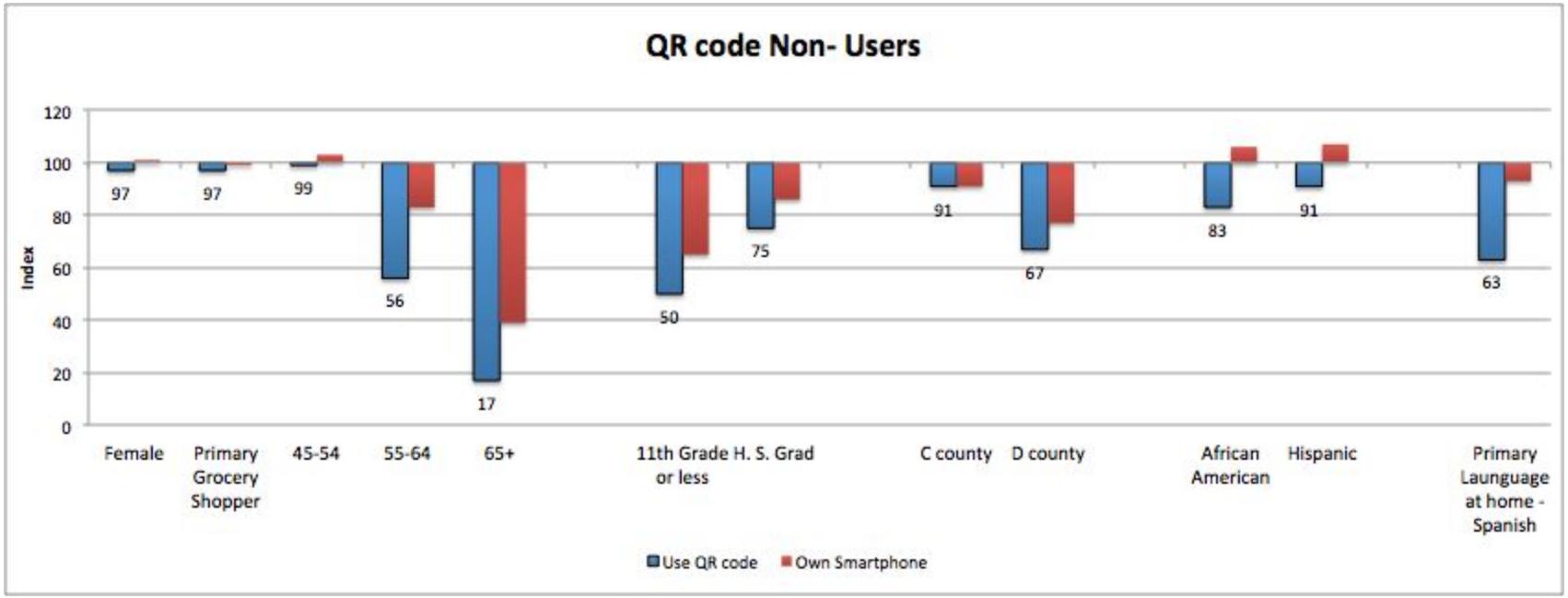
- Primary grocery shopper, ages 45+, lower-educated and rural dwellers
- African American and Hispanic are less likely users, with those with Spanish as the primary home language indexing particularly low



Source: MRI 2015 Doublebase; Smartphone activity last 30 days: QR code

Non-QR Code Users Lack Access

- Virtually all non-QR code users have a correspondingly low index for smartphone ownership
- Lack the ability to access to the QR code reader applications



Source: MRI 2015 Doublebase; Smartphone activity last 30 days: QR code

thank you

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