

Raising the Bar for Consumer Engagement: Qualitative Investigation of Attitudes for Quick Response Codes in Magazine Advertisements

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Quick response codes (hereafter, QR codes) have become an emergent technology-enabled marketing tactic to encourage consumer engagement in advertising messages. QR codes, a type of matrix barcode developed largely for the automotive industry, have been adapted for use in promotions. Because QR codes are easily readable by mobile phones, the accessibility to consumers has grown exponentially. This is particularly evident in print media. QR codes have essentially redefined circulation and readership performance metrics because of the ubiquitous connectivity that extends beyond the print media. The present research is an exploratory study of consumers' attitudes toward QR codes in magazine advertisements. The study begins to identify motivations for consumers to scan QR codes printed in magazine ads. The study finds that (1) information sourcing, (2) Web-navigation linkages (3) straightforward e-mail access and registration, and perhaps most insightful (4) impulse purchasing needs are key considerations in consumers' propensity to scan QR codes in magazine advertisements.

INTRODUCTION

The unprecedented impact of wireless communication hardware and software has had an impact on what Czikszenmihalyi (1998) called the “psychology of engagement in everyday life.” The pervasive use of technologies such as mobile phones, hand-held devices and tablets impact consumers' daily routines. These routines include but are not limited to the consumption of goods and services, as well as other interactions between buyers and sellers (i.e., using social media to *like* a marketing experience). The applications that run on electronic devices mark an important means of this process, facilitating common consumer activities from fitness tracking to playing games. On the marketing realm, QR code reader applications became the norm for reaching out to businesses. Recently, by printing QR codes on magazine ads, advertising professionals are making use of this trend. Reader responsiveness to these ads is inextricably linked to levels of cognitive engagement in the message (Dou and Li, 2008).

A QR code is an acronym denoting “Quick Response,” and it is engineered as a two-dimensional printed barcode that can be scanned by a mobile device. The relative difference between any other printed interaction (i.e., “scratch and sniff” in perfume advertisements) is the inherent coding to facilitate consumers' connectivity to an external resource (i.e., the advertiser) vis-à-vis Uniform Resource Locator (URL), Short Message Service (SMS), or contact information implanted into the two-dimensional

platform. In short, the QR code is essentially a virtual pathway between buyer and seller, using the 2D image and the consumer's own imaging device (*eMarketer*, 2012).

When consumers scan QR codes on magazine ads, they are banded together with the advertiser, thus enabling the consumer to seek out information regarding market offerings and promotional pricing. The real-time consumer-initiated involvement with the advertiser offers an opportunity for marketers to track consumer interests and consequent buying decisions.

The growth in QR coding applications parallels the unprecedented penetration of mobile and other hand-held Internet connectivity devices. In the U.S. market, as of first quarter of 2014, a majority of mobile subscribers own smartphones. The current smartphone penetration rate of over 70 percent continues to grow every day, with 85% of recent acquirers buying smartphones when picking new handsets (Nielsen, 2014). Mobile devices are increasingly used as a retailing tool with 8 out of 10 smartphone users reporting that they have been assisted by their mobile phones while shopping (*eMarketer*, 2014; Aisle411, 2014). Hence, the usage of QR codes in advertising is apace with these trends. Specifically, nearly two out of five Americans between 18 to 24 years old and 36% of Americans between 25 to 34 years old reports having scanned one or more QR codes from a magazine (*eMarketer*, 2013). Also, a recent inclination is that people who are QR code scanners are older. Fifty-seven percent of people who are QR code scanners in the first quarter of 2013 were aged 35 and older, up from 41% a year earlier. The 45-54 and 55+ groups represent rapidly growing proportions of people who are QR code scanners (*Marketing Charts*, 2013).

Overall, the number of QR code users is on the rise because the society is more welcoming of technology than ever before. Innovations such as QR codes in magazine ads has a place in the mainstream consumer culture with the potential to become an indispensable part of consumers' day-to-day browsing habits.

Literature Review

There is a dearth of marketing and allied social science research attention afforded to this prevalent technology. The scant literature to date focuses largely on the technological aspects of the QR coding, and its ensuing uses in product tracking, merchandise identification and supply chain management. Accordingly, there is a paucity of research investigating the users' attitudes and attributions; and purchase intentions, resulting from engagement in QR coded advertisements. One of the singular studies addressing behavioral aspects of QR coding investigated the effectiveness of QR code campaigns in Japan (Okazaki, Navarro and Campo, 2013). The major research gap in this study was the broad context: the exploratory study did not address any particular medium, disregarding the relevant differences between the imaging devices used and the attitudes toward the promotion.

Watson, McCarthy and Rowley's (2013) study looked at consumer attitudes toward mobile marketing with particular foci devoted to QR codes among consumers residing in the United Kingdom. They found that QR codes have considerable potential to supersede text-based mobile marketing communications. They also found that QR codes assist organizations to overcome consumers' negative attitudes towards mobile marketing communications. According to Watson, McCarthy and Rowley (2013), consumers feel more in control when using QR codes and thereby respond more positively to them than SMS marketing methods. Especially germane to the present research, the authors found that two most scanned media are magazines and outdoor media.

A study that looked at QR codes particularly in print advertising was conducted by Rajendra and Hemant (2013). They found that consumer goods marketers are the principal group that are deploying QR codes, and that the majority of QR codes are used for informative purposes rather than incentives. They also found that both the offline and online applications of QR codes in print advertising are feeble. However, this study was conducted in India. Due to different technology diffusion rates in India compared to other countries in the world, the results may not readily be extended to higher income markets like United States.

Sago's (2011) exploratory assessment of college students' actual behaviors (e.g., engagement with QR-coded advertisements) and ostensible outcomes (e.g., effectiveness of the advertisements) illuminated

the importance of QR-coded advertisements and the need for further research. At the same time, it appeared to foster a prevailing assumption among social science researchers: the notion that young, college-aged consumers constituted an appropriate sampling design. The respondent profile in this noteworthy article is inconsistent with actual usage rates for QR-coded advertisements. The focal market is much older, has greater spending power and possesses a multifaceted choice set in comparison to their younger counterparts. The stereotypical young, techno-savvy consumer often characterized as Generations Y and Z are not consistent with the actual users, buyers and payers of goods and services with QR-coded advertisements. These consumers tend to be part of the Generation X and Baby Boomer generations. Their attitudes toward advertisements involve greater cognitive engagement, and they have had greater experience searching, selecting and buying branded market offerings than younger consumers. In the domain of the QR-coded advertisement, the actual adoption of technology is largely among more mature, experienced consumers (Nielsen, 2013). Yet, the technology adoption models have not been widely applied to the primary target market. Accordingly, market data suggests greater research attention should be given to the more mature consumer market segments to consumers' adoption of QR-coded advertisements.

As evidenced in the preceding literature, motivation theory has been the fundamental framework used in attempting to assess consumers' attitudes toward QR-coded advertisements. Consistent with this practice, Japanese consumers' use of and attitudes toward QR-coded advertisements were studied by Okozaki, Li and Hirose (2012), and they cited the smaller market size and suggested that North American consumers warranted greater research attention on this topic because of the competitive density and QR-coded advertising penetration rates.

While most of the research to date is grounded in motivational theory, there is a notable exception. Recently, Petty and Cacioppo's (1986) dual processing theory known as the elaboration likelihood model (ELM) was used to describe how attitudes toward QR-coded advertisement attitudes are formed and changed. Narang, Jain and Roy (2012) introduced ELM to this stream of research; however, they also limited their sample toward Generation Y and Generation Z consumers; their respondents were between the ages of 18 and 26 years-old who resided in India.

An intensive review of the marketing literature recognizes the inadequate research investigations of American consumers' attitudes toward QR-coded advertisements, and their actual engagement with the virtual pathways facilitated through this 2D matrix. The present research fills this gap, utilizing a qualitative research methodology to critically explore American consumers' attitudes toward and engagement with QR-coded magazine advertisements. The qualitative approach attempts to foster a richer understanding of this technological phenomenon in American consumers' everyday life. Given the extraordinary adoption of diffusion rates of linkages between two-dimensional printed labels and the virtual connectivity to resources via the Internet, we specifically frame the research in a single medium to isolate the focal domain.

There exists extensive support for the penetration and usage rates among American consumer. They indicate a greater familiarity with the scanning process of QR codes in printed media and on the Web (*eMarketer*, 2013). The focal medium, magazines, was selected based on two rationale. First, we wanted to select a print medium in which there existed a high likelihood of readership. Readership rates for magazines are far more stable than newspapers and other print media. Also, magazines boast a higher rate of QR-coded advertisements than many other media. The research also addresses the problematic and limited sampling domain on young consumers. Accordant with actual market data, we conducted focus groups with a more representative set of participant. The resulting respondents were pooled based on a qualifying question indicating their understanding of and engagement with QR-coded magazine advertisements. This demographic distinction is a marked departure to more adequately address the users and buyers of QR-coded advertised market offerings.

The structured focus group setting used discussion platforms that were pre-tested by expert panelists to ensure that it evoked responses toward the research objective of assessing the participants' attitudes toward QR-coded advertisements in magazines. The focus group participants can be described as "mainstream consumers" with both awareness of and experience with the QR-coding. Based on market

data, an attempt was made to recruit participants who had a willingness to share their attitudes and actual usage of QR-coded advertisements, specifically those in magazines. The participants in the study represent a techno-savvy, mature consumer market segment that is aligned with our research objective.

METHODOLOGY

We chose qualitative research for our methodology because it has several advantages over quantitative research for our research question. According to Kelinger and Lee (2000), qualitative research may facilitate participants' likelihood toward behaving naturally and hence makes real-world observations of group interactions possible. This is particularly suitable for delving into the investigation of the diffusion of innovations such as QR codes on magazine ads. The reasoning lies within the fact that the diffusion of innovations is an essentially group phenomenon.

We began our sessions with three introductory questions (I1, I2, I2p1) and collected verbal data on a list of open-ended, primary questions in three focus group sessions. We kept the order of questions identical in order to preserve consistency. Moderators audio taped their sessions. They later transcribed it and added a digest of their observations of social interaction. This helped fulfill Creswell's (2009) suggestion that a qualitative procedure, in essence, reports the results with descriptions and themes for the data.

Our questions were aimed at probing into three components of consumer attitudes: cognitive, social and behavioral in addition to consumer notion of stereotypical QR code applications' users (G1). We finished our questionnaire by asking for consumer product improvement recommendations (SF11, SF12). The extensity of behavioral component of attitudes were defined as: future usage intentions (BA6) and frequency of usage (BA2), impact of ability to scan on product purchase (BA1, BA4), and general usage (BA3, BA5). The dimensions of cognitive attitudes consisted of: ease of use (CA1), security, (CA3, CA3p) usefulness (CA2, CA4, CA5, CA6), and general cognitive attitudes (CAG1).

The questions used in Sessions A, B and C as well as the number of respondents and age is given in Tables A, B and C respectively. The moderators were admonished to ask probing questions whenever they identify a consensus or disagreement on any given question to dig deeper into reasoning. There were no probing questions on Session A. On Sessions B and C, (I2p2, STI2p1, STI2p2) and (SF12p) were added as probing questions respectively. On Session C (SIT1) was modified to (SIT1M) in order to enhance respondents' comprehension and questions (I2p1, CAG1) were omitted (Table 3).

ANALYSIS AND RESULTS

There were 19 study respondents from the target demographic in our sample with the demographic details provided on Table 4. All respondents own a device that can scan QR codes. More than half of the participants scanned a QR code on a magazine ad before the sessions, and remaining learned more about them during the sessions. Trained moderators selected from college business majors taking their independent research class conducted the sessions in a mid-size city in Midwest between the months of June through October in 2013. The respondent participation was voluntary.

There was a near consensus that it is simple to use QR codes on magazine ads (91% agreement – CA1). In Session A, Kevin argued that if the product in the ad interested him, then the QR code on the ad is more attractive. Gene concurred with this statement in Session B. Travis in session B added that once a new magazine comes out, he is more likely to scan the codes in it. Respondents agreed that ease of information access about the products and ease of registering with the business attracts them to QR codes on magazine ads. They also mentioned that promotions such as coupons, fun things like games and winning something, and interactivity with the business for discounts are very attractive (CAG1).

Most respondents indicated that they are more likely to purchase a product if they are able to scan an ad in a magazine about it. This was more evident in Sessions B and C where almost all respondents agreed with this statement. Only 17% of the respondents indicated that scanning a QR code on a

magazine ad would not have an impact on their purchase intentions (BA4). Overall, most respondents stated that they would purchase a product through scanning the QR code in a magazine ad (BA1).

Consumers revealed that they are more likely to scan the QR codes in magazine ads at restaurants, doctor's office, and when they receive their new magazine with a chance to win free items (SIT1). Consumers on all sessions agreed that they are not always on the lookout for a QR code in a magazine ad to scan (BA3), even though some have noticed them. Consumers characterized promotions such as coupons, discounts, free items and deals as the most useful elements of QR codes on magazine ads (58% of the respondents). Second most useful aspect that was mentioned (42% of the respondents) was the ease, speed, and convenience of information (CA4). In session C, Samantha stated that "it's more efficient (information) that way because it's fresh in your mind and you are obviously looking at it right then". This statement received approval from all respondents in Session C. Respondents in general agreed that QR codes on magazine ads are useful to people who are interested in the products and who want to know more about their utility (CA2). However both in Sessions A and B, respondents noted that, for non-magazine readers, QR codes in magazine ads are not useful in this regard (CA2).

Almost all consumers indicated that security of their personal information is a concern to them (CA3p). Getting spam e-mails, security of mobile internet connection with credit card data and selling of personal information were major considerations (CA3). However, in session B, there were some respondents who were not worried about security because they had ordered many things online and they haven't had any problems. Also, on Session C, a few respondents stated that they are not concerned about security, provided that the QR code in question belongs to a product of a well-known business.

The respondents indicated that there are some problems with the information provided by some codes. Problems about information include; not enough information, not the right information, or boring information; such as merely a link to a corporate website. Kevin in session A added that accessibility to the magazine itself may be a problem for some consumers who seek specific information about a particular product (CA5).

Consumers highlighted several points about QR codes on magazine ads that can positively affect consumer behavior. In Session B, Katie suggested that it will increase the amount that consumers interact with companies and their favorite products by encouraging communication. In Session C, Samantha added that it is a cost efficient way for companies to increase consumer interaction since businesses already pay for the ad itself. Respondents believed that it will make it easier for consumers to buy products and increase the sales for businesses. On the negative side, several respondents argued that consumers need to know more about the QR codes on magazine ads. They pointed at the need for marketing efforts aimed at educating consumers on their utility. They argued that this would help consumers to consistently use them (BA5).

Respondents had several suggestions for improvement. First they indicated that in order to make QR codes on magazine ads more accepted and used by consumers, there is a need for providing consumers with attractive promotions such as coupons for free items and interesting games. This issue was brought up on all sessions and agreed upon by all respondents in Sessions A and B. Secondly, respondents stated that there is a need for better promotion of the QR codes in the magazine ads itself. Some consumers do not fully know how to use them and their utility (SFI1).

In terms of situational influences, Kevin in Session A indicated the efficiency of QR codes in magazine ads make them helpful when a consumer has the urge to make an impulse purchase on an item that they liked in an ad, such as a pair of jeans. However, according to Kevin, this requires that the code takes customers to a website that allows them to make the purchase. The motivation to save money is another situational factor mentioned by several respondents, provided that promotions are available in the code. Finally, the need for quick information is another situational factor that is facilitated by QR codes on magazine ads, especially when a nearby computer is not available (SIT2).

On all sessions, mothers or parents who are looking for coupons or discounts were mentioned as the typical user of QR codes in magazine ads. On Session B, people between the age ranges of 20 to 55 and especially people who read magazines a lot, such as college students, were mentioned as the typical

consumers. On Session C, the typical user was thought to be consumers who are specifically seeking a product with a need to sign up for it (G1).

Overall, the attributes that are most important to consumers about QR codes on magazine ads were: the code getting them some kind of promotion (such as coupons, discounts, free shipping, games, contests, or any other thing that is entertaining about the company); the code taking them to a useful link and providing them relevant information; the code bringing them quick access to e-mail lists to sign-up, in case they need to remain in touch with the company for a special product; the code providing them the ability to see customer reviews about the product; and the code allowing them to make an impulse purchase with a secure connection (CA6). Consumers almost as a whole agreed that they would use QR code readers in the future (BA6).

DISCUSSION

Our qualitative investigation of consumer attitudes for QR codes focused on print advertising medium and specifically American consumers. Our objective was to fill the gap in the literature on this important issue. Qualitative research helps uncover primary drivers of consumer behavior with reference to specific issues. This information can later be used in order to construct hypothesis for future empirical studies (Burns and Bush, 2010). Thus, our analysis revealed that ease of information access and entertaining promotions were very attractive about QR codes in magazine ads. Consumers also agreed that their propensity to make an actual purchase increases if they are able to scan a QR code on a magazine ad that they are interested in.

Our respondents indicated that QR codes help increase consumers' engagement with the business and its product offering through the magazine ads. Sourcing information by quick web-navigation linkages, and practical e-mail access and registration helps interested consumers to stay in touch with the company, especially in regards to a special product. The motivation to save money, effort and time seemed to surface on QR code usage by the efficiency and practicality offered by its functionality. QR codes on magazine ads are also liked due to its potential to aid impulse purchases. Finally, consumers pointed at a concern for information security and information relevance as recommendation for improvement.

The results of this analysis indicates that future research on this topic hone on consumer deal proneness, innovativeness, ad medium effectiveness, need for information security and its effect on consumer behavioral intentions to scan QR codes in magazine ads. It would also be advised to examine how impulse purchases and ad involvement would relate to presence of QR codes on magazine ads.

TABLE 1
SESSION A QUESTIONS LIST

Questionnaire Items	Number of Respondents	Average Age
I1: Do you have a phone able to scan QR codes in magazine ads? I2: Have you ever scanned QR codes in a magazine ad? I2p1: What was the name of the product and name of the application that you used to scan the QR code in magazine ad? CA1: How difficult was it to scan the QR code in a magazine ad? G1: Who do you think is the typical user of QR codes in magazine ads? CA2: How useful are QR codes in magazine ads? BA1: Would you purchase a product through scanning the QR code in magazine ads? CA3: Are you comfortable providing personal information to link if the QR code in magazine ads directs you at? CA3p: Would security be a concern for you? BA2: How often are you likely to scan QR codes in magazine ads? CAG1: What attracts you to QR codes in magazine ads? SIT1: Where are you most likely to scan QR codes in magazine ads? BA3: Do you actively look for QR codes on magazine advertisements? BA4: Are you more likely to purchase a product if you first scan an ad about it with a QR code on a magazine? CA4: What is most useful to you about QR codes in magazine ads? CA5: What is a major concern to you about QR codes in magazine ads? BA5: How do you think QR codes in magazine ads will affect consumer behavior? SFI1: Do you have any suggestions for improvement for QR codes in magazine ads? SIT2: In which situations is a QR code in a magazine ad useful? CA6: What attributes of QR codes in magazine ads are most important to you? BA6: Would you use QR codes in magazine ads in the future? SFI2: What features would you like to see in a QR Code in a magazine ad?	6	26.3

TABLE 2
SESSION B QUESTIONS LIST

Questionnaire Items	Number of Respondents	Average Age
<p>I1: Do you have a phone able to scan QR codes in magazine ads? I2: Have you ever scanned QR codes in a magazine ad? I2p1: What was the name of the product and name of the application that you used to scan the QR code in magazine ad? I2p2: How would you estimate the usefulness of QR codes? CA1: How difficult was it to scan the QR code in a magazine ad? G1: Who do you think is the typical user of QR codes in magazine ads? CA2: How useful are QR codes in magazine ads? BA1: Would you purchase a product through scanning the QR code in magazine ads? CA3: Are you comfortable providing personal information to link if the QR code in magazine ads directs you at? CA3p: Would security be a concern for you? BA2: How often are you likely to scan QR codes in magazine ads? CAG1: What attracts you to QR codes in magazine ads? SIT1: Where are you most likely to scan QR codes in magazine ads? BA3: Do you actively look for QR codes on magazine advertisements? BA4: Are you more likely to purchase a product if you first scan an ad about it with a QR code on a magazine? CA4: What is most useful to you about QR codes in magazine ads? CA5: What is a major concern to you about QR codes in magazine ads? BA5: How do you think QR codes in magazine ads will affect consumer behavior? SFI1: Do you have any suggestions for improvement for QR codes in magazine ads? SIT2: In which situations is a QR code in a magazine ad useful? SIT2p1: If you were to come up with your own QR code scanner, what would it be like? SIT2p2: If you were to create your own QR code, what would it be for? CA6: What attributes of QR codes in magazine ads are most important to you? BA6: Would you use QR codes in magazine ads in the future? SFI2: What features would you like to see in a QR Code in a magazine ad?</p>	9	37.1

TABLE 3
SESSION C QUESTIONS LIST

Questionnaire Items	Number of Respondents	Average Age
<p>I1: Do you have a phone able to scan QR codes in magazine ads? I2: Have you ever scanned QR codes in a magazine ad? CA1: How difficult was it to scan the QR code in a magazine ad? G1: Who do you think is the typical user of QR codes in magazine ads? CA2: How useful are QR codes in magazine ads? BA1: Would you purchase a product through scanning the QR code in magazine ads? CA3: Are you comfortable providing personal information to link if the QR code in magazine ads directs you at? CA3p: Would security be a concern for you? BA2: How often are you likely to scan QR codes in magazine ads? SIT1M: Would you scan them at a place like Walmart or would you look for somewhere to scan them, like a store to see if they have any? BA3: Do you actively look for QR codes on magazine advertisements? BA4: Are you more likely to purchase a product if you first scan an ad about it with a QR code on a magazine? CA4: What is most useful to you about QR codes in magazine ads? CA5: What is a major concern to you about QR codes in magazine ads? BA5: How do you think QR codes in magazine ads will affect consumer behavior? SFI1: Do you have any suggestions for improvement for QR codes in magazine ads? SIT2: In which situations is a QR code in a magazine ad useful? CA6: What attributes of QR codes in magazine ads are most important to you? BA6: Would you use QR codes in magazine ads in the future? SFI2: What features would you like to see in a QR Code in a magazine ad? SFI2p: Would QR codes be more effective if they had coupons or discounts on products out of a magazine or do you find them more useful if they take you directly to a website?</p>	4	21

**TABLE 4
PARTICIPANT PROFILES**

Session	Moderator	Respondent Name	Occupation	Income Range	Education Level	Age	Marital Status
A	L. Cass	Chandra	Unemployed	\$61,000-80,000	High School	31	Married
		Lane	Full-time	\$61,000-80,000	Master's Degree	30	Married
		Kevin	Full-time	Above \$100,000	Doctoral degree	29	Married
		MacKenzie	Part-time	Below \$20,000	High School	19	Never Married
		Levi	Part-time	Below \$20,000	High School	21	Never Married
		Jessica	Full-time	Above \$100,000	Master's Degree	28	Married
Session	Moderator	Respondent Name	Occupation	Income Range	Education Level	Age	Marital Status
B	J. Ferge	Jim	Full-time	\$41,000-60,000	High School	60	Married
		Gene	Full-time	\$81,000-100,000	High School	38	Married
		Mary	Full-time	\$21,000-40,000	High School	52	Married
		Katie	Part-time	Above \$100,000	Bachelor's Degree	21	Never Married
		Tom	Part-time	\$21,000-40,000	High School	53	Married
		Missy	Full-time	\$61,000-80,000	High School	39	Married
		Leonard	Full-time	\$21,000-40,000	Bachelor's Degree	22	Married
		Nick	Part-time	Below \$20,000	Associate Degree	21	Never Married
		Travis	Full-time	\$61,000-80,000	Bachelor's Degree	28	Never Married
Session	Moderator	Respondent Name	Occupation	Income Range	Education Level	Age	Marital Status
C	J. Swofford	Kyle	Full-time	\$21,000-40,000	High School	23	Never Married
		Aubrey	Part-time	Below \$20,000	High School	21	Never Married
		Hailey	Unemployed	\$21,000-40,000	High School	18	Never Married
		Samantha	Full-time	Below \$20,000	High School	21	Never Married

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