Consumer attitudes towards mobile marketing in the smart phone era

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Jeff McCarthy is Senior Lecturer and PhD researcher in digital marketing. His research interests include social network sites, and mobile, digital and relationship marketing. As a practitioner Jeff has over 15 years experience in e-commerce, m-commerce, and interactive

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Abstract

This exploratory study adds to the very limited prior research on consumer attitudes toward mobile marketing in the context of smartphone technologies and applications, and specifically their response to the use of QR codes. An online questionnaire-based survey was conducted to gather data from a convenience sample of mobile phone users in the UK. The study suggests that as consumers move from earlier generation mobile technologies to smartphones the frequency with which they use their phones for all functions increases significantly. Nevertheless, they remain resistant to mobile marketing communications and generally regard text messages as intrusive. Acceptance can be enhanced by permission marketing, trust-building, a sense of being in control, and useful and entertaining website content. Users who had scanned a QR code had accessed a variety of different content on different types of items and in different locations. Ease of use, utility and incentives are drivers to continued use whilst lack of knowledge about on how-to scan or the benefits of QR codes may hinder adoption.

Keywords: Mobile marketing, QR codes, Relationship marketing, Permission-based marketing

1. Introduction

Mobile media is a compelling channel for digital marketers and advertisers due to its potential to support one-to-one, one-to-many and mass communication both cheaply and effectively. In addition, the reach of mobile marketing is large and growing. Access to mobile networks is available to 90% of the world's population (ITU, 2010) and web-enabled mobile handsets now make up 20% of the 3bn mobile devices worldwide, with market share heading towards 50% over the next three to five years (comScore, 2010). Global Industry Analysts Inc. has predicted that the worldwide mobile advertising market will reach $18.5 billion by 2015 while the total global mobile applications market will be worth $25 billion (Marketsandmarkets.com, 2010). Varnali & Toker (2010) suggest that '*the mobile channel has morphed into an ultimate marketing vehicle*' (p.144), but they also acknowledge that research in mobile marketing is still in its early stages.

Mobile marketing can be used to build customer engagement with a brand, through text messages, mobile advertising, permission based marketing, the delivery of mobile content, user-generated content, and mobile commerce. However, mobile technology presents companies with challenges as well as opportunities. In particular, studies have shown that consumers tend to find mobile marketing communications 'invasive' which calls into question their effectiveness as a marketing channel (Grant & O'Donohoe, 2007). Whilst statistics show that UK consumers are increasingly using their phones for email and internet access, brands have more difficulty engaging with customers via the mobile channel (Econsultancy, 2011). The increasing adoption of Smartphone technology opens up even more possibilities for mobile marketing, so it is becoming yet more important to understand the factors that influence consumers' responses to mobile marketing, so as to develop mobile communication strategies that are acceptable to and even welcomed by consumers. As Persaud and Azhar point out '*the increased capabilities of smartphone have presented marketers with a substantially expanded set of possibilities to research and service consumers'* (p.1). QR codes are a relatively recent addition to the portfolio of mobile marketing approaches; they are differentiated from other mobile marketing approaches in that they are a 'pull', rather than 'push' technology, and therefore have the potential to avoid the issue of intrusion. Consumers are in control; they decide whether they wish to scan a QR code to, for example, link to a mobile website, reveal text or connect to a customer services centre. On the other hand, QR code market penetration in the UK and elsewhere is still relatively low with, for example, only 10% of smartphone users in the UK engaging with them, in contrast to the 78.5% accessing the mobile internet (comScore, 2011). Accordingly, understanding consumers' use of and attitudes towards QR codes may contribute to a paradigm shift in mobile marketing.

As it is evident that marketers are still struggling to harness the mobile channel and QR codes for optimum engagement, the purpose of this research is to determine the factors that drive success when marketing to consumers using mobile technologies. This study will investigate why consumers accept or reject mobile marketing approaches with a particular focus on QR codes. The research will aim to meet the following objectives:

1. To gain an insight into how smartphone technology has increased consumer engagement with the mobile channel

2. To gauge consumer attitudes and preferences towards SMS (text messaging), mobile web content and QR code marketing and determine the drivers and barriers to consumers accepting mobile marketing communications
3. To determine the critical success factors for marketers adopting mobile and QR code approaches

The next section briefly summarises previous research into mobile marketing, including the limited research on QR codes. Next, the methodology for the research is outlined. This is based on a questionnaire-based survey using a convenience sample. The following section reports and offers a critical discussion of the findings. Finally, the conclusions section summarises the contribution of the study, and offers recommendations for practitioners and for further research.

2.Literature Review

There is limited research specifically on mobile marketing in the smartphone era, or on QR codes and their use. However, a body of more general research on mobile marketing and consumers' responses has developed over the last decade, and this offers a number of useful insights. A significant proportion of this research centres on the use of SMS or text messaging for marketing communication. There are also a few studies on permission based marketing, mobile content marketing, and QR codes.

2.1SMS Marketing and intrusiveness

SMS technology allows marketers to send messages to consumers through their mobile handsets (Zhang & Mao, 2008) regarded as a type of "one-to-one" marketing (Xu, 2006). SMS technology enables brands to promote goods, services, and ideas through personalised messages that are sent directly to individual consumers (Sultan & Rohm, 2005). SMS has been used, for example, for voting on radio shows or reality TV, tracking deliveries (Leung, 2007), and distributing mobile discount coupons (Grant & O'Donohoe, 2007). SMS advertising may also be used to reinforce other traditional media such as broadcast and print media (Zhang & Mao, 2008). However, the SMS approach has serious limitations as often consumers view text messages from businesses as: irritating (Muk, 2007; Samanta, Woods, & Ghanbari, 2009); an invasion of privacy (Windham & Orton, 2000); and, brand intrusion (Monk et al, 2004). On the other hand, marketers view SMS messaging as attractive because there is evidence that mobile advertising campaigns generate higher response rates than direct

mail and internet banner ads (Jelassi & Enders, 2004; Zhang & Mao, 2008). SMS messaging is also particularly useful for reaching younger consumers, who may be more difficult to reach using other channels (Barnes, 2002). In addition, research suggests that recall of SMS messages may be higher than through other channels (Fortin, 2000).

Despite the interest in mobile marketing, only a few studies have investigated the factors and possible incentives that drive consumer acceptance of mobile marketing (Hanley et al., 2006). These studies suggest that utility, relevance/personalisation, context and incentives are pivotal (e.g.Khan, 2008; Merisavo et al. 2006; 2007). Accordingly, mobile communications should provide consumers with either relevant information or a way to save time or money based on the consumer's situation, location, or personal profile. Bauer at al. (2005) underlined the importance of tailoring mobile marketing messages according to consumer entertainment and information preferences. Gao et al. (2010) in a study examining young consumers' acceptance of mobile marketing in China, concluded that meaningful incentives and compelling content could overcome barriers such as level of personal attachment and risk perceptions. Several studies have commented on the value of incentives (Barwise and Strong, 2002; Drossos, 2007; Standing, Benson, & Karjaluoto, 2005). Very recently, Persuad & Azhar (2012) conducted a study mobile marketing through smartphones, and identified the importance of perceived value, shopping style, brand trust, age and education on intention to participate in mobile marketing.

2.2Permission-based marketing

Whilst research on SMS messaging tends to privilege transactional benefits such as incentives, relevance and utility, due to the essential nature of permission marketing, the research on this topic focuses more on interaction and relationships, with factors such as trust and control taking centre stage. Permission marketing via electronic channels gives the consumer some control over the messages that are sent to them; they have the opportunity to opt-in or opt-out (Godin, 1999). Consumers have the option of expressing their preferences, in respect of, for instance, personalisation, timing, location and information content of messages (Stewart & Pavlou, 2002; Watson et al., 2002).

For permission marketing to be successful marketers need to understand what makes consumers willing to grant permission. As with willingness to participate in many interactions and relationships, trust is an important determinant of consumer willingness to

grant permission (e.g. Grant & O'Donohoe, 2007). Both personal and institutional trust have been shown to influence consumers' decisions over whether or not to grant permission for their mobile data to be used for marketing purposes (Jayawardhena et al., 2009). Personal trust emerges either via personal experience or via information received from personally known sources, such as friends, family and colleagues (Bauer et al., 2005; Kautonen & Kohtamaki, 2006). Jayawardhena et al. (2009) discovered that institutional trust, or lack of, is the main factor affecting consumers' decisions to give personal information to companies. The study showed that trust and customer loyalty can be increased by offering control options for the customer. Customer control over the number and type of mobile messages was also emphasized by Blomqvist et al. (2005).

2.3Mobile content marketing

Just as the quality of information on a company's website has a direct influence on customers' perceptions of a brand (Kaasinen 2003; Siau & Shen 2003), the information or content delivered via mobile devices also needs to show qualitative features like relevance, timeliness and usefulness for the consumer (Siau & Shen 2003). Content is a valuable incentive in mobile marketing (Varshney, 2003). Services and associated content delivered through the mobile phone include: ubiquitous communication (e.g. e-mail, SMS); content deliveries (e.g. health-related messages, pill reminders); entertainment services (e.g. music downloads, gaming, gambling, sports scores); location-based services (e.g. finding nearby facilities/services, transportation information, tour guides); film and concert ticketing; shop and restaurant discount coupons; shipment tracking; comparison shopping; and, banking and bill payment (Yuan & Zhang, 2003).

Prior to the advent of smartphone technology in 2007 mobile marketers were limited to SMS and MMS communications to engage consumers (Yaniv, 2008). Hence much of the research on mobile content marketing focuses on the content of SMS messages and web site design. For example, both Shavitt, Lowrey, & Haefner (1998) and Haghirian & Dickinger (2005) identified that providing games and prizes via text messaging (SMS) influenced participation and customer retention. Other researchers investigated the content of text messages. For example, Barwise & Strong (2002) found that effective SMS communications were short and to the point, funny and entertaining, relevant to the target group, eye catching and informative about prizes and promotions. The theme of relevance has also been identified by others (Heinonen & Strandvik, 2003). Relevance is concerned with the value that the consumer

receives from the marketing communication; this in turn may depend on location and timeliness of content (Mort & Drennan, 2005).

The other strand of content is that delivered through the mobile versions of websites. Zhou (2011) suggests that high quality mobile sites are important to users, and that system quality is the main factor affecting perceived ease of use which also has a significant effect on trust.

The release of the iPhone in 2007 sparked an unprecedented transformation in how consumers can interact with mobile technology (Sobhany, 2010). Developments in mobile applications (apps) have created a new realm of possibilities in mobile relationship marketing. Companies can use apps to create personalised content that promotes brand engagement and gives the mobile handset a 'sustainable utility' (Chiem et al., 2010). However, as Chiem et al. (2010) conclude, achieving sustained usage and acquiring and retaining consumers amid the abundance of apps available presents a major challenge to marketers.

2.4QR codes

To date there has been very little research on QR codes, and such research as has been conducted is in different sectors and countries. One of the main contributions is that of Okazaki (2011) who emphasized the importance of awareness and familiarity in determining user acceptance of QR codes. Both Okazaki (2011) (Japan) and a recent study by comScore (US) reported that consumers prefer to access QR code information from home despite ubiquitous capacity being one of the most important aspects of mobile handsets. Also, consistent with previous research on mobile marketing acceptance, the key informants in Okazaki's study almost unanimously responded that access motives were related to promotional offers such as coupons redeemed via the mobile device. Ashford (2010), in his study of the use of QR codes in libraries concluded that QR codes need to make users' lives easier, whilst Schmidmayr et al. (2008) suggest that QR codes will be used if they help to create a convenient user experience.

3.Methodology

Given the limited previous research on the factors that affect consumer attitudes towards and behaviour with regards to mobile marketing, and more specifically mobile marketing in the smartphone era, and the use of QR codes, it was deemed appropriate to undertake an

exploratory research study. Since the intention was to profile patterns of behaviour and the factors that influence it, a quantitative survey approach was adopted (Bryman & Bell, 2011). The limitations of this approach are acknowledged, specifically, potential low response rate, and non-response bias (Gravetter & Forzano, 2010), often leading to a convenience sample.

A structured questionnaire was developed using closed questions, because such a questionnaire was seen as accessible to respondents with varying levels of use of mobile phone features and applications. Most questions in the survey were developed using a five-point Likert scale, ranging from 'strongly disagree' to 'strongly agree' for measuring different independent variables (Bauer et al. 2005). In some questions, the respondents were also provided with a 'does not apply' option. Demographic information was requested at the end of the questionnaire in order to generate a demographic profile of the convenience sample.

Questionnaires were distributed as e-mail attachments to personal contacts, and to members of the public on the social networking sites Twitter and Facebook. Other respondents were collected by snowballing on the basis of the original contact group. Although access was a major driver in the sampling approach, this convenience sampling approach was also beneficial in building a sample in which respondents all had the shared characteristic of using a mobile phone (Riley et al, 2000). Hair et al (2001) suggest that self-selected sampling is suitable for exploratory research when prior knowledge of the population's characteristics is not sufficiently present.

214 usable responses were collected. Respondents were profiled on the basis of type of phone, gender, age, and education. 74% of the sample had a Smartphone, whilst the remainder had a feature phone. 44% of the sample was male. Ages ranged from 18 to over 65, with the majority (88%) falling into the age brackets 25-54; specifically 25-34: 20%; 35-44: 42%; 45-54: 26%. The sample was relatively well-educated, with 83% being graduates, and nearly half of this subgroup having postgraduate qualifications.

Data was analysed and formatted for presentation using a combination of Excel and Survey Monkey data analysis software. Descriptive statistics, in the form of percentages for each Likert-scale category for each question, and means for responses to each question were

calculated. In addition, a cross tabulation was performed to explore the relationship between type of phone and mobile phone use behaviours.

4.Findings and Discussion

4.1Uses of mobile technologies

Unsurprisingly, there was a strong correlation between the type of phone users had and the extent to which they used the phone for different purposes. Figure 1 shows that smartphone users tend to score 4 or more on all of the questions asked in this section. On the other hand, scores for feature phone users are considerably lower in respect of all of the identified uses. This suggests that once consumers have access to smartphone technology they become more reliant on using their smartphone for all of the different functions.

Insert Figure 1 about here

The findings support the belief that mobile phones are becoming increasingly central to people's lives and add weight to the assertion by Pedrozo & Wilska (2004) that their adoption has become "*one of the most conspicuous social changes to happen over the last ten years*". The data analysis provides clear evidence to show that consumers now rely on their phones for a range of communication, information and entertainment purposes. As Grant & O'Donohoe (2007), discovered, mobile phones are now "*woven into the fabric of daily lives, in and beyond the home*".

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4.2Consumer attitudes towards mobile marketing approaches

SMS/Text messages and intrusiveness

The questions regarding text messages were designed to identify the reasons for which respondent would be happy to receive texts. All reasons, apart from mobile ticketing and reminder services provoked a relatively negative response, suggesting that in general people were not happy to receive text messages from companies. This is consistent with their attitudes towards their mobile phone (Tables 1 and 2). For example they strongly agreed that their mobile handsets were primarily for personal use and that mobile contact from companies was annoying and intrusive. 97.4% of respondents strongly agreed or tended to agree that they would prefer mobile contact from friends rather than companies and 87.2% agreed that most texts from companies are annoying. 90.4% agreed that they would delete or

ignore texts from companies and 82.5% agreed they would prefer their mobile phone to be for personal use only.

Despite the passage of time, and the development of mobile technologies and applications, these findings are consistent with those of earlier studies that suggested that consumers regard SMS marketing as an invasion of their privacy (Samanta, Woods, & Ghanbari, 2009). Studies by Monk (2004) and Muk (2007) that consumers are very wary of companies contacting them via their handsets. This is supported by the data gathered in this study which shows that consumers overwhelmingly prefer their mobile phone to be for personal use only, and consider most brand contact to be annoying and 'tend to delete or ignore most messages from companies'.

Previous studies have discussed the use of incentives such as gifts and discounts as ways of reducing negativity towards SMS (Khan, 2008; Milne & Gordon, 1993; Zoller et al., 2001), but in this study responses to questions on incentives, such as competitions, discounts, and gifts were all very low. However, the somewhat more positive responses to ticketing and appointment and travel arrangement alerts may be indicative of the fact that consumers will welcome mobile communications when they perceive them to have utility. This is consistent with findings from various other studies that have identified usefulness or utility as possible drivers of the acceptance of mobile communications (Hanley, Becker, & Martinsen, 2006; Merisavo at al., 2007). More generally, other studies suggest that mobile services can drive acceptance by providing unique values to consumers by tailoring services to specific needs (Mort & Drennan, 2005; Yuan & Zhang 2003).

Table 1: Attitudes regarding acceptability of different types of text messages from companies (%)
Responses to: Some companies are using text messages to contact customers on their mobile phones. Would you be happy to receive texts from companies for the following reasons?

	Strongly Agree	***Tend to Agree***	***Neither Agree nor Disagree***	***Tend to Disagree***	***Strongly Disagree***	***Mean***
Enter a competition	2.5	7.5	7.0	28.6	54.3	1.75
Receive discount vouchers	6.0	23.1	14.6	23.1	33.2	2.46
Receive a gift	7.0	25.6	13.6	22.1	31.7	2.54
Receive a mobile ticket	27.6	42.7	9.0	8.0	12.6	3.65

Receive SMS reminders	20.1	48.2	12.6	5..5	13.6	3.56
Receive alerts from shopping sites	3.5	11.6	18.1	31.2	35.7	2.16
Receive online auction alerts	5.5	17.6	19.1	27.6	30.2	2.41
Receive social networking alerts	9.0	21.1	13.6	24.1	32.2	2.51
Receive alerts from news websites	5.5	13.1	23.1	27.1	31.2	2.35
Receive alerts relevant to location	6.0	22.6	19.6	26.1	25.6	2.57

Table 2: Attitudes towards being contacted by companies through mobile phones (%).
Responses to: Some people might not be comfortable with the idea of companies being able to contact them via their mobile phone. How far do you agree or disagree with the following statements?

	Strongly agree	***Tend to agree***	***Neither agree or disagree***	***Tend to disagree***	***Strongly disagree***	***Mean***
I prefer to receive mobile texts and calls from friends rather than from companies	79.8	17.6	1.1	1.6	0.0	4.76
I consider most texts and mobile adverts from companies to be annoying	62.2	25.0	7.4	5.3	0.0	4.44
I would tend to delete or ignore most text messages from companies	60.1	30.3	6.9	2.7	0.0	4.48
I generally prefer my mobile phone to be for personal use only	59.6	22.9	11.7	4.8	2.0	4.35

Permission-based mobile marketing

In addition to utility, earlier studies have focussed on the extent to which consumers feel in control of the marketing exchange, suggesting strategies which empower the consumer may mitigate their negativity towards mobile marketing communication. This study shows that the key factors that have a positive influence on acceptance are: knowingly giving permission, trust, and control. Most consumers worry about misuse of mobile data (4.34) and they are more willing to receive marketing texts from companies they like and trust (3.61). Being able

to control frequency and stop texts easily is also a key factor in determining acceptance (3.82 and 4.05). Peer influence has little effect on how accepting consumers are (2.90) and, generally, most mobile phone users would prefer to be contacted by methods other than mobile phone.

Most aspects of the findings from this study are consistent with findings from earlier studies. For example, respondents were highly suspicious of how companies handle their personal information and worry about trusting a company with their personal data in case it is passed onto third parties. Research by Yousafzai et al. (2003) and Jayawardhena (2009) provides evidence to suggest that a lack of institutional trust is a key barrier to consumers giving their personal information to companies. Furthermore, some studies have shown that perceived trust in mobile marketing also influences perceived control. For example, Blomqvist et al. (2005) emphasized that consumer control over the frequency and type of message was a key factor in increasing feelings of trust and loyalty towards a brand.

However, in contrast to earlier studies, which suggested that peer influence was an important driver of acceptance (e.g. Jayawardhena et al., 2009; Kautonen & Kohtamaki, 2006), peer influence does not seem to be particularly significant in this study.

In general, despite the negative response on SMS messaging, the likelihood of consumer acceptance is greatly enhanced when consumers like and trust a brand which in turn means that consumers are more far more willing to consent to permission-based mobile marketing. Findings in this research underline the importance of permission-based marketing as the cornerstone for effective mobile marketing campaigns.

Table 3 : Attitudes towards SMS-based permission marketing (%).
Responses to: Some companies may ask you for your mobile phone number in order to send you text messages. Please rate the following statements according to your own preferences

	Strongly Agree	***Tend to Agree***	***Neither Agree nor Disagree***	***Tend to Disagree***	***Strongly Disagree***	***Mean***
I would be happier to receive marketing texts on my mobile phone if I had given my permission	37.0	37.5	4.2	9.9	11.5	3.79

I would be happier to receive marketing texts on my mobile phone if I liked and trusted the company	24.5	42.7	12.0	10.9	9.9	3.61
I would be happier to receive marketing texts from a company if my friends recommended it	6.8	29.2	30.7	14.1	19.3	2.90
I would prefer to sign up for mobile marketing texts if I knew I could easily control the frequency of alerts	30.7	44.3	10.4	5.7	8.9	3.82
I would prefer to sign up for mobile marketing texts if I knew I could easily stop them	42.7	36.5	10.4	4.2	6.3	4.05
I worry about trusting a company with my mobile phone number in case they misuse my data or pass it onto a third party	58.9	26.6	6.8	5.7	2.1	4.34
I would prefer companies to contact me on my mobile phone rather than email or post	4.2	11.5	22.4	28.6	33.3	2.24

Mobile website content

The results showed that there is a strong correlation between the quality of mobile websites/applications and how positively or negatively consumers feel towards a brand. 77.5% of all respondents agreed that they feel irritated when websites do not work well on their handsets and 72.2% agreed that they feel positively towards a brand with a mobile website that looks good and is easy to use. Table 4 shows that the average rating value for all statements is above 3.5. Figure 2 indicates that smartphone users feel even more negatively than other consumers towards companies that provide a poor mobile experience and more positively towards brands that provide useful or entertaining mobile apps.

Insert Figure 2 about here

Many researchers in this area have produced similar evidence that support content quality and utility as being major success factors in mobile marketing. As Siau & Shen (2003) discovered, mobile content needs to show qualitative features such as relevance, timeliness and usefulness to the consumer. Heinonen & Strandvik, (2003) also suggested that delivering content that is both relevant and of value to the consumer is a critical success factor for mobile marketers

When asked to rate their feelings and behaviour surrounding the use of mobile apps, smartphone users agreed that they feel positively towards brands with useful or entertaining apps, that they value the personal service they get from apps and that they feel positively towards brands with useful or entertaining apps. As Chiem et al. (2010) observed, creating an app which offers sustained usefulness and relevance to the consumer is key to mobile marketing success.

Table 4 : Attitudes towards mobile website content (%).
Responses to: Quality of mobile web content and applications. How far do you agree or disagree with the following statements?

	Strongly Agree	***Tend to Agree***	***Neither Agree nor Disagree***	***Tend to Disagree***	***Strongly Disagree***	***Mean***
I feel irritated when a website does not work well on my mobile handset	43.3	34.2	8.6	1.6	0.5	4.34
I think that a brand that does not have a mobile website provides a poor service	17.6	33.2	28.3	8.6	2.1	3.62
I feel negatively towards a brand that provides a poor mobile website experience	15.0	33.7	27.3	9.6	2.1	3.57
I feel positively towards a brand with a mobile website that looks good and is easy to use on my handset	33.7	38.5	13.4	2.7	0.0	4.17
I feel positively towards a brand with a useful or entertaining mobile app	22.5	33.2	28.3	4.3	0.0	3.84
I use mobile apps because they provide me with personal content and	19.3	33.2	26.2	5.9	0.5	3.76

service						
I use mobile apps because they are fun and entertaining	15.5	35.8	25.7	8.0	1.1	3.66

4.3Use of QR Codes

Level of use of QR codes

QR codes are a specific form of permission marketing – the consumer can opt-in to their use. Although QR codes have been in existence for some time their application in mobile marketing communication is relatively recent in most countries; the exception is Japan. Hence there have been few previous studies of the use of QR codes which can be compared with the findings in this study. One of the main studies is that conducted by Okazaki (2011), in Japan.

Table 5 that in this UK-based sample, there is some familiarity with QR codes, with 87% either having scanned them, or, at least knowing what they are, but there is evident scope for the development of further awareness and adoption. The remainder of this section reports on findings from users and non-users, in turn.

Table 5: Familiarity with QR Codes

Yes I know what they are and I have scanned them before	41.7%
Somewhat: I know what they are but I have never used them	45.5%
Not really: I have seen them but I've no idea what they are	8.6%
No: I have never noticed them before	4.3%

QR Code users

Table 6 illustrates the range of content the 77 respondents who had scanned QR codes had accessed previously. Further information from a website was by far the most typical with 73% of responses; this was followed by games, discount vouchers, advertising, online retail, competition entry, and 'other'. Responses to the 'other' category were: contact details (6), links to a reference on an online library catalogue, charity donation, maps, lunch menus, film trailers and mobile apps. Okazaki (2011) agreed that consumers primarily used QR codes to access information, and also promotional offers, but suggested that they were not widely used for discounts or vouchers.

Ozaki (2011) also identified location as being an important consideration as to whether consumers chose to scan a QR code. Table 6 shows that in this study the most frequently cited location for accessing QR codes was 'in the street' with 58% of responses, followed by 'at home' with 56% of responses. Responses to 'other' were: hotel (2), on a plane, at university, in a lift, at an exhibition, and at an event. There is some debate about whether consumers feel self conscious about scanning a QR code in the street or in public spaces (comScore, 2011; Ozaki et al., 2011), but on the basis of the use statistics in Table 6, there is no evidence of such concerns amongst these UK consumers.

Table 6 shows that the most common type of marketing material used to access QR codes are magazine adverts with 60% of responses and outdoor posters (56%). Responses to 'other' were: business card (5), beer mat, on another handset, on a powerpoint presentation, on a display window and on a parking meter.

Table 6: Characteristics of QR code use (%)

What type of content have you accessed via a QR code?	
A link to a discount voucher	28
A link to make a purchase of goods, tickets, etc.	24
A link to enter a competition	18
A link to interactive web content, e.g: a game	36
A link to more information on a website	73
A link to more advertising material	27
A link to a text file	12
A link to a discount voucher	28
On which of the following items have you scanned a QR code?	
From an outdoor advert or poster	53
On a website	30
From a newspaper or magazine advert	60
On a flyer or leaflet	44
On product packaging	34
On a print voucher	17
On clothing	3
Other (please specify)	16
From an outdoor advert or poster	53
Where were you when you scanned a QR code?	
At home	56
At work	42
In the street	58
On public transport	30
In a shop or supermarket	21
In a restaurant	12

In a pub, bar or club	26

When QR code users were asked what would motivate them to scan a QR code again, all of the following suggested incentives had positive rating averages: ease of access, more information, mobile discounts and peer recommendations. Respondents also agreed that they would encourage their friends to scan QR codes (Table 7). This is in sharp contract to consumers' responses to similar questions for text messaging and other mobile communication, suggesting that QR codes may well be more successful as a mobile communication medium than SMS messaging.

Table 7: Factors influencing future use or non-user of QR codes (QR code users)

	Strongly Agree	**Tend to Agree**	**Neither Agree nor Disagree**	**Tend to Disagree**	**Strongly Disagree**	**Mean**
What would be the main reasons you would not scan a QR code again?						
QR code readers are too awkward to use	8	38	11	33	11	3.00
Scanning a QR code in public makes me feel self-conscious	7	17	16	34	26	2.43
If I'm out and about I don't want to pause and read information on my phone	9	15	32	34	11	2.78
QR codes are often in places where there is no internet access	7	24	30	32	8	2.89
Most QR codes don't seem to offer any benefits or incentives to bother scanning them	17	46	21	9	7	3.58
Please rate the following statements based on your experiences of scanning QR codes						
I would scan a QR code again if it was easy to access either outside or inside	39	42	13	7	0	4.13
I would scan a QR code again to find out more about a product or service	40	42	14	3	1	4.17
I would scan a QR code again to receive a discount, gift or special offer	35	35	23	3	4	3.95

I would scan a QR code again if my friends recommended it to me	25	44	22	8	1	3.83
I would tell my friends to scan a QR code if I thought the content would be interesting or useful to them	29	48	16	7	1	3.96
I would be more likely to remember a print advert if it had a QR code	8	12	35	35	10	2.71

Table 7 illustrates that the same set of respondents disagreed that scanning a QR code made them feel self-conscious or that pausing to access information on their phone was a problem. In fact, the main perceived barrier was that according to 63% of respondents QR codes 'don't offer any benefit or incentive'. There was also some agreement that QR code technology was awkward to use.

QR Code non-users

From the 109 respondents who had not scanned QR codes, the results showed that a lack of technology (40%) was the main barrier followed by lack of awareness of benefits involved (33%). There was also some resistance to pausing to access information from a mobile handset (27%). It was also perceived that not having been taught how to scan a QR code was also a barrier (25%) As Nysveen et al (2005) suggest the personal motives for media consumption range from the utilitarian (functional) to the non-utilitarian (entertainment, social status, enjoyment). Lack of awareness of benefits often leads to non-use of QR codes.

Notwithstanding, when presented with a list of some of the potential benefits of QR codes, respondents were able to identity which they would value and find useful (Table 8). Again, entering competitions was not a popular benefit, but on the other hand 72% of responses were in favour of accessing discount vouchers and 61% agreed that they would scan a QR code to buy tickets or goods.

Table 8: Factors leading to non-adoption of QR codes (%)
Responses to: Please indicate why you have not used your mobile phone to scan a QR code

My phone is not able to read QR codes	40
I am not aware of the existence of QR codes	10
I have never been shown how to scan a QR code	23
I am not aware of any benefits to scanning QR codes	33

I would feel self-conscious scanning QR codes in public	6
If I'm out and about I don't want to have to pause and read information	25

The following factors were influential in the decision to scan a QR code in the future: obvious benefits, institutional trust, perceptions of security, perceived ease of use and experiencing a demonstration of the technology (Table 9). This later point is consistent with Rai et al's (1998) assertion that the adoption of an innovation is a learning or communication process, and it is therefore to be expected that non-users might appreciate some support in this process. This set of responses differed from those from respondents who had scanned QR codes; they were more concerned about pausing to read information and had a preference for scanning QR codes at home rather than in public. Also, peer influence was not a strong incentive with most respondents tending not to agree that they would be more likely to scan a QR code if they knew their friends were using them (Table 9)

Table 9: Factors likely to promote adoption of QR codes (%)
Responses to: Would any of the following factors or incentive make you more likely to scan a QR code in future (if your phone had a QR code reader)?

	Strongly Agree	***Tend to Agree***	***Neither Agree nor Disagree***	***Tend to Disagree***	***Strongly Disagree***	***Mean***
Incentives and functions						
To access discount vouchers or special offers	18	55	19	5	4	3.78
To enter competitions for cash rewards or prizes	6	26	26	26	17	2.76
To gain access to information tailored to your local area	9	42	34	11	4	3.42
For instant access to further information on a website	11	28	34	18	8	3.16
For instant access to a service such as buying tickets or signing an online petition	14	47	24	11	5	3.54
Ability to capture contact details easily (e.g: via QR Codes on business cards)	14	44	24	14	5	3.49
Experiential and relational benefits						
I would be more likely	18	37	24	9	12	3.40

to scan a QR code if I was shown how to do it						
I would be more likely to scan a QR code if I knew my friends were using them	6	25	41	14	14	2.96
I would be more likely to scan a QR code if it was obvious what the benefits were	23	57	15	2	4	3.94
I would be more likely to scan a QR code if I thought it was safe	30	35	22	4	9	3.51
I would be more likely to scan a QR code if I trusted and liked the company	25	51	13	4	8	3.73
I would be more likely to scan a QR code in my own home rather than in public	11	26	40	16	8	3.80
I would be more likely to scan a QR code if I was shown how to do it	18	37	24	9	12	3.16

5.Conclusion

5.1*Contribution*

The objective of this research was to gain a deeper understanding of the drivers and barriers to consumer acceptance of mobile marketing and thus determine the critical success factors for marketers adopting mobile and QR Code marketing approaches. It also aimed to discover how smartphone technology has changed the way people use their mobile handsets and the implications this has for how marketers should harness the evolving potential of this channel. Overall, the findings indicate that as smartphone usage in the UK rises, increasing numbers of consumers are relying heavily on their handsets for communication and internet access, and that in areas such as mobile website design and content (including apps consumer expectations are increasing dramatically.

There has been limited previous research on consumer attitudes towards mobile marketing in the smartphone era, and hence this exploratory study offers some useful insights which could inform both practice and research. In relation to mobile marketing, the findings of this study both confirm and extend previous research. The negative attitudes towards mobile marketing

identified in earlier studies based on earlier technologies, persist in the smartphone era. Users continue to view their mobile device as personal, and view text messages from companies as intrusive, and often delete them. The exceptions are text messages concerning mobile ticketing and alert/reminder services, which they presumably regard as useful. Even text messages regarding incentives that were found to be acceptable in earlier studies such as discounts, competitions and gifts are unwelcome. Respondents were concerned about trusting a company with their mobile phone number, but would be happier to receive mobile marketing if they felt they had more control, through, for example, opt-out options. Trust in a company is significantly impacted by the appearance, entertainment, value and functionality of a mobile website. Smartphone users felt more strongly about delivery in these areas that users of older technologies; expectations are increasing.

The findings from the research into QR code awareness and acceptance drivers suggest that consumers may respond more positively towards QR code marketing than they do towards SMS marketing approaches, because they feel more in control. The primary use of QR codes is to access information on mobile websites, but there is some evidence that consumers are also using QR codes to access games, discount vouchers, competitions and other advertising. Most QR code accesses are in the street or at home, and consistent with this the two most scanned media are magazines, and outdoor adverts or posters. QR code users are relatively positive about continued use, but value ease of use, information/content and discounts; certainly users are motivated by the benefits that their perceive scanning a QR code to deliver. Non-users agreed on the value of information, content and incentives, but faced barriers arising from older technology, and lack of familiarity with QR codes and their potential benefits.

5.2Recommendations

In general, uptake of smartphone technology is still underway, and the opportunities that it offers for marketing invite further exploration. In addition, increasing numbers of retailers and service suppliers are introducing QR codes; these have the potential to spawn a new sub-branch of mobile marketing.

The findings form this study suggest that in the smartphone era, marketers need to work with consumers and audiences to engage them. In order to do this they need to:

1. Develop an understanding of what motivates their customers to accept mobile marketing communications, including what consumers perceive as benefits in this context.
2. Respond the control that consumers seek to have over the mobile channel, and develop sophistication in their approaches to permission marketing, giving their customers every reason to place their trust in them.
3. Acknowledge and respond to the importance of mobile website design and content (including downloadable apps) as a driver for customer engagement.
4. Recognise that QR codes, like other content, will be appreciated if customers perceive them to add value.

It is also clear that further research into marketing in the smartphone era, including QR code marketing is needed in order to find out more about what drives success in this area. Key foci for such research might include:

1. Further exploration of the factors that make consumers willing to engage with companies through the mobile channel, including whether demographic factors, such as age, gender, and culture, may impact on issues such as trust formation, benefit perception, and identification with mobile phone handsets.
2. Further exploration of the value of QR codes both to consumers and organisations, including the factors that drive their adoption and continued use, and the effect scanning a code may have on acquisition, retention or conversion rates.

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