

# Quick Response Code (QR): A Novel Tool for Product Marketing

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## ABSTRACT

*Quick Reference Code (QR Code) is a machine-readable code consisting of an array of black and white squares, typically used for storing URLs or other information for reading by the camera on a Smartphone. In the last few years there has been tremendous growth in Quick Reference (QR) Code usages in the field of Marketing & Advertising. Marketers have been using them in billboards, magazines, web pages, and other marketing material. QR codes provide quick information about the product or service to the user's device. QR code is contemporary form of Barcode in two dimensional ways. It has very high data storage facility as compared to conventional barcode. Today, many marketers have been using the QR code for marketing of their products; still there is lack of knowledge on orientation of QR Code usage and various trends among the consumers. QR codes are fast and simple medium to take consumers from the physical to the virtual world, through their smart phone in just seconds. The paper presents the basics of QR code and highlights the brands that have been using QR code for the marketing of their products.*

*Keywords: QR code, Mobile Marketing, Barcode, Smart phone, Advertising*

## 1. INTRODUCTION

Product codes take a variety of forms, the most popular form being the barcode. Barcodes have been the least expensive form of data carriers. Since their introduction in the 1970s they have become ubiquitous in retail for facilitating inventory control, stock reordering, and checkout (Manthou and Vlachopoulou 2001). The penetration of mobile phones worldwide has been explosive and has already touched the 86.7% mark (Mob Thinking, 2011). The high penetration rate is an indicator of the commercial potential of mobile phones and it comes as no surprise that marketers are showing interest in mobile phones as an advertising medium (Wohlfahrt, 2002). This mobile platform offers diverse modes, matching desired communication viz. SMS (Short Message Service), MMS (Multimedia Messaging Service), Mobile Videos, WAP (Wireless Access Protocol) etc. (Beschizza, 2009).

## 2. LITERATURE REVIEW

The Quick Response code technology is innovative and very few researchers work on it. Early research into QR codes shows that this technology is used in, academic libraries and museums<sup>4,5</sup> and these studies generally explored the innovative uses of the technology for enriching and facilitating visitor experience, use for visually impaired and blind people<sup>3</sup> and application in augmented reality applications<sup>6</sup> and classroom environments.<sup>6</sup> Presently research included using QR codes in mobile advertising,<sup>15</sup> especially integrating mobile devices into multi-channel or cross-media campaigns<sup>14</sup> and retailing.<sup>16</sup>

Product codes have strong implications for marketing in general, and service marketing in specific. From a marketing point of view, Quick Response (QR) codes can be used to attract customers and to promote brands in innovative ways and thus their use in advertising is experiencing exponential growth across the world (Walsh, 2009). In Japan where QR codes are ubiquitous; they use them in store windows and magazines and even on McDonald's wrappers with information on ingredients/nutritional content (Ashford, 2010). They are likely to become mainstream with the rapidly increasing number of Smartphones and Internet-enabled cell phones, mobile site creation by many businesses, easy social network access, and the increasing number of popular mobile apps (Ashford, 2010; Rouillard, 2008). This indicates that product codes can be a very effective tool in service marketing; and not only in inventory as ones use to think. Thus, and since they are becoming a main stream, I am presenting here two new ideas of service marketing that can have major implications on the company, customers, and economy as a whole.

### 3. OBJECTIVE OF THE STUDY

1. To study the Basics of QR Code
2. To study Structure of the QR code
3. To understand use of QR Codes in Product Marketing

### 4. THE CONCEPT: HOW IT WORKS AND HOW IT CAN BE USED

#### 1. Basics Of QR Code

QR codes were first used in 1994 by Denso Wave, a Toyota subsidiary company in Japan. QR codes provided a quick and convenient approach to track vehicles during manufacturing process at automotive industry (Walker, 2011).

QR code is a Two-dimensional digital image that poised with black and white pixels into a squared matrix that can be easily read, scan by any smart phones or similar devices. QR code are become very popular than classical barcode in various areas because of its various features like large data storage capacity, encryption technique, dirt and damage resistant, high speed reading ,small size, flexible and 360 degree reading. QR code is normally printed on newspapers, posters, or captions. It is process with ad-hoc software; users can get additional information and data on objects or services without extra searches.

Over time, however, the QR code quickly became popular outside the auto industry and is nowadays part of many website designs. QR code, which can easily be scanned, and the web site loaded on a mobile device or on smart phones. This reduces text frequency and introduces a stylish way to encode data.<sup>22</sup>

The QR code consists of black and white dots. Black modules arranged in square grid on white background. The information encoded in QR code can be numeric, alphanumeric, byte / binary and Kanji. QR codes are far more powerful and can contain much more information. QR Code holds information both vertically and horizontally.



**Fig-1: Sample QR code**

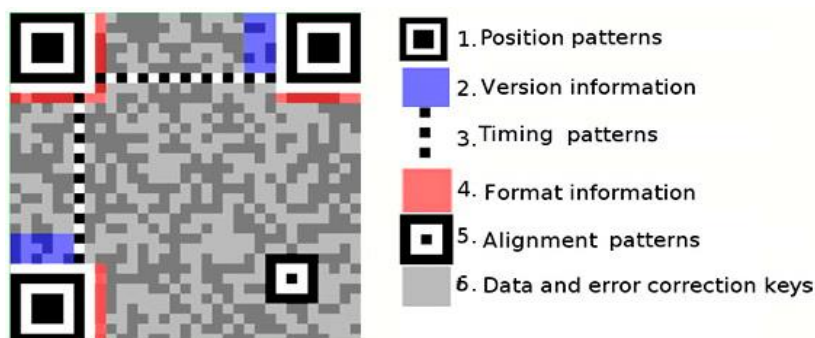


**Fig-2: Structure of QR Code**

A QR code consists of some mandatory elements:

#### 1. Position patterns

These patterns are placed at all the corners of the image, except for the bottom left. These patters give an opportunity to the scanning device to define the location of the QR code and to start the process of scanning and recognition faster. Separator with white color dots are arranged for separation and for efficient and promptly reorganization.

#### 2. Version information

This arrangement of the image holds the encoded information about the version of the code. The versions of it are directly connected with their dimensions and the amount of data which should be encoded. It can vary from the first, the smallest to the fortieth, the largest.

#### 3. Timing patterns

They are located between the three position patterns and look like a line of alternating dark and light (black and white) squares. They serve to define the density of the modules and the preliminary definition of the QR version.

**4. Format information**

This area of the image helps the scanning tool to define the data format, encoded in the QR code. This may be for example contact information, calendar date, the web site link and etc.

**5. Alignment patterns**

There may be several patterns according to the version of the QR code. They allow the scanning tool to define the possible perspective distortion of the QR code image.

**6. Data and error correction keys**

QR code is a Two-dimensional digital image that poised with black and white pixels into a squared matrix. Its elaborate pattern, consisting from black squares and lines, called modules, contains different information. A usual bar code can contain information consisting from 13 numbers, while a QR code matrix can contain 4296 numbers and letters, 7189 numbers, 1817 hieroglyphs and 2953 bytes of binary code.

Error correction system, which can be of four levels, a QR code can be successfully scanned even in case of partial damage. Increasing the level of error correction the amount of information, which can be encoded to the QR image, reduces.

QR codes are not mandatory to be in black and white. It can be created with the help of other colors; the main thing that should remain is the contrast between dark and light modules<sup>21</sup>

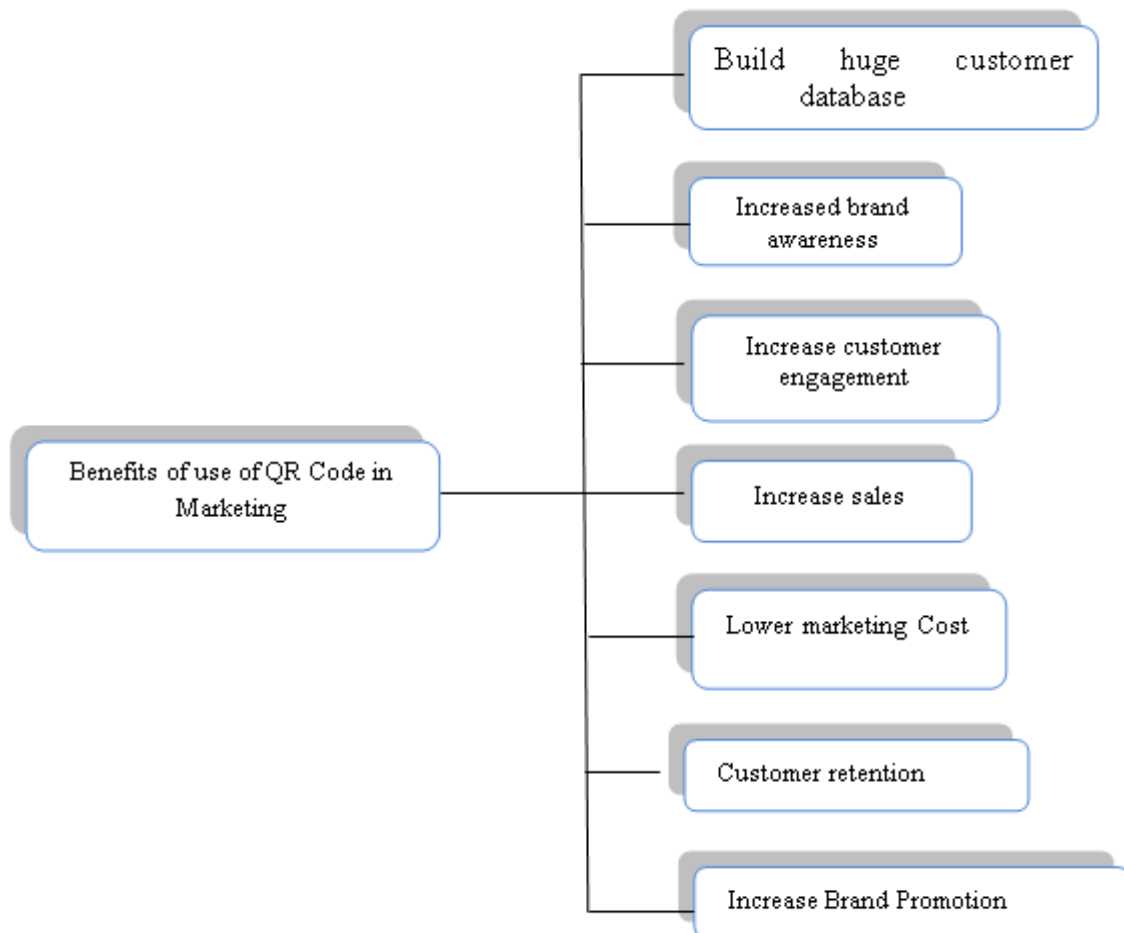
**2. QR Codes in Marketing**

At first QR code was designed for the automotive industry in Japan. Over time, however, the QR code quickly became popular outside the auto industry .Marketers started to understand that the functionalities of the QR Code could be transferred to the marketing domain. In 2011, QR Codes became commercialized. With the growth of telecommunications industry and Smartphones. Today in Japan, USA and Western Europe QR Codes is one of the most ubiquitous trends in marketing. Further, with the increasing adoption of Smartphones, they are rapidly gaining in popularity across Asia especially in India, Korea and Indonesia (Pola, 2012; Kent, 2012). QR Codes are open as Denso Wave have not patented them, which means that tools to generate and scan decode QR Codes are freely available. This enables marketers to easily implement their campaigns and to support consumers to scan the codes used in those campaigns (Matt, 2011a). Apart from it, several inherent characteristics of the QR Code make it a potential tool for marketing communication. QR codes are Omni directional scan able i.e. unlike barcodes; they can be scanned from any angle at 360 degree due to position detection patterns on three corners of the code thus offering further ease to consumers. Perhaps the most beneficial attribute of QR Codes is their interactive capabilities. With the click of a button on a Smartphone, the QR Code allows consumers to interact with the ad they were viewing in a completely different form of media than was presented to them and the ad which previously possessed only visual and tactile functions, becomes digital and interactive in a matter of seconds (Patel, 2012). Another interesting attribute of the QR Code is the error correction capability which means that data can be restored even if a QR Code is damaged up to 30%. QR Codes also offer great versatility to marketers as they can be enlarged to the size of a billboard or minimized to the size of a stamp (QR Codedotcom, 2011). Moreover, QR Codes enable marketers to track the number of scans on each code and identify which medium the scan came from.

Marketing industry is taking longer than expected to catch up with QR code technology. Even though it takes only a few seconds to scan the code that lends customers to the product's website, very few customers scan the code. Moreover, it is less popular in western countries than in Asian countries such as China, Hong Kong, Japan, South Korea, and Taiwan (Liao and Lee, 2010).

Principally, QR codes help interaction and engagement through the mobile phone. This type of marketing strategy enables businesses to transfer information to the user. Nowadays, users are happy to accept with anything that's fast and not time-consuming. It's all about being instant and fast, especially in the world of marketing.

**Following are benefits of use of QR code:**



## Benefits of QR code





**Fig. Use of QR code in various Marketing (section or services)**

## RESULTS & IMPLICATIONS

The performance of marketing campaign can be monitored properly by below mentioned ways:

### 1. Direct customers to a landing page/website

Scanning a QR code can guide to a signup page or any takes to page/website. This removes the hassle of going through the process of accessing the website and navigating your way around the page.

### 2. Dial your business number

In business conferences, you'll surely engage and interact with a crowd. If you use QR codes for your booth or station, then interested business partners can just scan the code and receive your business details such as your business contact number. Sometimes, you can even tweak the QR code to dial the number on the receiver's phone directly.

### 3. Send a message

This is exciting because the user will only receive the message once the QR code has been scanned. Sending messages through QR codes benefits SMS marketing the most. It can be used for sales, user support, on-request product upgrades, and opt-in SMS registration.

### 4. Send an email

Much like sending messages, QR codes for sending emails will help you read and monitor data for newsletters, email marketing, and your email's performance rates (e.g. open and bounce rates).

Aside from that, the user can also continue reading the said the email on his mobile phone by scanning the QR code. In this manner, your email will be accessible on any platform.

### 5. Download apps

Once you've scanned the QR code, it will direct you to the download page of the app and start the download. Businesses have used their creativity to make their QR codes eye-catching. Popular apps such as Angry Birds have used QR codes for their marketing campaign.

### 6. View business location

If your website visitor wants to drop by your office, they can just pull out their phone and scan the QR code on your website. Instead of manually searching for the address on online maps, the QR code can give specific directions to your business location.

### 7. Direct customers to social media pages

A user liked your product or service so much; they can follow your social media pages for more updates. Sometimes, they can even score a discount or promo if they followed your social media through that same QR code.

### 8. Shopping and E-commerce

The most popular way to use QR codes, businesses usually use it for discounts and promos. By providing a unique QR code, the consumer can also receive the receipt or menu through his phone.

## CONCLUSION

This study is theroitical and is still under-research. It will help practitioners and will add to our knowledge that how QR code work in marketing and the different opportunities available for using these within a company's marketing strategy. Tremendous capabilities exist from the use and implementation of new technologies and social media in order to communicate and advertise these opportunities on offer by companies and organizations in different sectors.

Future research conducted among survey participants with more diverse backgrounds could provide a better understanding of consumer adoption of QR codes.

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