QR Code Trends 2022

How brands and institutions used QR Codes to engage customers in 2022

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Research By: Trycon Technologies (Scanova)



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I. Executive Summary

QR Codes can be attributed to the global COVID-19 pandemic. The use of QR Codes did not stop post the pandemic. Today, QR Codes can be seen almost everywhere — billboards, packaging, business cards, and restaurants. 2021 saw businesses and institutions deploy QR Codes across different verticals. In 2022, businesses and organisations continued to use QR Codes in new and innovative ways. This report covers the different ways in which QR Codes were used across the globe in 2022.

In a new form of promotions, QR Codes were used in CTV advertisements to grab customer attention. QR Codes were also seen in popular shows such as the Marvel series. QR Codes were extensively used by the sports industry in 2022. Official partners of tournaments such as FIFA used QR Codes for promotion of the brand and the game. Organisations such as the NBA and WWE launched QR Code contests for fan engagement. QR Codes were also seen on the jersey of some popular clubs across the world.

Brands continued to use QR Codes on product packaging with new objectives. For instance, brands deployed QR Codes on packaging to provide audio aids for the visually impaired. QR codes were also used as an anti-counterfeit solution on products. With the shift of brands towards more environmentally-friendly practices, QR Codes were used to promote sustainable methods. They were used to eliminate usage of paper and reduce carbon footprint.

Brands also deployed QR Codes in collaboration with latest technologies such as blockchain and artificial intelligence. For instance, QR Codes were used to access NFTs in the digital world. QR Codes were also used to provide AR experiences.

QR Codes were extensively used by organisations also. Institutes used QR Codes as an attendance and visitor management tool. Law enforcement organisations used QR Codes for information sharing and identity verification. Sensitive documents were embedded with QR Codes to prevent counterfeit and forgery. QR Codes were also helpful in managing critical situations by reporting emergencies to the concerned authorities.

Seeing the rapid inclusion of QR Codes in all spheres of life, this exhaustive report also explores the possible ways in which QR Codes may be used in 2023.

This report has been compiled by the Research and Strategy team of Trycon Technologies.

II. About Trycon Technologies

Trycon Technologies is a leading provider of QR Code solutions across the globe. The company provides a suite of QR Code-based SaaS products that businesses can use to manage QR Code-based promotional campaigns and operational use cases.

PRODUCTS



"More than 200,000 businesses have used our products to generate QR Codes and related digital assets"





(website: trycon)

III. Research Methodology

The objective of this report is to highlight how QR Codes were used in 2022 across different verticals and outline the major QR Code trends for 2022.

The report also aims to discover the possible QR Code use cases for 2023 and beyond, based on qualitative inputs by industry experts and general underlying factors. This information can be used by various stakeholders to gauge the prospect of QR Codes for their own use cases.

The report has been compiled using secondary data available via online credible sources. Credible sources such as news articles and research reports were referred to collect and analyse data. Instances, where QR Codes were used in a similar way, were clubbed together to identify popular trends.

For identifying the possible uses of QR Codes in 2023 and beyond, major tech trends were identified through secondary research and analysis.

To maintain credibility of the research, the source links have been provided for each example and data point. Trends have been identified and described based on internal analysis by the Research & Strategy team.

The lead researcher of the report is Tanish Talwar, Business Analyst, Research & Strategy, Trycon Technologies. The research and report have been reviewed by Gautam Garg, Cofounder & CEO, and Kritanjali Singh Rastogi, Associate, Research & Strategy,

Trycon Technologies.

The report has been published in Mar 2023.

IV. MAJOR QR TRENDS IN 2022

Brands used QR Codes during TV commercial breaks of popular sports tournaments for customer engagement



(Image Source: bestmediainfo)

A) Dunzo's QR Code Ad during the Indian Premier League (IPL) 2022

- In May 2022, the Indian delivery app Dunzo displayed a QR Code on the TV screen during the IPL match
- The TV screen first went blank and later displayed "Inconvenience regretted, scan for convenience"
- The QR Code when scanned redirected to a link to download the Dunzo application

B) Coinbase floating QR Code Ad during Super Bowl League

- In Feb 2022, the cryptocurrency exchange Coinbase used a 30-second Super Bowl ad spot by showing a QR Code bouncing around the screen
- The QR Code scan redirected to a promotional page that offered free Bitcoins worth USD 15 on creating an account. The page also offered a chance to win USD 3 million giveaway



(Link to video: YouTube)

Official partners of popular sports tournaments used QR Codes ahead of matches for customer engagement



(Image Source: bestmediainfo)

A) Adidas 'QR to Qatar' ad film with a scannable QR Code

- In Sep 2022, Adidas launched a scannable ad film "QR to Qatar' featuring their brand ambassador Ranveer Singh, an Indian actor
- The film had QR Codes, which when scanned redirected to live raffles. The raffles allowed customers to win various prizes such as a free trip to FIFA World Cup

B) Thums Up's 'stump cam' campaign for ICC Men's T20 World Cup 2022

- In Sep 2022, Coca-Cola's Indian brand
 Thums Up launched a QR Code based
 'stump cam'
- The brand added QR Codes on the bottles that upon scanning provided exclusive access to match footage and content
- Customers could watch the best moments after each match through the QR Code



(Image Source: theprint)

C) Budweiser's QR Code based scavenger hunt for FIFA

- In Aug 2022, Budweiser, the official beer partner of FIFA released QR Codes on the company's and athletes' social accounts
- QR Codes were also placed in certain locations to honour superstars such as Messi, Neymar Jr., and Sterling
- The QR Codes when scanned provided coordinates leading to prize boxes in different cities



(Image Source: businesswire)

QR Codes were used in the blockchain as an entry point to access NFT's in the digital world



(Image Source: nfcw)

A) Nike's QR Code on sweatshirt to connect to the digital version of the garment through NFT

- In Aug 2022, Nike and its digital fashion brand Rtfkt released a hoodie with a QR Code
- The QR Code when scanned enabled purchasers to connect with the digital version of the garment in the form of a non-fungible token (NFT)
- The customers could track their physical movements in real time using the digital garment and the wearer could also customize the digital garment with extra features

B) QR Codes in Netflix show 'Love, Death + Robots' to mint NFT

- In May 2022, the Netflix show 'Love, Death + Robots' shared nine QR Codes across socials, billboards, and within the show
- · The QR Codes were part of a digital scavenger hunt
- Each QR Code redirected to a website with digital collectible of each episode of the show
- The visitors could mint the art as an NFT or save it. Visitors were able to mint for free by paying a small gas fee



(Image Source: decanter)

C) Whiskey Barrel's QR Code to provide digital provenance certificate through NFT

- In Mar 2022, the scotch whiskey brand Whiskey Barrel added unique QR Codes linked to an NFT on each bottle
- THE NFT was added as an anti-counterfeit solution to eliminate the risk of buying a fake bottle
- The NFT was used to provide product information on a public ledger. Collectors could confirm the ownership of each bottle through the NFT

D) NBA's QR Codes in Cleveland, United States to engage fans through NFT

- In Feb 2022, the National Basketball Association placed QR Codes at various locations in Cleveland, US
- The QR Code when scanned allowed fans to register and learn about NFT sale
- Each NFT featured digital recreations of the Ohio courts that have hosted the NBA All-Star games



(Image Source: cleveland)

Marvel shows featured hidden QR Codes to offer free comics



(Image Source: doblegeek)

A) QR Code in episodes of American series She-Hulk

- In Aug 2022, the Marvel series
 'She-Hulk: Attorney at law' featured a
 six minute long QR Code in the first
 episode
- The QR Code when scanned redirected viewers to a link to access free comic
- QR Codes were also seen in other episodes of the series later

B) Secret QR Code in first episode of Ms. Marvel

- In Jun 2022, television series Ms. Marvels' first episode had a hidden QR Code, which offered a free comic on scan
- The QR Code redirected to 'Ms. Marvel (2014) #1', the character's first issue of the solo series



(Image Source: wegotthiscovered)

C) QR Code in all episodes of Moon Knight

- In Mar 2022, a hidden QR Code was placed in all episodes of Marvel television serial Moon Knight hosted on Disney+
- Scanning the QR Code redirected to Marvel's website, which allowed free access to Moon Knight's digital comic



(Image Source: glitched.online)

Popular sports organizations engaged fans through contests that allowed fans to collect digital star cards using QR Codes



(Image Source: faindx.com)

A) WWE SuperCards with QR Codes to engage fans through contests

- In Oct 2022, the American professional wrestling organization WWE introduced
 Super Cards with QR Codes
- The QR Codes when scanned allowed fans to build a digital collection of wrestlers
- The fans who were able to collect maximum wrestlers received awards

B) NBA 2k22 free cards with QR Code

- Association placed QR Codes on bill-boards in home cities of six NBA stars

 Each QR Code was encoded with an NBA star card
- Fans had to travel to all six cities to scan the OR Codes
- Those who were able to collect all six cards were allowed to complete the west and east foundation sets for Amethyst Giannis and Devin Booker



(Image Source: nba.2k.com)

QR Codes were used in sustainable initiatives undertaken by brands to reduce environmental impact

A) Acuity Brands QR Code based sustainability initiative to eliminate waste

- In May 2022, the industrial technology company Acuity Brands added scannable QR Code instructions on top selling products
- The aim was to reduce paper use by more than 15 million sheets thereby saving approximately 1,500 trees annually
- The initiative also aims to reduce the company's CO2 emissions by 4,23,000 pounds per year

B) Caviar's golden QR Code on the back of iPhone

- In Jan 2022, the luxury iPhone designer Caviar designed a replacement for paper business cards
- The brand added an engraved QR Code on the back of its Digital Signature Collection
- The owner could add any information to it such as business card, link to an Instagram account, company's website, and much more



(Image Source: caviar global)

C) DBS banks QR Code gift cards for new year for reducing carbon footprints

- In Jan 2022, DBS bank released a series of Chinese New Year QR gift cards as an alternative to traditional red packets and new notes
- The aim was to reduce carbon footprints by cutting down the use of new notes and red packets
- As a general practice every year, a large proportion of new notes are produced for Chinese New Year
- · They are subsequently destroyed as it far exceeds normal circulation demand
- The DBS QR Codes were made of environmentally-friendly paper. After use, these
 DBS gift cards were recycled at recycling points



(Image Source: mothership.sg)

QR Codes were added on jerseys of various football clubs to fulfil different objectives



(Image Source: skysports.com)

A) Heart shaped QR Code on shirts of Brentford players to raise awareness

- In Oct 2022, the British football club Brenford added heart shaped QR Code on shirts of players
- The QR Code when scanned raised awareness about learning resuscitation skills
- The aim was to encourage viewers learn the basics of CPR

B) QR Code on Jersey of UCF football team players for information sharing

- In Apr 2022, University of Central Florida's (UFC) football team introduced QR Codes instead of numbers on jerseys of players
- The scan redirected to the profile of the players on UFC's website
- It allowed fans to check the athlete's social media profiles, websites, and branded merchandise



(Image Source: pastemagazine.com)

C) QR Code jersey of Inter Milan football club to redirect to club's anthem

- In Jan 2022, the Italian football club Inter Milan added QR Codes to their jersey
- The QR Code redirected the audience to the stadium version of their anthem "C'è solo l'Inter"
- The aim was to strengthen the relation between the teams and fans



(Image Source: nssmag.com)

QR Codes were used as an anti-counterfeit solution on products and packaging by various industries



(Image Source: qrcodepress.com)

A) QR Codes on packaging of cannabidiol products to encounter fake products

- In Oct 2022, Living Tree Botanicals, a Cannabidiol(CBD) company in US used QR Codes on their packaging as an anti-counterfeit solution
- The QR Code when scanned redirects to a lab report, which confirms authenticity of the product
- The aim was to help customers distinguish high quality products from fake products

B) Brembo's QR Code on products to crack down counterfeit products

- In Mar 2022, equipment manufacturer
 Brembo added QR Code to all its
 products
- The QR Code when scanned redirects to Brembo's product database
- Customers can validate the product through unique serial number on each product
- The QR Code was placed in such a way that attempting to remove it would completely destroy the QR Code



(Image Source: rideapart.com)

C) QR Code certification on handmade Kashmiri carpets

- In Feb 2022, the famous Indian handmade carpets of Kashmir got QR Code labels
- The QR Code when scanned allowed customers to check and verify authenticity of the product
- The aim is to standardize their uniqueness and boost exports

D) Triviams "Peel off end" packaging with a QR Code label

- In Jan 2022, sustainable recyclable metal packaging brand Triviam created an anti-counterfeit solution for the infant nutrition market
- · The peel-off label on the products was equipped with a serialized QR Code
- When scanned, the QR Code allowed consumers to trace back the product to the product location and production batch
- The main aim of the company was to provide a sustainable way of product packaging
- The initiative was awarded the 'WorldStar 2022 Global Packaging Award' by the World Packaging Organization



(Image Source: labelandnarrowweb.com)

Consumer food brands used QR Codes on packaging to provide audio aids for the visually impaired customers

A) Coca-Cola's QR Code based specialized packaging for the blind

- In Dec 2022, Royal National Institute of Blind People (RNIB) teamed up with
 Coca-Cola to create accessible packaging for blind and partially sighted people
- They placed a QR Code on the product packaging which upon scanning redirected to an audio with information available on the package



(Image Source: campaignasia.com)

B) Barilla's QR Codes on packaging to assist visually impaired customers

 In Oct 2022, the Italian pasta maker Barilla added QR Codes on the packaging of top ten selling products The QR Code provides link to audio and visual support for blind and visually impaired customers

C) QR Codes on Aunt Bessie products to help visually impaired locate products in supermarket aisles

- In Sep 2022, the frozen food producer Aunt Bessie added special QR Codes on products
- The QR Codes redirected to an audio, which directed customers to the right product in supermarkets



(Image Source: standard.co.uk)

QR Codes were used as visitor and attendance management tool by different sectors



(Image Source: dailyexpress.com)

A) QR Code to track attendance in Malaysian school

- In Sep 2022, a Malaysian school launched a quick and easy attendance system using QR Codes
- Under the system, a QR Code is displayed on the screen by the lecturer where students can scan the QR Code to mark their attendance
- The system also allows students to track their attendance

B) Use of QR Codes for human resource functions by Autonix

- In May 2022, Autonix, a visitor management company based in California,
 United States, incorporated QR Codes in their HR functions
- The QR Code when scanned allowed staff members to mark attendance and share other information

C) CellGate's QR Code visitor management to manage visitor entry

- In Jan 2022, cellular access control company CellGate launched a QR Code visitor management system
- It allowed residents of a multi-tenant community to send QR Code invites to their visitors
- The visitors could access the property using the QR Code during a specified date/time window
- The QR Codes could be generated and sent via the CellGate app that provided a more secure and convenient way of managing visitor entry via cloud-based tracking



(Image Source: prweb.com)



Brands continued to use QR Codes to provide augmented reality (AR)

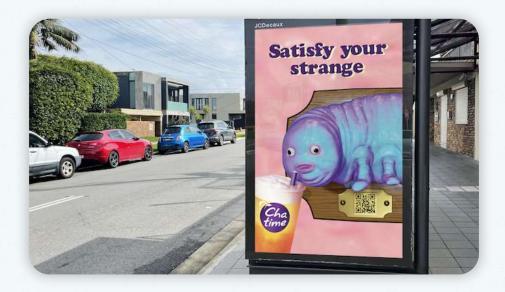
experience to customers

A) Disney+'s ad film with a QR Code to provide AR experience

- In Sep 2022, Disney+ released its first AR enabled short film 'Remembering'
- · A QR Code was added in the film to allow viewers experience AR
- Viewers had to scan the QR Code on their TV screen that allowed them to download an app
- · The app helped viewers experience AR

B) Chatime's QR Code to create AR experience to scanners

- In Mar 2022, the Australian tea outlet Chatime launched an OOH campaign featuring a QR Code
- The QR Code when scanned redirected to a strange and surprising in-situ animation of a featured creature. The creature could be instantly shared on Instagram



(Image Source: marketingmag.com)

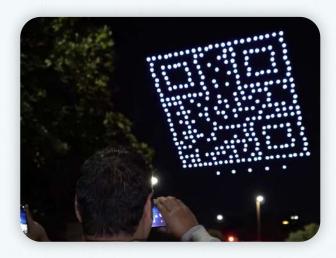
C) Wana Brands AR experience for Cannabis new product line

- In Mar 2022, Wana Brands, America's producer of infused cannabis products
 launched an AR experience for its new product line
- They added a QR Code on the packaging, which when scanned presented 3-D animation
- The animations allowed customers to select and interact with flavors from the new product line



(Image Source: globenewswire.com)

Brands continued to use drones to display scannable QR Codes for better customer interaction



(Image Source: dallasobserver.com)

A) QR Code in the sky in Texas, United States on April Fool's Day

- In Apr 2022, the US based drone display firm Sky Elements displayed a QR Code in the sky of dallas
- The QR Code was build in collaboration with digital content developer
 Jared Guynes
- The QR Code when scanned redirected to the "Never Gonna Give You Up" YouTube video by Rick Astley

B) QR Code made up of drones used for promotion of 'Halo' series during SXSW festival

- In Mar 2022, media company Giant Spoon projected QR Code in the sky in Austin
- The QR Code was to promote the Xbox based upcoming series 'Halo' by Paramount+
- The QR Code when scanned allowed viewers to watch the trailer of the series



(Image Source: fox7austin.com)

QR Codes were donned by models at different fashion shows to promote clothing brands



(Image Source: marketingdive.com)

A) Bacardi Rum's clothing line with embedded QR Codes at the Paris Fashion week

- In Jun 2022, Bacardi Rum partnered with a streetwear brand Nahmias to create a QR Code embedded clothing line
- The clothes debuted at the Paris
 Men's Fashion Week
- The QR Code provided link to an album by upcoming musicians

B) QR Code box worn by model at CSM BA fashion show

- In May 2022, a model wore a QR Code box during ramp walk of Central Saint Martins BA Fashion show
- The QR Code when scanned redirected to a Instagram filter, which allowed scanner to try out the design



(Link to video: YouTube)

Law enforcement organizations across the world used QR Codes for information sharing and identity verification



(Image Source: thethaiger.com)

A) Printed QR Codes on police guns to prevent misconduct in Thailand

- In Oct 2022, the Royal Thai Police (RTP)
 added a QR Code to every police weapon
 to monitor payments, prevent theft, and
 misconduct by any officer
- Earlier, officers used to buy their own guns due to a slow and challenging distribution system
- Under the new system, officers could scan the QR Code on the new gun and register under the RTP application using their smartphones

B) Printed QR Codes on jackets of Detectives in Bangladesh

- In Aug 2022, Bangladesh added unique QR Codes on the jackets of each detective to prevent fake raids
- QR Codes when scanned provided the identity and confidential phone numbers
 of the detectives to confirm if they are genuine
- These jackets were introduced after many cases of fraud by individuals posing as detectives were reported



(Image Source: bangladeshpost.net)

C) QR Code program initiated in St. Louis in the United States for unsolved homicides

- In Jun 2022, the Police Department of St. Louis, Missouri, United States rolled out a program to use QR Codes for unsolved homicide cases
- QR Code cards were revealed, which provided a list of unsolved murders when scanned



(Image Source: newsbreak.com)

QR Codes were used to report emergencies to receive quick action during distress



(Image Source: thehealthsite.com)

A) QR Codes to address cardiac emergencies at traffic junctions in India

- In Sep 2022, QR Codes were displayed at traffic signals in Bengaluru, a city in India, for medical emergencies
- The QR Code when scanned provided emergency number
- It also allowed access to ambulance service and multi-specialty healthcare

B) Dallas White Rock Lake Trail's QR Code for pinpointing location during an emergency

- In Jan 2022, QR Codes were installed on all existing 911 location sign boards in White Rock Lake Trail in Dallas
- These QR Codes could be used by trail users to pinpoint their location without calling 911 in case of an emergency
- The QR Codes when scanned redirect to a map of the lake where the user can enter the emergency marker location from the board, and the location gets identified on the map



(Image Source: lakewood.advocatemag.com)

QR Codes were incorporated in sensitive documents to prevent counterfeit and forgery

A) QR Codes on school certificates for verification of results in Nigeria

- In Nov 2022, the Federal Polytechnic School in Nigeria used QR Codes on certificates and other confidential documents
- The objective was implemented in Nov 2022 to end duplication of results
- The QR Code on transcripts redirected to a page, which verified if the document is correct



(Image Source: newtelegraphing.com)

B) QR Code to solve problem of misallocation of funds under Samurdhi scheme in Sri Lanka

- In Oct 2022, Sri Lanka launched QR Codes for its microfinance programme
 Samurdhi
- Beneficiaries were provided with physical documents equipped with QR Codes
- The QR Code redirected to a centrally managed database to verify legitimacy of entitlement



(Image Source: sundayobserver.lk)

C) QR Code to add vaccination card to digital wallet in Jersey

- In Mar 2022, Jersey, an Island in Europe allowed citizens to add COVID verification certificate to their digital wallet
- The QR Code presented the details of the latest vaccination dose



(Image Source: bbc.com)



Brands used printed QR Codes on apparels to engage buyers with helpful content and actionable options

A) QR Code hangtag by California's luxury retailer to help shoppers learn about history of vintage clothes

- In May 2022, California based luxury retailer Ron Herman introduced QR Code hangtag on their vintage garments
- The QR Code when scanned enriched customers with the history of the vintage item
- It also provided information on its material and gave maintenance advice to help the piece last longer



(Image Source: news.yahoo.com)

B) Uber Eats QR Code printed Pajamas campaign to increase late-night orders

 In Mar 2022, the online food ordering and delivering app Uber Eats unveiled pajamas with pictures of different food items and having a unique QR Code

- The QR Code when scanned redirected to the food on the Uber Eats application, which made it easier to order food late at night
- The pajamas were unveiled on online platforms to interact with customers and increase popularity



(Image Source: brandingasia.com)



(Image Source: news18.com)

C) Egyptian designer's QR Code dress to promote brand by highlighting the Egyptian culture

- In Jan 2022, an Egyptian designer made a dress to help travelers explore Egypt's ancient sites through a QR Code
- The Code redirected to information such as address, operating times, and ticket prices of the sites
- The scan also provided information on the artifacts available at each site
- The designer aimed at achieving dual objectives through this dress. First, promote her brand to get funding and second Egypt's tourism

Tourism industry continued to use QR Codes in unique ways for enhanced visitor and traveler experience



(Image Source: arabnews.com)

A) Qatar Tourism's interactive QR Code at Doha's new visitor center for FIFA World Cup 2022

- In Nov 2022, Qatar Tourism and Visit Qatar added QR Codes at the new visitor center at Doha for creating interactive experience for tourists
- Qatar partnered with Imagination, a leading global experience design firm, to create three zones, each with a unique QR Code
- The QR Code when scanned allowed the visitors to discover more about the activities
 under each zone and book activities of interest

B) QR Codes in Australian towns to connect tourists directly to town services

- In Jul 2022, QR Codes were distributed to vendors in the tourism centric towns— Echuca and Moama
- The QR Codes were deployed to guide travelers where to go and what to do in the region
- The QR Codes helped people to locate various facilities in the town and book activities and accommodation
- It also helped retrieve details of all open and closed tourist attractions



(Image Source: sheppnews.com.au)



(Image Source: thehindubusinessline.com)

C) QR Code aided e-guide to help tourists in the Indian State Kerala

- In Jun 2022, a QR Code aided virtual travel guide was launched in the Indian State
 Kerala which enabled tourists to fetch helpful information on tourist locations
- The QR Code when scanned gets redirected to an e-guide with information such as nearest bus-stand, railway station, and airport
- The guide also had details of tourist attractions and tour packages
- Link available in the guide also provided booking details

D) QR Code to guide passengers to locate hotel desk at Thailand Airport

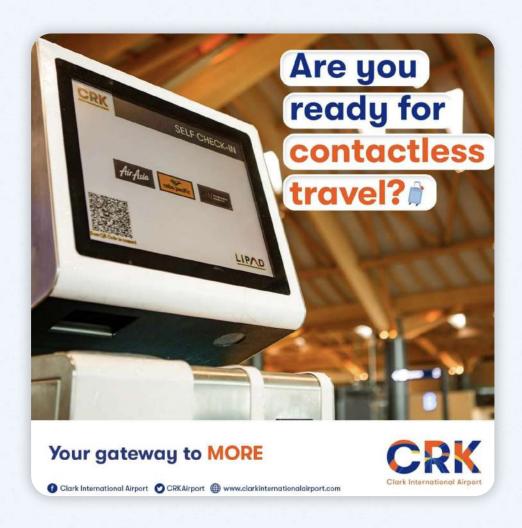
- · In Apr 2022, Thailand introduced QR Codes at the Suvarnabhumi airport
- The QR Code when scanned guided tourists to the service counter of their reserved hotel
- The QR Code was deployed in response to reports of chaos at the airport after tourist arrival



(Image Source: bangkokpost.com)

E) Philippines airport used QR Code to allow self service check-in and bag drop

- In Mar 2022, Philippines airport added a QR Code for 24 hour self service check-in and bag drop by passengers
- With the help of the QR Code, a 24-hour self-service check-in and bag drop area
 were established by the airport in Mar 2022
- Lounges and airports were also equipped with QR Code for ordering food and drinks



(Image Source: facebook.com)

Brands continued to use QR Codes on product and their packaging for information sharing and customer engagement



(Image Source: sundayobserver.lk)

A) QR Code on tiles by Lanka Tiles to provide access to product portfolio

- In Apr 2022, Lanka Tiles, a tile company in Sri Lanka added QR Code on tiles to allow customers access the full range of the products
- The QR Code when scanned also helped customers confirm the maximum retail price before buying
- The aim was to promote self-regulation and safeguard customers from dishonest market players

B) Food Company Mondelez's QR Code based packaging to reveal sustainable practices

- In Jan 2022, Mondelez Inc., a food company in the UK adopted QR Code-based packaging
- · The aim was to inform customers about company's sustainable practices
- Customers could access a new online platform named "Snacking Right" through the QR Code
- The new platform offered details on the company's global initiatives on right snacking. It also offered advice on mindful snacking and recycling



(Image Source: foodnewsbusiness.net)

C) Birds Eye's QR Code game to encourage consumers to buy their product

- In Jan 2022, frozen foods brand Birds Eye introduced a QR Code fun game to encourage consumers to introduce more seafood into their meals
- · The augmented reality fishing game could be accessed by scanning a QR Code
- The scan also provided access to exclusive content and simple and delicious fish food recipes



(Image Source: foodsanddrinksbusiness.com)

QR Code enabled payment linkages were used by several nations to enhance trade ecosystem



(Image Source: bi.go.id)

A) QR Code based payment system for Indonesia and Thailand for efficient cross-border transactions

- In Oct 2022, Indonesia and Thailand established a cross-border QR Code payment linkage
- Customers could pay for goods and services from either nation on scanning the OR Code
- The system allowed consumers from the ASEAN to conduct cross-border transactions more efficiently

B) QR Code based payment system to facilitate payments between Indonesia and Singapore

- In Sep 2022, the Monetary Authority of Singapore (MAS) and Bank of Indonesia (BI) introduced a cross-border QR Code payment system
- The aim was to ease retail transactions between the countries
- Citizens could conduct cross-border trade and financial activities efficiently on scanning the QR Code



(Image Source: thefintechtimes.com)

#TREND 21-

QR Codes were deployed by hospitals to allow people book services



(Image Source: facilityexecutive.com)

A) Hospitals in United States used QR Codes to allow booking sanitation service

- In Dec 2022, the CarePoint Health facility in New Jersey allocated QR Codes to each room.
- The QR Code when scanned allowed patients to request cleaning and other services
- The system relieved the nurses by reducing interruptions who could now concentrate on critical patients and were called only to address emergencies

B) Hospital in India used QR Code to allow book for OPD services

- In Nov 2022, a district government hospital in Karnataka, India introduced a

 QR Code based Fast Track Queue system
- The QR Code when scanned allowed patients to register for OPD without waiting in long queue
- The QR Code also allowed patients to share their demographic and personal information



(Image Source: timesofindia.indiatimes.com)

QR Codes were used as a medium to provide self-help resources and information



(Image Source: ohio.edu)

A) Ohio University's QR Code based tech classroom

- In Jan 2022, Ohio University's IT Department launched QR Code flyers to improve enduser experience in classrooms
- Classrooms were installed with QR Code flyers, which provided access to the classroom help hub
- This hub had a variety of self-help resources and service desk contact information for students, faculty, and staff

B) QR Codes used in daily farm operations by Saskatchewan farmers

- In Jan 2022, Saskatchewan farmers applied
 QR Code stickers to their tractors, combines,
 and field sprayers
- These QR Codes had information on service procedures, basic machine operation, calibration, settings, mixing instructions and field notes
- This process enabled farmers beat problems such as trying to remember every setting and chemical mixing combination and carrying notes for field operations



(Image Source: grainnews.ca)

A few more examples stating the usage of QR Codes for different objective



(Image Source: ketv.com)

A) Pay-to-park QR Codes at parking facility in Nebraska

- In Oct 2022, the Nebraska city in the United States, initiated a new parking operation, which allowed drivers to park using QR Code
- The system allowed drivers to scan a QR
 Code to enter their license plate and park
 at privately owned lots

B) QR Code to find foster parents in US

- In Sep 2022, the Oklahoma Department of Human Services, US introduced QR-Codes for those looking to adopt children
- The scan leads to a page with the recruiter's photo and other details assist DHS with child care



(Image Source: enidnews.com)



(Image Source: prnewswire.com)

C) World's largest QR Code grown from crops to honor national heroes

- In Aug 2022, America's oldest brewery D.G
 Yuengling & Son created worlds largest QR
 Code using crops
- The aim was to honor the American armed forces
- On scanning from an aerial view, the QR
 Code allowed scanners to donate to the
 brewey's charity partners. It also provided
 access to digital content on Stars & Stripes,
 the American military newspaper
- It also allowed them to watch music videos of the newspaper's brand ambassador Lee
 Brice
- Scanners could also shop at Yuelings online gift shop using the QR Code

D) Prudential's wellness campaign with a QR Code calendar

- In Feb 2022, the Malaysian Insurance provider Prudential launched a wellness campaign 'Code to Wellness'
- It included QR Codes placed on table-top calendars
- Each month had a separate QR
 Code and people could scan the QR
 Code every month to get access to wellness advice, activities, and rewards



(Image Source: thedrum.com)

V. FUTURE OF QR CODES

Although the use of QR Codes resurged during the pandemic out of necessity, it's been more than two years, and we can still find them everywhere. Ease of technology and pre-existing knowledge of how to use them has enabled businesses and organizations to deploy QR Codes further. The positive sentiments of customers from past QR Code experiences is an added advantage for the technology. In fact, according to a study conducted by the Drum, 75% of US respondents plan to use QR Codes moving forward.

QR Code Trends of 2021 revealed how QR Codes were used by different sectors post pandemic. Trends of 2022 re-emphasize that businesses and organizations have continued to use QR Codes in new and innovative ways. Both businesses and customers now understand and appreciate the capabilities of QR Codes. As a result, QR Codes have become a major part of modern day-to-day life. The upcoming years are likely to witness a further increase in QR Code adoption owing to following factors:



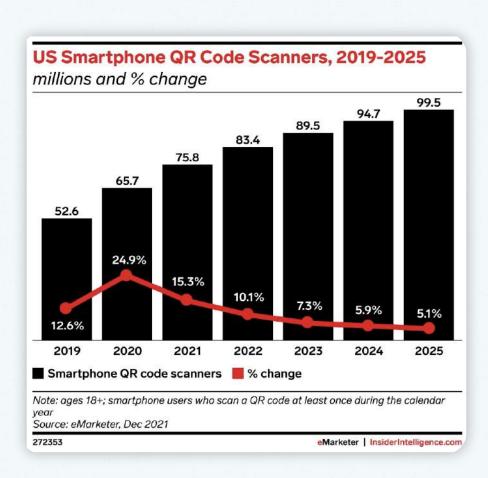
Expected growth in number of smart phone and internet users in future

- According to the mobility report by Ericsson in 2022, the number of global smartphone subscriptions is expected to grow at a CAGR of 3% from 2022 to 2028. More number of smartphone users implies that a greater proportion of population will have access to QR Code scanning applications
- According to the same report, the total mobile traffic data is also expected to grow by 21% from 2022 to 2028. Most QR Code campaigns involve call-to-actions, which function with the internet. With increased mobile internet users, QR Codes will make more sense to users and will have a greater impact. Impact of QR Code based social media campaigns will also be higher
- Increase in number of smartphone users along with the increased access to mobile internet is likely to increase the adoption of QR Codes in future



Easier and faster scanning of QR Codes through smartphones

- For a long time, functionality of QR Codes wasn't built on phones and third party applications were required to scan them
- Today, almost all modern phones allow scanning QR Codes through the camera.
 Further, mobile phone companies are continuously working on making the scanning process seamless and easy. For instance, Google is seeking to add new shortcuts for QR Code scanning
- According to a research report by Insider Intelligence in 2021, the number of U.S.
 QR Code scanners is expected to increase from 83.4 million in 2022 to 99.5 million in 2025. The same trend is likely to be seen in other countries owing to increase in smartphone penetration, internet users, and easy and faster scanning



(Image Source: insiderintelligence.com)



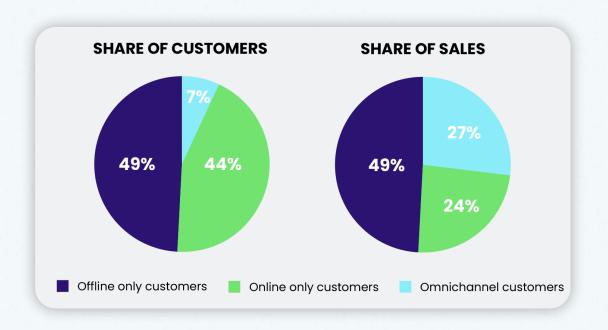
Expected growth in QR Code Payments owing to several factor

- According to the QR Code payments report by Juniper Research in 2022, the QR
 Code payments market is expected to grow by 25% from 2022 to 2026. According
 to the report, the growth will be driven by increased focus on financial inclusion
 in developing countries and providing alternatives to existing payment methods
 in developed countries
- Countries are developing QR Code based cross-border payment linkages to enhance trade ecosystem. As more nations develop such linkages in future, QR Code transactions are likely to increase
- QR Code transactions are also expected to be facilitated by emergence of common QR standards in various countries in future



Expected greater demand for omni-channel experiences post-pandemic

- One of the major changes brought by the pandemic is the greater demand and
 effectiveness of omni-channel. Omni-channel is the business strategy that provides a seamless shopping experience across all channels, including in store,
 mobile, and online. In short, it is the integration of offline and online channels
- According to Invesp, companies with omni-channel customer engagement strategies retain on average 89% of their customers. Companies with weak omnichannel strategies have just 33% customer retention rates. According to Omnisend, purchase frequency is 250% higher and average order value is 13% more on omni-channel compared to single-channel. Many other reports suggest that omni-channel has now become an integral part of all businesses
- With the increase in importance of omni-channel networks, it is likely that QR
 Code adoption will increase in future. This is because QR Codes are one of the
 easiest ways to bridge the gap between physical and digital space



(Image Source: Digizuite)



Increased use of QR Codes for collecting first-hand data

- A study by Google and BCG in 2021 concluded that businesses that use firstparty consumer data in their marketing strategies had 2.9x revenue increase and
 a 1.5x increase in cost savings. Also, according to reports, 70% of companies will
 switch to a more data-based decision making model by 2025
- QR Codes have proved to be an effective way of collecting first-hand consumer data. They help to streamline data collection efforts and increase accuracy. Thus, businesses are expected to resort to QR Codes more for data collection in future



Easy integration of QR Codes with most futuristic technologies

- QR Codes can easily be integrated with technologies such as artificial intelligence (AR), virtual reality (VR), blockchain, and digital-twin. According to research reports, all these technologies are futuristic in nature and are expected to witness a significant boom in coming years
- For Instance, according to a report by Markets and Markets in 2021, the AR market is expected to grow at a CAGR of 31.5% from 2021 to 2030. Similarly, the digital-twin market is expected to grow at a CAGR of 39.48% from 2022 to 2030 as per Allied Market Research report
- With QR Codes being the most convenient form of access point for all these technologies, it is likely that the adoption of QR Codes will rise in future



Continuous evolution in the way QR Codes are being used across fifferent industries

- QR Codes were used out of necessity during the pandemic. The year 2021 saw innovative ways in which brands used QR Codes to engage customers. Further, the year 2022 witnessed multiple campaigns where QR Codes were used by different brands. The use of QR Codes also increased in different organizations
- With increased user-friendliness towards QR Codes, it is expected that QR Codes
 will be deployed by brands and organizations to fulfil multiple objectives

VI. POTENTIAL QR CODE TRENDS FOR 2023



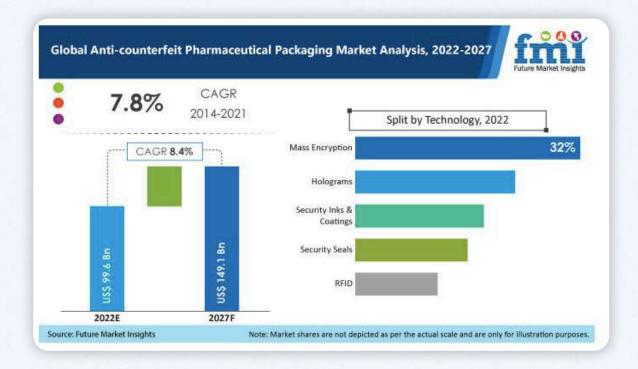
Increased use of QR Codes in Connected TV (CTV) ads for easier and measurable campaigns

- In 2022, popular platforms such as Sharethrough, Kerv, and ITV introduced dynamic CTV QR Codes to their platform. This tool allows marketers to add QR Codes automatically to all CTV ads. It also enables advertisers to measure the performance of ads through scan rates
- According to a research conducted by the ad exchange company Sharethrough,
 76% of consumers do not pay active attention to TV ads. However, 79% of people have their phone or other device in their hands during commercial breaks.
 According to the same research, marketers have a potential to improve consumer attention by 12% using QR Codes
- 2022 saw brands such as Coinbase and Dunzo use QR Codes during TV ads. These
 ads were considered as game changers for TV stations and advertisers. With
 increasing popularity, brands are likely to use CTV QR Codes on a large scale for
 easier and measurable campaigns



Increased use of QR Code labels majorly as an anti-counterfiet solution

- The global QR Code label market currently estimated at USD 3.1 billion has grown by a CAGR of 7.5% from 2013 to 2021. According to a report by Future Market insights in 2022, it is expected to further grow at a CAGR of 8.9% from 2022 to 2027
- According to the same report, growing demand for anti-counterfeit solutions is
 expected to be a major driver for QR Code labels. Counterfeit products are growing in the market, which has created huge economic loss for businesses. According to data from the Global Trade in Fakes report by OECD and EUIPO in 2021,
 trade in counterfeit goods is greater than the economy of a mid-size European
 country such as Ireland. Such alarming figures call for increased anti-counterfeit
 solutions



(Image Source: Future Market Insights)

 According to a research report by Markets and Markets in 2021, the global anticounterfeit packaging market is expected to grow at a CAGR of 12.5% from 2021 to 2026. This further confirms that there is a huge opportunity for QR Code labels to be used as an anti-counterfeit solution



Increased use of QR Codes in enterprise Augumented Reality (AR) technology

- There has been an increased adoption of AR across businesses in recent years. According to a report, the global enterprise AR market is projected to grow at a CAGR of 39.2% from 2022 to 2030. According to the same report, 72% organizations will deploy AR into at least one application by 2030
- QR Codes can be easily integrated with AR. An augmented reality QR Code can be used to trigger digital augmentation of reality. It can portray digital contents such as 3D models, video, and various other media contents. With the increased adoption of AR by businesses, it is expected that QR Codes will be used for providing various AR experiences to customers



Increased use of QR Codes to enhance gaming experience

- According to a report, the gaming industry holds 24% of the share in the enterprise AR and VR market. The gaming industry is adopting new technologies such as AR and VR because they provide a unique experience that is not possible with traditional video games. They also allow companies to develop new types of games that weren't possible before
- As QR Codes are one of the major integrations with AR and VR, it is expected that
 QR Codes will be deployed by the gaming industry. Companies such as Helpshift, a
 console gaming customer support solution, is already using QR Code technology
 for faster resolution to enhance gaming experience
- Companies such as BMW and gaming platform AirConsole are planning to integrate casual gaming into new vehicles with the help of a QR Codes. As businesses find more ways to integrate QR Codes for better gaming experience, it is likely that their use will increase with growth in the gaming industry

About Trycon Technologies

Trycon Technologies is a leading provider of software as-a-service applications related to QR Code technology. Founded in 2013, Trycon has helped more than 200,000 businesses from over 195 countries in generating QR Codes to engage customers through over 50 million scans.

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