How is RCS Revolutionizing Business Messaging?

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Foreword

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Some innovations catch the attention of the users from day one, others become familiar and part of the users' life over a long time. SMS is an example of the latter. Today it is pervasive: it powers communication, marketing, commerce, logistics, security, and even machine-to-machine services. SMS is still the universal messaging platform, reaching even those without active data connections. It went almost unnoticed for a long time, but business messaging applications are now the engine of the latest digital transformation wave. The readers of this paper are doing well to be paying attention to the success of business messaging and learning from it. However, they should equally prepare for the evolution of SMS: RCS or Rich Communication Services.

In fairness, over the last decade we have seen many over the top (OTT) messaging applications - such as WhatsApp and WeChat – bringing a surge of modernization to the messaging market. Users are familiarizing with new features such as voice and video messages, or integrated maps. These are now becoming a fertile ground for business messaging applications as well. The life of SMS is not coming to an end, but its great simplicity is starting to be a limiting factor too. It is the time for SMS to include multimedia support, and better integration with other smartphone services. As a business tool in the digital era, SMS needs urgently to add reporting data: delivery and read rate for a start. Luckily, RCS has been developed to address all these very issues.

RCS like its predecessor seems to have had a silent roll-out. Thanks to the support by the mobile operators and the adoption by Google and the Android ecosystem, RCS has built a strong reach already. RCS is included in over 1.2 billion devices with other 450 million adults using it every month - and these numbers are growing.

In an omnichannel world, RCS might not be the only communication channel to be used by enterprises to interact with their users. Social media and other apps will also have a role. However, to miss this channel altogether could be a huge loss for businesses. The awareness of RCS needs to grow in the industry. The following paper is a good step in that direction. It will help the reader to understand the main features of this new communication tool, and its potential use cases. This is just the beginning; the potential of conversational commerce is vast. The report might not be the end of your learning, but the beginning of a new important phase in your marketing, retail, and customer service tools.

RCS: The New Thoroughfare of Business Communication

Mobile communication is an inseparable part of the modern world. What started as a simple text-based Short Message Service (SMS) delivered through carrier networks, has evolved into internet-based over-the-top (OTT) apps with very little dependence on carriers. However, of late, a newer version of SMS is getting increasingly popular in the business messaging arena. This whitepaper examines the journey of carrier-based mobile communication and some of the fascinating developments surrounding it.

Evolution of Mobile Communication

The first SMS was sent in 1992 by Engineer Neil Papworth to greet the Vodafone director Richard Jarvis for Christmas. SMS proved user-friendly and soon became the preferred mode for person-to-person (P2P) communication, which brands took cognizance of, to connect with their customers better. Accordingly, in 1994, Vodafone launched an SMS-based business messaging solution to support both Application-to-Person (A2P) and Person-to-Application (P2A) communication. Following the success of Vodafone's venture, numerous other brands jumped into the SMS bandwagon that redefined customer engagement.
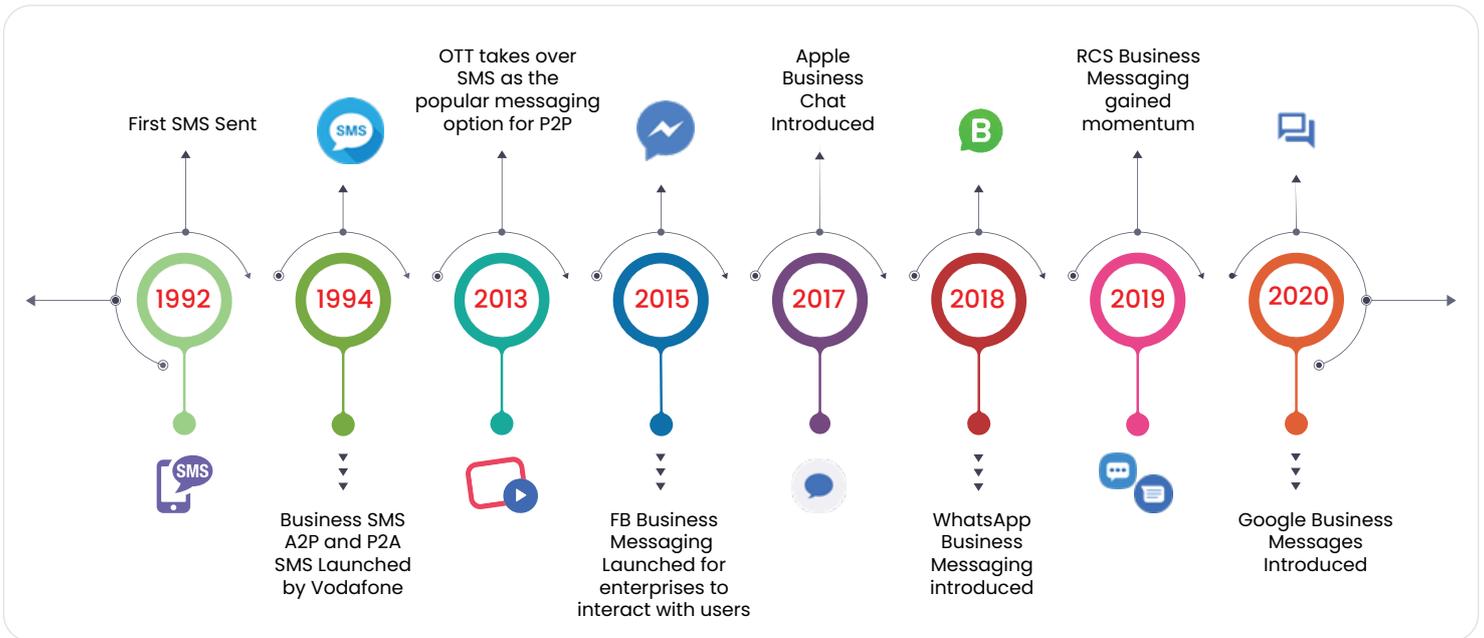
Figure 1: Popular P2P Messaging Option

The onset of smartphones and mobile internet marked the inception of OTT apps that enabled bidirectional P2P communication of text and rich media. The cost effective, secure, and reliable communication of text, multimedia, and voice, enabled by OTT apps, broadened their user base in a relatively short time. For instance, WhatsApp alone grew to have over 2 billion active users spread across the world, with businesses too leveraging it for customer engagement; other messenger apps are now fast catching up. The increasing popularity of OTT apps left a question mark on the fate of SMS amidst changing times. Contrary to the industry perception about SMS facing extinction, the SMS has a user base of over 5 billion, which is larger than any of the OTT apps. However, the lack of scope for rich communication in SMS is viewed as a major drawback, and upgrading it to support the sharing of images, videos, suggested actions, and more could herald a new era in mobile communication. Accordingly, the Global System for Mobile Communication (GSM) Association (commonly referred to as GSMA) rolled out a new standard called Rich Communication Services, also called SMS 2.0, that supports two-way (A2P & P2A) sharing of rich data through the carrier networks to the native messaging app of the phone.
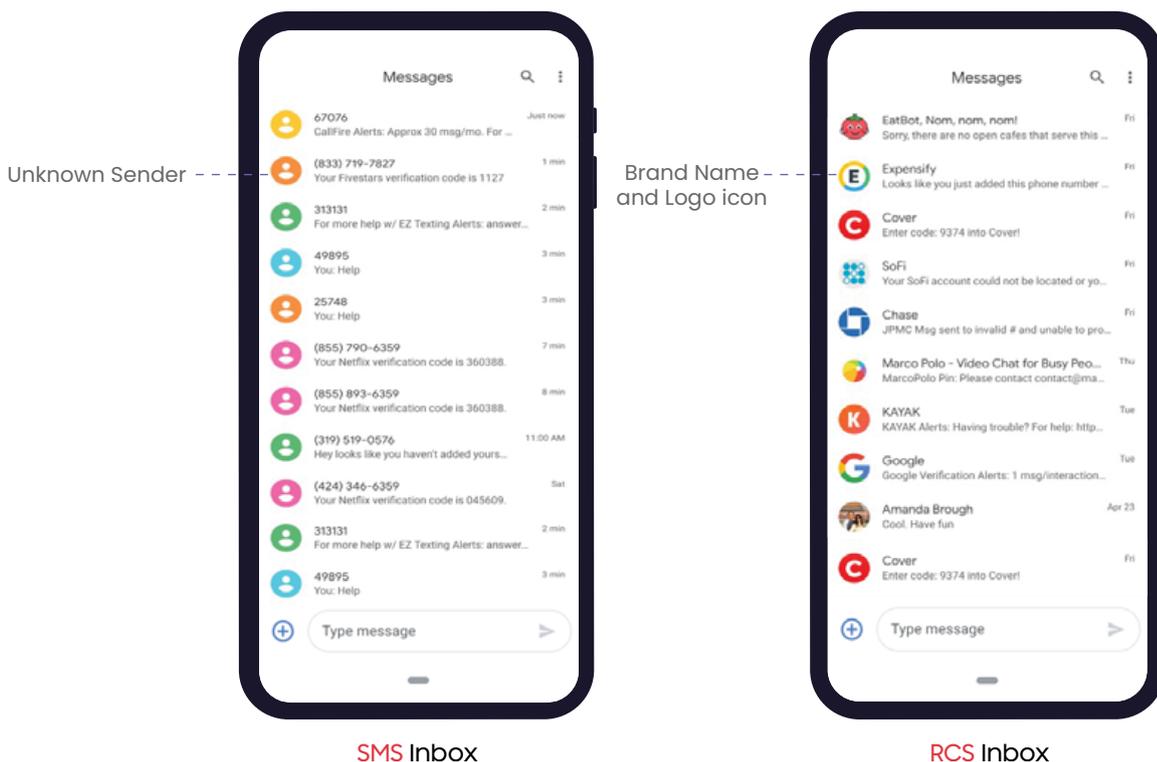

Figure 2: Inbox comparison: RCS vs SMS (Source: Google)

The figure above demonstrates how unlike its SMS counterpart, the RCS message inbox displays brand logos within the native messaging app that significantly enhances the user experience, providing a boost to the brand-consumer interactions. This whitepaper provides a comprehensive understanding of Rich Communication Services (RCS) and the ways in which it could be leveraged in business messaging. The topics covered in this whitepaper include:

a) What is RCS, and how does Business Messaging work on RCS?
b) The benefits of RCS Business Messaging
c) How are brands using RCS Business Messaging to improve results?
d) Challenges in the adoption of RCS Business Messaging
e) Dotgo's solutions in RCS Business Messaging
f) Getting started on the RCS Business Messaging campaigns

What are RCS and RBM?

RCS, short for Rich Communication Services, is the next generation of SMS, and a part of the 5G standard. RCS works on 3G and 4G networks along with SMS; in 5G networks, RCS replaces SMS. RCS is a form of IP messaging which supports the sharing of high-resolution photos, videos, location, group chats, read receipts, suggested replies, and suggested actions, among several other functions. RCS messages are sent from and received on the phone's native messaging app – the same app used for the SMS. RCS is supported by GSMA, MEF, Google, Samsung, major ODMs including Xiaomi, Vivo, Oppo, Oneplus; major carriers including AT&T, Verizon, T-Mobile, Vodafone, Orange, MTN, Airtel, Telefonica, British Telecom, Claro, Rogers, NTT Docomo, Softbank, SK Telecom, China Mobile, Jio, VI, and Globe.

RCS messages are delivered over the data network. P2P RCS, refers to person-to-person messaging over RCS, wherein a user sends messages to one or more other users. P2P RCS is usually free for users, except for any mobile data charges that might result from sending and receiving the messages. P2P RCS over Google's Android Messages app is end to end encrypted.

RBM, short for RCS Business Messaging refers to messaging between businesses and their customers (A2P and P2A communication) over the RCS channel. It allows brands to deliver secure and interactive user experiences that improves the customers' trust. RBM allows carriers and service providers to monetize RCS by charging brands for sending A2P and receiving P2A messages, similar to the way carriers and service providers monetize A2P SMS.

Features of RBM

A typical RCS business message offers branding, security, trust, and a rich conversational experience akin to what is available in the OTT apps such as WhatsApp, Facebook Messenger, Telegram, and Viber. It offers a smartphone app-like experience through the native messaging app of the phone. Some of the features are:
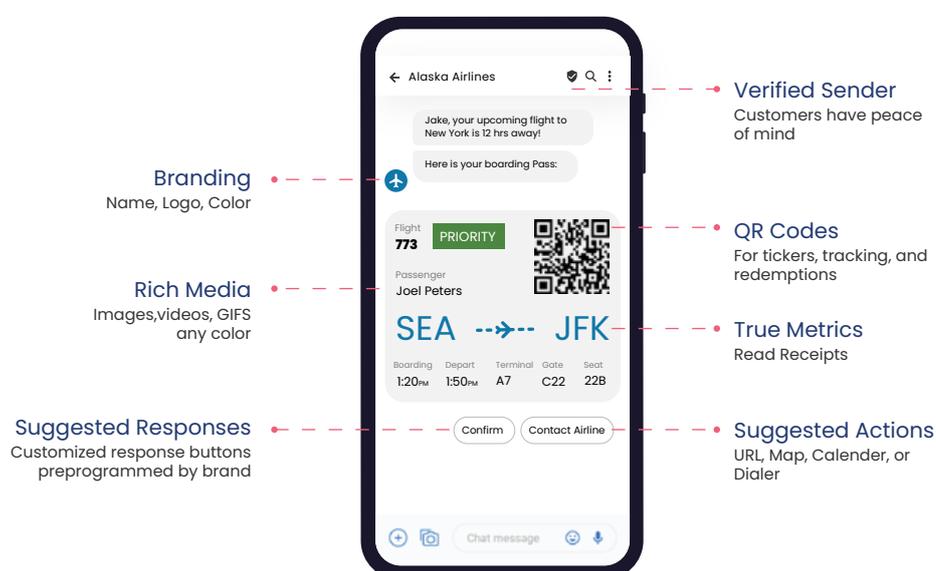

Figure 3: RCS Features

› **Branding**: Each RBM message is accompanied by the brand logo enhancing consumer experience and strengthening trust through identity. Thereby providing a branding opportunity for the enterprise, and adequate scope for increasing brand awareness among consumers.

› **Verification and Trust**: Each business is verified before being permitted to send RBM messages and a check mark (trust mark) is added against the brand name to provide trust and assurance to the consumers.

› **Delivery and Read receipts**: RBM allows brands to ascertain whether a message has been delivered, and if the recipients have read a message or not.

› **Pay on delivery**: Enterprises pay for the RBM service only if a message is successfully delivered, unlike SMS, where brands pay for messages sent (irrespective of whether the SMS message is delivered or not).

› **Chip Lists and Buttons**: A chip list is a horizontal set of buttons with each of them suggesting a unique reply or action that brands can use to deliver a conversational user experience. It can comprise buttons suggesting a user response or an action, as illustrated in Figure 3 by "Confirm" and "Contact Airline".

› **Suggested Replies**: Customers can quickly respond to brands through suggested responses thereby reducing the effort and time taken to type messages. In Figure 3, a user can click on "Confirm", and a response "Confirm" is sent back to the airline.

› **Suggested Actions**: Customers can quickly take actions for speedy completion of tasks. These actions guide users to tasks that leverage the functionality built into the devices. Some of the suggested actions and the various ways in which brands can use them, are listed below:

i) **Open a URL** : When included with an RCS message, this action allows users to open a website on the phone. In Figure 4, a user can view the listing on Zillow's website by clicking on the "See More Details" button.
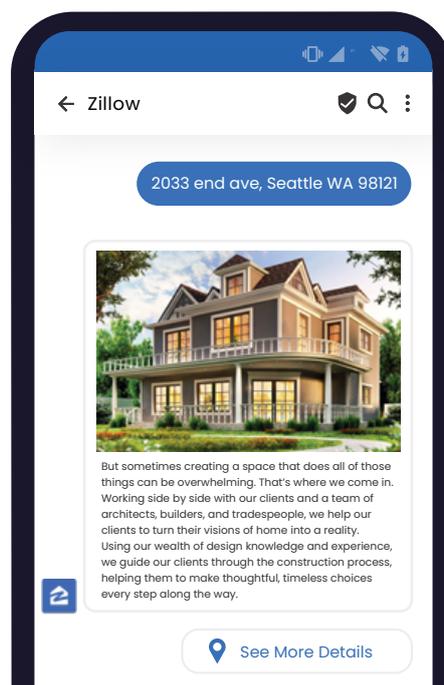

Figure 4: Open a URL

ii) Dial a number : When included with an RCS message, this suggested action allows a customer to make a phone call to the brand.
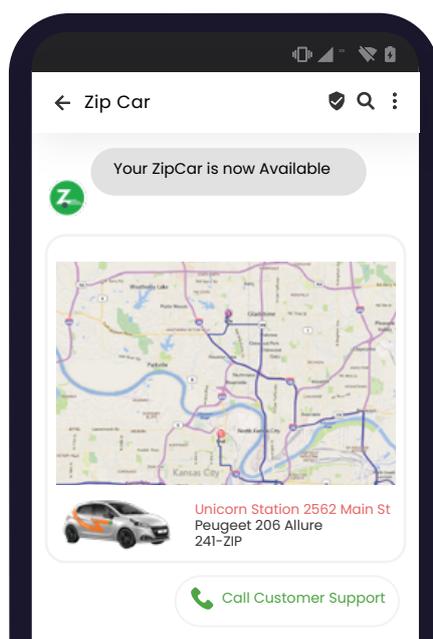

Figure 5: Trigger a Voice Call

iii) View Location : When brands share their location through an RCS message, customers can locate them at the click of a button.
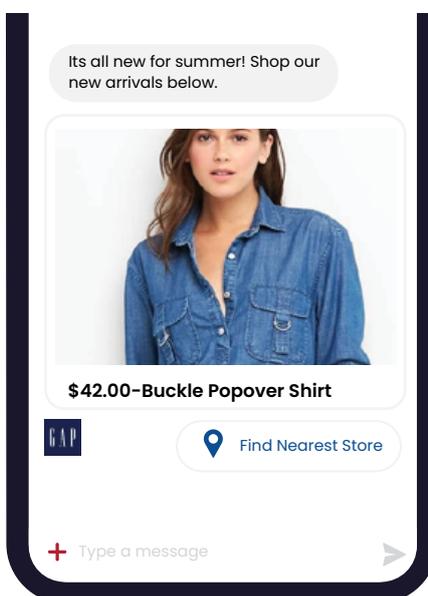

Figure 6: View Location

Once the customer clicks on the Find Nearest Store button, the store's location is displayed using the phone's default mapping app (such as Google Maps).

iv) Share Location : This suggested action allows a user to share his current location with a brand. For example, in the below image, HotelTonight is a brand that sends a business message to know the customer's location.
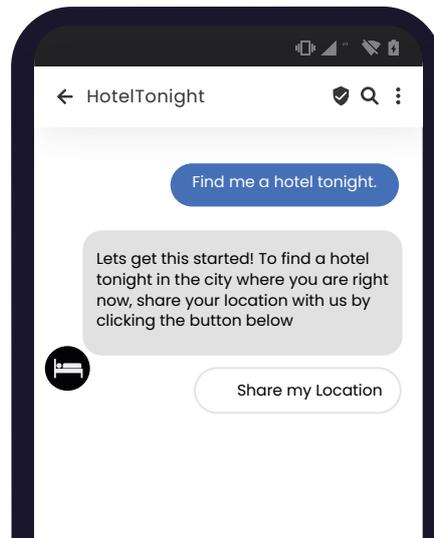
Figure 7: Share Location

Once the customer clicks on the "Share My Location" button, his location is shared with HotelTonight. The location information helps HotelTonight recommend the nearby hotels to the customer.

v) Add to Calendar : Opens the default calendar app of the mobile phone. For example, in the below example, Alaska Airlines sends a boarding pass to a passenger.
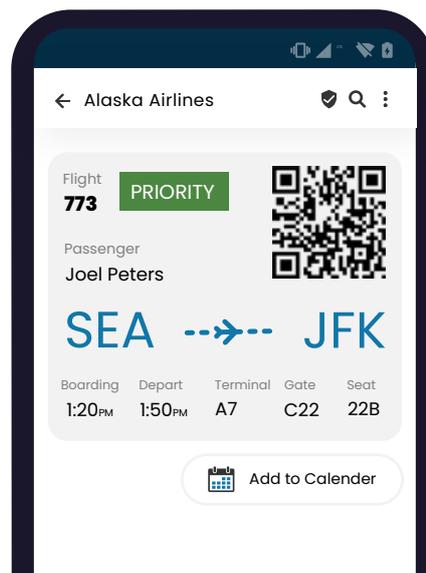

Figure 8: Add to Calendar

Once the passenger clicks on the Add to Calendar button, the flight information is added to the phone's calendar app.

> **Rich Cards**: Rich cards allow brands to include text, images/videos, and suggested replies and actions in a single entity. It enables brands to engage customers better by providing them with resources and options that they might be looking for. For example, in the below rich card from Enin, a customer support RCS agent for 9mobile, Nigeria, customers can have quick access to their data balance and previous transactions. They can also choose to buy data if they wish to, by clicking on the buy data button on the rich card.
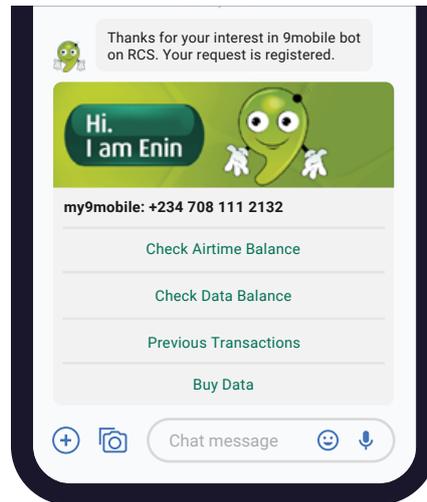
Figure 9: Rich Card

> **Carousel**: RCS carousel is a collection of rich cards that are horizontally scrollable. A carousel may contain the following:

- Title text
- Subtitle text
- Image (not mandatory)
- Buttons for suggested replies or suggested actions.

Carousels enable brands to showcase products and options that are most suited to customers based on the context.
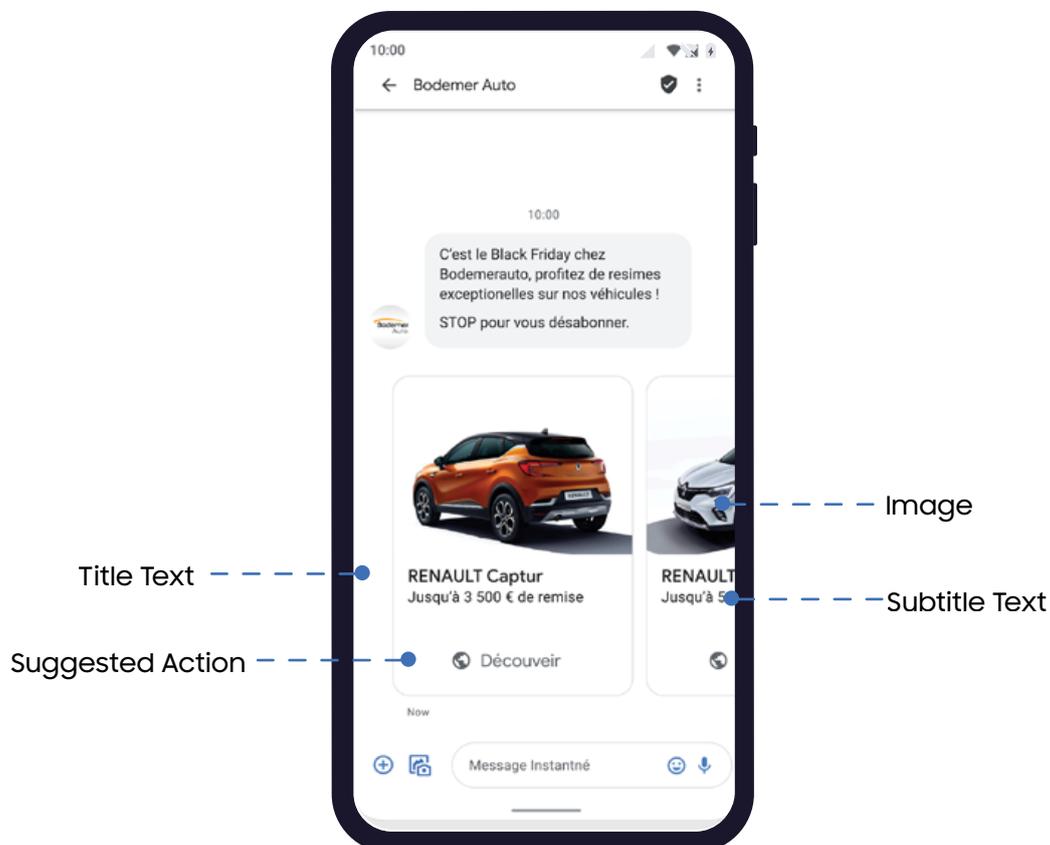

Figure 10: Carousel

> **Improved User Confidence:** : Confidential information such as One-Time-Passwords (OTPs), when delivered through RCS, with verified brand information, instill confidence in users during the authentication process.

Use Cases of RBM

There are three categories of use cases namely:

- Transactional Messages
  Application-to-Person (A2P) Messages used to send notifications, alerts, service messages, one-time passwords (OTPs) etc.

- Marketing and Promotional Messages
  Application-to-Person (A2P) Messages used for marketing communications such as product announcements, sale announcements, promotional offers, coupons, etc.

- Conversational Messaging
  Two-way messages (A2P and P2A) used for customer engagement, sales, support, help from live agents, or to offer complete service experiences such as food delivery, etc.

Each of these categories are explained in detail below.

Transactional Messages

Transactional A2P messages sent by a brand to a consumer through SMS, such as one-time passwords (OTPs) and notifications, can be enriched with RCS. Some of the transaction use cases are mentioned below:

i.) One-time Password (OTP): OTPs are one-time passwords generally associated with two factor authentication or financial transactions. Enterprises can use RCS to send OTPs, along with their verified brand logo that gives customers confidence regarding the authenticity of the message. As shown in Figure 11, the user experience drastically improves when they receive the OTP over RCS as compared to SMS.

By using RCS to deliver OTPs, brands get access to new KPIs such as read and click through rates to help track the transactions better.
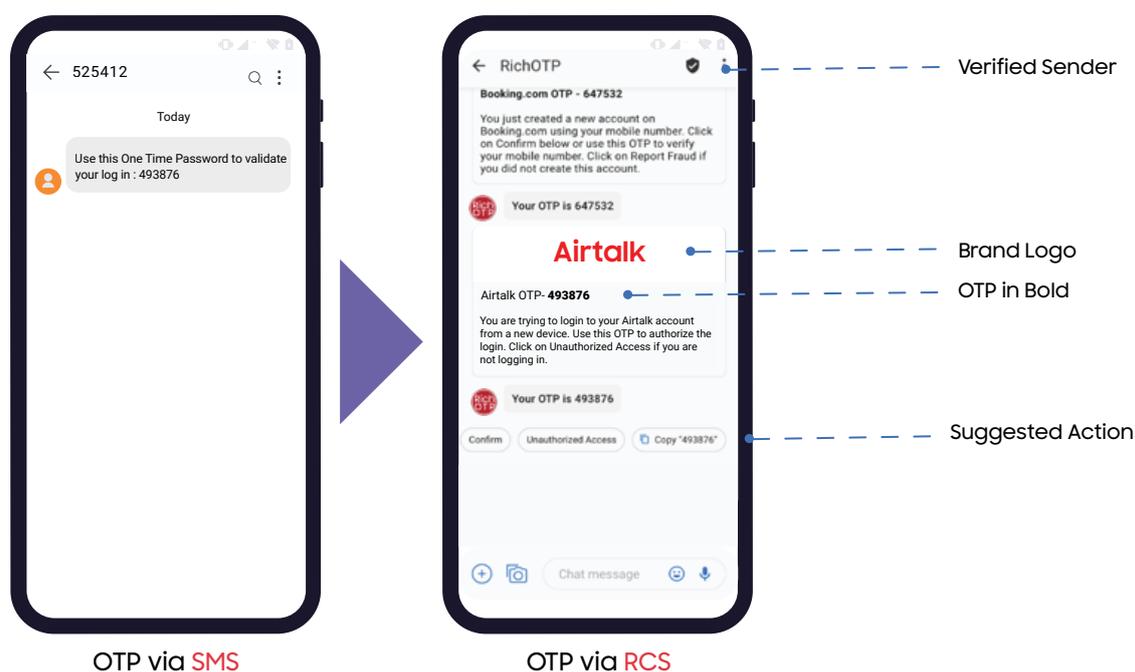

Figure 11: OTP over RCS

ii.) SMS sent over RCS: Enterprises can delivers regular text messages over RCS. RCS helps transform the plain text SMS from an unfamiliar sender ID, into a rich message from a verified sender, delivered along with the brand's name and logo. Users receive the textual content on their RCS-enabled phones, along with the brand logo and the verified trust mark. Figure 12 highlights the difference between a regular SMS and the SMS sent over RCS.
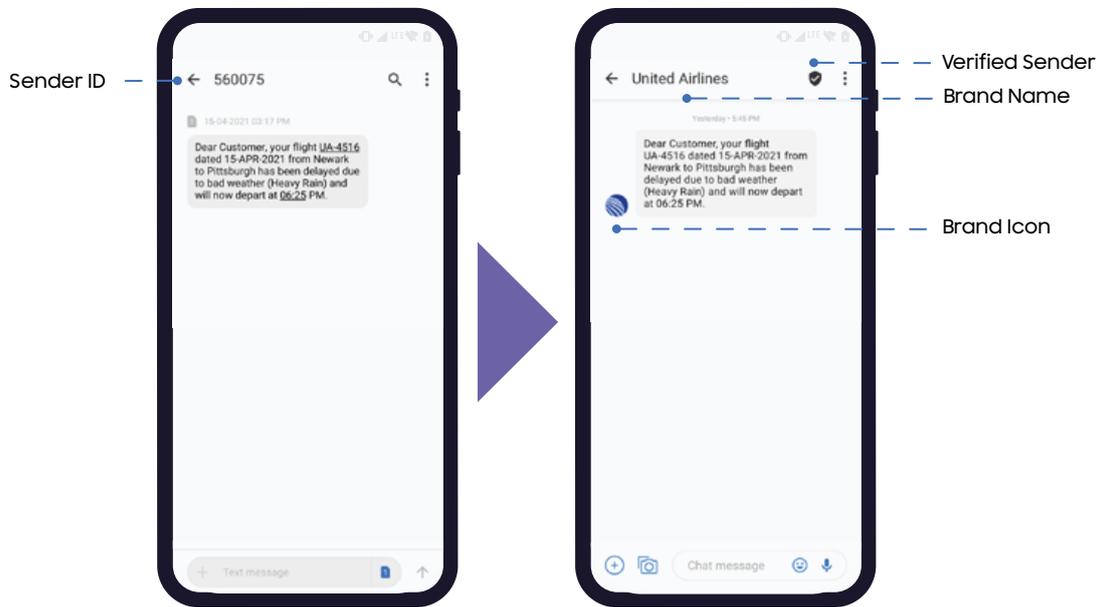
Figure 12: Regular SMS sent over RCS

iii.) Rich Notifications: Brands can send notification messages, such as alerts, payment reminders, payment confirmations, service messages, shopping confirmations, delivery notices, and account balances; enriched with images, rich cards, carousels, suggested responses, and more, to provide the best-in-class user experience. Figure 13 illustrates the difference between a notification delivered over RCS and SMS.

Notification via SMS   Notification via RCS

Figure 13: Notifications over RCS

Marketing and Promotional Messages

Marketing and promotional messages shared over the RCS channel can feature attractive rich media to grab the customers' attention. More than 25% of consumers receive an unwanted SMS every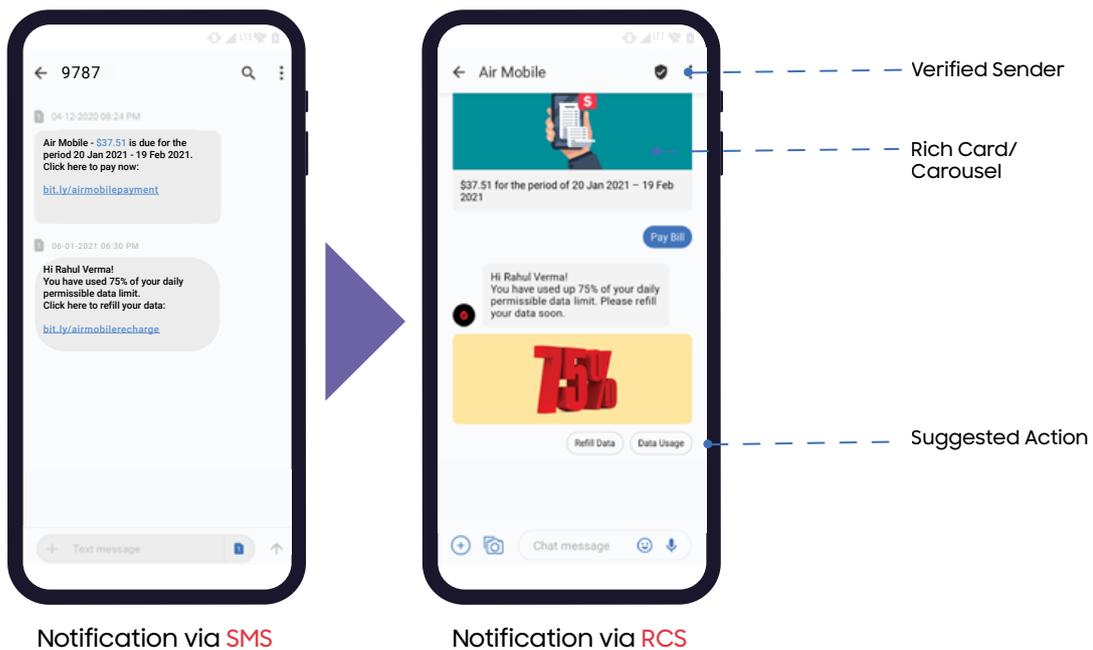 day, and SMS phishing accounts for over [25% of the $2 billion global fraud](#) cost. In such a scenario, getting messages from verified brand profiles increases consumers trust, and enables brands to see the following improvements across the customer journey.

- Positive brand impression
- Increase in business consideration
- Increase in likelihood to purchase
- Increase in likelihood to recommend

Marketing and promotional use cases for RCS include announcements of new products, sales, offers, and coupons. The richer media of RCS drives a high customer engagement rate, which ultimately translates into more sales (compared to traditional SMS and email). The below example demonstrates the use of promotions over RCS by BankBazaar.com with the use of eye-catchy images and links to their credit score calculator page.
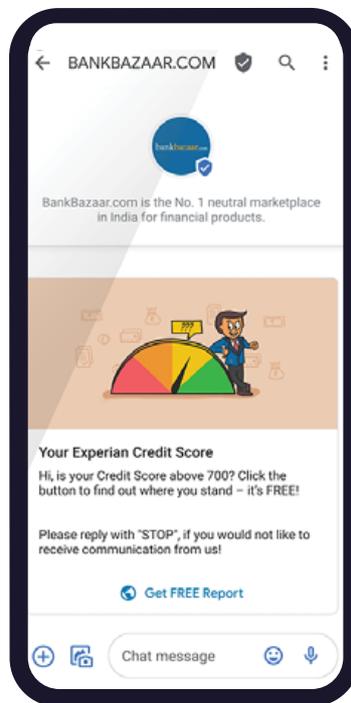
Figure 14: Sale Announcement

Conversational Messaging

Conversational messaging is an emerging customer engagement paradigm that enables two-way conversations between brands and their customers. Businesses are increasingly leveraging conversational messaging to serve customers in real time with automated chatbots using rich media functionalities such as payment gateways or suggested actions and more, thereby offering a more conversational, contextual and interactive experience.

However, there may be cases when the bot may not be able comprehend the text keyed in by a customer. In such a case, the control is smoothly transitioned to a live agent. Figure 15 shows a case in which the customer seeks to understand the brand's return policy by connecting with a live agent.

Figure 15: Conversational Messaging through Chatbots & Live Agents
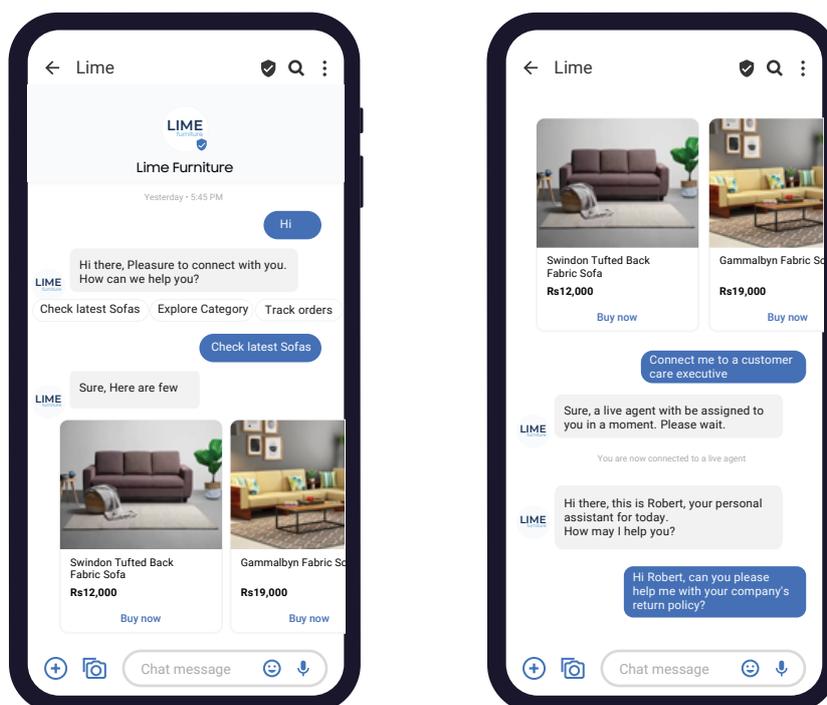
Consumers these days are preferring live chat over phone calls for customer service. This has been demonstrated by a survey done by eDigital's Customer Service Bechmark which surveyed 2000 consumers on their experience of interacting with various customer service channels. Here's what the results show.

| 73% | 61% | 53% | 48% | 44% |
| LIVE CHAT | EMAIL | APP | SOCIAL MEDIA | PHONE CALLS |
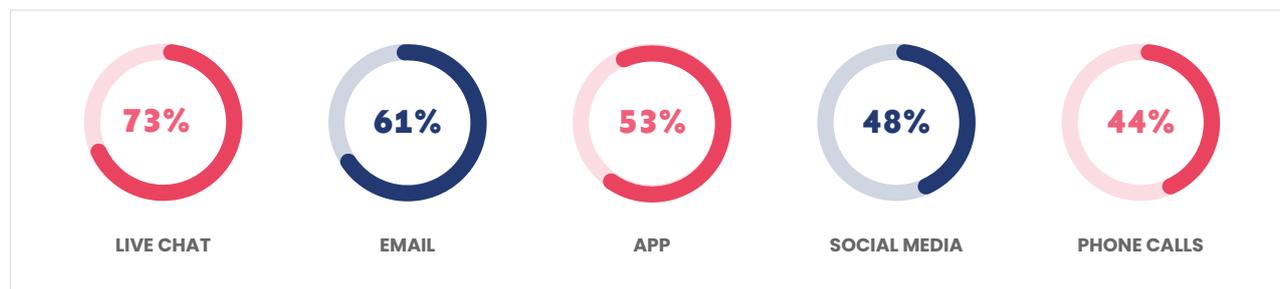
Figure 16: Customers prefer live chat over other channels

Case Studies of RBM

Brands that adopted RCS have noticed a remarkable improvement in user experience, resulting in higher conversion rates and customer satisfaction. Some of the instances where brands have successfully gone live with RBM are:

Subway

Background

With over 21,000 franchisees operating over 40,000 restaurants in nearly 100 countries, Subway is one of the largest restaurant chains in the world.

Challenge

Starting from 2015, Subway used SMS to send weekly offers to their customers, which they sought to upgrade in 2018 with greater emphasis on personalization. The intention was to drive more sales through a new level of customer engagement.

Figure 17: Subway using RCS

Solution

Subway launched a campaign for the promotion of sandwiches and meal deals – using rich media features of RCS Business Messaging. Further, to compare the effectiveness of RCS, they launched a control group using the SMS channel.
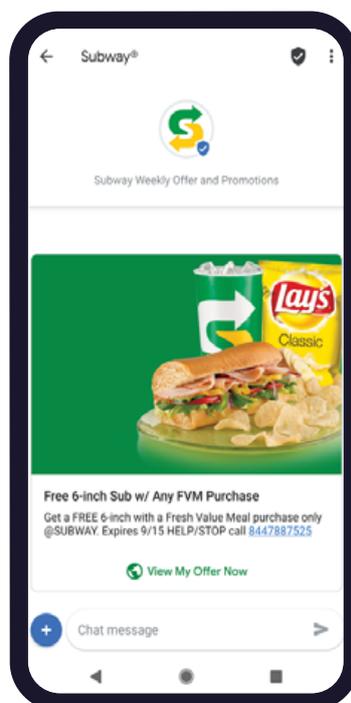
Results

RCS Business Messaging resulted in a phenomenal 140 percent increase in conversions for sandwiches and a 51 percent increase in conversions for meal deals, when compared with SMS. (Source: Google Jibe)

140%
Increase in Conversions for Sandwiches

51%
Increase in Conversions for Meal Deals

World Health Organization (WHO)

About:

In 2020, when the COVID-19 hit the world, the World Health Organization (WHO) wanted to disseminate information on how people could prevent themselves from being infected, to every citizen in the world.

Challenge:

Delivering timely and accurate information to citizens across the globe and ensuring high open rates wasn't an easy task.

Solution:

WHO teamed up with OutThereMedia to roll out a global campaign through RCS mobile messaging, in partnership with operators that included Vodafone, Vodacom, MTN, Telefonica, Orange, 9Mobile, and a lot more. The strategy was to deliver appropriate notifications and links to certain important landing pages. Thus, an RCS bot that people could access in their native language to get the latest updates on the Covid-19 situation, was developed.
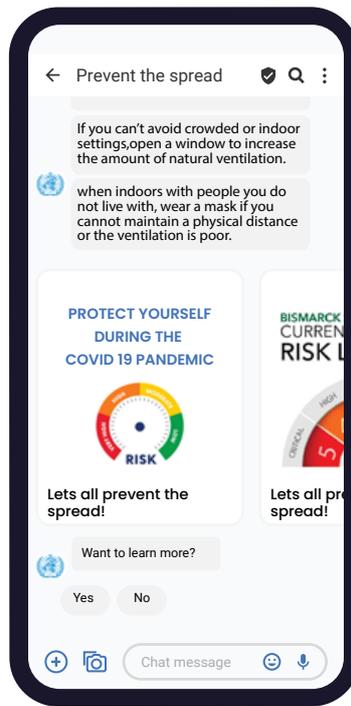
Figure 18: COVID-19 Campaign using RCS by WHO

Results:

The stats demonstrate that this global campaign was positively received by the participants.

96%
Read Rates

46%
Engagement Rate

UN75

About:

As the world faced (and continues to face) a growing list of challenges, the United Nations (UN) on its 75th anniversary, launched a global initiative to collect public opinion from all countries to frame policies for a better future.

Challenge:

Collecting data from people across the world through online channels, particularly from regions with low internet penetration, was a major challenge.

Solution:

The United Nations launched an RCS chatbot named UN75 in collaboration with Vodafone that engaged users across the globe to participate in the survey, besides spreading awareness about the current socio-economic situation. The results of the survey were presented for the world leaders' review, following which the steps to address the challenges would be decided.
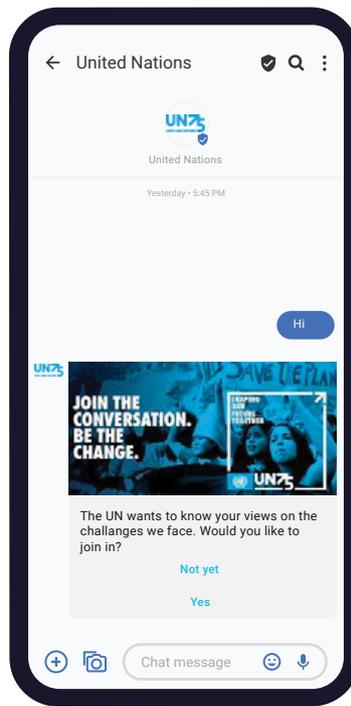
Figure 19: UN75 Bot

Results:

The below percentage represents the success of the campaign across the world.

| 6%
Global
Engagement Rate | 3%
Clickthrough
Rate Worldwide |

Vodafone TOBi

About Vodafone:

Vodafone is a telecom service provider with operations spread across the globe that seeks to serve people through world class digital experiences.

Challenge:

Increasing workload due to a large customer base seeking services such as checking of account balances, swapping of SIM cards, generation of account statements and so forth, kept the Vodafone customer care centers extremely busy.

Solution:

Reducing the workload of the support executives called for automating the process of responding to some of the common customer queries. Vodafone deployed an AI-powered RCS chatbot called TOBi, using which customers could automatically check their account balances, buy bundles, perform a SIM swap and so on.

Figure 20: Vodafone TOBi Bot

Results:

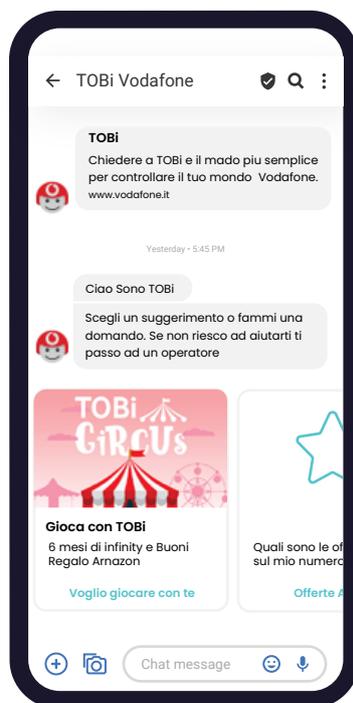The results were astonishing with a 90% customer conversion rate on RCS compared to previous channels.

90%
Success Rate on customer conversion compared to previous channels

More case studies on RCS can be found on Google Jibe and MEF website.

The Future of RCS Business Messaging

RCS has already entered the market and is here to stay as carriers across the globe are preparing themselves to support it. A major boost for RCS came in late 2020, when Google launched the Guest Cloud available across the world on all MNOs. Further, in 2021, device manufacturers such as Samsung, Oppo, OnePlus, Vivo, amongst others, announced that they will preinstall the Android Messages app as their standard messaging app. Further, the three major US carriers (T-Mobile, AT&T, and Verizon), all standardized on Android Messages as the messaging client on all Android phones. In June 2021, Google announced end-to-end encryption in the Android Messages app, giving another boost to RCS. With RCS being the messaging standard for 5G, it is expected that RCS support will spread to all Android devices, and that the iOS devices too should eventually support RCS, thereby boosting its growth.

Different agencies have compiled reports predicting the market growth for RCS and RCS Business Messaging. The common aspect among them is that all of them are projecting tremendous growth, with trillions of messages being send over RCS before the end of this decade.

> "The channel that is "Rich Business Messaging" will be worth hundreds of millions of dollars within 10-15 years. It will because there are too many rich messaging users for it not to become a channel of immense scale. RCS has the potential to become one of the biggest and richest engagement platforms in the world, either as a standalone platform or as part of the company's CPaaS offering. In order to fulfil its destiny (as we see it), planets must align meaning every company within the RCS ecosystem must put on a united front to sell the channel to the brands. Now is not the time to squabble over early-adopter revenues and market share. Mid-term onwards there will be enough spend in the pie for all."

Nick Lane
Chief Insights Analyst & Founder, MobileSquared

MobileSquared estimates the global RCS market size to grow from $21 million in 2020 to $4.4 billion in 2025, with a compound annual growth rate (CAGR) of 143.27 percent.

Use Cases	2020	2021	2022	2023	2024	2025
RCS (conventional)	$17 M	$61 M	$297 M	$610 M	$1,222 M	$2,448 M
Ad spend migration	$4 M	$11 M	$33 M	$114 M	$264 M	$508 M
Customer care			$27 M	$168 M	$628 M	$1,469 M
Total potential RCS spend	$21 M	$72 M	$357 M	$892 M	$2,114 M	$4,425 M

Figure 21: Global RCS Market Size Potential (Source: MobileSquared)

In the Figure 21 above, SMS migration refers to revenues derived from migration of SMS to RCS. Ad Spend refers to revenues from ad spending migrating from banner ads to conversational messaging. Customer care is a new use case for rich messaging, as it has typically not been used with SMS.

They also predict that over 450 mobile operators would offer RCS Business Messaging by 2023.

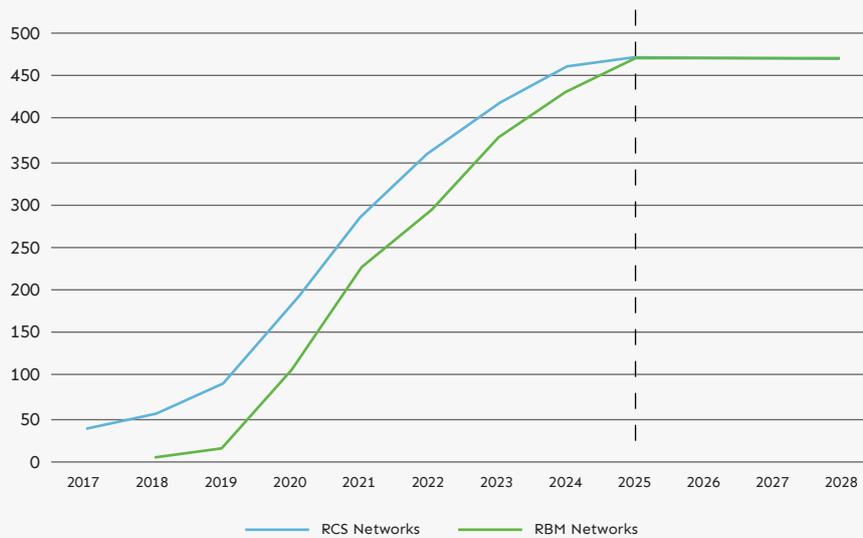**Global RCS / RBM deployment, 2017-2028**
Ceiling reached 2025

Figure 22: RCS/RBM Deployments Across the World (Source)

2025 would be the time when 50 percent of the mobile subscribers globally, would seek to operate on networks that support RCS, according to a study by Juniper Research (source). The period beyond 2025 is expected to stabilize in terms of the deployments, when almost half of the world's population would be using RCS messaging.

Mobilesquared predicts the number of RCS/RBM users to reach 5 billion by 2028 with a CAGR of 26 percent.

Global RCS / RBM Users,10-year forcasts
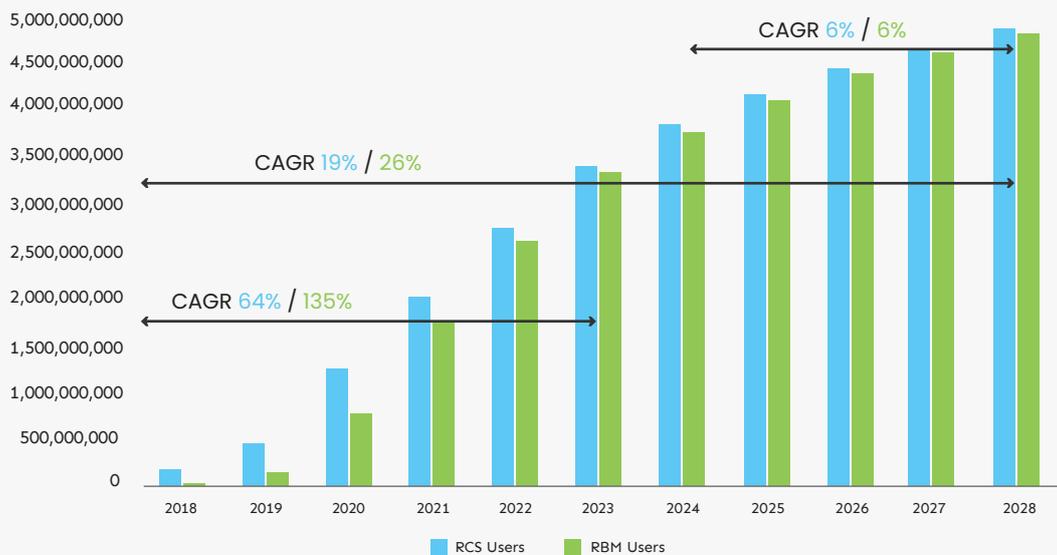Short-term/full-term/long-term outlook

Figure 23: Mobilesquared Forecast of the RCS/RBM Users over a 10-year Period (Source)

Naturally, the global RCS Business Messaging traffic is also expected to witness a sharp increase in the period between 2021 and 2028.

A study by Juniper Research predicts a 2500 percent growth in RBM traffic to 415 billion messages by 2025, up from 160 million in 2020.

Global RBM total traffic, 2018-2028

Short-term/full-term/long-term outlook
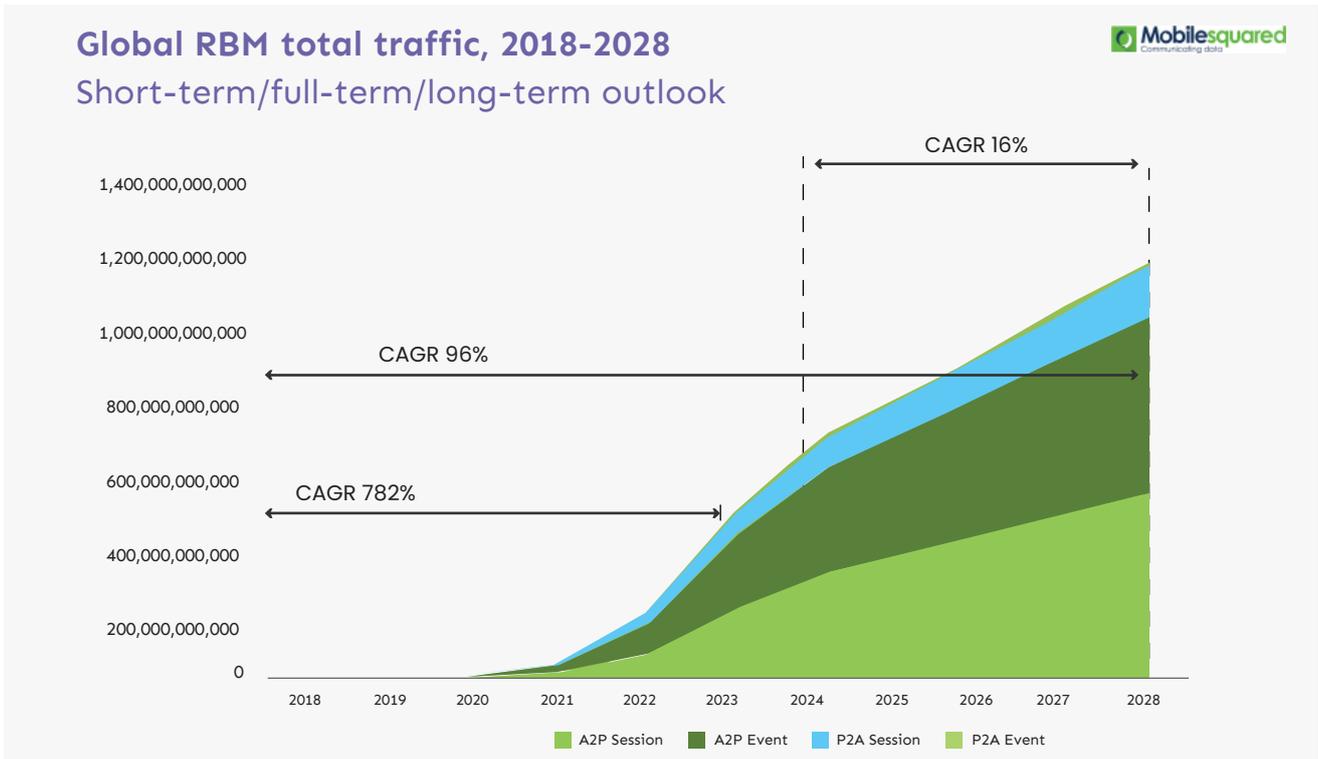
Figure 24: Mobilesquared Forecast of the RCS/RBM Traffic over a 10-year Period (Source)

The traffic related to P2A events and sessions is also expected to witness a sharp increase as compared to that of A2P sessions and events.

The projected growth in the RCS traffic is only a pointer to the growth potential of the RCS Business Messaging market. Dotgo, based on analyst reports, estimates that the total available market for business messaging, which is around $50B today, is expected to double by 2028.

Figure 25: Estimated Growth of Business Messaging Market

Challenges in RCS Adoption

While RCS presents significant opportunities for brands to drive personalized and highly engaging conversations, its adoption does face a few challenges. Some of them are:

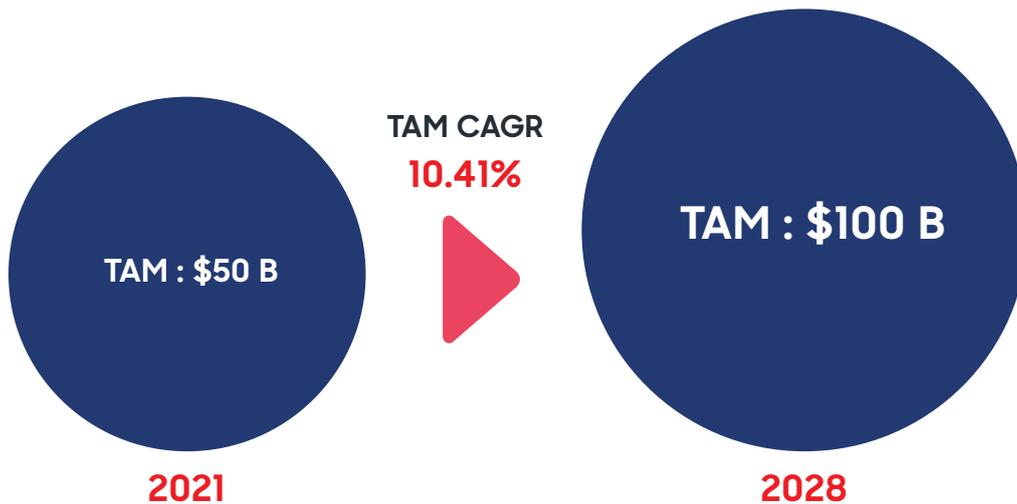**a.** **New APIs:** RCS comes with new APIs. Going live with RCS requires adoption of new APIs by developers. Developers want to write once and be able to deliver messages to customers across the world. However, different MNOs offer different APIs for RCS, requiring more work by developers.

b. **Limited, though growing, reach of RCS**: Currently, RCS is supported only on Android and not on iOS. Thus, RCS messages cannot be sent to iPhones, limiting the appeal for brands. Further, Android devices require the Android Messages app, which is the standard messages app on the new Android devices; but nevertheless, it is not pre-loaded on all the Android devices currently in the market.

c. **Availability of RBM**: While P2P RCS messaging has been launched and is available worldwide, RCS business messaging is available only in certain countries and carriers.

d. **Varied and fragmented Verification Process**: RBM requires each brand and agent to be verified, so that a trust mark can be assigned to the agent. Trust marks are essential to success of RCS, but they also result in additional time and cost for launching RBM Agents, especially when developers have to deal with fragmented processes at multiple MNOs.

e. **Lack of Discovery**: RBM agents enable two-way conversations for sales and support. To send a message to the RBM agent of a brand, the users must first discover the agent, and then be able to trigger an interaction. There is a need for a discovery platform that lets users find and connect with brands over RCS.

f. **Lack of uniform pricing models**: There is no consistent pricing model for RCS business messaging. The pricing model can vary from carrier to carrier, sometimes even within the same country. Most carriers agree that single A2P messages are to be charged differently from conversations (or sessions). However, the definition of a session can vary significantly between carriers and countries, making it difficult to offer a simple, understandable pricing model across all operators, and for brands to understand the pricing.

The RCS ecosystem is working hard to resolve these challenges, as each challenge also presents an opportunity to innovate and create a solution. The [Mobile Ecosystem Forum](#) (MEF) has identified the need for stronger collaboration in the ecosystem to address these issues. Accordingly, MEF has brought the various ecosystem players together to help find solutions to the challenges facing the growth of RBM.

RCS Universal Profile

When the RCS was first introduced in 2012, most Mobile Network Operators (MNO)s created proprietary versions that worked only for their subscribers, which proved to be a hurdle for inter-MNO messaging. Hence, the GSMA proposed a set of guidelines that operators and device manufacturers across the globe would adhere to, for safeguarding the interests of subscribers. The result was the Universal RCS Profile that guaranteed interoperability in terms of messaging between subscribers of different MNOs.

The [Universal Profile](#) (UP) is a global standard put forth by the GSMA to simplify the adoption and implementation of RCS to support service interoperability between MNOs, device manufacturers, and platform providers across the globe. UP mandates all MNOs, ODMs, and mobile OS providers across the world offer the same set of inter-operable features, for RCS implementation. Adherence to UP allows RCS clients from different vendors (e.g. Android Messages and Samsung Messages) to interwork with RCS servers from different vendors, and for RCS messaging to be interconnected across MNOs. Accordingly, Android Messages is the standard message app to send and receive messages over RCS channels—a move that even the equipment manufacturers such as Samsung, Oppo, Vivo, OnePlus etc., too comply with.

Some of the common features of UP include:
- Sharing of audio, images, video, and locations
- File sharing
- Typing indicators
- Read receipts
- Group chat, and a lot more

Universal Profile is the key enabler for Messaging-as-a-Platform (MaaP), a platform to support business messaging. MaaP enables monetization strategies for MNOs using RCS. The common benefits of MaaP include:

- Development of APIs by leveraging RCS features
- Onboarding and Verification
- Directories and Triggers
- Billing

Dotgo RBM Capabilities

Dotgo, wholly owner subsidiary of Gupshup, is a leader in RCS Business Messaging. Dotgo believes in delivering best-in-class RBM solutions that can stimulate the RBM ecosystem by solving the challenges listed above, help MNOs monetize their RCS investments, and help developers adopt RCS Business Messaging seamlessly. Some of the capabilities of Dotgo include the following:

a. **Common RCS APIs across all operators**: Dotgo allows developers to use either the FNW.11, or the Google RBM APIs to develop RCS applications for delivery across the world. Further, Dotgo also provides selected simplified APIs, so as to make it easy for developers to adopt RCS into their applications. Dotgo's APIs include:

- GSMA's standard FNW.11 APIs
- Google's RBM APIs
- RichOTP® for sending of one-time passwords over RCS. RichOTP is launched on almost 50 MNOs across North America, South America, Africa, Europe, and Asia. RichOTP increases the success rate of OTPs as
  - (i) it is delivered even if the device is on the data network instead of the cellular network, and
  - (ii) it allows for one touch authentication, wherein users can click on the "Confirm" button to complete authentication.
- **Rich Notifications** for sending critical alerts or important updates with the use of rich media features such as branding, images, carousels, branding and suggested actions.
- **Rich Promotions** for sending rich media promotional messages.
- RichSMS™, SMPP and SMS APIs for sending text messages over RCS, along with branding and trust marks, while using SMS APIs and protocols (No need for developers to make any software changes). The RichSMS agent is launched on almost 50 MNOs across North America, South America, Africa, Europe, and Asia.
- **Rich Surveys** to create surveys and collect the opinions of the masses.
- **Rich Coupons** for sending coupons with images and carousels to boost sales and usage rates

b. **Dotgo MaaP (Messaging-as-a-Platform)** – Dotgo's MaaP, a cloud communications platform, including:

- RCS APIs, including GSMA's FNW.11, Google's RBM, RichOTP, and RichSMS
- Bot Store® - RCS directory, including web directory and Directory Chatbot
- Onboarding and Verification of brands and RBM Agents
- Universal RCS™
- Triggers to initiate chat
- Billing, payments, and reconciliation

The Dotgo MaaP is integrated with Google Jibe RCS platform, as well as other leading RCS platforms for business messaging (e.g. Mavenir, Synchronoss, Jio, Orange, and Vodafone), and is the world's most advanced RBM platform.

c. **Common Onboarding and Verification** – Dotgo is an authorised verification authority for RCS, and has been doing verification of RCS bots and brands since 2020. It provides a common onboarding and verification services of brands and RBM agents across all MNOs using its MaaP platform, as shown in Figure 26 for Nigeria. Some of the highlights of Dotgo's brand verification are:

- End-to-end process for verification
- Customized to local norms and regulations
- One Verification – common verification across all MNOs in the country (verify once, launch everywhere)
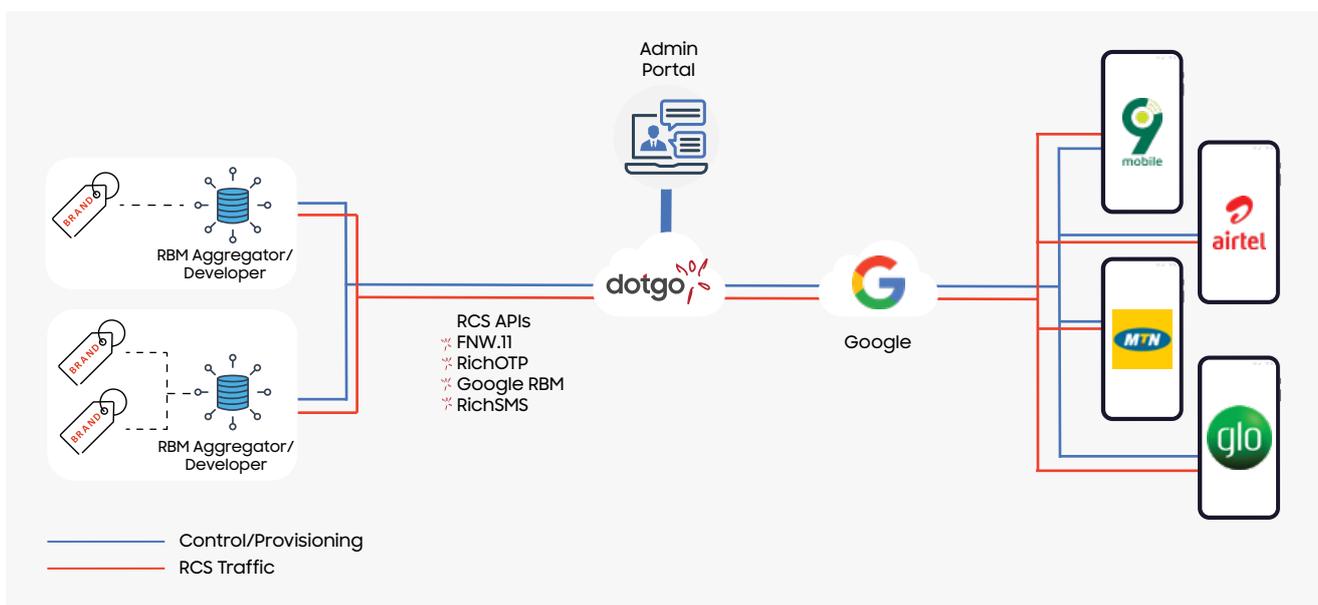- Works with all MaaPs

Figure 26: Common Onboarding and Verification in Nigeria with Dotgo MaaP

d. **Discovery**: Dotgo has launched the Dotgo Bot store, which is the world's first, largest, and only open directory of RCS chatbots available globally. It enables consumers to discover and connect with their favorite brands instantly, from any part of the world.

Bots are featured under different categories such as "Trending", "Critics' Choice", or "New" for greater visibility to customers. As users review and rate the bots, brands have access to the most genuine feedback from their customers on the chatbot experience, as also products and services.

The Bot Store is accessible from the Messages app as an RBM Agent that consumers can use to search for and connect with any chatbot available from their MNO. Users simply click on Connect Me button to start chatting with a bot, as shown below:
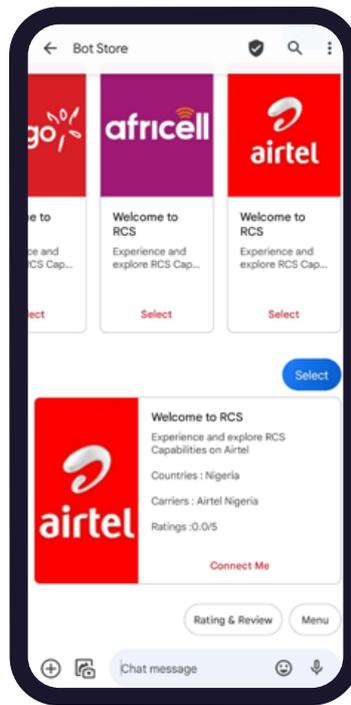
Figure 27: Connecting to Welcome to RCS Agent using Dotgo Bot Store

e. **Universal RCS**: The reach of RCS is growing rapidly, surpassing 25% in many countries, and even reaching 50% in some. Nevertheless, reach, especially to iPhones, continues to be a challenge for adoption of RCS. Figure 28 shows Gartner's forecast on adoption of iOS and Android devices globally, with iOS devices having a market share of 15% globally. In certain markets, especially USA, UK, and Germany, iOS represents over 50% of the market.

	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Android	3,439,941	3,293,565	3,201,215	3,183,631	3,218,728	3,300,209	3,404,011
iOS	470,930	489,724	508,575	517,981	522,929	531,659	548,308

Figure 28: iOS and Android Adoption Forecast. Source (Gartner)

The current reach of RCS being limited to only RCS enabled mobile devices restricts the potential benefits that brands and operators can reap by deploying RCS. Since upgrading all the mobile devices around the globe into RCS capable devices is not going to happen overnight, there is a need for innovative solutions. Dotgo, has developed "Universal RCS" - a solution that extends the reach of RCS to iPhone and other non-RCS devices. Universal RCS sends a fallback SMS with a branded link to an RCS experience over the mobile browser. The users get a business messaging experience that is virtually indistinguishable from the native RCS client experience. Thereby, Universal RCS enables brands to deliver rich messaging experience to each and every customer, and in turn, increases revenue opportunities from RCS for all stakeholders.

What Does the Universal RCS Offer?

Universal RCS expands the reach of all RCS APIs, including:

- GSMA RCS MaaP Chatbot API (FNW.11)
- Google RBM API for building RBM experiences

Developers can continue using the above RCS APIs and configure their RBM Agent to use Universal RCS capability, thereby expanding the reach to all smartphones.

Features of Universal RCS

Universal RCS replicates the RCS experience on iPhone and other non-RCS smartphones, supporting the complete feature set of RCS, including:

- Rich Cards and Carousels
- Rich media including audio, video, documents etc.
- Suggested actions, suggested replies
- 2-way conversational experiences
- Trust Marks and Verification
- Security

Branded links to the RCS messages are delivered through fallback SMS to the smartphones that are not RCS-enabled, as shown in Figure 29.
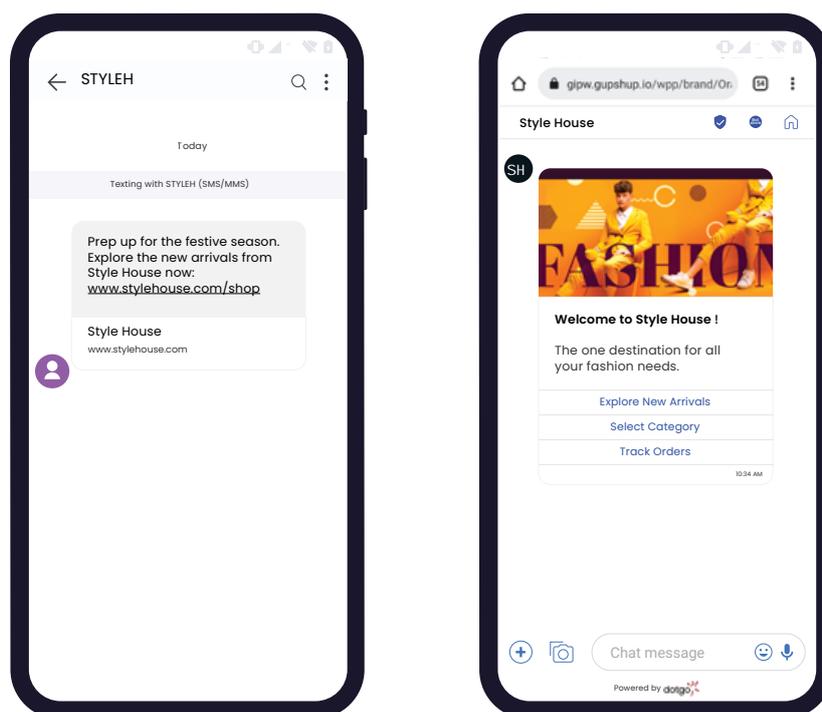

Figure 29: Universal RCS Experience

Dotgo's Success Stories

Orange Célébrité

Orange, a leading telecom operator in Europe, Middle East, and Africa, is one of the pioneers in RCS, having launched RCS across most of their group since 2019 . In 2020, Orange decided to enrich and expand their Orange Célébrité service – a celebrity fan engagement platform that allowed users to connect with their fans through text or audio – by using the RCS channel.

Dotgo helped upgrade the audio and text messaging service with videos, images, and action buttons to deliver a rich interactive experience.

The result was a 33 percent increase in the user base and a dramatic 15x improvement in the retrieval rate, all from within the Messages app.
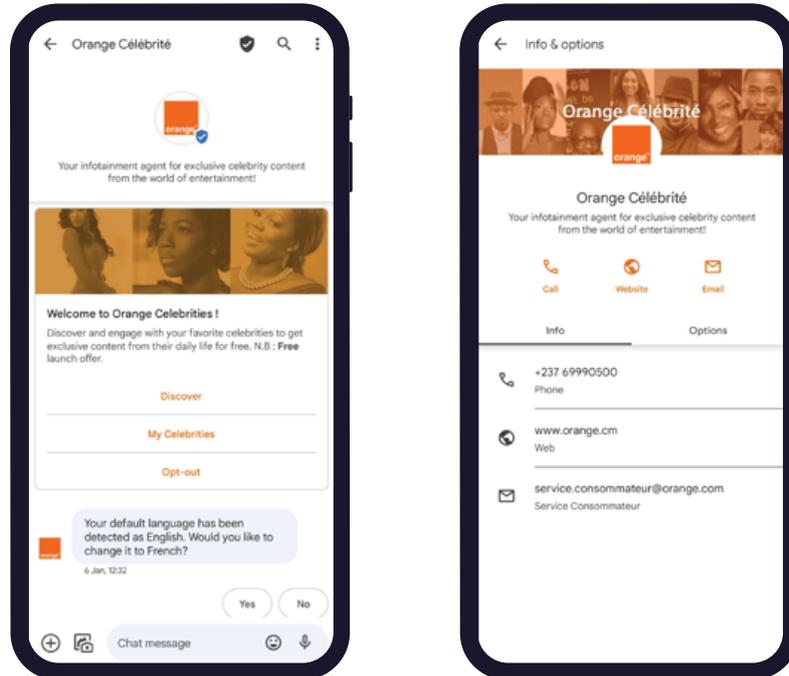

Figure 30: Fan Engagement through Orange Célébrité

Orange InstaVoice

Orange, being an early adopter, used RCS to deliver voicemail services to improve the overall voicemail experience for users. With Orange Instavoice, Orange users can use the Messages app to:

• Set up personalized voicemail greetings
• Listen to all the voicemails without having to dial into an IVR or download a separate app.
• Use rich media features such as suggested actions and reply buttons to engage in a conversation including calling back, converting voicemail to text and listening to voicemail.

Over 80% of voicemails sent were delivered as an RCS message with a read rate of 34%.
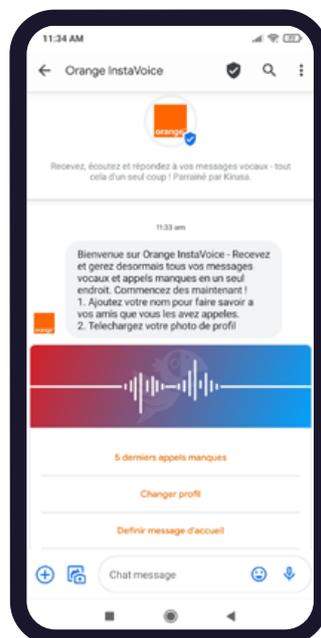

Figure 31: Orange Instavoice over RCS, for receiving voicemail

9Mobile Enin

9mobile is a private mobile network operator (MNO) in Nigeria, offering a wide range of telecommunication services across the voice and data domains. As one of Nigeria's biggest operators, 9Mobile has a large customer base seeking various services such as data or airtime balance all through the day. Manually responding to each query was challenging and time consuming. Hence 9Mobile sought to automate customer support operations using a system that would be available 24/7. The solution was designed and developed by Dotgo.

Enin, the RCS chatbot for 9Mobile incorporated all the features required to provide an engaging conversational experience to users. Enin allowed 9Mobile customers to make airtime and data purchases, avail offers and bonuses, all by tapping a few buttons in the native messaging app. Customers could also access their transaction history through the Enin chatbot.

Since launch, more than 250k customers have sent/received over 6 million RCS messages using the Enin bot with a read rate of 69% and engagement rate of 26%. The session depth* were mostly between 5-10, meaning the users had a good conversation, leading to 81.4% of the data buying attempts being successful.
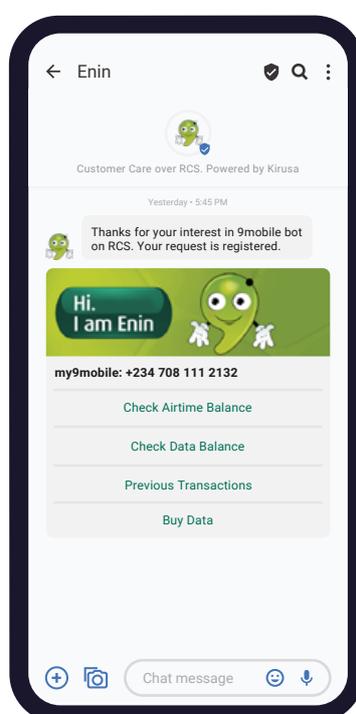

Figure 32: Enin Chatbot of 9Mobile

Welcome to RCS Bot

When a carrier launches RCS, one of the challenges it faced is to educate its users about RCS. Hence, Dotgo has developed a "Welcome to RCS" bot to introduce users to RCS and its capabilities.

Users can learn to use the RCS features of the Messages App - chat with their friends; send images, documents, videos; and to create groups.

The "Welcome to RCS" bot has since been launched at more than fifteen MNOs.

Figure 33, showcases the "Welcome to RCS" bot launched on MTN network in Nigeria.

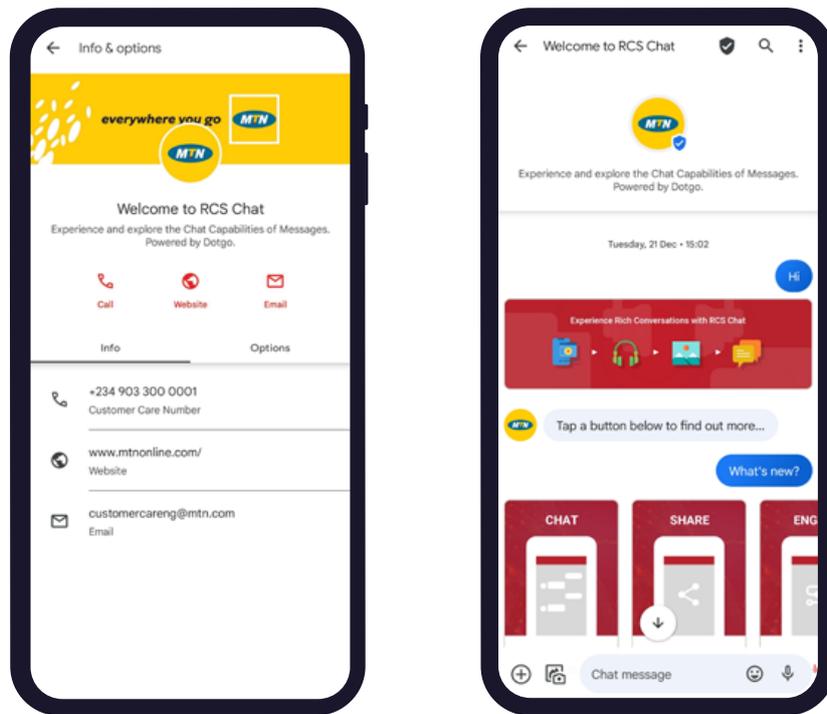*Session depth is the number of messages exchanged (sum of A2P and P2A) is a session.

Figure 33: Welcome to RCS Bot for MTN

Conclusion

Users have adopted messaging as the new paradigm for communications. RCS paves the way for developers to engage with their customers with rich, two way, trusted, and secure messaging using the native messaging app on the hot seat on their mobile screens. Developers can leverage RCS APIs to enrich current use cases, and build new ones – with RichOTPs, Rich Notifications, Rich Promotions, Rich Surveys, and two-way Rich Conversations for marketing, sales and support. Dotgo's innovations, such as RichOTP® and RichSMS™, hasten the adoption curve for RCS.

CONTACT US

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Glossary

> A2P: Application-to-Person

> API: Application Programming Interface - The intermediary unit that permits the sharing of data between two applications.

> Bot: A short form of the word 'robot,' a bot is any application that is programmed to simulate a human activity such as performing tasks or responding to a predefined set of questions.

> Deep linking - Any link, which when invoked by users with RCS enabled devices, allows them to initiate an RCS chat with a brand, e.g., by "click to chat", "Connect Me", "Call a number" or "scan QR code" on a website.

> GSMA: Global System for Mobile Communications Association - GSM Association (commonly referred to as the GSMA) The Global System for Mobile Communications, originally Groupe Spécial Mobile is an association of most of the MNOs in the world.

> MaaP: Messaging as a Platform - A platform used to provide RCS Business Messaging, which may be deployed in the cloud, or in the MNO's data center.

> MNO: Mobile Network Operators - Also known as carriers, MNOs are independent communication service providers that own the complete telecom infrastructure for hosting and managing mobile communications. Examples of MNOs include AT&T, Orange, and Vodafone.

> OTP: One Time Password – The user authentication mechanism wherein a secret code is shared through the mobile channel to verify the identify of the intended user/recipient.

> OTT: Over-the-top – A new delivery method of content streaming over the internet, across different devices.

> P2P: Person-to-Person – Any correspondence or transaction happening two persons

vice-versa, over the RCS channel

> RBM Agent: An RBM agent is a conversational entity that interacts with human users by responding to their messages

> SMS: Short Message Service is a text message limited to 160 characters, sent from one mobile device to another over the carrier network

> RCS: Rich Communication Services refers to an upgraded form of SMS that allows users to share text, images, videos, locations, audio, QR codes, and a lot more through the phone's native messaging app; text sent over RCS is not limited to 160 characters

> UP: Universal Profile is the set of guidelines that ODMs and MNOs are required to follow to support interoperability in RCS messaging

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