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Perspective

RCS Business Messaging opportunities for operators

November 2021

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RESEARCH

Contents

List of figures

1. Executive summary

Business messaging is a revenue growth opportunity for telecoms operators. Approximately 1.8 trillion application-to-person (A2P) messages were sent worldwide in 2020, around 70% of which used SMS. The market is growing strongly and is expected to continue to do so over the next few years. We forecast that the total number of A2P messages sent worldwide will increase to over 4 trillion per year by 2026, generating USD37 billion in annual revenue.

Most of the growth in the market will be driven by the benefits of IP-based messaging. The results of our survey of 600 businesses show that most companies plan to continue to use legacy channels such as email and SMS, but expect to increase their reliance on IP-based channels.[1] The use cases supported by A2P messaging are evolving from marketing messages and notifications to two-way interactions such as customer services.

Facebook (now known as Meta) and other social messaging players are targeting the business messaging opportunity with initiatives such as WhatsApp for Business and Apple Business Chat. These services are evolving rapidly to address the needs of businesses. They offer businesses the ability to engage with customers on popular platforms with a rich set of features. These players are also making services easier to use, by offering automation tools to small and medium-sized businesses (SMBs) and API solutions to larger enterprises, for example.

The migration towards IP-based services will begin to erode the value of the lucrative A2P SMS business. Operators will therefore need to evolve their core offering if they want to capture a growing share of the increasingly competitive business messaging market. The main option available to operators is to upgrade SMS to the industry-standard RCS Business Messaging (RBM).

RBM offers businesses the ability to engage with their customers using a rich feature set via the native messaging client on smartphones. RBM aims to combine many of the benefits of the SMS world (such as relatively high read rates) with improved security and the rich features that consumers now expect from their experiences with apps. Several operators have reported strong metrics across a range of campaigns and consistent performance gains over SMS, which they largely attribute to the improved branding, rich media and additional features of RBM.

RCS has had a chequered past and there is some scepticism in the industry. However, the initiative does have some tailwinds supporting it. RCS has benefitted from a shift of focus to concentrate on the business messaging opportunity, and Google is committed to driving scale for native RCS capabilities in the Android ecosystem. The roll-out of 5G (which mandates RCS) also offers an opportunity to reset operators' communications services.

However, several challenges remain, and they are not to be underestimated. Operators must be able to build scale with RBM as much and as quickly as possible. Larger consumer audiences will then open the way for a commercially interesting proposition for aggregators and brands. The following things need to happen to ensure the broad adoption of RBM.

[1] The survey was conducted between July and September 2021 with respondents from six countries. Respondents were responsible for planning, implementing and deciding upon the digital marketing and customer support campaigns for their businesses through multiple channels.

- **Operators need to garner support from device OEMs** to increase the proportion of RCS-capable devices in the smartphone base. Interim solutions are likely to be necessary.

- **Operators need to play an active role in building and supporting RBM ecosystems.** Operators must work with partners such as OEMs and aggregators to implement RBM. At the same time, operators need to work with technology enablers and business service providers to develop go-to-market propositions such as IT integration support for large enterprises and business enablement suites for smaller companies.

- **Operators need to build awareness among brands.** The awareness of RBM among brands is currently much more limited than that of legacy SMS and the platforms of global players such as Meta. The market for rich messaging solutions is nascent and there is a window of opportunity to engage with businesses. The industry needs to build a broad library of RBM case studies and brand success stories.

Operators will need to work together to overcome these challenges. They should consider co-operating on a national level to build in-country scale. Indeed, there are several markets in which all of the major mobile operators have launched RBM services, which makes RBM a much stronger proposition for businesses. Examples include China, Germany, Japan and the UK. Operators can also work together to educate the market and develop a coherent pricing offer for businesses.

Operators that choose to pursue the RBM opportunity have a few key options for deployment.

- **Full-ownership model.** RCS vendors can supply either a fully on-premises platform or a service provider cloud platform that integrates with back-end functions. Operators have complete control of the platform and can customise it to their needs. This option is more suitable for larger operating companies.

- **Hosted solution.** The hosted model offers operators the flexibility of launching RCS with relatively light and low-cost infrastructure, but with less control over the feature set.

- **Hosted by Google Jibe.** Jibe is Google's fully hosted RCS platform solution.

In practice, many operators will employ a hybrid approach; they may implement an on-premises or service provider cloud solution in key countries, but use hosted solutions in smaller countries. Multi-carrier initiatives can help operators to share the development and management costs, as well as bolster the commercial proposition to brands.

Telecoms operators can occupy various roles in the RBM value chain. Many operators' enterprise divisions already offer messaging services directly to businesses (usually SMS) and are evolving their offerings to include RBM. Many carriers have seen the success of communications platform-as-a-service (CPaaS) players such as Twilio and seek to emulate it. CPaaS services complement the connectivity, unified communications and contact centre solutions that most operators offer as part of their business services portfolio. Operators can also integrate their own chatbot development platforms, brand verification systems and campaign management tools with the business messaging platform.

P2A (person-to-application) interactions are a burgeoning area of opportunity that some operators are beginning to explore. P2A interactions are instigated by end users and thereby accrue value and present opportunities to players in the ecosystem. Example P2A interactions include accessing a chatbot when seeking a solution to a problem, search and ranking and traffic diversion. These are revenue opportunities that derive from having valuable online interfaces (in this case, a rich media-enabled native messaging client) and have generally not previously been addressed by operators.

Operators with ambitions in supporting digital lifestyle offerings could develop their services to target indirect revenue from content and commerce ecosystems. Many operators have developed mobile wallets and financial service products and can build on these. Operators can build strong propositions in the right market conditions.

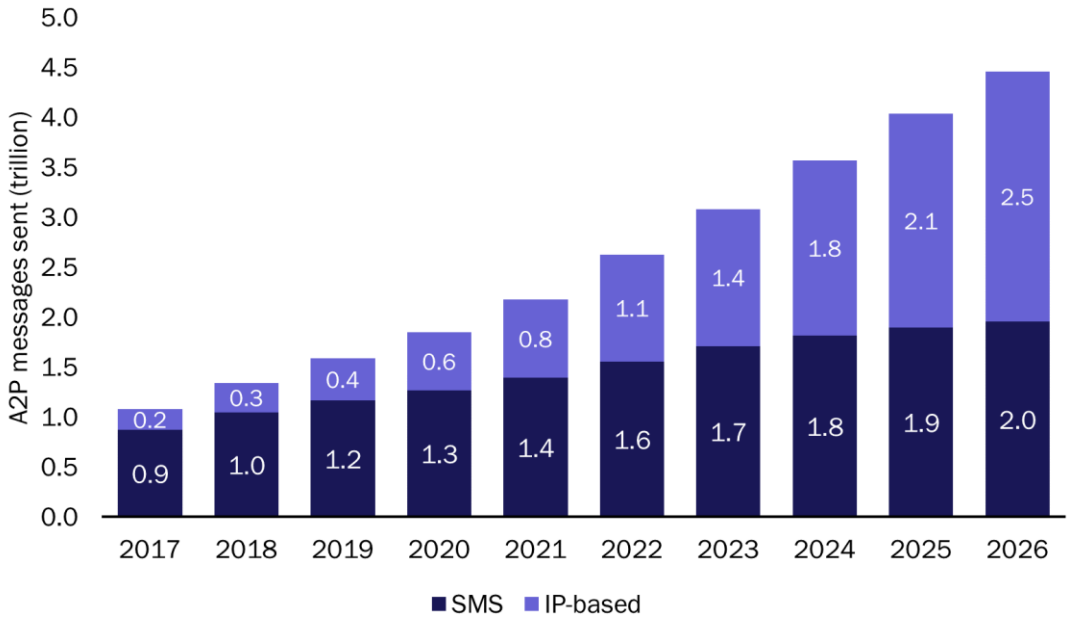
2. Market opportunity for RCS Business Messaging

2.1 Long-term growth in A2P messaging will be driven by IP-based services

Many businesses use messaging channels such as SMS to communicate with their customers. Approximately 1.8 trillion application-to-person (A2P) messages were sent worldwide in 2020, around 70% of which were via SMS. Most of the remaining 30% were sent via social and chat apps such as WhatsApp.

The market for business messaging is growing strongly and is expected to continue to do so. Both the number of A2P messages and their value are increasing as brands increasingly use mobile and digital channels to interact with their existing customers and to recruit new ones. We forecast that the total number of A2P messages sent worldwide will increase to over 4 trillion per year by 2026 (Figure *2.1*).

Figure 2.1: A2P messages sent per year, by channel, worldwide, 2017–2026



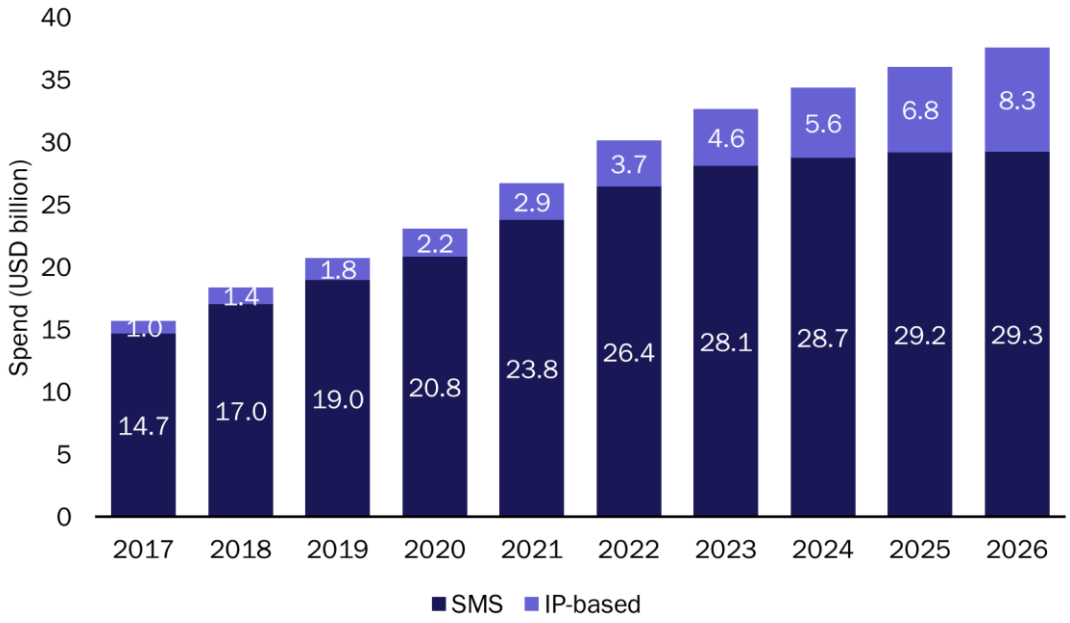
Source: Analysys Mason, 2021

SMS is the most-used channel for A2P messaging due to its reliability and reach, as well as its status as a relatively safe and secure channel for businesses to interact with their customers. However, the use of IP-based alternatives is growing as businesses look to adopt multiple channels to communicate with their customers. The richer feature set available on IP-based services is also a key driver. Meta and other messaging players are addressing the market opportunity with initiatives such as WhatsApp for Business and Apple Business Chat. Telecoms operators are also making moves to upgrade SMS to IP-based alternatives, most notably with RBM.

Furthermore, services targeting businesses from OTT and operator IP user interfaces are designed to enable A2P (and P2A) conversational use cases, which are the next step for business-to-consumer (B2C) interactions. IP-based messaging services will account for over 56% of all A2P traffic by 2026.

Businesses spent USD23 billion on A2P messaging in 2020; SMS accounted for 90% of this total (Figure 2.2). The A2P messaging market will continue to grow strongly to reach an expected USD37 billion by 2026. Businesses will continue to spend the majority of their messaging budgets on A2P SMS, but revenue growth will increasingly come from IP-based alternatives. Indeed, IP-based operator and social/chat services will generate over USD8 billion in 2026 from a mixture of transactional traffic revenue and fixed fees for features and capabilities.

Figure 2.2: A2P spend, by channel, worldwide, 2017–2026



Source: Analysys Mason, 2021

Business chat services on platforms such as Facebook typically use a different pricing model than that used for SMS, with a greater focus on per-user or per-session billing. The effective price per message from social/chat apps is currently much lower than for SMS, but strong traffic growth is driving revenue growth at this lower price point. Revenue from fixed fees will also grow strongly as businesses spend proportionately less on SMS, instead investing in messaging solutions with value-added tools such as flow builders and chatbot support.

The migration towards high-volume/low-cost IP-based services will begin to erode the value of A2P SMS messaging. Operators looking to capitalise on the long-term revenue growth opportunity from A2P messaging will need to evolve their core offering beyond SMS/MMS. They will also need to add value in order to differentiate and to maintain higher pricing levels than those for business chat services from the major social messaging apps.

2.2 The demand for messaging channels from businesses and consumers is increasing

Brands are increasingly relying on messaging to communicate with their customer base through both social/chat apps and operators' messaging services. In particular, a significant proportion of younger smartphone users state

a preference for using messaging to learn about products and promotions (Figure 2.3). There is also evidence that consumers' preference for using digital channels for customer services is growing; this trend has been given further impetus by the COVID-19 pandemic (though traditional channels remain important).

Figure 2.3: Consumers' preferred channels for learning about products and promotions, Europe and the USA, NBED date

Age of respondents	Website	SMS	OTT messaging	Social media
18–24	23%	13%	9%	15%
25–34	24%	10%	13%	13%
35–44	29%	8%	11%	10%
45–54	37%	6%	6%	6%
55–64	38%	4%	4%	3%
Over 65	34%	3%	3%	2%

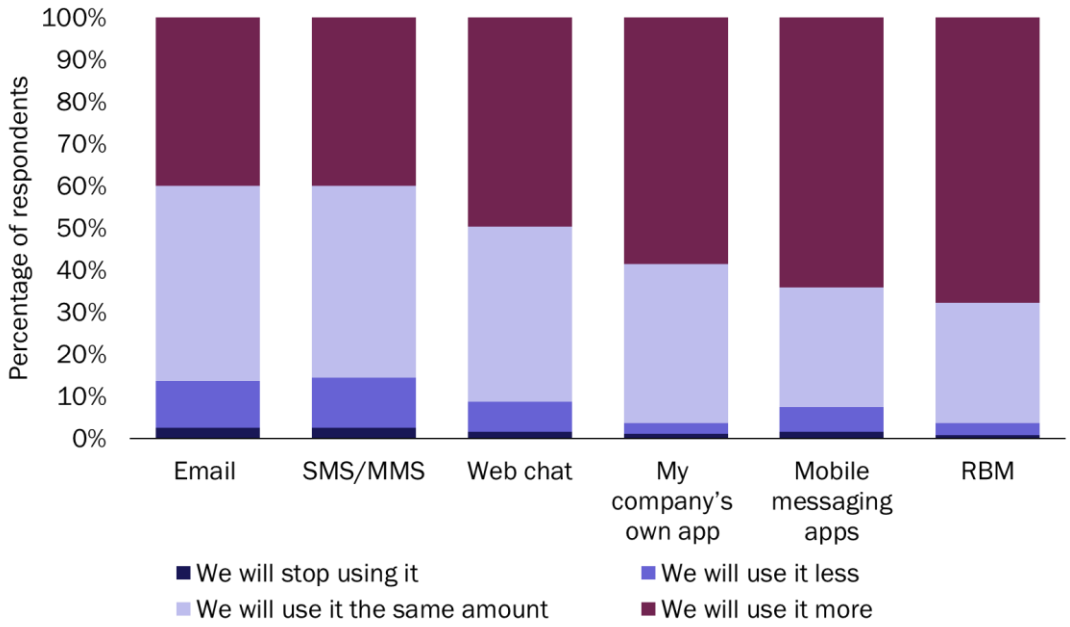
Source: Analysys Mason, 2021

Businesses are evolving their channel strategies to address new consumer behaviours and to take advantage of new opportunities. As a part of the research for this perspective, Analysys Mason conducted a survey of 600 enterprises and SMBs in six countries worldwide (Germany, Mexico, the Philippines, Saudi Arabia, South Africa and Thailand) between July and September 2021 (with 100 respondents per country). The survey respondents are all responsible for planning, implementing and deciding upon the digital marketing and customer support campaigns for their businesses through multiple channels including SMS, messaging apps and proprietary apps. They come from a mix of industrial verticals, namely finance, travel and leisure, retail and e-commerce, utilities, logistics, education, healthcare and media. The aim of the survey was to explore the level of interest from enterprises for A2P messaging and to analyse enterprises' purchasing intentions and future plans for messaging channels.

The most commonly used channels currently are email (70% of businesses surveyed) and SMS/MMS (68% of businesses). The penetration of SMS is the highest in the travel and leisure, healthcare, and retail and e-commerce sectors. Typical use cases include reminders/notifications and security (such as one-time passwords). A large proportion of businesses are also using messaging apps such as WhatsApp to communicate with customers. Indeed, 62% of all of the businesses surveyed use such apps, and this figure is higher among larger companies and in particular sectors (such as logistics and media). Many companies also use their own apps to communicate with customers, though penetration varies by company size and vertical sector. For example, 73% of finance businesses use their own apps to communicate with customers, compared to 44% of the overall sample.

The majority of businesses plan to continue to use legacy channels such as email and SMS, but expect to increase their reliance on IP-based channels (Figure 2.4). 15% of respondents stated that they will either reduce their use of SMS/MMS or stop using it altogether. In contrast, very few businesses reported plans to reduce their use of messaging apps (only 8%), but 64% said that they plan to increase their use. 59% and 50% of the users of proprietary apps and web chat services (either live or via chatbot), respectively, reported plans to increase their use of these channels.

Figure 2.4: Planned use of messaging channels among businesses over the next 5 years, 2021



Source: Analysys Mason, 2021

These results reflect broader trends in the business messaging ecosystem. Telecoms operators are major players in the ecosystem and as such, they will need to adjust their strategies if they are to maximise their opportunity in this growing market. There is potential demand for operators' solutions: SMS will continue to feature strongly in messaging plans and, promisingly, most respondents viewed RBM positively. RBM is at an early stage of development in the countries surveyed and businesses are probably overstating their existing usage. However, most businesses reported high levels of interest in future usage.

3. The competitive landscape and business messaging ecosystem

3.1 The major chat apps are increasingly targeting businesses with messaging propositions

The major social and chat players are keenly aware that business messaging is a revenue growth opportunity. These players have built huge user bases for their services as well as strong revenue streams, primarily through advertising. They are looking to further monetise their services by providing a greater range of tools for businesses.

Major messaging apps such as Apple's iMessage, Facebook Messenger, WhatsApp and LINE all allow businesses to have a presence on their platforms (Figure 3.1). In many cases, companies are able to use branded 'official' or verified accounts to send marketing messages to users on social and chat platforms. The platform providers typically offer businesses a tailored version of the app to manage interactions, often with tools to help

automate activity. The popularity of many social and chat platforms enables businesses to reach customers 'where they already are'. Several messaging services offer APIs to allow businesses to integrate the service more deeply into their IT systems and to support more sophisticated interactions. Examples include the WhatsApp Business API. Major messaging services are also widely supported by CPaaS providers such as Twilio, and there is a wide range of business services providers and agencies that help businesses to work across a range of platforms.

Figure 3.1: Outline of the business messaging propositions from selected major messaging platforms

Name	Launch date	Addressable consumer base	Number of business customers	Main features
Apple Business Chat	March 2018	1.4 billion active users of Apple devices with iOS 11.3 or higher	Not reported	• Customer services, appointment scheduling and purchase support in iMessage • Integration with Apple Pay • Support for authentication
Facebook Messenger	Facebook Business Suite was launched in September 2020	1.3 billion (November 2020)	40 million	• Businesses can create their own Pages • Customisation and automation tools • Support for live chat and chatbots • Click-to-Messenger ads on Facebook and Instagram • Facebook Pay can be used as an in-app payment system in the USA
LINE Business Chat	February 2015 (as LINE@)	88 million LINE users in Japan (September 2020)	Not reported	• 'Official accounts' for brands • Advertising and sales promotions, plus support for coupons and loyalty cards • Voice and video calls • Support for LINE Pay • Various pricing options including free for the first 1000 messages each month and then pay-as-you-go • API for larger customers • Analytics
WeChat Enterprise	2016	1.2 billion WeChat users (March 2021)	3.2 million 'mini programs' on the platform	• 'Official accounts' for brands • Support for e-commerce (stores) • Payment gateway • Marketing, ads and promotion • CRM system • 'Mini programs' allow businesses to customise their offering within the app
WhatsApp Business	Limited countries in January 2018; API was launched in August 2018	Over 2 billion WhatsApp users (end of 2020)	50 million users of the Business app at 2Q 2020	• Branded and verified business profiles • Focused on direct marketing and customer support use cases • Users can launch WhatsApp chat from Facebook and Instagram ads • Automation tools and analytics

Name	Launch date	Addressable consumer base	Number of business customers	Main features
				• WhatsApp Business is a standalone manual tool targeted at SMBs, whereas the WhatsApp Business API targets larger businesses • Support for chatbots on the API • Pricing tiers for messages • Facebook Pay is available on WhatsApp in Brazil and India

Source: Analysys Mason, 2021

Some of the platforms offer a wide range of capabilities to end users, and businesses are increasingly able to take advantage of these. WeChat is well-known as an app that supports a very wide range of interactions, enabled by features such as its e-commerce platform. Many other services have sought to emulate aspects of this 'super app' model in the context of their own strengths and market environments. Notably, Meta is rolling out support for payments across its platforms, including WhatsApp (though only in a few countries currently). It also has longstanding ambitions in digital currency and is due to launch Diem (formerly Libra) in 2021.

Google is a notable omission from Figure 3.1 above. Google's attempts at developing its own social/chat service have been largely unsuccessful. Following failures with Google+, Hangouts and Allo (among others), Google has focused its efforts on developing Android Messages, which is offered as an upgrade to the native messaging app on Android devices. (Some handset vendors such as Huawei and Samsung offer their own messaging client as the default.) It is working with telecoms operators to roll out the service. Google has many assets and capabilities that can potentially support a business messaging proposition, including Android Pay and Google Maps (which includes its own messaging solution).

3.2 Telecoms operators are upgrading their messaging experience to support the business messaging opportunity

Telecoms operators are responding to changes in consumer behaviour and the competitive landscape by evolving their own A2P propositions, primarily with RBM. In many cases, operators are partnering with their peers in the same country to gain scale. Success stories are starting to emerge, some of which are discussed below. With a few exceptions, most operators are focusing on supporting the upgrade of the native messaging app smartphones, rather than attempting to build their own social or chat community. The focus is primarily on the Android ecosystem, which accounted for over 80% of the smartphones sold in 2020.

Carriers generally have to support and enable upgrades for an RCS-compatible client on a device. However, with Google Guest, Google is enabling Android users to download the client from the Google Play store, with or without the support of the carriers. This is further stimulating the growth in the number of RCS-enabled devices worldwide, as well as putting pressure on operators to fully engage with RCS.

There are several deployment options for telecoms operators that are looking to support RCS, from fully-owned on-premises or cloud deployments to hosted cloud solutions. There is also a range of different vendors and technology partners. The main deployment options are described in Figure 3.2 below, along with some of the pros and cons of the different approaches.

Figure 3.2: RCS deployment options

Model	Details	Pros	Cons
Full ownership	RCS vendors can supply a fully on-premises or service provider cloud platform that can be customised to fit the customer's network. The vendor integrates back-end functions with the OSS/BSS and IMS core.	The operator has complete control of the platform and can customise it to its business needs.	This option is the most expensive: operators bear most of the capex and opex, though revenue sharing options are possible. Up to 6 months is required for the integration.
Hosted	The hosted model offers operators the flexibility of launching RCS with relatively light and low-cost infrastructure. Degrees of customisation are typically available.	The deployment is relatively quick and some elements can be hosted on the service provider's cloud. There is the potential to migrate to an on-premises platform later.	The deployment time, capex and opex will all increase with the level of customisation. There are potential issues around legal compliance for data security.
Hosted by Google Jibe	Jibe is Google's fully hosted RCS platform solution that is designed to be integrated as quickly as possible into an operator's network (in under 30 days).	The deployment is rapid and there is zero initial investment.	The operator has limited flexibility and the service is hosted entirely on Google's servers. There are also potential issues around data compliance.

Source: Analysys Mason, 2021

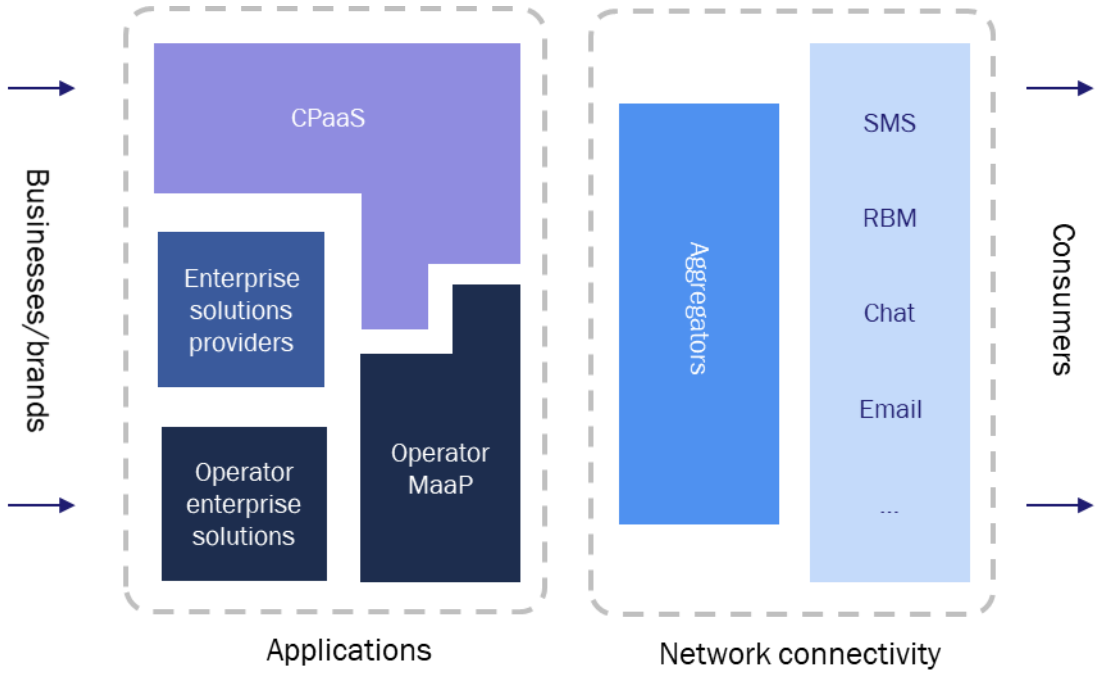
In practice, many operators employ a hybrid approach by implementing an on-premises or service provider cloud solution in key countries and using hosted solutions in smaller countries. Multi-carrier initiatives can help operators to share the development and management costs, as well as bolster the commercial proposition to brands.

A small minority of operators have pursued a proprietary approach to the messaging market. The most notable examples are Turkcell with BiP and MTN with Ayoba. Turkcell launched BiP in Turkey in 2013; it reached a user base of 10 million monthly active users (MAUs) by the end of 2020, mostly in Turkey and Ukraine. It has built on the core communications proposition to offer a range of features including content discovery and money transfer. MTN offers Ayoba in 16 countries, mainly in Sub-Saharan Africa; it has 8 million active users as of 2Q 2021. Ayoba offers a range of content plus mobile payments and money transfers (via MTN's MoMo). Merchants can create their own sales channels via open APIs and developer portals.

3.3 Operators can add value with business messaging platforms and CPaaS

Businesses have several partnering options when developing a messaging campaign or strategy, depending on their size, segment and capabilities (Figure 3.3). Small businesses may work with specialist agencies on marketing campaigns, for example, or with a business service provider. Larger businesses may work directly with a CPaaS provider to develop a communications strategy. CPaaS providers offer flexible and cost-efficient software-as-a-service (SaaS) solutions that integrate messaging and voice services, which businesses can use for a variety of communications use cases. These companies are typically well-attuned to the needs of enterprise developers and offer a range of value-added services beyond connectivity such as flow builders and backend integration.

Figure 3.3: Illustration of the main roles in the business messaging ecosystem



Source: Analysys Mason, 2021

CPaaS providers purchase telecoms services (such as SMS) in bulk from aggregators; they also integrate third-party APIs for access to services such as WhatsApp Business and Apple Business Chat. They need to work with a messaging-as-a-platform (MaaP) platform to support RBM. As per the RCS implementation options above (Figure 3.2), these platforms can either be owned and managed by one or more mobile operators, hosted by a platform provider or operated by Google and run directly on end-user devices (via Google Guest).

Telecoms operators can occupy various roles in the value chain, in addition to being the core connectivity provider (Figure 3.3). Many operators' enterprise divisions already offer messaging services directly to businesses (usually SMS) and are evolving their offerings to include RBM. An example is provided in Figure 3.4 below. Many carriers also see the success of CPaaS players such as Twilio and seek to emulate it. CPaaS services complement the connectivity, unified communications and contact centre solutions that most operators offer as part of their business services portfolios. Operators' CPaaS propositions must include access to third-party APIs in order to provide an omni-channel service to business clients.

Figure 3.4: Main attributes of O2 UK's Business Messaging offer

Attribute	Details
Channels supported	• SMS • RBM • In-app notifications across major chat platforms • Email
Solution options	• Self-service campaigns via a web portal • Outsourced 'bureau' service • API integration for automated workflows
Additional features	• RCS is marketed as a means to increase engagement with customers • O2 offers a range of identity fraud protections

Attribute	Details
	• Mobile payments are supported via carrier billing
Pricing model	Pricing is based on the number of messages delivered, rather than the number of messages sent
Success metrics	• Over 100 customer organisations • 80 million messages sent per month

Source: Analysys Mason and O2 UK, 2021

An operator's choice of approach is generally dictated by the level of involvement that it seeks in business messaging. Under the full ownership model, an operator can directly control the A2P business gateway and can design its functions to fit its enterprise service portfolio. It can integrate its own chatbot development platform, brand verification system and campaign management tools. It can also choose which aggregators and MaaP partners to allow on the platform. A co-ordinated approach between operators potentially allows for a common national registry of MaaP ecosystems, chatbots and brands.

4. Overcoming market challenges

There is scepticism in parts of the industry about RCS given its long and chequered history. Early specifications for the initiative were first published in 2008, and several operators first launched prototype services as long ago as 2012. However, there is now increased momentum in the market for RCS based on a few significant developments.

- **Google's involvement in the development of the RCS ecosystem.** Google acquired the hosted RCS provider Jibe Mobile in 2015. It then threw its weight behind the RCS initiative by driving the adoption of a standardised client specification: the Universal Profile. Google has since been building ecosystems to support the adoption of RCS among operators, aggregators and brands. It is also putting pressure on operators to support RCS with its Google Guest project that offers end users the option to download its Messages client from the Google Play store (Google Guest was rolled out worldwide in November 2020).

- **RCS's shift of focus towards business messaging.** RCS's early incarnations (such as joyn) attempted to compete head-to-head with person-to-person (P2P) chat services such as WhatsApp. However, they lacked agility, a coherent business model and any means of differentiation, giving operators little motivation to engage. The RCS proposition has subsequently been refocused around business messaging where there is a clearer revenue growth opportunity and a potential for operators to add value.

- **Network upgrades to 5G and the mandate to implement RCS as the 5G messaging solution**. The 3GPP has mandated that RCS is the messaging solution for 5G deployments. The roll-out of 5G offers a potential opportunity for operators to revamp their communication services.

There have been some significant recent launches of RCS as a result of these developments, including several country-wide initiatives where operators have partnered to bring RCS to market at the national scale (so-called 'gold' launches) (Figure 4.1).

Figure 4.1: Overview of major national cross-carrier RCS deployments

Country	Operators and launch dates	Comments
Brazil	Claro, Oi, TIM and Vivo: August 2020 (A2P)	Co-ordinated pricing model based on the number of messages sent or the number of 24-hour sessions.
China	China Mobile, China Telecom and China Unicom: December 2020	The three operators published a joint whitepaper in April 2020 mandating support for RCS UP 2.4 in all new devices. There are 160 million RCS-enabled users in China as of June 2021 and 11 million terminals with RCS UP 2.4. China Mobile expects that 500 million terminals will support RCS by the end of 2024. The service is branded as 5G Messaging.
Germany	Vodafone Germany: April 2020 (A2P) Telefónica Germany: February 2020 (P2P) and March 2021 (A2P) T-Mobile: February 2020 (A2P)	Germany was the first 'gold market' in Europe for RCS; it had full interconnection by February 2020. The operators market services directly to businesses as well as via third parties. Telefónica believes that there were 8 million RCS-capable users by the end of 2020.
Japan	KDDI: May 2019 (A2P) NTT DOCOMO: October 2019 (A2P) SoftBank: November 2019 (A2P)	The main Japanese operators have jointly developed an RCS client, +Message. The client had 22 million active users by February 2021. Each operator runs its own MaaP but with a common API. The operators have developed RBM use cases including customer care (with chatbots) and disaster relief/notifications.
UK	Vodafone UK: February 2018 (A2P) Three UK: June 2019 BT/EE: October 2020 (A2P) Telefónica UK: October 2020 (P2P and A2P)	Vodafone runs its own RBM platform and is building an ecosystem for brands, including Vodafone's own campaigns. Telefónica uses a hosted cloud deployment in Germany, Spain and the UK. BT/EE uses Google's business messaging platform for its Smart Messaging proposition to SMBs. Three UK customers can opt in via Google Guest.
USA	AT&T, T-Mobile USA and Verizon	The cross-carrier messaging initiative (CCMI) joint venture to develop a single messaging app for operator customers was disbanded in April 2021 in favour of support for Google's Android Messages app. RCS interconnection is supported between US operators.

Source: Analysys Mason, 2021

The GSMA has recorded 92 RCS launches as of 2Q 2021, and many more are planned. However, significant challenges remain for RCS.

- **Building scale, quickly.** One of the main benefits of A2P SMS is its reach. Brands can currently use SMS to communicate with all mobile users in a given country. As operators evolve their business messaging propositions with RCS they need to be able to replicate this reach as much and as quickly as possible. Time to market is crucial for RBM. Only a small number of devices currently have UP 2.0 installed, and many older devices cannot be upgraded to support the latest RCS version. Operators need support from device OEMs to increase the proportion of RCS-capable devices in the smartphone base (by implementing maintenance releases, for example). Interim solutions with viable 'fall-back' options are likely to be required. For example, China Mobile is developing a service based on UP 2.4 with a fall back to a

multimedia messaging and chatbot solution. Larger consumer audiences will then pave the way for a commercially interesting proposition for aggregators and brands.

- **The lack of support on iOS.** Apple's lack of support for RCS remains a persistent challenge that limits the addressable base for an operator's RCS proposition. Apple markets its own messaging solutions and competes with Google and the Android ecosystem. There may be a case for it to open up to RCS at some level (by supporting interconnection, for example), but building scale is probably a prerequisite to this happening. Many operators are lobbying Apple to support RCS.

- **Building awareness among brands.** The awareness of RBM among brands is currently limited compared to that of legacy SMS and global players such as Meta. The market for rich messaging solutions is nascent and there is a window of opportunity to engage with businesses. Operators can use their role in the A2P SMS market, but will need to work with other ecosystem players such as aggregators and business services providers to build awareness of the channel's capabilities. The industry needs to build a broad library of case studies and brand success stories.

- **Building and supporting RBM ecosystems.** The deployment of RBM can be complex, and includes challenges such as integrating RCS core capabilities with client devices, managing interconnections with other mobile operators and working with aggregator partners to get them connected to the platform. Operators must work with technology enablers and business service providers to develop go-to-market propositions such as IT integration support for large enterprises and business enablement suites for smaller companies.

- **Pricing models.** There is currently a focus on session- or event-based pricing and many operators are working together to develop a coherent pricing offer to businesses in particular countries. This reflects the nascent state of the market as well as the legacy of SMS. However, there are opportunities to develop alternative models and to demonstrate value to brands in different ways. For example, success-driven pricing models based on click-through rates or conversions are common among internet brands. Operators and their partners could develop similar models for their business customers.

5. Building propositions for telecoms operators

5.1 RBM offers potential benefits as a messaging channel

RBM aims to provide an app-like experience for businesses within a native mobile messaging application. RBM allows businesses to develop strong branded experiences for their customers including elements such as:

- verified business identity with wide scope for branding
- carousels and rich cards, allowing customers to scroll through options; video and audio clips can be embedded, as can links
- customisable buttons for suggested actions and smart replies, giving customers easy, guided options (examples include 'Talk to an agent' or 'Book an appointment')
- rich media such as high-resolution images and videos, location sharing and map views
- delivery of items such as concert tickets and boarding passes
- promotional QR codes
- now-standard messaging features such as read receipts and typing indicators.

RBM aims to combine many of the benefits of the SMS world (such as relatively high read rates) with the richer feature set that consumers now expect from their experiences on apps. Several operators have reported strong metrics across a range of campaigns with consistent performance gains over SMS, which they largely attribute to RBM's improved branding, rich media and feature set. For example, a United Nations campaign with Vodafone had 7% engagement via RBM and a 3.1% click-through rate to a survey. The overall survey completion rate via RBM was 1.6% compared to 0.4% via SMS channels. Vodafone reported a click-through rate of 7% on average for over 100 of its own marketing campaigns using RBM. Operators' use of RBM for their own campaigns is an important early use case.

The RBM proposition is competing for a place alongside other major messaging channels (Figure 5.1).

Figure 5.1: Comparison of the major messaging channels used for B2C communication

Channel	Reach	Security	Features	Other comments
SMS	De facto universal; accessible to all mobile users.	Widespread spam and fraud, but there are potential prevention measures.	Very limited. Support for embedded images and URLs.	Relatively high message open and response rates.
RBM	Growing rapidly but largely dependent on the Android ecosystem. Supported by SMS fallback.	All senders need to be registered and verified by the RCS provider.	Competitive feature set, but lacks the agility of messaging apps. There is the potential to customise on top of the standard features.	Early success stories suggest high engagement and response rates. Chatbots are supported within the native messaging client.
Messaging apps	Some apps have very high penetration in many countries, but fragmentation remains common.	Authentication supported to a variable extent.	Varies considerably. Generally very strong feature set.	Major apps offer very high engagement channels and there is a growing chatbot ecosystem. Advertising load can affect the channel's appeal.
Proprietary apps	Varies significantly. Limited for infrequent/one-off interactions. Higher reach among customer base in some verticals (such as banking).	Generally strong.	Lots of flexibility and potential to optimise to address specific business needs. Outcomes vary depending on the UX.	Customers must download a dedicated app.

Source: Analysys Mason, 2021

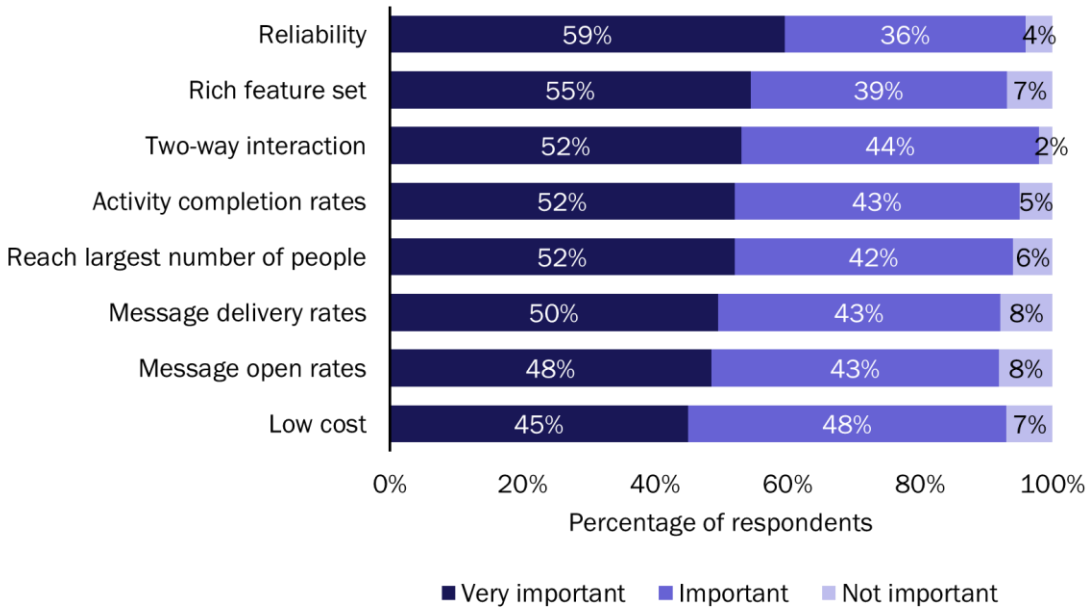
The RBM proposition aims to address the challenges that businesses have in driving the adoption of their own dedicated apps. Customers do not necessarily want to download an app for every interaction. Businesses can use RBM to make use of the native messaging interface and build their own branded presence, either on their own or with partners. Operators can potentially support the use of RBM alongside other mobile advertising properties. For example, Vodacom reported strong results from opt-in promotions with Disney and McDonald's in South Africa using RBM and its own advertising platform: a Disney movie campaign had a 3% click-through rate with 82% of customers then proceeding to ticket booking.

There is also support for chatbot directories (and an emerging support ecosystem) to allow customers to connect to brands proactively.

5.2 Businesses are looking for a range of capabilities from messaging solutions and RBM is potentially well-positioned to support them

The results from our survey of enterprise users of messaging services reinforces the view of a changing marketplace. We asked respondents to identify the most important factors when selecting messaging channels in the future (Figure 5.2). Reliability of the service was deemed to be the most important factor; 59% of respondents described it as being 'very important'. The second most important factor was the presence of a rich feature set; 55% of respondents stated that this was 'very important'. This reflects the increased expectations from both consumers and businesses for messaging to give an app-like experience; it also highlights the shortcomings of SMS. The ability to interact with customers was also cited as being important, particularly among respondents from the travel industry, as well as the retail and e-commerce, and education sectors. Cost is a major factor for businesses, but was ranked lower than other attributes in terms of future importance.

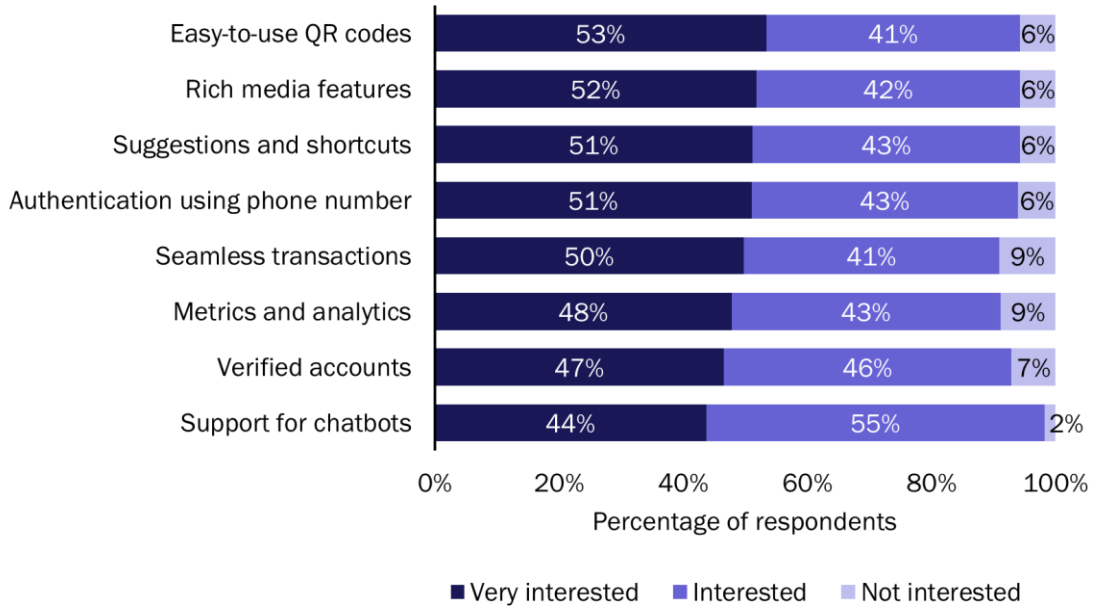
Figure 5.2: Importance of various factors to enterprises when selecting future messaging channels, 2021



Source: Analysys Mason, 2021

There were high levels of interest for advanced messaging features, many of which are supported by RBM (Figure 5.3). Support for QR codes scored the highest in terms of interest among the enterprises surveyed; 53% of respondents reported being 'very interested'. There were also high levels of interest for reducing friction for customers with features such as suggested responses and ease of authentication. Businesses clearly value the ability to use of metrics and analytics to assess the effectiveness of their campaigns. 44% of respondents reported being 'very interested' in support for chatbots, but a total of 99% of enterprises reported being either 'interested' or 'very interested'. This reflects the lack of familiarity with the technology as well as the recognition of this as an increasingly important aspect of online experiences.

Figure 5.3: Enterprises' levels of interest in advanced messaging features, 2021



Source: Analysys Mason, 2021

The survey results also confirm the increased sophistication of businesses' use of messaging solutions as they move beyond promotional activities and reminders/notifications and into customer services and other two-way interactions.

5.3 Business messaging can open up new revenue growth opportunities as part of a platform play

P2A interactions are a burgeoning area of opportunity that some operators are beginning to explore. P2A interactions are instigated by end users thereby accruing value and presenting opportunities to players in the ecosystem. An example P2A interaction is when a consumer uses a chatbot to find the solution to a problem. In this example, operators can act as enablers in the ecosystem by offering businesses the tools to build and onboard chatbots. Other P2A opportunities include search and ranking, and traffic diversion. These are revenue opportunities that derive from having valuable online interfaces (in this case a rich media-enabled native messaging client) and have generally not previously been addressed by operators.

Operators with ambitions in supporting digital lifestyle offerings could develop their services to target indirect revenue from content and commerce ecosystems. Many operators have developed mobile wallets and financial service products and can build on these. Indeed, operators can develop strong propositions in the right market conditions. For example, Turkcell has built a strong content ecosystem in Turkey, and the BiP messaging client plays a major role. It is now exporting the model into other markets with other brands and partners. Similarly, MTN views Ayoba as a key platform for addressing the fast-growing digital demographic in Africa. It is building on the success of the messaging platform to add in music, gaming and content channels; it is also integrating capabilities from its MoMo wallet to target mobile commerce opportunities. MTN is targeting 100 million Ayoba users by the end of 2025 as it "pivots from a product to a platform play".

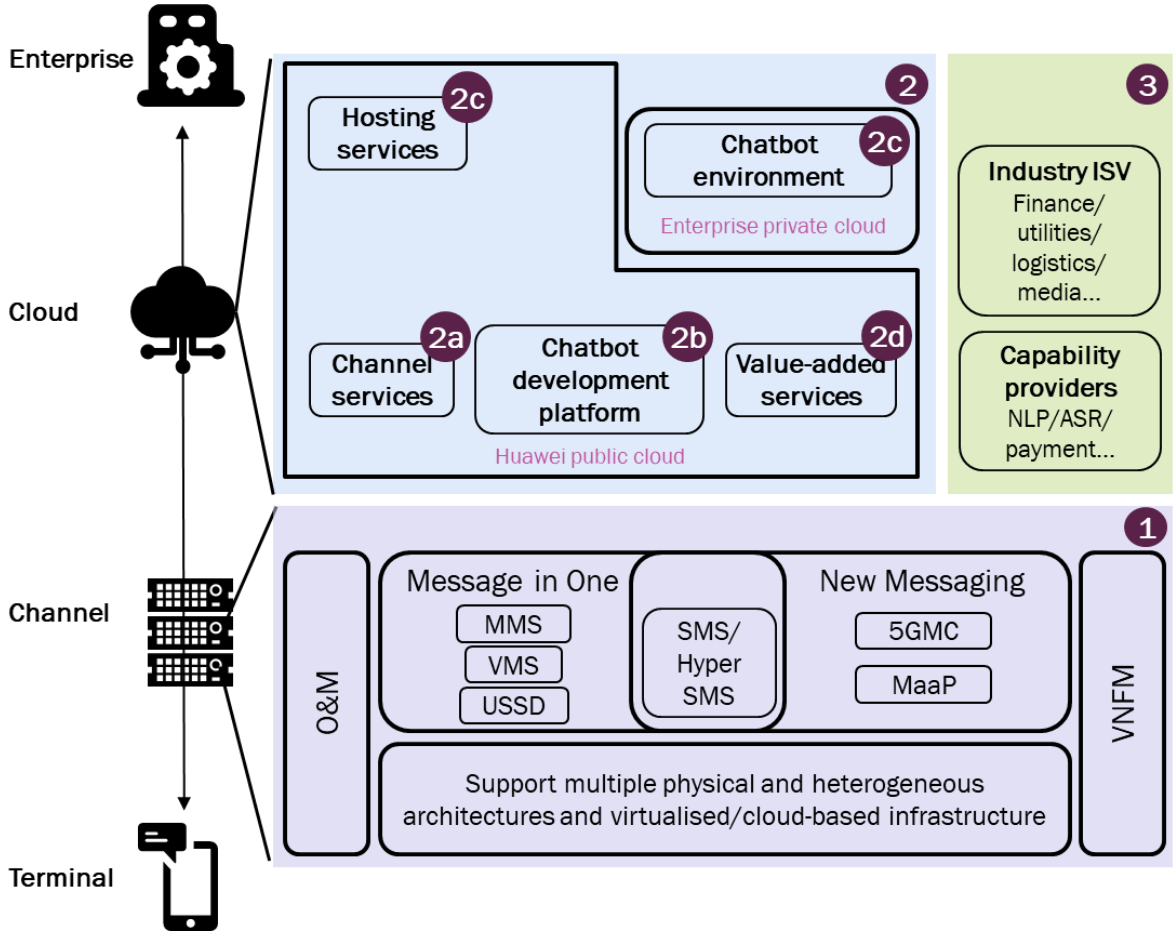
6. Introduction to Huawei's New Messaging solution

Huawei is a leading messaging service vendor for operators and it continues to advance technical standards, service innovation, platform construction, industry solution construction, business operations and ecosystem development in the 5G era. Huawei is working with partners to discover best practices that can help carriers to take full advantage of native solutions to reshape the value of the messaging industry.

Huawei's New Messaging solution enables operators to move away from legacy services such as SMS and towards a new messaging ecosystem. It provides efficient, easy-to-use enterprise messaging cloud services and enables the quick integration of capability providers and ISV partners in order to accelerate the launch and commercial success of operators' new messaging services.

New Messaging as several key components, as shown in Figure 6.1.

Figure 6.1: Overview of Huawei's New Messaging solution



Source: Huawei, 2021

- **Smooth evolution (1 in Figure 6.1).** There is a smooth evolution path from operators' existing message services to New Messaging and SMS can be used as a fallback. This accelerates the time to market for operators' new services and helps to protect their investment. Two evolution paths are available:
  - upgrade to Hyper SMS and then to New Messaging

— move directly to New Messaging.

- **One-stop enterprise service cloud platform (2 in Figure 6.1).** The New Messaging cloud platform comprises the following.

  — **Channel services (2a in Figure 6.1)** that aggregate channel resources from multiple carriers. This enables enterprise users to enjoy agile access to the entire network without having to work directly with a range of operators, thereby lowering the threshold for adopting New Messaging.

  — **A development platform (2b in Figure 6.1)** based on just a few lines of code, multiple industry templates, drag-and-drop graphical development environments and modular development suites. This helps enterprise users to shorten the time to market for chatbots from weeks to days.

  — **A hosting service (2c in Figure 6.1)** for small and medium-sized enterprises (SMEs) with zero capex. New Messaging also provides an environment in which to run a chatbot based on an enterprise private cloud deployment for large enterprises that meets their high security requirements.

  — **Value-added services (2d in Figure 6.1)** such as payment and video customer services that use AI capabilities. These improve the user experience and enterprises' efficiency to quickly meet requirements in various scenarios.

- **Highly efficient ecosystem support (3 in Figure 6.1).** Huawei has brought together ISV partners and capability providers to support enterprises' messaging effort quickly and efficiently.

Huawei's New Messaging solution has been deployed in half of all messaging platforms of the major carriers in China. It supports enterprises in verticals including banking, security, public utilities, transportation, business travel, media, agriculture, retail, e-commerce, life services and community services.

7. About the author

Stephen Sale (Research Director) directs Analysys Mason's consumer research, which covers consumer mobile, fixed, convergence, digital services and video/entertainment markets. His specialist areas are mobile operator strategies, customer experience and telecoms growth opportunities. He has extensive experience in advising senior executives on strategic issues and speaking at – and chairing – conferences. Before joining Analysys Mason in 2004, Stephen worked in the industry on areas that include VoIP, next-generation service architecture and broadband access. He has a degree in economics and an interdisciplinary MRes from the University of London.

This perspective was commissioned by Huawei. Analysys Mason does not endorse any of the vendor's products or services.