



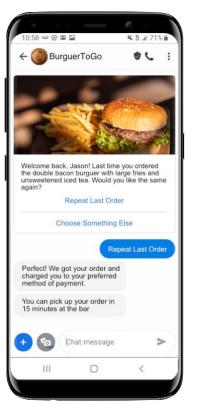
SOLUTION BRIEF MESSAGING MONETIZATION

Protect Messaging Revenue and Open New Chatbot Revenue Opportunities with a Multi-Channel Mobile Messaging Solution

The COVID-19 pandemic, with its dramatic restrictions on how to engage with customers, accelerated the adoption of digital technologies by several years, and many of those business changes seem to be here to stay permanently.

In a McKinsey study published in October 2020, some companies reported up to seven years of acceleration when it comes to the share of digitally enabled products in their portfolios, and executives reported an industry-wide increase in customer demand for online purchasing and services¹.

One of the technologies that has experienced increased adoption is business messaging. This is following a trend that started years ago. In 2019, a MarketScale Podcast² revealed that 89% of consumers wanted to interact with a business via text, and 58% also use it to respond to missed business calls.



Messaging and Its Role in Conversational Commerce

Messaging is the low hanging fruit of business transformation and is a coveted tool to enable conversational commerce. In the first few months of the COVID social distancing measures, Facebook presented WhatsApp, Messenger, and Instagram Direct as key tools to connect Facebook Shops with their customers³. Google presented messaging as a valuable way to connect with customers confirming that twice as many businesses were messaging via Google compared to the previous year⁴. WhatsApp for Business launched mobile payments in Brazil (and in India six months later), announcing that people would be able to send money securely or make a purchase from a local business without leaving their chat⁵.

In fact, companies that base their business model in conversational commerce or that embrace messaging within their commerce platform have seen massive growth in 2020. For example, LivePerson reported a 35% increase in ARPU⁶ between 4Q2019 and 4Q2020, Shopify reported a 78% increase in gross⁷ profit and WhatsApp for Business multiplied their Monthly Active Users by 10⁸.





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The high value of Messaging as a customer engagement tool is due to the following reasons:

- > **Users don't have to download an app** overcomes users' app fatigue⁹. Users are reluctant odownload new applications and create new accounts for casual interactions. Messaging is native to the mobile device or leverages one of the applications users already have.
- > Businesses do not have to develop branded apps to keep customers engaged apps are costly to develop and maintain. Messaging allows businesses to stay close to their customers without having to invest in an app.
- > It is an always-on, bidirectional channel after a first conversation with the brand, there isno need for the user to do a web search anymore because conversations remain in the messaging app. Users can quickly re-engage with the business and vice versa. And there is ahistory of the conversation that provides the context of the interaction and avoids any misunderstandings.
- > **Provides simpler business differentiation** businesses are building a fragmented ecosystem of tools for bookings, check-in, reminders, and customer feedback. Each new tool comes with its own web-based interface and look and feel, which introduces friction. Messagingallows data collection within the conversation and lets back-office systems handle the formatting or storage.
- > **Provides a richer customer experience** Messaging offers a native and secure handling ofcontent such as images, videos, audio clips, web views, files, and questionnaires or surveys. The latest messaging channels, such as RCS and Apple Business Chat, introduce the conceptof suggested replies, allowing users to tap instead of type.
- > Enables fast business digitalization it adapts to pandemics, weather events, and other emergencies by allowing businesses to quickly convert customer engagement processes, suchas appointments and reservations, payments, alerts, and reminders, into digital interactions. And it does so at lower cost versus developing a custom mobile application.
- It is a high efficiency channel Messaging allows a business representative to manage multiple conversations simultaneously over an undetermined amount of time. Voice calls cannotcompete with this with the 1-to-1 nature and limited duration.

The Role of Mobile Network Operators in Conversational Commerce

Over the last few decades, Mobile Network Operators (MNOs) have played a pivotal role in the growth of mobile messaging. Today, most business messaging interactions are over SMS, but social networks and messaging applications have driven consumer interest towards a multimedia messaging experience that SMS cannot deliver.





Rich Communication Services (RCS) is the mobile industry's response to this demand—a mobile native messaging channel that offers rich multimedia capabilities and introduces key customer engagement elements such as rich cards, carousels, suggested responses, and delivery and read notifications.

The SMS business model is heavily focused in wholesale, with multiple aggregators that buy message bundles in bulk at low prices and resell them to brands and businesses. The problem is that for many MNOs this model is so deeply ingrained that they are trying to replicate the same wholesale model in RCS. As a result, early RCS campaigns look more like a better MMS and are not fully realizing the potential that RCS can enable.

Additionally, the mobile messaging market is fragmented. Apple is not yet supporting RCS on iPhone and delivering their own Apple Business Chat experience. WhatsApp, Line, WeChat, and others almost monopolize the consumer messaging volume in many countries.

There is a need for simplicity and MNOs can play a valuable role in business messaging but, to protect their existing SMS revenue from cannibalization and open new revenue opportunities, they need to rethink their role in messaging. Today, MNOs only provide the delivery channel for messages sent to their subscribers. The rapid evolution of the digital ecosystem and the rise of messaging as a preferred channel requires MNOs to consider providing more capabilities at the business layer—such as chatbots— and integrate multiple channels. This allows businesses to implement bots and applications in one place and reach their customers across the different ecosystems (RCS, iOS, Android, OTT messaging apps). To do this, MNOs need to:

- > **Develop a holistic, company-wide conversational commerce strategy**—to deliver value incommunications, commerce, customer care and chat.
- > Execute the strategy within the entire organization—including their consumer, enterprise, product, and media and advertising teams.
- > **Define the right go-to-market approach**—with differentiated customer journeys and value propositions for large enterprises, small and medium businesses, and brands and advertisers.
- > Focus on swift execution with a complete business messaging platform—instead of a basic RCS solution, MNOs need to select a vendor that can provide multiple application programming interfaces (APIs) and connectors to different messaging ecosystems and businesstools. A vendor that can integrate into the rest of their business communications offerings (such as Unified Communications or Contact Center), provide built-in monetization tools, and offer a cloud-based software as a service (SaaS) solution that minimizes risks and costs.





Mavenir RCS Business Messaging Solution

Mavenir offers a wide portfolio of business messaging capabilities that allow MNOs to rapidly offer RCS business messaging to brands, developers, and aggregators in their markets and easily expand into a full suite of multi-channel business messaging capabilities.

Mavenir's RCS Business Messaging (RBM) solution encompasses multiple components from Mavenir's market-leading portfolio:

- > RCS Core required for person-to-person (P2P) messaging, it includes RCS application server, message store, automatic configuration server and session border controllers (SBC) fornetwork-to-network (NNI) interconnection.
- > RCS Messaging as a Platform (MaaP) a gateway layer that provides the standard, REST-based Northbound API used to connect chatbots and applications, and the Southbound API toconnect to other MaaPs. It is fully compliant with the latest Universal Profile (UP) RCS specifications and provides chatbot registry, directory function and bot analytics, among other features.
- > **Business Monetization Layer** including campaign manager—for application-to-person (A2P) and person-to-application (P2A) campaigns—pre-built chatbot templates and a visual floweditor to let businesses customize the templates or build their own chatbots from scratch.
- > **SpamShield** an Al powered revenue protection solution that detects and blocks spam aswell as gray routes for SMS, MMS, and RCS.
- > **WebRTC Gateway** enables web-based rich messaging experience and MNO-branded RCSclients.
- > Mavenir Messages mobile client for MNOs wanting to go to market with their own brandedmessaging application.

Mavenir RBM is a GSMA standards-compliant solution that can be integrated with the operator's core network, such as IMS, SMS and MMS components, as well as the provisioning, OSS, lawful interception, and billing systems. Alternatively, Mavenir can provide the whole stack as an "RBM in a Box" in-network solution, including its own IMS components, that can be overlaid onto the MNOs network and avoids lengthy integration projects with different IMS vendors or having to impact other IMS services such as VoLTE.

All components of Mavenir's RBM Solution are 100% cloud-ready virtualized software. They can be deployed by MNOs in their own virtualized infrastructure, as well as public cloud environments, such as AWS or Microsoft Azure, where it was recently added to the marketplace.





Mavenir Business Messaging and Monetization as a Service Solution

For MNOs looking for a swift execution, and a broader scope and reach, Mavenir has deployed all the messaging components and bundled them with services into a cloud-based Business Messaging and Monetization as a Service (BMMaaS) offering that allows MNOs to go to market faster with less risk and minimal upfront investments.

The service bundles multiple components into a flexible solution:

- > RCS and IMS Core components
- > RCS MaaP
- > Business Monetization Layer
- > SpamShield
- > RCS hub interconnection services
- > Self-service onboarding
- Integration with third-party platforms such as Google RCS cloud, payment gateways
- > Business operations services to assist with brand vetting, onboarding, campaign management and chatbot customization.
- > Ecosystem of pre-integrated partners
- Contact Center Live Agents option to transfer chat sessions to a live agent

KEY BENEFITS

- > Faster time to market
- > Lower upfront costs
- > Broader reach
- Integration with business platforms
- > Built-in customer care capabilities
- > Powerful monetization capabilities
- > Flexible business model

A software-as-a-Service (SaaS) offering, the Mavenir (BMMaaS) solution is continuously enhanced withnew features and capabilities. It provides the following benefits:

- > Faster time to market deploying a complete business messaging solution is a massive undertaking. Mavenir cloud customers have seen implementation times reduced almost by half. Depending on the MNOs demands, implementation times can take from a few weeks to a few months.
- > Lower upfront costs hosted, managed, and operated by Mavenir in its own cloud infrastructure, with a light integration into the MNOs network, the solution eliminates the need toacquire network equipment, as well as expert personnel to operate it.
- > **Broader reach** interconnection to other MNOs on Mavenir's cloud platform, integration withother messaging ecosystems and web-based chat. MNOs can allow brands and businesses to interact with customers wherever they are.
- > Integration with business platforms customer relationship management (CRM), eCommerce, Point of Sale, and more allows businesses to integrate their business processes into the conversational commerce experience.





- > Built-in customer care capabilities combines Mavenir's Mobile Business Contact (CCaaS)with the platform's Human-in-the-Loop (HITL) APIs. MNOs can bundle a live agent console that allows businesses to transfer chatbot sessions to a human agent, including the conversation history. Additionally, the HITL APIs are openly accessible and can be implemented by third- party contact center solutions.
- > **Powerful monetization capabilities** including templated bots, campaign management, conversational flow builder, payment integrations, digital enablement, self-service onboardingportal, analytics, and customer dashboard.
- > **Flexible business models** —subscription models, based on dimensioning and consumption, and revenue share models that provide the right balance between profitability and risk.

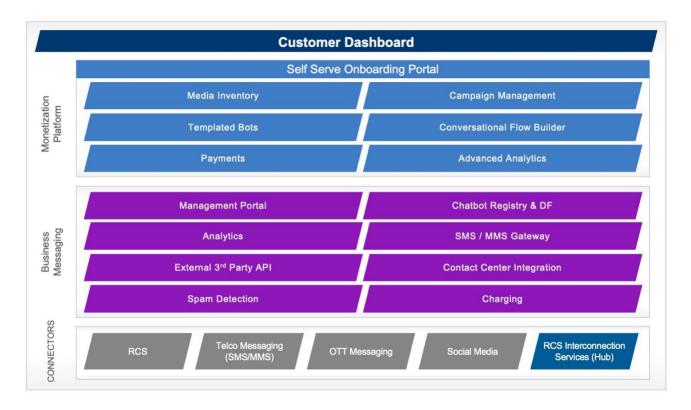


Figure 1 - Mavenir Business Messaging and Monetization as a Service Solution





Added Value with the Mavenir Partner Ecosystem Program

Mavenir's Business Messaging solution allows MNOs to support indirect go-to-market models that relyon third-party partners to add value to their offerings and bring brands, businesses, and innovative usecases.

This is achieved by leveraging the <u>Mavenir Business Messaging Ecosystem</u>, consisting of more than 70partners including messaging aggregators, application developers, channel partners, chatbot platforms and CPaaS vendors. These partners have pre-integrated their solutions with Mavenir's Business Messaging Solution and are ready to connect to the MNO deployments to start bringing new customers and new revenue from day one.

About Mavenir

Mavenir is building the future of networks and pioneering advanced technology, focusing on the vision of a single, software-based automated network that runs on any cloud. As the industry's only end-to-end, cloud-native network software provider, Mavenir is transforming the way the world connects, accelerating software network transformation for 250+ Communications Service Providers in over 120 countries, which serve more than 50% of the world's subscribers.

For more on Mavenir Solutions please visit our website at www.mavenir.com





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