

The Economic Value of Private Messaging in Asia-Pacific

August 2023



EXECUTIVE SUMMARY

The economic value of private messaging

In 2022, private messaging is estimated to have contributed the following economic benefits across seven Asia Pacific economies*

USD16.7 billion

worth of annual productivity gains

USD43.7 billion

worth of economic contribution to GDP

3.2 million

jobs supported across these economies



Australia



Bangladesh



Hong Kong



Indonesia



Malaysia



Pakistan



Singapore

Beyond economic impact, private messaging has also delivered other broader benefits to society



Improved social outcomes and wellbeing by connecting people



Promoting citizen engagement through effective interactions



Improved public sector delivery outcomes

Private messaging can potentially deliver nearly **USD110 billion** of cumulative productivity impact across these seven Asia Pacific economies by 2030

Three pillars of action are needed to realize this potential

1

Ensure a conducive policy environment for digital technologies

2

Drive business adoption of digital tools

3

Invest in e-government

* These seven Asia Pacific economies include Australia, Bangladesh, Hong Kong, Indonesia, Malaysia, Pakistan, and Singapore

Digital transformation has played a major part in driving economic growth in the Asia Pacific, one of the fastest growing regions in the world. Seven economies in the region—Australia, Bangladesh, Hong Kong, Indonesia, Malaysia, Pakistan, and Singapore—have focused on the possibilities of technology and the opportunities that it creates for strengthening economic growth and improving that standard of living. Over the past decade, the governments, businesses, and people of these economies have intensified efforts to integrate digital tools into every aspect of their services, work and lives.

Accessing and using digital information has become a pervasive

part of our work and personal lives. Digital communications—the transfer of information point-to-point and person-to-person—is an indistinguishable part of this. With the growth of the smartphone, digital communication tools have become ubiquitous, and few tools have achieved the widespread usage of private messaging applications. The relative convenience and low cost compared to their analog alternatives have enabled private messaging applications to attract a high volume of users. For example, estimates indicate that the most popular mobile messaging applications, WhatsApp and WeChat have 2 billion and 1 billion users per month, respectively.¹

The widespread use of private messaging applications and their prevalence in our day-to-day lives often means that the benefits it creates for individuals are more front-of-mind, for example, helping to connect distant family and friends. On the other hand, it has also been used by businesses for internal communications and, increasingly, to reach customers – which is expected to increase productivity through lowering costs and lifting revenues.

This report examines the economic contribution from the growing business use of private messaging over the past five years—between 2018 and 2022—in seven Asia Pacific economies. In 2022, for these seven economies:

The increased business use of private messaging is estimated to have lifted economy wide productivity by nearly

USD 17 billion

These productivity gains enabled higher economic activity in these economies, which is estimated to have contributed around

USD44 billion
to aggregate GDP

The higher economic activity is estimated to have supported around

3.2 million jobs
across all industries within these economies.

Furthermore, continued growth in business use of private messaging could potentially unlock a further **USD110 billion in cumulative productivity gains by 2030**, across the seven economies. However, this will require a commitment by policymakers to: (1) ensure a conducive policy environment for digital technologies; (2) drive business adoption of digital tools; and (3) invest in e-government.

1 PRIVATE MESSAGING IS AN ENABLER OF THE DIGITAL TRANSFORMATION

1.1 Digital transformation drives economic growth in the Asia Pacific

The Asia Pacific region is one of the fastest growing in the world, and digital transformation has been a major part of its growth story. Seven economies in the region—Australia, Bangladesh, Hong Kong, Indonesia, Malaysia, Pakistan, and Singapore—have focused on the possibilities of technology and the opportunities it creates for strengthening economic growth and improving their standard of living. Over the past decade, the governments of these economies have doubled down on plans for smart cities and digital economies. At the same time, businesses have integrated digital tools into their work, and people have brought technologies into every aspect of their lives.

For example, the online retail market in the Asia-Pacific region experienced strong growth between 2016 and 2021, expanding by about 20% year-on-year to reach more than USD1.4 trillion in annual sales.² This rapid growth has translated to 23% of retail sales being generated online, a large jump from a mere 10% in 2016. A key factor underpinning this is the shift toward digital platforms use by society at large. For example, in 2016, only half of consumers in the region used the Internet – that number has jumped to more than 70% as of 2021.³ Businesses have also followed suit, with large shares of

firms adopting digital tools today or expecting to derive significant value from digitization. A survey of Asia-Pacific CEOs in 2021 revealed that 79% want to pivot their investment focus to digital transformation over the next three years.⁴

1.1.1 The journey of seven digital economies

Seven economies in the Asia-Pacific region—Australia, Bangladesh, Hong Kong, Indonesia, Malaysia, Pakistan, and Singapore—have demonstrated strong growth in their digital economies. For example, Australia’s digital economy grew by a rapid rate of 4% annually between 2010 and 2018, consistently higher than its GDP growth in the same period.⁵ Indonesia’s digital economy was estimated to have grown five times its size from 2017 to 2021⁶, with at least 80% of enterprises reported to be leveraging cloud technologies as of 2021.⁷ In Bangladesh, the number of digital transactions took up 20% of total transaction volumes in 2020, up from just 5% in 2015.⁸

Governments across these seven economies have focused on digitization over the past decade, even before the added impetus driven by social distancing measures in response to the COVID-19 pandemic. Singapore’s Digital Economic Framework for Action, launched in 2018, laid out plans for propelling the digital economy through collaborations with partners,



upskilling of professionals, and creation of robust digital standards and policies.⁹ The Digital Pakistan Policy launched in 2018 aimed to grow the domestic Information Technology-Business Process Outsourcing (IT-BPO) industry and technological infrastructure.¹⁰ Malaysia's Digital Economy Blueprint outlines strategic plans to transform itself into a high-income economy driven by digitization.¹¹ Hong Kong's Smart City Blueprint launched in 2017 focused on integrating digital technologies into industry and society.¹²

Continued government efforts to drive widespread digital adoption also promises future growth of the digital economy. Indonesia's Digital Roadmap 2021-2024 outlines investments and development toward four strategic digital sectors.¹³ Australia's Digital Economy Strategy launched in 2022 sets overall direction to grow the country into a leading digital economy by 2030 through landmark investments.¹⁴ The Digital Bangladesh Vision 2021 aims to digitize the government and society to reap its benefits by 2030 and push the country to developed status by 2041.¹⁵

Regional bodies in the Asia Pacific have also pushed for initiatives to digitize the region. The Asia-Pacific Economic Cooperation (APEC) community of 21 economies established a Digital Economy Steering Group (DESG) to coordinate efforts to integrate digital economy systems across members.¹⁶ Other bodies, such as the Association of South East Asian Nations (ASEAN) launched its ASEAN Digital Masterplan 2025 in 2021, which outlines key targets to transform ASEAN into a thriving digital economy and society that leverages transformative digital technologies

by 2025.¹⁷ In parallel to this effort, ASEAN is developing the Digital Economy Framework Agreement (DEFA) which aims to deepen cooperation and interoperability of digital economies between member states by developing mutually agreed commitments on market access, regulations, and facilitation of digital services by 2025.¹⁸

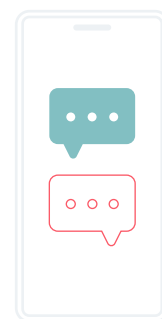
These efforts demonstrate the commitment to capture the potential economic opportunities presented by digital transformation. Spending on digital transformation by businesses, which includes tools, hardware, and services, within the Asia Pacific is expected to hit USD1 trillion by 2026.¹⁹ In Southeast Asia alone, the Internet economy is forecasted to reach USD1 trillion by 2030, driven by rising Internet penetration, e-commerce, and innovative business models.²⁰ South Asia is also better positioning itself to capture digitization opportunities through increased investment in infrastructure and improving skilling efforts.²¹

1.2 Digital communication technologies enable digital transformation

Digital transformation has meant that accessing and using digital information has become a pervasive part of our work and personal lives. Digital communications—the transfer of information point-to-point and person-to-person—is an indistinguishable part of this. Digital communications help to connect people and businesses to anyone, anywhere, and at any time across the world. Individuals across the globe not only use digital communication tools to keep in touch with loved ones but to share and receive business

information or to engage business services. Businesses look toward digital communication tools to improve their customers' experiences as well as their own customer analytics capabilities.

With the growth of the smartphone, digital communication tools have become ubiquitous, and few tools have achieved the widespread usage of private messaging applications. The relative convenience and low cost compared to their analog alternatives have enabled private messaging applications to attract a high volume of users (Box 1). For example, estimates indicate that the most popular mobile messaging applications, WhatsApp and WeChat have 2 billion and 1 billion users per month, respectively.²² Some of the other popular private messaging application in the Asia-Pacific include Telegram, Line, and Kakao Talk.²³



In some Asia-Pacific countries, at least **90%** of smartphone users have at least **2 private messaging applications** on their phones.²⁴

On average, smartphone users in Asia-Pacific spend at least two hours a day on these applications for both individual and group communication. Furthermore, South and Southeast Asia have the fastest mobile user growth rates globally, signaling future potential.²⁵



Box 1

What is private messaging?

To most consumers around the world, private messaging involves one-to-one communication over the Internet. It is mostly done through digital applications, where conversations can be backed up and instantaneously synchronized. These private messaging applications typically differ from other similar

services, such as SMS, due to these more advanced and real-time aspects of communication. Private messaging also differs from other public forms of messaging such as social media and broadcasting channels where communication is visible and openly accessible to a larger, less targeted audience. As such, private messaging tends to provide greater control over content

shared, more discretion over when conversations start and end, and remain confidential and inaccessible to third parties.

Most of the time, consumers appreciate the specific and distinct features offered by private messaging. These defining features support human-centric experiences, such as:



Presence technology

Users are made aware of the availability of their contacts when they launch the application as they can check who is online and available. This simulates real-life conversation as private messaging platforms indicate in real-time when a user is typing or engaging with a message.



Groupware

Private messaging platforms often have functions to help people work together collectively while located remotely from each other. They often allow switching to other modes seamlessly such as group chats, voice calls, and videoconferencing within the app. Unlike broadcast and public messaging where only administrators are allowed to provide one-way information, private group messaging allows for two-way communication.



“Closed session”-based

Private messaging often facilitates communication with a start and end, mimicking in-person conversations between one or more people in a private chatroom. Users can always start and leave conversation anytime, with conversations saved onto the cloud that can always be restarted later.

Private messaging serves certain purposes better than broadcast, public, automated, or regular messaging platforms based on these defining features.

1.2.1

Private messaging enables digital transformation by supporting e-commerce and trade

Private messaging is a key touch point between businesses and their customers, it plays a key part in defining the customer experience, and therefore an important tool for businesses to manage the customer journeys. The social distancing restrictions in response to the COVID-19 pandemic also played a part in accelerating business use of digital tools, as a growing percentage of businesses became more online dependent.²⁶ Additionally, more than 40% of people interact with businesses through private message more frequently than compared to before the pandemic.²⁷ Businesses also acknowledge the importance of such tools, with around 90% of businesses viewing the adoption of messaging applications as important to their success.

Two use cases below help illustrate how private messaging can enable digital transformation efforts by demonstrating that digital tools can provide micro, small and medium enterprises (MSMEs) access to economic opportunities, as well as promote cross-border trade in tourism services.

First, private messaging provides MSMEs with access to new economic opportunities.

Social restrictions during the COVID-19 pandemic drove increased consumer participation in the e-commerce market, which allowed businesses, including MSMEs, to capitalize on higher demand. Nearly

half of all MSMEs in Asia lack the ability to finance the adoption of digital technologies.²⁸ However, private messaging provides a relatively low cost and effective way for MSMEs to communicate with their customers and suppliers digitally. For example, Portblue, an Indonesian MSME, leveraged private messaging tools to expand its business (*Box 2*). Private messaging can help businesses contact their consumers at lower cost, but, beyond costs, it importantly provides customers an assurance that they are dealing directly with an individual within the business, which reinforces the perception of better accountability and service quality.

Second, private messaging can promote tourism by making businesses more accessible.

Private messaging applications on mobile devices allow customers to communicate directly with businesses while on-the-go. For example, users can directly interact with tourism and hospitality providers while travelling overseas to make and confirm private tour bookings, and to receive answers and updates in a fast and convenient manner.²⁹ Some messaging platforms also contain translation features, helping users to overcome language barriers across geographies. Private messaging applications can assist tourists seeking more niche goods and service providers found off the beaten track. Oftentimes, these providers may not have established e-commerce platforms or sophisticated online presence. For example, producers of handmade crafts or even seasonal products that can only be manufactured in specific regions (e.g., food products or artisanal materials) may be more easily discoverable and accessible to tourists through private messaging.

Box 2



Driving MSME growth using private messaging

MSMEs underpin Indonesia's economic growth and contribute to around 97% of employment and at least 60% of the nation's GDP. During the COVID-19 outbreak, 83% of MSMEs cited WhatsApp to be a key tool in adapting to the online business environment.

Portblue, a shoe business, is one of many Indonesian MSMEs that have adopted private messaging as a productivity tool.³⁰ With many Indonesians using WhatsApp, Portblue found the app made it more convenient and effective to contact customers, and vice versa. Using private messaging, Portblue's sales grew by 70% each year from 2015 to 2019 with 80% of sales being closed through the app itself. As a result, the company has now grown from being a three-member team to employing 50 people.

1.2.2

Private messaging enables digital transformation by supporting e-government efforts

Private messaging applications can facilitate the move towards increasing e-government services. Adopting digital tools such as private messaging can potentially enable public sector services providers to improve service delivery, which will have implications for social welfare more broadly.

Two use cases below help illustrate how private messaging can enable digital transformation efforts by demonstrating that e-government can deliver improved public sector service delivery outcomes.

First, private messaging can facilitate more effective communication between government and citizens.

Promoting two-way interaction between government service providers and citizens can be an effective means for governments to receive feedback on issues that matter to the public. Private messaging tools provide a conversation-style of interaction, creating a tailored and more personalized touch when engaging with members of the public which could garner trust. It also offers public agencies an efficient way of reaching out to a wide public network. For example, the Singapore government uses private messaging platforms to conduct discussions on policies with citizens (Box 3).

Second, private messaging can supporting more efficient internal communications within government.

Ensuring effective communication between different government and public agencies can be challenging. During periods of crisis, such as the COVID-19 pandemic, quick and efficient communication between different internal stakeholders is critical to facilitate agile and timely responses or ensure continuity of government services. While not solely private messaging platforms, messaging features on applications such as Microsoft Teams or Slack have enabled governments to conduct remote training and collaboration – a feature which became essential during the pandemic to ensure continuity of essential government functions.³¹ Such use cases display the effectiveness of private messaging applications to enable instant communication between civil servants.

Private messaging platforms have enabled governments to conduct remote training and collaboration

Box 3



Promoting citizen engagement using private messaging

The use of private messaging can also facilitate governments to promote citizen engagement, as shown in Singapore.

During the pandemic, the Singapore government leveraged WhatsApp broadcasting platforms to disseminate critical health information to the mass public.³² Alongside that, REACH, the Singapore government's feedback unit, also regularly invites citizens to join their REACH WhatsApp group chats to share their thoughts and views on national policies and issues in direct dialogue style with the government.³³ Discussions are moderated by REACH representatives, ensuring that feedback and dialogue are done within a conducive environment.

While such applications are not necessarily one-to-one interactions, these examples showcase how pivotal private messaging platforms have become in enabling communication between public services and ordinary citizens.

2 PRIVATE MESSAGING CONTRIBUTED USD44 BILLION TO THE ASIA PACIFIC ECONOMY IN 2022

In 2022, private messaging is estimated to have contributed the following economic benefits across seven Asia Pacific economies*

USD16.7 billion

worth of annual productivity gains

USD43.7 billion

worth of economic contribution to GDP

3.2 million

jobs supported across these economies



Australia



Bangladesh



Hong Kong



Indonesia



Malaysia



Pakistan



Singapore

Productivity gains are a result of key features of private messaging



Facilitates collaboration as a communication channel



Improves efficiency and productivity through real-time interaction



Promotes better customer service journeys

Beyond economic impact, private messaging has also delivered **other broader benefits to society**

1

Improved social outcomes and wellbeing by connecting people

2

Promoting citizen engagement through effective interactions

3

Improved public sector delivery outcomes

* These seven Asia Pacific economies include Australia, Bangladesh, Hong Kong, Indonesia, Malaysia, Pakistan, and Singapore

2.1 Private messaging use delivers economic benefits

The widespread use of private messaging applications and their prevalence in our day-to-day lives often means that the benefits it creates for individuals are more front-of-mind, for example, helping to connect distant family and friends. As noted above, it has also been used by businesses for internal communications and, increasingly, to reach customers – which is expected to increase productivity through lowering costs and lifting revenues.

This report examines the economic contribution from the growing business use of private messaging over the past five years—between 2018 and 2022—in the seven aforementioned Asia Pacific economies. This economic impact of private message can come from two sources: “production value” and “catalytic value”. Private messaging generates production value to the economy through the businesses involved in operating private messaging services. This refers to direct economic activity which consists of capital investments, building of infrastructure, and other business activities that these private messaging businesses generate. However, more importantly, the most significant economic impacts from private messaging will be the value it brings to its users, including businesses, referred to as its catalytic value. This refers to the value of benefits that are a result of features that are specific to private messaging applications themselves.

Businesses derive economic value from private messaging through more effective collaboration from more effective communications, and better customer experience from more effective customer relationship management.

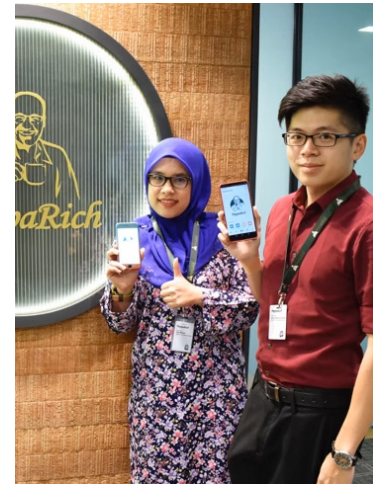
2.1.1 More effective collaboration

Effective communication channels can affect the productivity of a company as workers and executives rely on a smooth flow of information to do their tasks. Without clear channels to interact with other team members, individuals may find it challenging to collaborate or share ideas to make progress.

Private messaging applications offer an alternative to making direct phone calls, travelling for face-to-face interactions, or long-form communication. For example, when aligning on details of essential documents, users of private messaging platforms can directly contact other parties by leaving a short message instead of scheduling a call, making time to travel, or contacting via lengthy e-mail, potentially saving time that can be used for other productive activities. Often, these applications will have functions to attach documents, images, and audio, which can facilitate communications in ways that alternative mediums would not.

A report by the Economic Intelligence Unit highlights how communication barriers lead to failure for project completion, contributing to low morale, missed performance goals, and loss in sales.³⁴ Through private messaging, organizations can encourage frequent communication that facilitates brainstorming, regular feedback, accountability, and healthier company culture – all of which is essential to facilitate collaboration to generate progress. In fact, companies with

Box 4



Facilitating internal collaboration with private messaging

Promoting digital tools among businesses is crucial to driving digital adoption across the economy. DingTalk, one of many messaging apps that has collaborative features, is one example of such tools.³⁶

PappaRich, a Malaysian chain restaurant with over 224 outlets across 11 jurisdictions, used the app to facilitate its expansion across different markets. The app created a unified communication channel to facilitate more effective communication between management levels, resulting in an increase in workflow efficiency.

better connected teams tend to see a productivity increase of about 20-25% that translates into higher profitability.³⁵ For example, PappaRich, a Malaysia-based international company leveraged private messaging platforms to promote collaboration (Box 4).

2.1.2 Better customer experience

As more individuals move online, expectations of how businesses should interact with them have begun to evolve. Private messaging applications enable businesses to better manage customer relations which matter even more during early-stage sales development and post-sales support.³⁷ Businesses can interact with prospective and current customers in real-time and also consolidate all correspondence onto a single platform for easier tracking. Businesses that communicate using the frequency and channels preferred by consumers benefit from higher goodwill of their customers such as: 34% making a complete purchase; 31% had a higher opinion of the company; 15% posted a positive review.³⁸

Such capabilities are even more pertinent to MSMEs which tend to be more resource constrained and can benefit from tools that enable them to better manage their customer interactions at low cost. In addition, business use of the capabilities of private messaging to improve their customer interactions can also benefit from cost savings through a reduced need for customer service agents. A study of a business messaging solution was found to improve the efficiency of a business' customer case agents by 35%, including by allowing them to communicate with multiple customers concurrently.³⁹ For example, Take App, a platform to help small business owners use private messaging tools to better manage their customer interactions (Box 5).

Box 5



Enabling businesses to engage customers more effectively through private messaging

Singapore is highly digitized, with 81% of people 18 years old and older using digital communication tools on a daily basis for personal use. Take App, a platform to help small business owners manage and accept orders through WhatsApp, is one of many innovative digital communication tools enable businesses to engage with customers in Singapore effectively.

During the pandemic, small merchants were unable to efficiently respond to orders and correspond effectively with customers, while also unable to adopt traditional CRM tools that were too expensive and difficult to use. Take App streamlined the administrative processes while still allowing merchants to engaging with customers on WhatsApp. The app currently supports 20,000 local merchants across 30 countries that use WhatsApp as their main tool to engage with customers.⁴⁰

2.2 Private messaging use lifted productivity, supporting economic growth and jobs

2.2.1 Lifting productivity by USD16.7 billion in 2022

The increased use of private messaging by businesses is estimated to have enabled economy-wide productivity gains of **USD16.7 billion** across the seven Asia Pacific economies in 2022, driven by increased revenue opportunities and cost savings enjoyed by businesses (*Exhibit 1*). This uplift is driven by increased levels of adoption of private messaging by businesses each year since 2018 – on average, an estimated 46% of businesses across the seven Asia Pacific economies have adopted private messaging applications as of 2022, around 11 percentage points higher than in 2018. While the gains in 2022 are lower than earlier years, this mainly reflects a more modest pace of growth in business adoption, particularly compared to 2020, when COVID-19 restrictions led to a surge in digitization as many businesses rushed to develop new digital channels to reach customers.

2.2.2 Contributing USD43.7 billion to GDP in 2022

A result of this productivity uplift is increased production activity – that is, productivity gains generated by private messaging is estimated to have lifted production activity in these seven Asia Pacific economies as businesses generate more revenues, which allows them to reinvest in

other productive uses. At the same time, the increased production activity will have positive spill over effects across all other industries in the economy, as businesses channel their expenditure to their suppliers and workers.

In 2022, this increased production activity across the seven economies is estimated to have contributed **USD43.7 billion** to GDP in the Asia Pacific (*Exhibit 2*), all of which comes from increased economic activity generated by businesses using private messaging, positive spillovers throughout their supply chains, and increased incomes earned by workers participating in these economic activities.

2.2.3 Supporting 3.2 million jobs in 2022

Increased production activity also generates employment as businesses seek more labor to support or capture increased economic opportunities. This increased production activity is estimated to have supported around **3.2 million jobs** across these economies in 2022 (*Exhibit 3*).

2.3 Private messaging use delivers social benefits

The use of private messaging by businesses creates significant economic value, but the use of private messaging more broadly also brings about other, equally important, benefits for society at large. The use of private messaging applications can also help people connect with their family and friends; promote citizen engagement; and improve public sector service delivery.

Exhibit 1

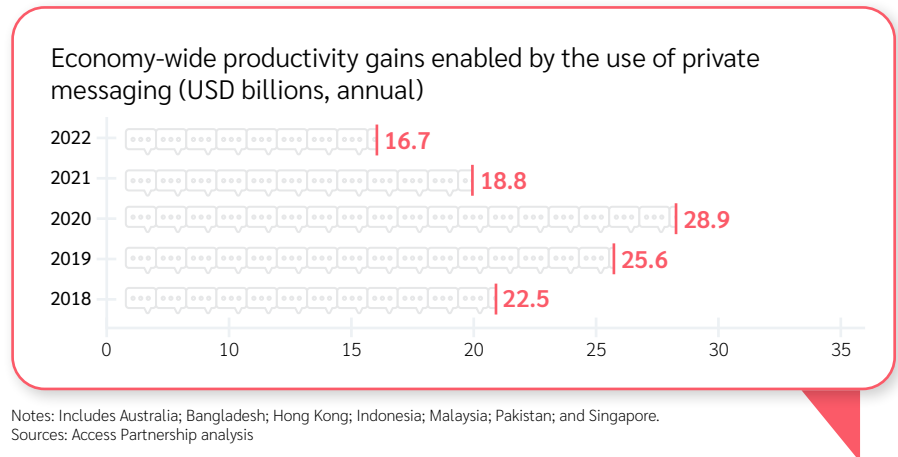
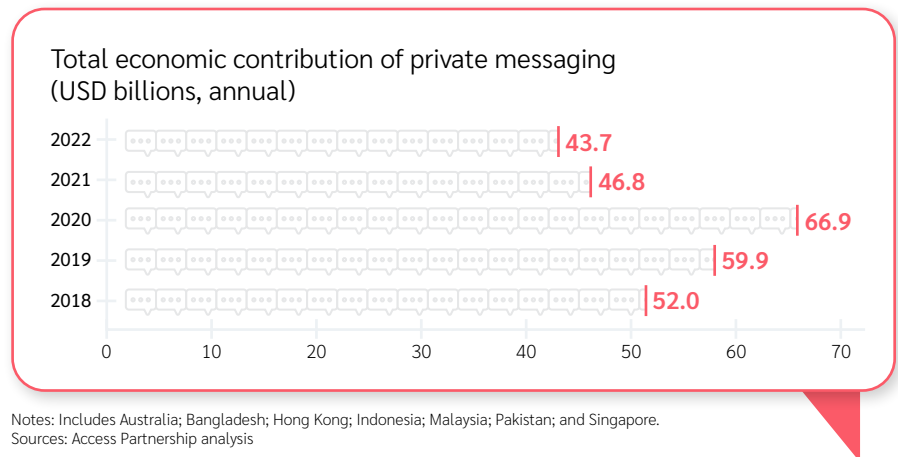


Exhibit 2



2.3.1 Connecting people

Private messaging applications are almost universally free of charge for individuals, enabling people to connect with distant friends and family instantly, at almost no cost. By helping overcome barriers such as distance, the use of these platforms can promote the interpersonal relationships and such associated benefits. While conclusions from past research on the use and benefits from technologies to foster social connectivity are limited at this stage, largely due to the empirical limitations of such studies, there have been promising signs.⁴¹ Improvements in social relationships can bring about improved psychological and physical wellbeing, and also increased longevity.⁴²

Furthermore, private messaging proved to be essential during the COVID-19 pandemic, when social distancing restricted physical mobility and quarantine requirements restricted physical contact for many people. This meant that many individuals, such as the elderly, found themselves isolated within their own homes. This increased the risk of already vulnerable populations to depression and other mental health issues as a result of prolonged isolation. The use of private messaging applications help ensure these individuals can remain connected to their support networks, and their family and friends, helping to mitigate the effects of isolation. LINE, a well-known private messaging platform, contributed to pandemic relief efforts in Indonesia by partnering with BagiKata, a local mental health

organization, to directly connect users in need of mental health support with peer counsellors and psychologists.⁴³

2.3.2 Promoting citizen engagement

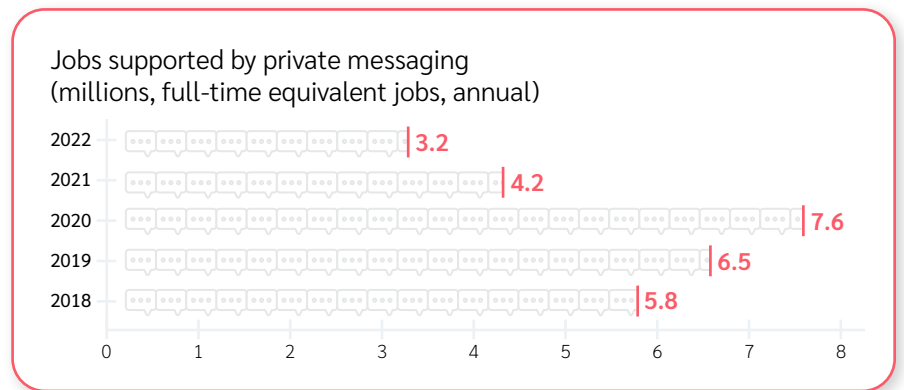
Consistent interaction with citizens and stakeholders through digital platforms can lead to more civic engagement, political participation, and better social capital within the population. This comes about from the improvement of political knowledge and stimulation of political discussion as a result of active discussion.⁴⁴

As outlined in Chapter 1, private messaging platforms can facilitate personalized interactions between government and citizens who aim to provide feedback or seek assistance. This could encourage increased participation as citizens would see their views as being directly received by relevant authorities. By increasing citizen engagement, citizens gain a greater sense of empowerment and agency, encouraging more response and accountability from governments. This can contribute to the development of more inclusive and cohesive societies, improved governance, and improved overall welfare of the state.⁴⁵

2.3.3 Improving public sector service delivery

Private messaging can facilitate more effective communications within government, potentially helping to improve the quality and efficiency of service delivery. The benefits of improved communication efficiency are particularly evident in the context of public health emergency services. For example, when the United Kingdom was rolling out its vaccine and pandemic mitigation plans, an array of

Exhibit 3



Notes: Includes Australia; Bangladesh; Hong Kong; Indonesia; Malaysia; Pakistan; and Singapore. Sources: Access Partnership analysis

Box 6

Private messaging can improve elderly care and healthcare services

As of 2023, the elderly comprises 1 out of 5 people in Hong Kong. Alongside this, chronic diseases, disabilities, and dementia are on the rise. With an increasingly vulnerable elderly population, digital tools such as private messaging are expected to ease the burden on healthcare systems and enhance productivity of services.

The COVID-19 pandemic, particularly during the fifth and most serious wave in Hong Kong in early 2022, prevented vulnerable elderly from travelling to meet their doctors and to receive proper care. Through videocalls and WhatsApp conversations, geriatricians were able to monitor their elderly patients and be kept informed on their conditions remotely.⁴⁸ Geriatric telemedicine helped many of these elderly to manage their symptoms effectively and provide personal care and nutrition.

actors was involved including military logistic teams, intelligence services, consultancies, government officials, public health workers, and volunteers. Unlike digital communications such as email and phone calls that tend to take a longer time and are less efficient, private messaging applications were crucial in facilitating quick and agile responses and collaboration. WhatsApp was used to allow for seamless collaboration between internal and external stakeholders.⁴⁶

Other instances where rapid communication would be critical includes periods of natural disasters. In such situations, delays in

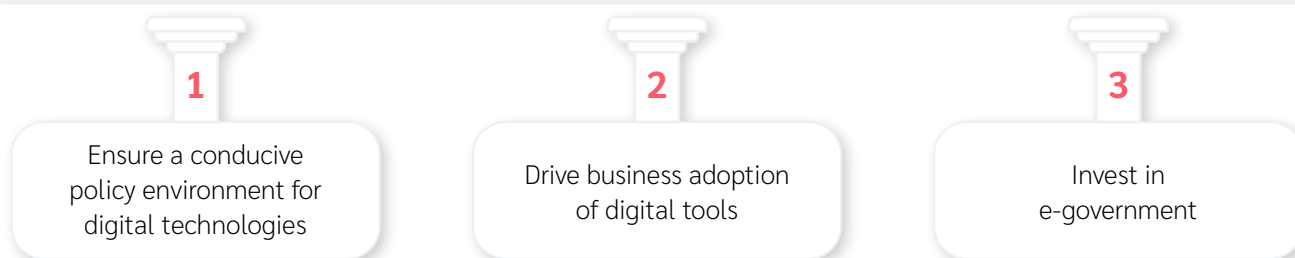
communication by mere minutes could lead to potential life or limb. According to studies, private messaging applications have proven to be an effective and efficient tool to communicate medical information and coordinate emergency response team members in healthcare facilities.⁴⁷ It is estimated that the impact that private messaging can bring to improve emergency response times could be up to USD80,000 per impacted individual on average across the seven Asia Pacific economies (see Appendix A). *Box 6* illustrates another example of how private messaging services can improve healthcare outcomes.

3 PRIVATE MESSAGING HAS MORE POTENTIAL TO BE UNLOCKED

Policymakers can drive further benefits through key actions that support the private messaging technology ecosystem

Private messaging can potentially deliver nearly **USD110 billion** of cumulative productivity impact across these seven Asia Pacific economies by 2030

Three pillars of action are needed to realize this potential



* These seven Asia Pacific economies include Australia, Bangladesh, Hong Kong, Indonesia, Malaysia, Pakistan, and Singapore

3.1 Future private messaging use can unlock productivity gains of USD110 billion by 2030

Private message is an enabler of digital transformation, and the increased use of private messaging over the past 5 years has delivered economic and social benefits for governments, businesses, and individuals. The continued growth of private messaging use has the potential to unlock further productivity across the seven economies, as well as to deliver further social benefits.

An estimated **USD110 billion** in additional productivity gains could be unlocked by 2030 across the seven Asia Pacific economies.

This projection assumes that economies continue to make good progress on adopting private messaging technologies. As economies converge towards their present potential based on their current levels of technological readiness, economic development, and institutional maturity, growth will become more difficult. Therefore, to realise this potential, continuous efforts will be needed to reduce the barriers to digital adoption, and invest in making progress on digital transformation.

3.2

Three actions are needed to realize this potential

Continued growth in the use of private messaging would require a collective effort by stakeholders. There are three key pillars of action for both governments and businesses.

Pillar 1

Ensure a conducive policy environment for digital technologies



Governments should ensure that digital policies and regulations account for the impact on private messaging applications and the negative implications on the value they bring to the economy and society. A risk-based approach is needed in policy-making, including not pursuing regulations that could undermine users' privacy, safety, and security.



Businesses should continue to provide feedback to governments to ensure policymakers do not create regulations in a vacuum. At the same time, public agencies could also hold consultation exercises to provide a platform for relevant private sector stakeholders to share their knowledge, expertise, and experiences that will enrich their decision-making process and lead to more informed policies. Stakeholders can also leverage industry-level platforms, such as the Asia Internet Coalition or the US-ASEAN Business Council, to promote discussions or seek perspectives. Regulations which do not account for impacts on businesses may run the risk of constraining innovation and inadvertently hurting consumers.



Government should maintain the momentum of pandemic-era digitalisation programs, and continue to promote initiatives to encourage business and consumer participation in the digital economy. For example, the Malaysian Digital Economy Corporation (MDEC) launched the SME Digitalization Grant in 2020 as part of its efforts to encourage SMEs to invest in digital solutions such as the adoption of digital marketing, inventory management systems, and accounting and taxation software during the COVID-19 crisis. Post-pandemic, under the 2022 Budget, the SME Digitalization Grant was enhanced with an increase in funds, signalling the government's commitment to driving digital adoption for the longer term.⁴⁹

Pillar 2

Drive business adoption of digital tools

As highlighted in previous chapters, digital tools such as messaging platforms enable businesses to build better customer experiences and improve their operations. Businesses, particularly MSMEs, should continue to invest in the implementation of digital tools to remain resilient during challenging times and to maintain competitiveness as more consumers move to the online environment. This will require both upskilling in specific functions, such as sales or delivery operations, and investment in digital infrastructure.

Businesses, particularly larger organizations, could support their customers and suppliers to adopt digital tools that are interoperable with their own systems, enabling the benefits of their digitization efforts to be shared across their network. For example, Amazon Web Services (AWS) has a MSME digital transformation program known as AWS Lift in Australia, Singapore, and the Philippines, specifically developed to help MSMEs harness the power of digital tools such as cloud computing leveraging AWS servers.⁵⁰ At the same time, these large marketplaces often assist vendors and merchants in adopting digital tools such as e-payments to facilitate smoother transactions with customers.

Governments should review their initiatives to support MSME adoption of digital tools. As smaller businesses may sometimes lack the capacity to invest in digital applications for the long-term, initiatives could focus on capacity building or providing financial support. For example, Singapore's IMDA and EnterpriseSG launched the Start Digital Pack to support MSMEs in their digitization journeys by providing access to a range of foundational digital solutions from accounting to cybersecurity to e-commerce at an affordable price, increasing accessibility of digital tools to these businesses.⁵¹

Pillar 3

Invest in e-government

Governments should build capacity and pilot specific use cases to improve government-to-citizen communications. For example, client-facing government services could implement private messaging-based query platforms for citizens to interact and ask questions. Such platforms could shorten response times, especially if they are able to automatically funnel queries to other relevant agencies through the use of AI-enabled conversations.

Governments should also build capacity and pilot specific use cases to improve internal communications within government, such as by implementing fit-for-purpose private messaging capabilities to encourage team collaboration and reduce response times. Platforms that can facilitate real-time interaction and document collaboration in one go can improve productivity by reducing need for travel to attend in-person meetings and at the same time minimizing back-and-forth communication.

4 APPENDIX A: METHODOLOGY

A.1.

Estimating the impact of private messaging

The relationship between private messaging and productivity

To estimate the impact of private messaging in the private sector, this study frames the use of private messaging to be able to improve business productivity, specifically by improving customer relationship management (CRM). This is done by allowing businesses to more efficiently and effectively: (1) use their customers' information; and (2) engage in customer communications. These features help improve the customers' experience with the business, which can potentially contribute to higher revenues due to increased spending by customers; higher revenues due to increased conversion of potential customers; and lower costs for customer service agents. Overall, businesses are able to generate more revenue at less cost – in essence, improved productivity.

Productivity in the private sector reflects the overall efficiency with which labour and capital inputs are used together in production. It is measured by changes in the amount of outputs for a given amount of inputs. Increases in the quality of inputs as well as changes in the way in which the inputs are combined for production, such as due to improvements in skills and technology, can lead to productivity growth. There have been various studies that have examined the relationship between technology use

and productivity. Gal et. al. (2019) assesses how the adoption of a range of digital technologies affects firm-level productivity.⁵²

Productivity increments supported by improvements to CRM features have been estimated by Gal et. al. (2019) for both small and large businesses. This study looks at how adoption of a range of digital technologies, including CRM, affects firm productivity in 20 OECD countries and 22 industries over 2010-15. Using cross-country firm-level data on productivity and industry-level data on CRM adoption, the authors derived productivity coefficients for the relationship between CRM adoption and productivity.

The change in business adoption of private messaging over time

To estimate the productivity impact for each economy, it was necessary to estimate the unit increase in business adoption of private messaging over time (between 2018 and 2022). This was estimated using the following variables:

- Business adoption of digital communications tools for customer interactions, based on data from the Future of Business Survey under Meta's Data for Good program.⁵³ These data reflect the adoption of digital communications by small businesses, to determine the adoption of digital communications for large businesses, the relationship between large business and small business levels of adoption of private messaging was proxied using data from Esendex (2021).⁵⁴

- The growth in business adoption between 2018 and 2022, based on a Technology Adoption S-Curve derived from data on mobile messaging users from eMarketer.^{55,56}
- The historical growth profile for business adoption over time was created for each economy using a combination of the abovementioned variables, with adjustments made to recognize that each economy is at a different position along the S-Curve. The position of each economy on the S-Curve was determined with reference to data on its WhatsApp penetration rate (based on various public data sources and World Bank population data), its position on the UNCTAD Readiness for Frontier Technologies Index, and its level of economic development (proxied by World Bank GDP per capita data).

The estimate of economy-wide productivity gains

The economy-wide productivity gains are estimated for a two-sector disaggregation of the economy – manufacturing and services. The distribution of productivity gains by sector is based on the industry value added of each sector according to cross-country data from the World Bank. Estimates of the productivity uplift for each economy in aggregate is estimated by taking the product of: (i) the respective industry value added; (ii) the respective productivity coefficient; and (iii) estimates of the respective unit change in business adoption of private messaging. These productivity gains were also estimated separately for small and large businesses, based on a disaggregation of industry value

added according to various public data sources on the contribution of small business to GDP, including from national statistics offices.

Productivity-enabled higher production

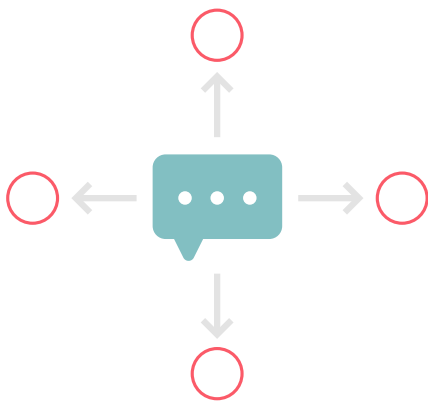
Productivity improvements relate to higher production activity (i.e., GDP) insofar as greater technical efficiency enables firms to produce higher

levels of output for the same level of input, and earn higher incomes. Therefore, a broader economic contribution is generated by this productivity gain. The productivity gain unlocks increased production that comes from increased economic activity generated by businesses, positive spillovers throughout their supply chains, and increased incomes enjoyed by workers participating in these economic activities.

This economic contribution is estimated using the historical relationship between Value Added and Gross Output in the economy. This profile of increased production activity is used as input into a multi-year Input-Output (IO) model for each economy, based on IO Tables from the Asian Development Bank and national statistics offices.⁵⁷ This economic contribution is captured at three successive effects:

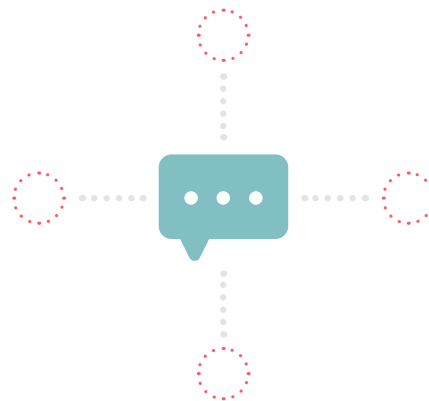
Direct effects:

Contribution attributed to the additional production activities of firms directly using private messaging applications.



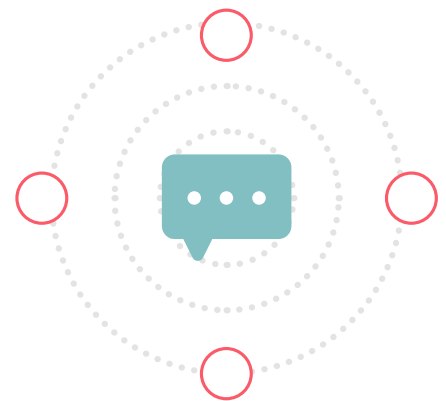
Indirect effects:

Contribution attributed to the production activities of other firms along the supply chain of those firms directly involved, e.g., transport, electricity generation.



Induced effects:

Contribution from the consumption activity of workers who earned an income by participating in the production activities of the directly and indirectly involved firms.



This approach estimates multipliers for every dollar of additional value added generated – that is, how much Gross Output and Value Added is generated for every dollar of productivity uplift. These multipliers were derived for each of the seven economies and their respective industries and were then used to account for total economic contribution that arose from the productivity uplift generated by private messaging.

The gross output result is used to estimate the number of jobs

supported by this economic activity, based on the historical relationship between economy-wide Gross Output to Full-Time-Equivalent (FTE) employment. Data on employment for each economy from the UN International Labor Organization (ILO).

Projecting the future economic opportunity

The estimate of future economic opportunity is based on a gap analysis. The gap analysis will be a comparison between the “current

state” of adoption of private messaging by the private sector, and a “future state” of adoption based on catching up to the frontier.

The basis of this economic opportunity projection is essentially a scenario analysis that is predicted on a scenario underpinned by the following assumptions:

- The economies that are behind other similar economies at the frontier of private messaging adoption will converge to the current frontier.

- The economies that are at the frontier of private messaging adoption will grow at its most modest historical pace (based on its growth between 2018 and 2022).

The benchmarking of other similar countries will be informed by indicators of market maturity, such as IMD World Digital Competitiveness Ranking, the UNCTAD Readiness for Frontier Technologies Index, and its level of economic development (proxied by World Bank GDP per capita data).

This scenario projects a future economic opportunity that is defined to be the value of realizing the full potential. This means that the time to convergence towards the frontier and extended frontier is not relevant for this scenario.

A.2. Estimating improvements to emergency response times

Private messaging applications can promote effective communication as it allows users to transmit

information more quickly in emergency situations and to transmit information to a wide number of users more efficiently in emergency situations. These features contribute to reduced emergency response times that can mitigate potential loss of life (mortality) and loss of limb (morbidity). To derive a more concrete outcome, historical data of the impacts on natural disasters was used as a proxy, given that the nature of emergency situations in hospitals or on-site accidents vary widely in outcome and intervention approaches.

A top-down approach was used to estimate the impact of private messaging. Eksert et. al. (2017)⁵⁸ and Homier et. al. (2020)⁵⁹ derive time savings generated by the use of private messaging in emergency situations. The impact of reduced emergency response times was then broken down into two components – mortality and morbidity. Annual mortality and morbidity figures caused by natural disasters were derived from the EM-DAT international database of natural disasters. Both aspects were quantified into disability-adjusted

life years based on the methodology developed by Noy (2016).⁶⁰ As each life year is assumed to equate to one year of productive activity (i.e., GDP per capita), an economic impact estimate could be derived by multiplying improved mortality and morbidity rates with GDP per capita. This analysis was done at the country-level to account for differences in level of economic development.

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