

Economic Impact Report:

**Path to a safer,
more inclusive and
equitable digital
Malaysia with Google**

November 2023



Important Information

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All calculations were done in USD and converted to RM based on the average exchange rate in 2022 of 1 USD = 4.40 MYR, obtained from the IMF database. All estimates in this report are expressed in RM, and are based on the latest available data as of time of analysis in 2023.

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Executive Summary

Achieving a safe and inclusive digital society is integral to Malaysia's economic ambitions

As Malaysia progresses towards its economic ambitions, **online safety and inclusivity are critical to fulfilling its digital potential.** This includes empowering Malaysians with digital skills and addressing cybercrime so that everyone can adopt digital tools more confidently and participate more equitably in the country's economy.

Digital technology is instrumental to closing Malaysia's digital skills gap

As Malaysia narrows the digital skills gap, incomes will rise in tandem with economic growth. **Bridging skill gaps through tools such as job platforms and training programmes has the potential to unlock RM87.8 billion in economic value for the country in 2030.** These tools are also key to leveling access to skills training tools and better work opportunities for everyone, making the labour market more inclusive.

AI and cybersecurity education can help businesses and individuals strengthen cybersecurity

Malaysia was the 11th most breached country globally in terms of cyber attacks in 2022, making it imperative to raise awareness and improve systems to be better protected against online fraud and malicious attacks. **Artificial Intelligence (AI) and cybersecurity education can mitigate RM104.2 billion in cybercrime costs for businesses and individuals in Malaysia in the year 2030.**

Google helps businesses generate economic value

In 2022, Google supported RM51.5 billion in economic benefits in Malaysia through its products and services to help businesses grow while ensuring Malaysians have access to essential digital resources. This includes RM13.2 billion in economic activity for businesses in Malaysia. 56% was enjoyed by small and medium-sized businesses (SMBs) and 38% was realised through Google-enabled exports to overseas markets. Google's products and services also supported more than 47,900 jobs in the local economy, with another 57,300 jobs supported through the Android app economy.

Google supports Malaysian households by fostering inclusivity, facilitating upskilling and increasing efficiency

A significant 74% (RM38.3 billion) of the RM51.5 billion in economic benefits generated by Google's products and services was enjoyed by Malaysian households. From rich entertainment to improved efficiency and easy access to information, Malaysians enjoyed conveniences that were delivered right to their devices. Many even learnt new skills through YouTube, which enabled them to explore new ways to diversify their income streams.

A new Malaysia Google Cloud region will deliver economic value and jobs

Malaysia's [upcoming Google Cloud region](#) is estimated to deliver **RM14.1 billion in Gross Domestic Product (GDP) contribution between 2025 and 2030 and generate 26,700 new jobs in the year 2030.** It will also drive benefits such as improved innovation and enhanced security while contributing to sustainability efforts.

Technology is key for Malaysia to build a safe and inclusive digital society and realise its economic ambitions

RM87.8 billion

of value could be generated in the year 2030 by **narrowing Malaysia's digital talent gap through the use of job platforms and training programmes**, which help to reduce labour market frictions (better matching of jobs and talent) and upskill workers.

RM104.2 billion

of **cybercrime-related costs to businesses and individuals** could be mitigated in 2030 through AI and cybersecurity education across workplace, school, community and senior programmes.

Google uplifts businesses and households in Malaysia with a myriad of economic benefits

RM51.5 billion

of economic benefits was unlocked in 2022 by **businesses and households** in Malaysia from their use of Google's products and services.

RM13.2 billion

of economic activity¹ was gained by **businesses in Malaysia** - 56% was enjoyed by small and medium-sized businesses (SMBs) and 38% was realised through Google-enabled exports to overseas markets.²

RM38.3 billion

of economic benefits was gained by **Malaysian households** through their use of Google's products and services in 2022.³ This is equivalent to an annual benefit of RM1,289 per Google user.

47,900 jobs

were **supported by businesses' use of Google's products and services in 2022**.⁴ For example, the use of Google Ads enables businesses to expand their customer bases, supporting job creation as they require increased hiring to meet additional demand.

An **additional 57,300 jobs** were also supported through the Android app economy.

1. Products and services assessed include Google Search, Google Ads, Google AdSense, Google Play, YouTube and Google Cloud.

2. Products and services assessed include Google Search, Google Ads, Google AdSense, Google Play and YouTube.

3. Products and services assessed include Google Search, Google Maps, Google Play, YouTube, Google Drive, Google Docs, Google Sheets, Google Slides and Google Photos.

4. Products and services assessed include Google Search, Google Ads, Google AdSense and YouTube.



Chapter 1

Achieving a safe and inclusive digital society through technology

The digital economy has become increasingly central to Malaysia's growth strategy in recent years. Growing from 18.5% of GDP in 2019 to 22.6% in 2020, it is on track to contribute over a quarter of the country's total economic output by 2025.¹

In late 2022, Prime Minister Anwar Ibrahim also introduced 'Malaysia Madani', a strategic framework that serves as a guiding vision for his government.² As Anwar put it, "Malaysia must be known as a Madani nation that is prosperous, fair and rejects any form of cruelty towards any individual or race."

With this in mind, two key priorities need to be addressed for Malaysia to become a high-income country:

1.

Improving Malaysia's digital competitiveness through talent upskilling

2.

Empowering individuals and businesses in Malaysia to address evolving cybersecurity risks

Focusing on digital upskilling and cybersecurity will help Malaysia build a safe and inclusive society by **nurturing inclusive and equitable participation in the digital economy.**



1.1 Uplifting the workforce



79%

of organisations surveyed in Malaysia indicate they lack adequate digital competence³

95%

of employers are unable to find the digital talent they need for in-demand technologies⁴

3 months

is the average duration that a role requiring advanced digital skills is left vacant⁵

The need to upskill Malaysia's workforce is clear. By developing their digital skills, workers can expect an overall rise in income levels.⁶ This is likely to translate into higher job satisfaction among workers who have moderate digital skills and above, and improved products and revenues for companies who hire these skilled workers (e.g., cloud specialists or data engineers).⁷

Two key digital technologies that enable Malaysia's professional upskilling and training needs are:

1. **Job platforms**, such as Foundit (formerly Monster), JobStreet Malaysia, LinkedIn and Maukerja
2. **Training programmes**, such as
 - personalised learning tools such as Google Classroom
 - short course and certificate providers such as Gemilang, Coursera, and SkillShare

Combined, the economic benefit of these technologies through better job matching and upskilling may add **RM87.8 billion** to Malaysia's GDP in the year 2030.

AI's contribution to boosting Malaysia's workforce should also not be overlooked. From resume optimisation and interview preparation tools to insights on industry hiring and salary trends, AI can help local job seekers make more informed choices about their career paths and negotiate better job offers.

Equalising digital skilling opportunities for Malaysians is essential for inclusive growth

A sizeable portion of Malaysia's Budget 2023 is allocated to digitising the country, including bringing connectivity to 47 industrial areas, nearly 3,700 schools and across the country's rural areas.⁸ Recognising that digital transformation around the country is a requisite for sustainable and equitable economic growth over the long term, the national budget also assigned RM750 million to Human Resources Development Corporation (HRD Corp), the agency responsible for driving Malaysia's talent development, to provide skills training for over 800,000 employees with the objective of improving productivity and boosting income for all.⁹

Closely related to education and upskilling are the broader benefits that digital upskilling offers: increased inclusivity. **Digital technology lowers barriers to education and jobs, opening up opportunities for everyone.** This can lead to increased salaries and disposable income, which can help raise and distribute welfare across the country.

MDEC takes the lead in building digital skills across the country

In recognition of the urgent need for companies to reskill and upskill their workers in the wake of the COVID-19 pandemic and shift in ways of working, Malaysia Digital Economy Corporation (MDEC) has been at the forefront of building digital skills at a national level.

In 2020, MDEC launched the **Digital Skills Training Directory** to help companies find the right training provider and courses that meet their reskilling and upskilling needs.¹⁰ Endorsed and reviewed by a panel of digital industry experts, the course catalogue is particularly geared towards in-demand digital skills such as AI, cloud, digital marketing, fintech, data science, cybersecurity, software development, game development and animation.

MDEC has followed up with **MyDigitalWorkforce Work in Tech** (MYWiT) in 2021, a programme aiming to incentivise employers to hire those who are unemployed through training and salary subsidies.¹¹ The incentive covers 40% of the employee's monthly salary for six months, with a minimum salary of RM2,000, and is capped at RM2,600 per month. For each person trained and employed, businesses can receive incentives worth up to RM23,600.



Photo Credit: <https://mdec.my/digitalskillstrainingdirectory>

1.2 Strengthening cyber resilience in Malaysia

Malaysia is the 11th
most breached country globally¹²

Malaysia saw a 15%
increase in cybercrime rates year-on-year¹³

The rapid pace of digital transformation has created opportunities for cybercriminals to exploit vulnerabilities. Neglecting proactive measures against cybersecurity risks can result in significant financial losses for both businesses and individuals. While the government is investing heavily in cybersecurity strategies, there is still much work to be done to ensure that digital economy growth is inclusive and secure. In this battle against cyberattacks, two key priorities need to be addressed for Malaysia:

1.

Educate individuals on cybersecurity

Fraud is a serious problem, constituting almost two-thirds of reported cybersecurity incidents in Malaysia in 2022.¹⁴ Examples include phishing, spoofing, business email compromise (BEC), love scams and lottery scams. Cybersecurity education can better equip Malaysians to protect themselves against emerging cyber threats. It can be conducted across the workplace, at school and among the community, such as through digital literacy workshops for youth and senior citizens.

In addition to equipping individuals with greater digital literacy, **businesses must also have systems in place to defend themselves against the next biggest threats after fraud: malicious codes (14% of all cybersecurity incidents) and intrusion (10%).**¹⁵ With 72% of businesses suffering cyber attacks in 2022, AI is critical to automating the prevention and detection of cyber threats for businesses, reducing the cost of data breaches by up to 65%.¹⁶

Through a combination of government initiatives, cybersecurity investments and digital literacy programmes, the country can reduce cybercrime losses by **RM104.2 billion in 2030.**

2.

Upgrade cybersecurity capabilities of businesses, especially SMBs



Photo Credit: <https://www.nst.com.my/news/nation/2023/06/920589/new-law-boost-cybersecurity>

Imminent Cyber Security Bill to be Malaysia's first overarching cybersecurity regulation

On 15 June 2023, Prime Minister Anwar Ibrahim announced that the National Cyber Security Committee decided that a Cyber Security Bill be drafted immediately.¹⁷ The Bill will provide the National Cyber Security Agency (NACSA) with clear legal authority to regulate and enforce laws related to cybersecurity and improve its effectiveness, including through the protection of Critical National Information Infrastructure (CNII).

This development follows a series of recent actions designed to strengthen the cybersecurity posture in the country, such as the allocation of RM10 million in Budget 2023 to support the National Scam Response Centre (NSRC), and Bank Negara Malaysia's introduction of a "kill-switch" policy for all banking institutions.¹⁸

1.3 Google's contribution to digital upskilling and cybersecurity

Google works closely with the community and government to make the Internet a safer and more inclusive place. By supporting programmes that teach digital skills and providing tools to combat cybersecurity risks for government and businesses, Google initiatives create equal opportunities for all while protecting everyone using the Internet.

Google empowers Malaysians to build in-demand digital skills

In 2022, Google launched **Gemilang** to help people from all backgrounds develop job-ready skills and gain access to jobs in high-growth fields like cybersecurity, data analytics, digital marketing and e-commerce, IT support, project management, and UX design.



80% of the certificate graduates in Malaysia have reported a positive career outcome, such as a new job, promotion, or salary raise, within six months of completion,¹⁹ including Aiman. Drawn to data analysis since his job as a research assistant, Aiman was always on the lookout for ways to expand his knowledge. Coming across the Google Data Analytics Certificate on Coursera, Aiman benefitted from the proper lesson plans and being taught by experts of different backgrounds. The course solidified his knowledge and expertise in data analysis and taught him how to better manage his workflow and data-clearing activities. Within just a month of completing the programme and posting his certificate online, a large number of recruiters started reaching out to him. **With greater confidence and enhanced skills, Aiman landed a new job, where he was entrusted with greater responsibilities and received a 20% bump in pay.**²⁰

Google rolls out initiatives to strengthen cybersecurity



Google's **Cybersecurity Certificate**²¹ is the latest addition to the Google Career Certificates series. Officially accepted as a preparation programme for the CompTIA Security+ exam²², the industry's leading certification for cybersecurity roles, this programme is designed and taught by Google's cybersecurity experts and prepares learners for entry-level jobs in cybersecurity in less than six months of part-time study, regardless of prior experience or degree.

Separately, Gmail users are protected from **nearly 15 billion** unwanted messages a day, with more than 99.9% of spam, phishing and malware blocked. Google recently also became the **first** major tech company to enable passkey sign-in, combining the advanced security of 2-Step Verification (2SV) with the convenience of just unlocking one's device.²³ Through the use of cryptography, passkeys cannot be stolen in the same way that passwords can, providing enhanced security.

Chapter 2

Google's impact in Malaysia

The previous chapter discusses how digital technologies, including Google's initiatives, are addressing the digital skills and cybersecurity challenges in Malaysia.

Here, we explore how **Google's products and services help businesses in Malaysia unlock economic value and new opportunities** by

- Expanding their online presence locally and globally (Google Search, Google Ads, Google AdSense and Google Business Profile); and
- Improving work efficiency (Google Cloud).

Google's products and services also greatly benefit Malaysian households by

- Increasing and democratising access to information (Google Search);
- Enabling greater productivity and convenience (Google Maps, Google Drive, Google Photos, Google Slides, Google Docs and Google Sheets); and
- Providing a range of education and entertainment avenues (YouTube and Google Play).

In 2022, Google's products and services supported
RM51.5 billion
in economic benefits for businesses and households in Malaysia.



2.1 Helping businesses generate economic value

Google empowers Malaysian businesses that are on their digital transformation journey. Through Google's products and services, companies can unlock new avenues for growth while creating high-paying jobs that fuel the country's rise in wealth. Moreover, these tools allow businesses to continuously optimise their processes, learnings and capabilities, building the digital skills required to protect themselves from ever-evolving cybercrimes and ensure long-term economic sustainability and success.

RM13.2 billion

of economic activity

was gained by businesses in Malaysia through their use of Google Search, Google Ads, Google AdSense, Google Play, Google Cloud and YouTube in 2022. 56% was enjoyed by SMBs²⁴ and 38% was realised through Google-enabled exports to overseas markets.*

More than 66 million

web visits every month in 2022

were directed by Google to Malaysian publishers at no charge - helping them make money with ads and new subscriptions.²⁵

15 days

of time savings

per employee annually was reaped through their use of Google Workspace.²⁶ This includes time saved by **accessing, storing and sharing online documents for work**, and **from reduced meetings and more efficient collaborations**.

*Note: Products and services assessed for the estimation of export benefits include Google Ads, Google AdSense, Google Play and YouTube. Benefits from Google Cloud were not included in this estimation.



Businesses are leveraging Google's products and services and reaping its benefits

News'wav: Optimising infrastructure with Google Cloud

News'wav



Photo Credit: News'wav

*"Since News'wav's inception, we've entrusted our cloud needs to Google Cloud, a decision inspired by their cost-effectiveness and pioneering Kubernetes technology. Today, Kubernetes is not just a tool; it's the backbone of our infrastructure, seamlessly managing the flood of daily traffic on our platform. **As Google leads the charge in AI, we anticipate a future enriched by even more innovative AI services from Google Cloud. They're not just our service provider - they're our gateway to the next level of growth.**"*

Swee Wai Hoow, CEO of News'wav

Established in 2017, News'wav is Malaysia's No. 1 homegrown content aggregator. Offering a trilingual platform in English, Malay and Chinese, it encompasses over 200 publishers and boasts an impressive achievement of more than 3 million app downloads.²⁷

Needing cutting-edge technology for its crawlers to analyse and classify a large number of content pieces and topics online, News'wav turned to Google Cloud Platform's AutoML and Translation API, reducing the time and manual effort required for this task. Additionally, by utilising BigQuery in Looker Studio, News'wav has enabled rapid data visualisations for business users and reduced their overall sprint workloads by 20%. Hosting applications and deploying tools using Kubernetes Engine (GKE) has also enabled more than 30% cost savings by only consuming resources when needed, while maintaining uninterrupted service in high-traffic periods.

For instance, the 15th General Election in 2022 posed News'wav the challenge of handling unprecedented concurrent traffic, with millions of users relying on its platform for the latest election news and results. Google Cloud Platform's services such as Cloud Load Balancing and embedding metrics in Google Cloud Monitoring helped News'wav to manage traffic surges, reinforcing its position as a leading source of news for many Malaysians.

The new Google Cloud region will further Malaysia's economic growth while creating new high-income jobs

Google Cloud serves as a digital partner for many businesses in Malaysia. By providing a reliable, easy-to-use, secure and readily-available service that keeps operations running smoothly, organisations across the country are able to maximise efficiency and productivity. **In 2022, Google announced plans for a new Google Cloud region in Malaysia**, which promises reliable, low-latency connectivity, as well as the highest security, data sovereignty and compliance standards, including any specific data storage requirements.²⁸ This enables businesses to achieve more as they are able to elevate their revenues and hire more adept employees, which stirs an upward progression towards becoming a high-income nation.

RM14.1 billion

of contribution to GDP

will be generated by the new Google Cloud region between 2025 and 2030.²⁹

26,500

full-time equivalent jobs

such as cloud engineers and data scientists will be created through the Google Cloud region in 2030 alone.²⁹

78%

improvement in energy efficiency

could be achieved through the migration of on-premise data centres to cloud, enabling organisations to reduce energy consumption and associated emissions.³⁰



2.2 Supporting households with vital digital tools

Easy-to-use and secure, Google's products and services have changed the way Malaysians access information, navigate commutes, consume content, and more.

These products and services have brought significant benefits to Malaysian households, including efficiency gains in travel time due to Google Maps, upskilling opportunities and entertainment avenues via YouTube, and easy access to over 2.5 million apps via Android and Google Play that serve a wide range of needs and wants. For instance, 61% of YouTube users in Malaysia say they have turned to the platform to learn a new advanced digital skill, such as AI, software programming, mobile application and website development.³¹

RM38.3 billion

in economic benefits* was gained by Malaysian households through their use of Google's products and services in 2022.

Equivalent to an **annual benefit of RM1,289 per Google user**, these benefits measured how much consumers valued the easier access to information, increased productivity and a variety of entertainment and enrichment benefits from Google's products and services.

47,900 jobs

were supported by businesses' use of Google's products and services in 2022.³² An **additional 57,300** jobs were also supported through the Android app economy.³³

For example, the use of Google Ads enables businesses to expand their customer bases, supporting job creation as they require increased hiring to meet additional demand. This supports a wide range of jobs, including app developers, engineers and advertisers.

*Note: The economic benefits for households were calculated based on how much Malaysian users are willing to pay for each Google product before they would switch to an alternative product. This represents how much they are willing to pay and not cost savings.

Three 19-year-olds learned to build website Feed Selangor through YouTube, connecting food beneficiaries and donors in Selangor³⁴

Inspired by the Bendera Putih (White Flag) movement, three 19-year-olds embarked on a thoughtful endeavour to connect individuals in need of food, money and healthcare in the Klang Valley region to those who could offer assistance. Recognising the lack of coordination in information dissemination and the unaddressed pleas for help, Au, Leong and Menon established a centralised information hub to help volunteers and non-governmental organisations provide aid more swiftly.



Photo Credit: <https://www.malaymail.com/news/malaysia/2021/07/18/feed-selangor-a-website-that-connects-people-who-need-food-with-the-people/1990731>

By educating themselves through YouTube, Au, Leong and Menon took only seven days to build the website. Feed Selangor went live and scaled quickly to reach 100 interested entities. Through Feed Selangor, volunteers and organisations could easily identify nearby locations where they could deliver food to those in need, even amidst the 2021 lockdown.

Methodology

- **Estimating the economic value of digital technologies in mitigating societal challenges in Malaysia**

This report estimates the annual economic benefits of digital technologies in the mitigation of two key societal challenges in 2030: digital skills shortages and cybersecurity risks. The analysis takes 2030 as the target year to ensure sufficient runway for reasonable projections (which takes into account increases in technology uptake over the coming years).

For the digital skills shortages, the economic benefits of technology in addressing were estimated based on the relationships between technology applications (i.e., job platforms and training programmes) and employment outcomes (i.e., labour productivity). For cybersecurity risks, the cost savings for businesses deploying AI in cybersecurity and the cost savings for individuals undergoing cybersecurity education were estimated. This report measures the potential reduction in direct costs (financial losses associated with a cybersecurity incident, such as loss of productivity, fines, remediation cost) and indirect costs (opportunity cost to the organisation, such as customer churn due to reputation loss) as more businesses in Malaysia deploy AI in cybersecurity in the year 2030, forecasted based on global trends. For individuals, the percent reduction in cybercrime vulnerability through education was extrapolated to calculate the number of cybersecurity incidents which could be avoided and the direct financial savings for individuals in such cases, while accounting for underreporting which tends to be prevalent in cybercrime cases.

- **Estimating Google's economic benefits in Malaysia**

The household benefits supported by Google in 2022 were estimated by considering the consumer surplus gained by Malaysians. Since individuals do not typically pay to use Google Search, Google Maps, Google Play, YouTube, Google Drive, Google Photos, Google Docs, Google Slides and Google Sheets (all free products and services), the estimation of household benefits is based on the economic principle of 'willingness to pay.' Individuals were asked to indicate the value they placed on these specific services, which represents the consumer surplus. This value serves as a proxy for the monetary benefit that Malaysians derive from using these products and services.

These insights were gathered through a survey conducted in February 2023 with 500 individuals based in Malaysia. The sample size of respondents is statistically significant based on the Internet

population in the country, at a 90% confidence level.

The economic activity generated by businesses from Google's products and services such as Google Search, Google Ads, Google AdSense, Google Play, Google Cloud and YouTube in 2022 was estimated based on the economic value generated by businesses in Malaysia from leveraging Google's products and services. The value of using Google's products and services does not include flow-on economic effects generated, such as further purchases from their suppliers or the economic activity generated by employees of these businesses who spend their wages in the broader economy. The value also does not account for the activities that may have been displaced by Google, nor do they attempt to estimate the incremental impact of Google on Malaysia's economy in hypothetical instances where Google itself does not exist but similar companies do. The methodology adopted to derive the economic activity generated by businesses in Malaysia in this report references the [US Google Economic Impact Report methodology](#).

The export-related benefits for Google's products and services such as Google Search, Google Ads, Google AdSense, Google Play and YouTube in 2022 were estimated based on the economic activity generated by businesses using each tool and its respective export ratio. The export ratios for Google Search, Google Ads, Google AdSense and YouTube were derived based on the share of overseas traffic on search and display advertisements and online video channels for Malaysia respectively. For Google Play, the overseas share was estimated using the 'power law' curve (an established empirical approach to approximate the dynamics of winner-takes-all markets like mobile apps).

The number of jobs supported by Google's advertising products and services in 2022 was estimated based on the economic activity generated by businesses from each advertising tool, the share of digitally-enabled businesses and the labour productivity in Malaysia. The number of jobs supported by the Android app economy in 2022 was calculated based on the methodology from the Progressive Policy Institute, a leading institute studying app economies around the world. This is derived based on the estimated app intensity of Malaysia (app economy jobs as a share of total jobs) and the economically active population in Malaysia.

A detailed methodology memo outlining the approach adopted in our study can be accessed on our website [here](#).

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32. These jobs are enabled in Malaysia as Google tools such as Ads, AdSense and YouTube allow local businesses to expand their customer bases and capture more demand, spurring the need for additional hiring.
33. Access Partnership analysis. App economy jobs are divided into three categories: direct, indirect, and spillover jobs. Direct app economy jobs include app developers; software engineers whose work requires knowledge of mobile applications; security engineers who help keep mobile apps safe from being hacked; and help-desk workers who support use of mobile apps. Indirect app economy jobs are non-IT jobs (such as sales, marketing, finance, human resources, or administrative staff) that supports core app economy jobs in the same enterprise. Spillover jobs are jobs in the local economy that is supported either by the goods and services purchased by the enterprise, or by the income flowing to core and indirect app economy workers.
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