# ECONOMIC AND DIGITAL JOB MARKET OUTLOOK NMALAYSIA 2021

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## **TABLE OF CONTENTS**

Message from the Chairman	07
Preamble from the PIKOM Research Committee Chair	09
Publication Team Profile	13
SECTION 1. Economic Review and Outlook	17
SECTION 2. Digital Economy Review and Outlook	39
SECTION 3. Digital Employment and Salary Trends	53
SECTION 4. Regional Benchmarking for Digital Jobs and Salaries	79

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## MESSAGE FROM THE CHAIRMAN DANNY LEE

It has been almost two years since the emergence of Covid-19 led to wholesale changes in many of the things we take for granted. Life and the world we live in today are no longer the same as it was in early 2020.

Where once we would spend most of the day out working, visiting or relaxing, we have spent much of the past 18 months confined at home; where before we could travel outstation or jet off overseas for business or leisure, we have been restricted to movement controls within our own borders and at times within states and districts; and where there was a time we would focus on business opportunities, today our attention is drawn to business survivability and sustainability.

This is a phenomenon that none of us including the industry envisaged or imagined could happen in our lifetime. While we are still not out of the woods, nevertheless, we have come a long way in the last 18 months and are better prepared to face a consistently changing new normal.

PIKOM will continue in its quest to assist and support the digital industry during this period of recovery with our continuing communication with the government, various agencies and private sector via our webinar series and other digital-related initiatives.

Despite our current situation, with every cloud there is bound to be a silver lining. And in this regard, we have witnessed a rapid and remarkable transformation towards digital in many aspects of society, government and especially the economy.

For these reasons, PIKOM's publications such as this latest edition of the *Economic and Digital Job Market Outlook in Malaysia 2021* are important and provide valuable information for our members and industry at large. Such information offers a critical guide to challenges and opportunities for digital industry players, planners and policy makers in government as we transform to the next stage of the new normal.

This year's publication is all the more poignant since we had held off on publishing any reports the year before. I



understand that this year's publication has a multiplicity of insights for readers, not only on local digital job salary trends but they are also benchmarked against eleven other economies.

The publication will hopefully answer some burning questions you may have, such as "How has the job market been impacted by the global pandemic?", "Am I underpaid, overpaid or earning the right pay?", "What can I expect in 2022 and beyond in a post-pandemic world?" and "How has Malaysia fared vis-à-vis our neighbours and other major economies?"

On this score, let me take this opportunity to thank Jobstreet for generously sharing its data and the Malaysia Digital Economy Corporation (MDEC) for its continued support. I would also like to thank all our advertisers whose support is invaluable to our publishing efforts.

Let me also congratulate the PIKOM Research Committee led by its Chair Mr Woon Tai Hai and the publication team for producing a thought-provoking report expected to be a useful almanac on the digital economy, digital employment and digital salaries.

Thank you.

**5**G

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## PREAMBLE FROM THE RESEARCH COMMITTEE CHAIR

## **WOON TAI HAI**

Welcome to the 13th edition of the PIKOM *Economic* and Digital Job Market Outlook in Malaysia 2021. PIKOM understands that this report is an important and sought-after publication to benchmark the salaries of the various digital jobs in different industries.

Hopefully, this year's data and analysis will once again provide a beacon to guide the industry, especially in the current challenging and volatile environment impacted by the Covid-19 pandemic, political upheaval and other uncertainties.

The ICT or presently-termed digital industry is not spared from this predicament. However, I should point out that the Chinese characters Wéijī (危机), used to denote a crisis, is comprised of two characters and they are 'danger and opportunity'. Hence, our overall view of the digital economy is that despite the prevailing challenges and uncertainties, there is also a glimmer of hope and significant opportunities within the digital industry. This conclusion is outlined following the qualitative and quantitative analysis of this year's data.

If you have noticed, we have renamed this year's title as **"Economic and Digital Job Market Outlook in Malaysia"** to better reflect the intentions and contents of the report. The four key focus areas of this report remain as: an indepth analysis of our economy in light of the pandemic; a critical review the digital economy which has also been affected by this unprecedented crisis; domestic digital salary trends for 2021 and 2022; and benchmarking against regional salaries in 11 economies.

We are happy to note that not all of our findings are negative for the industry. Our analysis has also revealed that there are aspects of the market that have grown by leaps and bounds e.g. eCommerce, online connectivity infrastructure, increased digital adoption, digital payment platforms, and an overall increase in digitalisation of certain services-oriented sectors.

The term 'transformation' for some is perhaps obsolete with 'acceleration' much more appropriate. While the digital economy contribution to the national economy



may have reached the 20% target set many years ago, we are of the opinion that this digital journey may be further accelerated and will potentially reshape the landscape of the digital industry. The Government's MyDigital and 5G deployment initiatives will be another set of impetus to drive the industry forward.

However, a lot will still depend on the second half of 2021, especially the state of the pandemic, pace of recovery, global economy; and many other economic and non-economic factors. With cautious optimism, we have projected GDP growth for 2021 and 2022 at a lower rate of 2.0% to 2.5% for 2021 and 4.5% to 5.0% for 2022. Please refer to the report for our outlook on fiscal debt, currency, inflation, interest rates, unemployment rate and commodity prices including their impact on the overall economy.

As for the domestic digital salary outlook based on data from Jobstreet, we can see a clear downward trend in growth even as early as 2019 to 2020, 2021 and 2022, as shown in the forecast of the average annual growth rate (AAGR) of salaries using the mean geometric formulae to extrapolate the numbers.

## Preamble from the Research Committee Chair

Hence, the pandemic was not the only force that impacted on the state of jobs and salaries. But suffice to say that the salary trends for 2020 and 2021 would certainly be directly affected by the pandemic, other uncertainties and job losses.

Despite this downward trajectory, we were pleasantly surprised that the number of jobs advertised remained high considering the impact of an event in which none of us was not prepared for. The number of jobs advertised was 135,451 and 97,909 in 2020 and 2021 respectively (*Source: Jobstreet*). The data for 2021 was for the first six months of the year and it is clear that by the end of this year, the number of jobs advertised should exceed the 2020 record.

We are also assuming that there will be a lagging effect from any new developments on job availability and salaries of up to six months. Hence, the timing is key. It would seem that the digital industry or specific sectors of the industry were still hiring in 2020 and first half of 2021 as shown by the number of positions advertised.

Another interesting finding was that the number of senior manager positions has gone down compared to previous years, while demand has been high for low to mid-level jobs. Perhaps this was expected since the cost of hiring senior professionals is beyond the reach of many businesses struggling with the pandemic. Another possibility is that senior talents may tend to stay longer in their current employment due to uncertainties in the job market.

For the first time in this publication, we applied the Pearson correlation model to our data to gauge the accuracy of our data extrapolation or projection across different job categories in 22 industries. We used this model to assess the relationship between the salary trends of the software industry against other known industries for the period 2009 to 2020. As in past publications, we continued to use the geometric mean (AAGR) and data smoothening in our analysis and projections.

Please refer to the following tables for an overall view of the salary trends from the past 10 years together with two years of forecast.

To address the concerns on the availability of Cybersecurity professionals, we have also conducted a

desktop collation and analysis of the salaries of these talents. Cybersecurity professionals are deemed to be in great demand in light of recent cyber breaches and threats. Interesting findings and insights here.

This year, we have also put in additional effort in sourcing for regional salary data to provide benchmarking for jobs and salaries across the globe, especially against economies in the region. While there are various salary data sets available, there are challenges and complexities in aligning them for comparison purposes. At times, job designations can also be different. Hence, we have chosen data from Payscale as we find that its nomenclature is consistent and the numbers are easily verifiable.

Another challenge is in selecting the appropriate exchange rates for the different countries when converting the respective salaries into US\$ equivalent. Exchange rates are after all time-sensitive. After consolidating and normalising the US\$ equivalent numbers, we then reconverted these values and took into account the Purchasing Power Parity (PPP) ratio (currency exchange rates, inflation and GDP) so that we can realistically compare between different economies.

We selected 11 economies and eight specific IT or digital job designations for this exercise. These are common and traditional IT jobs covering software, hardware, network, project management and consultancy.

We also ranked all the economies by their average salaries compared with Malaysia. Overall, we ranked 7<sup>th</sup> while the US topped the list followed by Singapore (using the PPP ratio comparison).

It is also interesting to note that Thailand has surpassed us in its average salary for digital jobs. This is a wake-up call for us as one of the prevailing factors in brain drain is financial compensation. Refer to this chapter for more insights into the regional salary landscape, as there are also other interesting findings arising from our research.

Finally on behalf of PIKOM, I would like to extend my appreciation to JobStreet for its continued support in providing the job data all these years, MDEC and all the advertisers for their commitment and support as well as my Research Committee members, without which this report would not be possible.

## Preamble from the Research Committee Chair





## Average Monthly Salaries of Digital Professionals (Overall and By Position Level) (RM) 2010 - 2022

RM2200 -RM3000		RM3000-RM4500 RM4500-RM8000		RM8000-RM15000		RM15000-RM25000		RM2200-RM25000				
	Entry Level	% Change	Junior Executive	% Change	Senior Executive	% Change	Manager	% Change	Senior Manager	% Change	Overall	% Change
2010	2,181		2,936		4,514		7,005		10,795		5,626	
2011	2,238	2.61	3,151	7.32	5,039	11.63	7,837	11.88	12,166	12.70	6,236	10.84
2012	2,324	3.84	3,205	1.71	5,344	6.05	8,434	7.62	13,674	12.40	6,667	6.91
2013	2,438	4.91	3,459	7.93	5,744	7.49	8,986	6.54	14,661	7.22	7,142	7.12
2014	2,581	5.87	3,719	7.52	6,157	7.19	9,591	6.73	16,057	9.52	7,706	7.90
2015	2,718	5.31	3,894	4.71	6,483	5.29	10,195	6.30	17,053	6.20	8,114	5.29
2016	2,817	3.64	4,052	4.06	6,727	3.76	10,646	4.42	18,132	6.33	8,484	4.56
2017	2,958	5.01	4,259	5.11	7,057	4.91	11,168	4.90	19,147	5.60	8,908	5.00
2018	3,080	4.12	4,458	4.67	7,469	5.84	11,888	6.45	20,521	7.18	9,262	3.97
2019*	3,210	4.22	4,663	4.60	7,865	5.30	12,589	5.90	21,916	6.80	9,614	3.80
2020	3,282	2.23	4,716	1.14	7,841	(0.30)	12,994	3.22	22,497	2.65	9,825	2.19
2021*	3,301	0.60	4,702	(0.30)	7,720	(1.55)	13,122	0.98	22,546	0.22	9,835	0.11
2022**	3,431	3.93	4,868	3.54	7,933	2.76	13,505	2.92	22,679	0.59	10,034	2.02
Y-o-Y: 2019-2020	2.23		1.14		(0.30)		3.22		2.65		2.19	
Y-o-Y : 2020-2021	0.60		(0.30)		(1.55)		0.98		0.22		0.11	
AAGR : 2011-2020	4.7		5.0		5.6		6.6		8.5		5.8	

\* Extrapolated \*\* Forecast

Sources: Jobstreet & PIKOM estimates

## Preamble from the Research Committee Chair

Economies	Exchange Rate (US\$)	Ratio	Ranking	
USA	1.00	5.63	1	<u></u>
Australia	1.34	3.97	2	*
Singapore	1.34	3.22	3	()
Hong Kong	7.77	2.53	4	di
UAE	3.67	2.42	5	
Thailand	32.41	1.31	6	
Malaysia	4.14	1.00	7	•
Indonesia	14,263.00	0.69	8	
Philippines	49.89	0.67	9	
Vietnam	22,805.00	0.65	10	*
India	73.00	0.51	11	

## Comparison (non-PPP) of Digital Job Salaries in Selected Economies

Source: Payscale

## Comparison of Digital Job Salaries in Selected Economies – PPP Adjusted

Economies	Non-PPP Ranking	Non-PPP Ratio	GDP Ratio	PPP Ratio	PPP Ranking	1
USA	1	5.63	1.00	2.10	1	
Singapore	3	5.30	1.65	1.98	2	0
Australia	2	4.02	1.01	1.50	3	ж.
UAE	5	3.93	1.62	1.47	4	
Hong Kong	4	3.24	1.28	1.21	5	**
Thailand	6	3.14	2.39	1.17	6	
Malaysia	7	2.68	2.68	1.00	7	0
Indonesia	8	2.14	3.12	0.80	8	
Vietnam	10	2.03	3.11	0.76	9	*
India	11	1.74	3.40	0.65	10	8
Philippines	9	1.69	2.54	0.63	11	

Sources: Payscale & PIKOM adjustment

## **PUBLICATION TEAM PROFILE**



## Woon Tai Hai

A newly-retired management consultant, Woon has been a long-time advisor on the PIKOM Council and is the chairperson of both the PIKOM Research Committee and PIKOM Oversight Committee. He also sits on the Board of Takaful Ikhlas Family Berhad and Takaful Ikhlas General Berhad as an independent non-executive director. In addition, Woon is an ex-officio of the Malaysia Australia Business Council (MABC) and member of the Grant Recommendation Committee of the Malaysia Digital Economy Corporation (MDEC). Before retirement, he had held the posts of executive director at two global accounting, tax and advisory firms, KPMG and BDO. Woon holds a BSc from the University of NSW (UNSW), a post-graduate Diploma (Accounting and Finance) as well as an MBA from University Technology Sydney (UTS).



#### R. Ramachandran

Ramachandran is a freelance consultant with four decades of working experience in various capacities in the public and private sectors. He specialises in the area of statistical collation, socioeconomic and demographic research, information communication technology for development (ICT4D) modelling and process and quality improvement (Six Sigma Black Belt), among many others. He holds a Bachelor of Science (London) degree majoring in Physics – Mathematics in 1979 followed by a Master of Philosophy from Multimedia University in 2008. To his credit, he has published numerous research papers in peer-reviewed international journals and conference papers.



#### Ong Kian Yew

Kian Yew is the CEO of PIKOM, the National Tech Association of Malaysia, an industry association representing 1,000 member companies that command 80% of the total ICT trade in Malaysia. As CEO, he is responsible for the operations of the association and its wholly-owned events arm, PIKOM Services Sdn Bhd. Kian Yew actively represents PIKOM at international fora including the World IT and Services Alliance (WITSA) and the Asian Oceanian Computing Industry Organisation (ASOCIO). Kian Yew is also responsible for government engagement in PIKOM. He sits on various committees representing the digital industry and plays a key role in digital industry advocacy to the government. A graduate of the University of Strathclyde in Scotland, Kian Yew has 25 years experience in the digital industry.

## **Publication Team profile**



## Nor Azlina Ishak

Azlina is the General Manager of PIKOM. Her work includes elevating PIKOM's portfolio as the leading tech industry association representing over 1,000 members. She heads the Strategic Communications and Media Relations department responsible for content development, copyrighting, proof reading, research articles, speeches, press releases and corporate presentations. She also looks into industry affairs for the tech industry and works closely with policy makers and government agencies in advocating industry issues, such as tax-related matters, budget and digitalisation. She has 26 years of work experience in strategic communications, government affairs, project management, corporate events and media relations across various industries.



#### Michael Lai

Michael is the sole proprietor of Mjlaikc Infoworks, a provider of content and consultancy in business, industry, technology, corporate sustainability and related areas. He has over 25 years of experience in a wide range of disciplines including journalism, publication, advertising, public relations and event management. Mjlaikc Infoworks has produced PIKOM's job market reports and digital economy reviews for the past 10 years.



#### Hawarudin Rasani

Rudin is a publication designer with almost 20 years of experience. He is an associate of Mjlaikc Infoworks apart from having his own portfolio of clients. He was instrumental in revamping both PIKOM's job market outlook and digital economy review into the aesthetic and professional publications they are today.





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MAS Threat & Vulnerability Risk Assessment (TVRA)

BNM Data Centre Resiliency Assessment (DCRA)

Self-Service Terminal (SST) Assessment

Physical & Environment Security Assessment

Independent Cyber Security Risk Assessment

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# ECONOMIC REVIEW AND OUTLOOK

	Share 2020	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Year	Q1 2021	Q2 2021
Aggregate Domestic Demand*	93.8	3.7	-18.8	-3.3	-4.5	-5.8	-1.0	12.3
Private Sector	75.2	4.9	-20.4	-4.0	-4.0	-6.0	-0.9	13.0
Consumption	59.5	6.7	-18.5	-2.1	-3.5	-4.3	-1.5	11.6
Investment	15.7	-1.1	-26.1	-10.8	-6.6	-11.9	1.3	17.4
Public Sector	18.6	-1.8	-11.1	0.1	-5.7	-4.7	-1.5	9.7
Consumption	13.4	4.9	2.2	6.8	2.4	3.9	5.9	9.0
Investment	5.2	-14.4	-40.1	-13.1	-20.4	-21.3	-18.6	12.0
Net Exports	6.5	-36.8	-37.9	19.2	10.0	-13.0	0.8	34.3
Exports	61.5	-7.2	-21.7	-4.9	-2.1	-8.9	11.9	37.4
Imports	55.0	-2.7	-19.7	7.9	-3.3	-8.4	13.0	37.6
Real GDP	100.0	0.7	-17.2	-2.7	-3.4	-5.6	-0.5	16.1
GDP, q-to-q growth**	-	-0.5	-16.1	17.3	-1.5	-	2.7	-2.0

## Table 1: GDP Growth (Year-on-Year) by Expenditure Components (%) Q1 2020 - Q2 2021

\* Excluding stocks \*\* Seasonally adjusted

Malaysia's economic outlook remains shrouded by chronic uncertainty fuelled by the virulent nature of the Covid-19 pandemic, which continues to suppress economic and social activities more than 18 months since its emergence.

Initial optimism that 2021 would rebound significantly from the 2020 downturn may well turn out to be misguided since the country has been shackled by fullscale restrictions in the face of a highly infectious Delta variant throughout much of the current year.

At its height, daily Covid-19 cases were in the five-figure range; claiming hundreds of lives, shuttering thousands of businesses and destroying millions of livelihoods while threatening to push the healthcare system beyond breaking point.

At the same time however, the country and its beleaguered residents have begun seeing a light at the end of the tunnel following a tremendous surge in inoculation consistently breaching 400,000 daily doses in July and August this year.

Sources: DOSM, BNM

Economic indicators in Malaysia are now decisively tied to vaccination rates and the goal of herd immunity that would precipitate the reopening of the economy and return to a new version of normal life.

At the current rate, we expect to hit the threshold sometime in October for the entire country, and an earlier August / September for Kuala Lumpur and Selangor where the heart of business and industry lies.

It is only at this stage that Malaysia can fully revive its economy and Malaysians can confidently rebuild their lives.

**Table 1** offers a snapshot of relevant GDP (grossdomestic product) values for 2020 and the first half of2021. The performance of items featured in this table isindividually reviewed in this Chapter.

## **THE ECONOMY IN 2020**



Chart 1: Malaysia's GDP Growth Rate (%) 2009 - 2022

The Malaysian economy contracted by -5.6% in 2020 after almost 10 months of economic and social restrictions, which were particularly severe during the first iteration of the Movement Control Order (MCO) between mid-March and early May.

During this period, the economy practically ground to a halt with only essential services allowed to operate and society mostly confined at home, before lockdown measures were gradually eased during the remaining months of the year.

The contraction brought to an end 10 years of consecutive growth since the single-year downturn in 2009 (-1.5%) in the wake of the global financial crisis. The 2020 performance was also Malaysia's steepest economic decline since 1998 (-7.4%), the year after the Asian financial crisis. **Chart 1** highlights the years of contraction (2009 and 2020) bookending a decade of consistent economic growth.

**Chart 1** also presents the forecasts for this year and 2022. Bank Negara Malaysia (BNM), in its latest August 2021 announcement, projects growth of between 3.0% and 4.0% for 2021 while the Asian Development Bank (ADB) expects the rebound to gain momentum in 2022 with a growth rate of 5.7%.

It is a reflection of the prevailing uncertainty that BNM as well as the International Monetary Fund (IMF) and World Bank have on several occasions downgraded their respective 2021 forecasts for the Malaysian economy. In their latest updates, the IMF (April 2021) announced a growth rate of 6.5% and the World Bank (June 2021) 4.5%, values which may well be outdated at the time of reporting.

Malaysia's economic contraction in 2020 can be tracked by its quarterly year-on-year GDP performance, which nosedived by -17.2% in Q2 2020 at the height of MCO 1.0 and stayed negative over the next two quarters, as shown by **Chart 2**.

Although the economy made a mini comeback with a slower decline in Q3 2020 (-2.7%), this partial recovery was then rolled back when Covid-19 cases began increasing in October, resulting in a Q4 2020 growth rate of -3.4%.

The negative trend persisted into the first quarter of 2021 with a GDP growth rate of -0.5% before this pattern was reversed in Q2 2021 with a 16.1% expansion. However, it should be noted that the substantially stronger growth is based on a direct comparison against Q2 2020 (-17.2%).



## Chart 2: Malaysia's Quarterly Growth Rate (%) Q3 2019 - Q2 2021

The second quarter in question had in fact contracted by -2.0% compared to the previous quarter, which had grown by 2.7% from the preceding period (Q4 2020). The GDP of all six quarters in 2020 and first half of 2021 were down from the pre-pandemic value achieved in Q4 2019.

Nevertheless, BNM has stressed that "greater adaptability to restrictions and ongoing policy support have partly mitigated the impact", pointing to continuous growth in the Manufacturing sector, improvements in the supply side of the Services sector coupled with relatively robust exports and recovering domestic demand.

#### **Sectorial Performance**

The 2020 contraction was felt in every economic sector, all of which posted negative growth with Construction by far the worst at -19.4% followed by Mining & Quarrying (-10.0%), as shown in **Chart 3**. Even the perennially-robust Services sector endured a decline during the year in question at -5.5% against growth rates exceeding 6.0% during previous years.

As expected and barring Agriculture, the other four economic sectors suffered through a torrid second quarter with negative growth rates in the double digits (Refer to **Chart 4**). During this period, most economic activities were prohibited for almost five weeks in Q2 2020 before they were gradually and progressively allowed to resume partially.

In contrast, Agriculture being an essential sector, recorded growth of 1.0% in the second quarter. Overall, this sector has performed markedly better since the start of the pandemic following a sluggish performance through Q4 2019 and Q1 2020.

Apart from the second quarter anomaly, the Manufacturing sector registered healthy growth across the seven quarters in question (**Chart 4**), particularly during the second half of 2020 and first half of 2021. In all likelihood, this strong comeback was in response to the pent-up demand for manufactured exports as much as the easing of curbs to this sector since the Q2 2020 disruption.

The Services sector, which includes activities related to retail and tourism, has only started to recover at the time of reporting. This sector has seen year-on-year decline over four consecutive quarters (Q2 2020 – Q1 2021) following an extended period of stop-start operations tied to the prevailing Covid-19 infectivity situation. However, the sector registered 13.4% growth in Q2 2021, but again, this double-digit growth rate is a direct comparison with Q2 2020.



Chart 3: Growth Rates of Economic Sectors (%) 2018 - 2020

Source: DOSM



## Chart 4: Quarterly Growth Rates of Economic Sectors (%) Q4 2019 – Q2 2021

Sources: DOSM, BNM

For the same reason, the Construction and Mining & Quarrying sectors also produced high growth values for Q2 2021 at 40.3% and 13.9% respectively.

Services remained the largest contributor to national GDP with a 57.7% share in 2020, as shown in **Chart 5**. The other significant contributor was the Manufacturing sector which accounted for 22.9% of the economy.



## Socioeconomic Performance

Beyond the overall performance of the national economy as measured via the traditional economic sectors, it is also pertinent to review the socioeconomic landscape, which can shed better light on the situation among the general populace. Such parameters have taken on greater relevance since the pandemic has clearly widened the gap between the respective income groups in Malaysia and elsewhere while also deepening poverty levels.

An important metric is the performance of micro, small and medium enterprises (MSME), which account for 98.5% of the 1.15 million registered businesses in Malaysia, according to the Department of Statistics Malaysia (DOSM). Of this figure, at least three in four businesses are considered micro enterprises, as shown in **Infographic 1**.

In 2018, MSMEs contributed 36.6% to national GDP, 18.6% to exports and provided employment to 65% of the workforce amounting to almost 10 million workers. For these reasons, Malaysia has been focusing on expanding the MSME base and contribution via such initiatives as the National Entrepreneurship Policy 2030 with the target of achieving contributions of 50% (GDP) and 30% (exports) by 2030.

However, the onset of the pandemic may well have derailed such efforts, judging by the Entrepreneur Development and Cooperatives Ministry estimation that MSMEs suffered losses totalling RM40.7 billion in 2020. This is equivalent to average losses of RM35,000 by each business for the year.

Meanwhile, the pandemic's impact on MSMEs along with salary cuts in the private sector are the most likely reasons for the 10.3% decline in monthly household income to RM7,089 in 2020 from RM7,901 the year before, according to DOSM.

This has resulted in shifts to the household income structure comprising the B40 (bottom 40% in terms of household income), M40 (middle 40%) and T20 (Top 20%). An estimated 20% of M40 households have now dropped to the B40 grouping while 12.8% of the T20 category have downgraded to the M40 group.

#### **Exports**

Despite the impact of the pandemic on the economy and overall business, Malaysia's exports performed reasonably under the circumstances by sustaining only a marginal -1.4% drop in 2020, as shown in **Chart 6**.



Chart 6: Annual Exports (RM billion) 2016 - 1H 2021

Chart 7: Monthly Exports (RM billion) January 2020 - June 2021

Sources: DOSM, MITI, MATRADE

Indeed, the country's export revenue provided a bulwark against the prospect of economic collapse by mitigating the dip in GDP at a time when the domestic economy was languishing in the face of various roadblocks to operations. Following two months (April and May 2020) of downtrend during the height of MCO 1.0, exports recovered steadily over the rest of the year with the momentum carrying on to the first half of 2021 (Refer to **Chart 7)**.

<sup>105.5</sup> 105.0 105.6 95.7 100 92.6 92.3 89.6 91.1 87.6 88.9 84.7 84.1 82.8 80.1 79.1 74.5 80 64.8 62.7 60 40 20 0 20120 A91-20 14120 AUG20 octil 40420 Jan 20 tep. 20 May20 Sep. 20 Decilo Mar20 Jan 21 May21 400<sup>21</sup> Maril AQT:2 Jun-21



## Chart 8: Growth Rate of Aggregate Domestic Demand (%) Q1 2020 - Q2 2021

This has resulted in an export revenue of RM585.6 billion for 1H 2021, which amounts to a 30.4% increase over the same period the year before. At this rate, Malaysia's exports for the current year are poised to breach the trillion-ringgit mark for the first time ever.

Meanwhile, imports declined by 6.3% to RM796.2 billion in 2020 while the surplus was RM184.8 billion or 26.9% of total trade. In comparison, the trade surplus in 2019 was RM137.4 billion and RM120.3 billion in 2018.

#### **Domestic Demand**

The shutdown of most economic activities during MCO 1.0 followed by continued restrictions on selected economic sectors leading to income losses for people, businesses and the Government resulted in a lower aggregate domestic demand in 2020.

Aggregate domestic demand (excluding stocks) fell -5.8% for the year with the private sector dipping by -6.0% and public sector declining by -4.7%. As to be

expected, domestic demand plummeted in Q2 2020 before recovering moderately in the next two quarters of the year although growth remained in the negative (Refer to **Chart 8**). This upward trend extended to 2021, culminating in 12.3% growth for Q2 2021 although again, this was due to the low base for the corresponding period in 2020.

In terms of consumption, private sector spending plunged -4.3% for the year, freefalling in Q2 2020 and then remaining soft for the next three quarters before achieving positive year-on-year growth in the second quarter of 2021 (Refer to **Chart 9**).

In contrast, public sector spending grew by 3.9% in 2020, staying positive throughout in a bid to shore up an embattled domestic economy via a series of assistance and stimulus packages amounting to almost RM300 billion offered by the Government. Such measures, however, could only partially offset the reduction in private consumption since government spending only accounted for 18.4% of total consumption in 2020.



Chart 9: Growth Rate of Consumption (%) Q1 2020 - Q2 2021

Source: DOSM



Chart 10: Growth Rate of Investment (%) Q1 2020 - Q2 2021

Source: DOSM

Similarly, investments were substantially down for both the private and public sectors, lower by -11.9% and -21.3% respectively. The downtrend was already evident in both these sectors even before the pandemic, which only served to exacerbate the situation (Refer to Chart 10).

Private sector investment posted double-digit negative growth rates all through the year and into the first guarter of 2021. Private sector investment accounted for an estimated three guarters of total investment in 2020.



Chart 11: FDI Net Inflow (RM billion) 2016 - 2020

## Infographic 2: Comparison of FDI 2020



Source: UNCTAD

#### Foreign Direct Investment (FDI)

As a predominantly investment-led economy, Malaysia depends to an extent on FDI to drive growth, spur development and galvanise innovation especially in high value industries in the Services sector.

However, net inflow of FDI has been trending downwards over the past few years, as shown in **Chart 11**, but this

decline reached a nadir in the pandemic year of 2020 when incoming FDI fell 54.8% to RM14.6 billion, less than half the previous year.

Of greater concern is that FDI inflow into Malaysia was at a much slower rate than counterparts in the ASEAN region, according to the United Nations Conference on Trade and Development's (UNCTAD) investment

US: Nasdaq Composite	+43.4%	Australia S&P/ASX 200 -1.5%
China: Shenzhen Component	+38.7%	Hong Kong: Hang Seng -3.4%
South Korea: Kospi	+30.8%	Indonesia: Jakarta Composite -5.1%
Taiwan: Taiex	+22.8%	Thailand: SET Composite -8.3%
Japan: Nikkei 225	+16.0%	Philippines: PSE Composite -8.6%
India: Nifty 50	+14.9%	Singapore: Straits Times Index -11.7%
Vietnam: VN-Index	+14.9%	
MALAYSIA: Bursa KLCI	+2.4%	Source: CNBC

## Infographic 3: Performance of Asia Pacific Stock Market Indices 2020

trends monitor (Refer to **Infographic 2**). Except for the Philippines, FDI inflow for our regional neighbours fell by a rate no worse than 50% as compared against Malaysia's decline of 68%.

It is noteworthy that foreign trade groups were reported to have cautioned that FDI into Malaysia could be deterred by what they considered 'erratic and inconsistent imposition of MCOs and standard operating procedures (SOP)'.

These groups included such prominent and influential organisations as the American Malaysian Chamber of Commerce, the Japanese Chamber of Trade & Industry Malaysia, Japan External Trade Organisation, Malaysian-German Chamber of Commerce & Industry, and Malaysian Dutch Business Council.

Nevertheless, this situation appears to be turning around as net FDI inflow in the first half of 2021 has already exceeded the total amount for the previous year at RM17.3 billion with RM9.1 billion in Q1 2021 and RM8.2 billion in Q2 2021. Extrapolating this half-year total over the entire 2021 would result in a sum above the net FDI inflows of 2018 and 2019.

## FTSE Bursa Malaysia KLCI

Malaysia's equity market stayed resilient throughout 2020 as investors remained relatively calm in the face of pandemic restrictions since the country's efforts to contain Covid-19 then were comparatively successful.

Under such 'favourable' conditions, the FTSE Bursa Malaysia KLCI gained 2.4% to close the year on 1,629 points, outperforming other Southeast Asian bourses apart from Vietnam (Refer to **Infographic 3**).

Since the start of 2021, however, efforts to contain Covid-19 infections via a State of Emergency and extended lockdowns were less effective especially against the Delta variant. Not only did new cases surge from the 2,000 range in January 2021 to above 20,000 on some days in August 2021, but the widespread curbs on many economic sectors resulted in further business closures and job losses.

Against this backdrop, the KLCI fell 5.8% in the first half of the current year while other indices including in Vietnam, Taiwan, Korea and Australia surged impressively. As of August 17, the KLCI was down to 1,519 points and considered the worst-performing stock market in Asia Pacific.



Chart 12: Inflation Rate (%) 2012 - June 2021

## **National Debt**

The national debt was a prominent and also controversial issue in 2020 as Malaysia raised its debt ceiling from 55% to 60% of GDP in order to mitigate the impact of the pandemic through various stimulus packages, which at the time of reporting amount to more than RM500 billion.

At the close of 2020, the national debt was RM880 billion at a contentious debt-to-GDP ratio of either 58.2% (based on 2019 GDP) or 62.2% (based on 2020 GDP which had contracted by 5.6%). This ratio was 52.5% in 2019 when federal government debt amounted to RM793 billion.

According to Fitch Ratings, Malaysia's debt burden in 2020 was higher than the 57% median for economies in the BBB rating category while the country's gross debt was three times the median and 400% over revenue.

It should be noted that ratings agencies and economists have cautioned against prolonging a high fiscal deficit as this may lead to higher interest rates that could then subject the economy under inflationary pressure. On this score, Fitch Ratings expects Malaysia's debt-to-GDP ratio to ease over the next few years.

## Inflation

Lower consumer demand throughout much of pandemic 2020 resulted in a negative inflation rate of -1.2% for the year, the lowest in a decade (Refer to **Chart 12**), with transportation services the most affected at -10.0% followed by housing, utilities and fuel at -1.7%.

According to DOSM, the deflation among these clusters affected by economic and social restrictions was offset by such products and services as food & beverages (1.3%) and communication services (1.1%).

Rising global oil prices, however, are now exerting inflationary pressure on various sectors in 2021. Inflation rose by 2.2% in the first half of this year and is forecast by BNM to fall in the 2.5% - 4.0% range depending on further developments to oil and commodity prices.

## **Currency Exchange**

The Ringgit closed 2020 on a stronger note against the US Dollar, after having recovered from the year's low point in early May during the tail end of MCO 1.0. From US\$1=RM4.3385 on 2 May, the local currency gained almost 8% over the next eight months of relatively



Chart 13: Forex (USD-MYR) 1 January 2020 - 1 August 2021

relaxed restrictions to reach a high of US\$1=RM3.9965 on 2 January 2021.

Since the start of the new year, however, the Ringgit has progressively weakened in tandem with rising Covid-19 infections and stricter lockdowns to reach US\$1=RM4.2255 on 2 August 2021.

BNM has warned that the Ringgit is likely to be exposed to further volatility given the uncertainty surrounding Covid-19 in Malaysia set against the economic recovery in the US and normalisation of American monetary policy.

#### Employment

Pandemic 2020 took a heavy toll on employment as large companies and MSMEs laid off workers amid restrictions on economic activity and muted consumer demand. At the same time, graduates and other prospective entries into the workforce faced an overall slump in recruitment, forcing many to accept lower positions or venture into micro business.

This is reflected by an unemployment rate that shot up to 4.5% during the year in question, the highest for almost 30 years (since 1993). As expected, quarterly unemployment peaked in Q2 2020 at 5.1% before tapering to 4.7% the next quarter and then remaining at 4.8% over the next three quarters (Q4 2020 – Q2 2021) (Refer to **Chart 14**).

As a result, the number of unemployed climbed to 773,000 in 2020 despite a labour force that increased by almost 200,000 in the same period, as shown by **Infographic 4**, which also indicated a correspondingly lower labour force participation rate.

According to the Human Resources Ministry and the Social Security Organisation (Socso), an average of 10,000 people was retrenched each month starting from the start of MCO 1.0 in March with up to 100,000 becoming jobless by year end. Indeed, retrenchments increased by 278% over 2019 as of end October 2020, the bulk of them in the hospitality, food & beverages and retail industries.

Joining the ranks of the unemployed were fresh graduates with 202,400 remaining jobless in 2020 as against 165,200 in 2019, according to DOSM which also highlighted the trend of graduates downgrading from skilled to semi-skilled occupations to secure jobs. The majority (75%) of employed graduates were in the Services sector while another 15% were in Manufacturing.



## Chart 14: Quarterly Unemployment Rate (%) Q1 2020 - Q2 2021

Infographic 4: Employment Statistics 2020



## FACTORS IMPACTING THE ECONOMY

As a once-in-a-generation phenomenon, Covid-19 had an all-consuming impact on lives and livelihoods by holding the economy and society hostage over a protracted period expected to last at least two years since its emergence at the end of 2019.

The subsequent pandemic upended life as we know it by closing borders, constricting business and industrial activities while also restricting movement at a scale and scope never before experienced. Businesses were forced to cope with temporary closure, limited operations, reduced demand and constant disruptions to their supply chains.

Across the world, many governments were placed in a quandary over whether to protect the peoples' health or their jobs, businesses and their respective economies. It is fair to say that mistakes and missteps were commonplace, particularly in the early stages of the pandemic.

At home, Malaysia had controlled and contained the coronavirus remarkably well in 2020, but had seemingly floundered in finding the right balance in the face of a significantly more contagious and deadly Delta variant this year.

Although the overall economy appears to be sufficiently resilient on the back of robust exports (the negative growth in 2020 notwithstanding), the past 18 months have gutted the MSME base to the extent that many businesses have shuttered permanently while survivors are operating on devastated savings with little capacity for expansion and investment.

At the same time, widespread business closures and faltering enterprises have been forced to let go of employees or slash wages and limit working hours. This has left many jobless and others living on reduced income.

In this regard, the Government's series of aid and economic stimulus packages including the loan moratorium offered by the banking sector has been a welcome relief; albeit they may represent only a drop in the bucket for those facing severe financial constraints and pressure.

## **Political Uncertainty**

Unlike many other nations, Malaysia endured an inopportune period of political uncertainty coinciding with the pandemic in which the Perikatan Nasional Government of Tan Sri Muhyiddin Yassin had to battle external and internal threats.

The new Government took office in February 2020 and was almost immediately thrown to the wolves in having to grapple with an emerging pandemic none had any prior experience in combatting.

The trials and tribulations of the Government throughout 2020 and the first half of 2021 likely resulted in a loss of business confidence and perhaps even spooked foreign investors at a time when these were vital in mitigating the economic impact and stimulating recovery.

Throughout the current year, political intrigue reached fever pitch and culminated in the resignation of now former Prime Minister Tan Sri Muhyiddin and subsequent ascension by current premier Dato' Sri Ismail Sabri Yaakob.

It is hoped that this change can provide a stability the country sorely needs as it seeks to claw its way back towards normality and economic prosperity.

#### **Global Economy**

Battered by the Covid-19 pandemic that swept across the world in mere months, the global economy contracted in 2020 for the first time since the global financial crisis of 2009. This time round, the decline was much more severe and double the 2009 dip at -3.5% according to the IMF and -3.6% based on the World Bank.

This had a bearing on the export performance (-1.4%) of a trading economy like Malaysia with world merchandise trade falling -5.3% as a combination of reduced demand and constraints on trade took its toll during the year in question.

Given the vaccination progress in developed economies and despite the sporadic surges of new Covid-19 cases, both the IMF and World Bank have forecast a growth of 6.0% and 5.6% respectively for the world economy in 2021. As previously mentioned, such projections may be subject to changes given the fluid situation in many parts of the world.

Both agencies also expect the global economy to expand further in 2022, albeit at a slower rate to 2021 with forecasts of 4.9% (IMF) and 4.3% (World Bank).

## **US-China Trade Impasse**

Although the extended US-China trade conflict has been relegated in impact and importance by the Covid-19 pandemic, nevertheless, this impasse has been changing the supply chain dynamics especially in East and Southeast Asia.

Since the start of the trade war during the Donald Trump Administration, multinationals have been shifting their production operations away from China mainly to Southeast Asian emerging economies such as Vietnam. Although some Malaysian companies have benefitted via their Vietnamese operations, others have seen their exports of intermediate goods to China significantly reduced.

Many of the curbs and tariffs by the US on China and vice versa during the first two years of the conflict are still in place despite a new President Joe Biden in the White House. The new administration's attention has apparently shifted from trading words on trade to words on human rights and other issues, as highlighted by a South China Morning Post article on July 6, 2021: "Three years after the US and China began a tit-for-tat trade war, the tariffs imposed by the Trump administration remain in place on most Chinese goods, and bilateral tensions have extended beyond trade to encompass a range of geopolitical and human rights issues under US President Joe Biden."

As it stands, this conflict is likely to continue to bubble even though it may seem to be on the back burner at this time.

## **Commodity Prices**

Although Malaysia is progressively moving up the value chain as an increasingly service-oriented economy, its economic performance continues to be linked to commodity prices of crude and palm oil. The nation remains a net exporter of crude oil while it accounted for an estimated 26% and 34% of 2020 global palm oil production and exports, according to the Malaysian Palm Oil Board (MPOB).

During a year when many industries struggled to cope with the economic fallout of the pandemic, Malaysia's exports of crude oil and palm oil were critical particularly after prices for both commodities surged post-MCO 1.0 (Refer to **Chart 15** and **Chart 16**).

Prices of crude oil plunged during the first three months of the MCO before recovering strongly with the gradual reopening of economies worldwide during the rest of the year and into 2021. Similarly, prices of palm oil have hovered above the US\$1,000 mark (except for January 2021) since a low of US577 in May 2021.

## **Interest Rates**

BNM's Overnight Policy Rate (OPR) is currently at its lowest rate of 1.75% since its introduction in 2004 in line with intentions to relieve the financial burden of people and businesses while also reviving and revitalising economic activities in the wake of the pandemic.

BNM began lowering the OPR from 3.00% at end 2019 to 2.75% in January 2020 and to 2.50% in March the same year. Following MCO 1.0, the central bank dropped the rate to 2.00% in May and to the current rate in July.

In maintaining this rate in July 2021, BNM stated that: "The MPC (Monetary Policy Committee) considers the stance of monetary policy to be appropriate and accommodative. In addition, fiscal and financial measures will continue to cushion the economic impact on businesses and households and provide support to economic activity. Given the uncertainties surrounding the pandemic, the stance of monetary policy will continue to be determined by new data and information and their implications on the overall outlook for inflation and domestic growth. The Bank remains committed to utilise its policy levers as appropriate to foster enabling conditions for a sustainable economic recovery."







Chart 16: Average Monthly Palm Oil Prices (US\$) Jan 2020 - July 2021

\*All prices have been rounded off.

Source: Statista.com, Indexmundi.com

## ECONOMIC OUTLOOK 2021 AND BEYOND

	IMF	6.5%	
N	ADB	5.5%	
	WB	4.5%	
	Ambank	4.0 - 4.5%	
	OECD	4.3%	
	BNM	3.0 - 4.0%	
	Fitch	0.0%	

Infographic 5: Malaysian Economy Growth Forecast 2021

The surge in Covid-19 cases and reimposition of stricter lockdown measures in 2021 has dampened earlier expectations that the Malaysian economy will post high growth numbers this year. Instead, almost all agencies and research houses have downgraded their initial projections, which are nevertheless subject to revisions in the months to come.

The highest forecast by the IMF has Malaysia rebounding to the tune of 6.5% while Fitch Solutions has slashed its initial forecast of 4.9% to 0.0%. BNM, meanwhile, predicts the 2021 GDP growth rate to range from 3.0 - 4.0% (Refer to **Infographic 5**).

In revising downwards its March forecast of 6.0 – 7.5%, BNM in August highlighted the strain to the economy caused by the latest round of restrictions but was optimistic that recovery would accelerate in 2022, "supported by a gradual normalisation of economic activities following successful vaccination drives as well as the positive spillovers from continued improvement in external demand".

In the case of Fitch Solutions, the research unit warned Malaysia could be headed towards a stagnant economy in 2021 as a result of the current economic restrictions based on its view that "all segments of the economy from an expenditure perspective except government consumption are like to remain stagnant or even contract slightly from 2020 levels". Fitch Solutions based its forecast on the likelihood that Malaysia would only reach herd immunity by early 2022. It is worth noting that at the time of reporting, Malaysia's daily vaccination doses have consistently exceeded 400,000 with more than 50% of the total population already fully vaccinated and most of the remainder partially inoculated. As mentioned earlier, herd immunity is scheduled for end October with Kuala Lumpur already having reached that target.

#### • GDP

Following an analysis of the relevant parameters, PIKOM expects the national economy to grow at a rate of 2.0 - 2.5% for 2021 and 4.5 - 5.0% the subsequent year. Our conservative projections compared to other forecasts are based on the volatility of the current situation as well as the correlation between GDP growth and employment / unemployment metrics. In a scenario where employment begins to pick up, the resulting economic gains are often reflected six months later. This being the case, PIKOM is of the opinion that GDP growth for 2021 is unlikely to surpass the 2.5% mark.

#### Domestic Consumption

Despite the year-on-year growth in private sector spending during Q2 2021, we expect domestic consumption to remain relatively muted throughout this year and until at least mid-2021 when overall unemployment is expected to recover and jobs become more sustainable across all industries, particularly in the Services sector. Public sector spending is expected to be sustained for the foreseeable future due to the assistance and stimulus packages provided by the Government.

## Fiscal Deficit

PIKOM also expects the fiscal deficit to reach 6.5% this year in line with July 2021 projections by the Ministry of Finance (MOF), widening to 7.0% in 2022 as a result of the increase in government debt incurred to boost economic revival and support livelihoods. It is likely that this deficit will remain high for several years before subsiding to the desired rate of 3.0%.

## Inflation

According to DOSM, headline inflation is projected to average closer to the lower band of the forecast range in 2021 (as mentioned earlier, BNM has forecast 2021 inflation at 2.5 - 4.0%). Underlying inflation, as measured by core inflation, is expected to remain subdued in averaging between 0.5% and 1.5% for the year. It is important to note that stagflation is not beneficial to the economy as this may impede growth. Based on these assessments and the spectre of rising oil prices, PIKOM expects inflation to stabilise towards the second half of 2022 at a projected rate of 3.5%.

## Currency Exchange

As mentioned earlier, the Ringgit in 2021 has been embattled by the fluid Covid-19 situation in the country. At the same time, it is also under pressure from the strengthening US economy, which was among the earliest to launch the vaccination programme. PIKOM agrees with prevailing projections that the Ringgit will continue to weaken up to a rate of US\$1-RM4.3000 in early 2022.

## Employment

PIKOM expects the employment rate to remain subdued for the remainder of 2021 and only recover possibly in the second quarter of 2022. Due to the pandemic, we also anticipate the employment landscape to change with greater focus on different skillsets especially in the use and application of digital technology in the services industry. Business models are already changing and can be expected to evolve further to transform the style and substance of economic activities.

## Commodity Prices

In the case of commodities, global economic recovery will invariably lead to higher prices, particularly for crude oil. PIKOM estimates that crude oil prices may increase by at least 10% over the next eighteen months and this should contribute to a higher GDP for Malaysia. One downside is that higher commodity prices are likely to spike the inflation rate.

## Interest Rates

Depending on the local economy, the OPR can be expected to remain at the current level of 1.75% for at least the next two quarters. While this would be like a double whammy for the Ringgit, the OPR is expected to start rising in early 2022 as the economy starts to pick up pace. We project the OPR to reach 2.25 -2.75% in 2022 depending on how fast the economy can grow.

Despite such downbeat assessments, PIKOM is confident that Malaysia will rally in the years ahead based on the country's solid fundamentals and a steadily-growing digital economy that will underpin future growth and development.



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## DIGITAL ECONOMY REVIEW AND OUTLOOK

Malaysia has pinned its hopes of becoming a highincome and fully-developed nation on a rapidlygrowing digital economy that can drive innovation and development across its business, industrial, societal and governance landscape.

At the time of reporting, the digital economy is likely to have surpassed the desired milestone of contributing 20% to national gross domestic product (GDP) by 2020, an aspiration and unofficial target set in the first half of the last decade.

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(The Department of Statistics Malaysia or DOSM releases data on each previous year's ICT Satellite Account in October of the subsequent year. This being the case, all data below are up to 2019. Where possible, trends and opinions are presented based on the available data.)

According to PIKOM projections, the share of the digital economy to the national economy reached 21.7% in 2020 and is expected to account for 22.4% in 2021 and 23.4% in 2022 (Refer to **Chart 1**). These forecasts are based on a conservative 7.0% growth rate for the digital economy in 2020 and 2021 and a 2016 - 2021 average annual growth rate (AAGR) of 7.8% for 2022. These figures are compared against the national economy based on the reported contraction of -5.6% for 2020, the middle ground of Bank Negara Malaysia's (BNM)

projection of 3.0 - 4.0% (3.5%) for 2021 and a 2016 - 2021 AAGR of 3.5% for 2022.

The forecasts are also based on the assumption that the digital economy continued to flourish during the pandemic, as evident by the proliferation of eCommerce and use of digital tools and platforms during this time.

On this last score, it took the once-in-lifetime phenomenon of Covid-19 to accelerate the kind of pervasive digital adoption hoped for and subsequently seen among people and businesses once the pandemic had necessitated a sea change in living, working and doing business.

eCommerce, online platforms for the gig economy, digital aids for work-from-home (WFH) requirements: these grew to become part of a new normal in which digital was the common thread and very often, the only option and solution.

In the process, Malaysia crossed over an inflection point in the growth of its digital economy, one which is now considered the pathway to faster recovery and stronger growth in a post-pandemic environment.

The nation is clearly on this track with the launch of MyDIGITAL in early 2021. This is a national initiative to build a digital nation and economy as prescribed by the Malaysia Digital Economy Blueprint.

### THE DIGITAL ECONOMY IN MALAYSIA



#### Chart 1: Share of Digital Economy to National Economy (RM billion) 2016 - 2022

\*The Digital Economy forecasts for 2020 and 2021 are based on a growth rate of 7.0% each year while the projection for 2022 is based on the 2016 – 2021 AAGR of 7.8%. These are juxtaposed against the National Economy using the announced 2020 contraction of -5.6%, the middle ground of BNM's projection of 3.0 - 4.0% (3.5%) for 2021 and the 2016 – 2021 AAGR of 3.5% for 2022.

Hailed as the prime mover to a better and more prosperous future, Malaysia's digital economy has been steadily growing to the point where it probably accounts for more than one fifth of national GDP at this point in time.

In 2019, the digital economy contributed 19.1% or RM289.2 billion to GDP (Refer to **Chart 1**), having grown at a significantly faster rate than the national economy at a compound annual growth rate (CAGR) of 8.0% against 6.4% for the period 2015 – 2019.

As mentioned earlier, this contribution is projected to have surpassed the 20.0% milestone in 2020 and beyond given that the national economy was constricted by restrictions, forcing businesses, society and the government to accelerate the transition to digital throughout 2020 and 2021.

During this time, eCommerce and other digital platforms and services became the default means to among others; purchase goods and services, maintain business operations, conduct meetings and interact with one another.

eCommerce is one of five 'digital sub-sectors' that collectively form the digital economy. DOSM classifies the other four as ICT Services, ICT Manufacturing, ICT Trade and Content & Media - being the components of what can be referred to as the 'digital industry' or 'ICT industry'.



Source: DOSM & PIKOM Estimates

Chart 2: Share of Digital Sub-sectors to Digital Economy (%) 2019



Within the digital economy, eCommerce and ICT Services have been the dominant digital sub-sectors with a combined market value exceeding 70%, as shown in **Chart 2**. These two sub-sectors have consistently recorded the fastest growth rates during the 2016 – 2019 period despite the fact that their growth trajectories trended downwards in 2019 in contrast to the upwards movement of ICT Manufacturing and Content & Media.

eCommerce recorded an AAGR of 9.3% over the period 2015 – 2019, ICT Services 8.8%, followed by Content & Media at 6.1%, ICT Manufacturing at 4.8% and ICT Trade at 5.3%



Chart 3: Growth of Digital Sub-sectors (%) 2016 - 2019

Source: DOSM

Table 1: Contribution of Digital Sub-sectors to D	)igital Economy (RM billion) 2016 - 20	)21
---	--	-----

	2016	2017	2018	2019	2020*	2021*
eCommerce	95.6	107.3	117.2	127.0	138.8	151.7
ICT Services	61.5	67.5	74.2	79.7	86.7	94.3
ICT Manufacturing	37.5	40.5	41.5	44.0	46.1	48.3
ICT Trade	22.3	23.6	24.5	25.4	26.7	28.2
Content & Media 🛛 🎮	11.0	11.8	12.5	13.2	14.0	14.9

\*The forecast for 2020 and 2021 is based on an AAGR (2015 - 2019) of the Digital Sub-sectors as follows: eCommerce - 9.3%, ICT Services - 8.8%, ICT Manufacturing - 54.8%, ICT Trade - 45.3%, Content & Media - 6.1%.

Source: DOSM & PIKOM Estimates

Importantly, every digital sub-sector achieved positive growth during the period in guestion (Refer to Chart 3). Table 1 quantifies the respective sizes of the subsectors in the digital economy for 2016 - 2021.

Based on its AAGR (2015 - 2019), the contribution of eCommerce to the digital economy is projected to breach the RM150 billion mark at the end of this year while the size of the ICT Services sub-sector would be nearing the RM100 billion threshold.

### eCommerce

As mentioned earlier, eCommerce remains the fastest growing digital sub-sector as more and more businesses migrate onto online platforms to supplement and complement their traditional brick and mortar operations.

Today, it has become an essential sales and trading platform used by both the digital (or ICT) industry as well as what are termed as non-ICT industries. Indeed,



Chart 4: eCommerce Market Size of Non-ICT Versus ICT Industry (RM Billion) 2016 - 2021

\*The forecast for 2020 and 2021 is based on an AAGR (2016 – 2019) of the categories as follows: ICT Industry – 8.3%, non-ICT Industry – 10.6%.



Chart 5: Non-ICT Contribution of eCommerce by Economic Sectors (RM Billion) 2016 - 2019

Source: DOSM

the eCommerce market size of non-ICT industries has progressively grown to the extent at which it would be three times the market size for the digital industry by 2021 (Refer to **Chart 4**).

Among the non-ICT industries, the Manufacturing Sector is the most pervasive user of eCommerce, accounting for an almost two thirds digital economy contribution in 2019 with the Services Sector the next most prolific user, as shown in **Chart 5**. These two economic sectors accounted for more than 96% of all online sales and procurement in Malaysia during the year in question. It is worth noting that the contribution of eCommerce in Manufacturing and Services has grown at a double-digit rate during the period 2016 – 2019.

Yet, it is the eCommerce component of ICT Trade that has grown the fastest among the digital sub-sectors with an CAGR over four years of marginally above 27% (Refer to **Chart 6**).

Source: DOSM & PIKOM Estimates



Chart 6: ICT Industry eCommerce by Digital Sub-Sectors (RM Billion) 2016 - 2019

Chart 7: GVA\* of ICT Services by Industry Clusters (RM Billion) 2016 - 2019



Computer Programming, Consultancy, Information & Related Activities
 Other Digital Services

\*Gross Value Added (GVA) includes eCommerce component of ICT Services

#### Source: DOSM

### **ICT Services**

ICT Services is the largest and fastest growing component of the digital or ICT industry with healthy growth rates during the period 2016-2019. Nevertheless, this consistently high growth appears to be losing some steam in 2019, which recorded the lowest percentile increment out of the four years (Refer to **Chart 3**).

However, the tapering-off trend may well have been reversed with the shift towards digital applications during the past 18 months since the onset of the pandemic. Among the ICT Services industry clusters, Telecommunication Services accounted for two thirds of the market and continued to grow at a healthy rate throughout the 2016 – 2019 period (Refer to **Chart 7**). The other clusters are Computer Programming, Consultancy, Information & Related Activities, and Other Digital Services.

### **ICT Manufacturing**

ICT Manufacturing remains a significant component of



Chart 8: GVA\* of ICT Manufacturing by Industry Clusters (RM Billion) 2016 - 2019

\*Gross Value Added (GVA) includes eCommerce component of ICT Manufacturing

Source: DOSM



Chart 9: GVA\* of ICT Trade by Category (RM Billion) 2016 - 2019

\*Gross Value Added (GVA) includes eCommerce component of ICT Trade

Source: DOSM

the digital industry, particularly with the current focus on Industry 4.0. This is reflected by the resurgence of ICT Manufacturing in 2019 following a markedly reduced growth rate the year before (Refer to **Chart 8**)

The production of electronic components, communication equipment and consumer electronics is the mainstay of the ICT Manufacturing sub-sector with steady growth over the 2016 – 2019 period.

### ICT Trade

This digital sub-sector grew by a healthy annual average of 5.7% between 2015 and 2019. Retail Trade was the dominant industry cluster during this period with a market size more than double of Wholesale Trade and a consistently higher growth rate (Refer to **Chart 9**).

It is unlikely that the pandemic would have had significant impact on ICT Trade given the nature of its business.



Chart 10: GVA\* of Content & Media by Industry Clusters (RM Billion) 2016 - 2019

activities

Other content and media

\*Gross Value Added (GVA) includes eCommerce component of Content & Media

Source: DOSM



### Chart 11: Digital Exports Versus Digital Imports (% difference) 2016 - 2019

Source: DOSM

### **Content & Media**

Although Content & Media remains the smallest segment in terms of size, the sub-sector has achieved encouraging growth in line with Malaysia's aspiration to become a hub for digital games development and participation.

The production film, television and broadcast content segment drove this industry cluster with a healthy CAGR during the 2015 – 2019 period and is poised to grow to become its largest industry cluster in the future (Refer to Chart 10).

However, this segment was not allowed to operate for extended periods during the pandemic with the effects going beyond merely loss of contribution as professionals and talents in this industry turned to other ways to make a living.



Chart 12: Growth of Digital Exports (%) 2016 - 2019

Chart 13: Share of Digital Exports to Total Exports (%) 2016 - 2019



### **Digital Exports & Imports**

Malaysia is a net exporter of digital products and services with the difference between exports and imports increasing significantly over the period in question from almost 26% in 2016 to more than 43% in 2019, as shown by **Chart 11**.

Although digital exports increased steadily from 2016 to exceed RM300 billion in 2018, they then dipped below that milestone in 2019, as shown in **Chart 12**. Meanwhile, digital exports accounted for around 30% of total exports in 2018 and 2019, having climbed from the 2016 quantum of 26% (Refer to **Chart 13**).

This increase was driven by digital goods from the ICT Manufacturing sub-sector which continues to dominate with almost 90% of digital exports in 2019.

On the other hand, imports of digital products and services have remained at approximately the same level below the 25% mark as a proportion of Total Imports in 2016 – 2019 (Refer to **Chart 14)**.

Digital imports rose marginally in 2017 and 2018 compared against 2016, but like Digital Exports, took a slight dip in 2019, as shown in **Chart 15**. ICT Goods were the major imports followed by ICT Services.



Chart 14: Share of Digital Imports to Total Imports (%) 2016 - 2019

Source: DOSM

Chart 15: Growth of Digital Imports (%) 2016 - 2019



Source: DOSM

### **Digital Productivity**

Digital Productivity has been consistently higher than National Productivity by a significant factor. In 2019, the productivity of digital talents jumped substantially from a relatively stable factor of 1.65 - 1.67 over other workers to 1.72 (Refer to **Chart 16)**.

### **Digital Employment**

Malaysia's digital industry employed an estimated total of 1.1 million people in 2019, which represents over 7.5%

of the total workforce, as shown in **Chart 17**. Digital employment figures and proportions have remained steady throughout the 2016 - 2019 period.

ICT Manufacturing is the Digital Sub-Sector which employed the highest number of people, followed by ICT Services in 2019. However, employment growth in ICT Manufacturing has been virtually stagnant during the 2016 – 2019 period with only ICT Services and ICT Trade recording any noteworthy increases in talent (Refer to **Chart 18**).



### Chart 16: Productivity Factor (Digital Versus National) (Times - X) 2016 - 2019

Chart 17: Share of Employment by Digital Sub-Sectors 2019







Source: DOSM





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### **KEY DEVELOPMENTS**

### **MyDIGITAL National Initiative**

In early 2021, the Government launched MyDIGITAL with the objective of transforming Malaysia into a "digitallyenabled and technology-driven high-income nation and regional lead in digital economy".

MyDIGITAL is anchored on the Malaysia Digital Economy Blueprint, which builds the foundation to drive digitalisation and bridge the digital divide across the nation while charting its contribution to the national economy.

Its desired outcome is a future nation where the people are digitally literate, have high-income jobs, better wellbeing and a sustainable environment, and a robust backbone of micro, small and medium enterprises (MSME). This will then place us in a stronger position to capitalise on local, regional and international opportunities. Among the more prominent goals are to:

- Create hundreds of thousands of new jobs;
- Gain access to online learning by all students;
- Increase national productivity by 30%;
- Raise the GDP contribution of the digital economy to 22.6%;
- Propel 875,000 MSMEs onto eCommerce;
- Attract RM70 billion investment in digitalisation;
- Increase the number of start-ups to 5,000;
- Ensure 80% of Government online services;
- Provide cashless option for all public sector payments; and
- Raise cloud storage to 80% of Government data.

The blueprint encapsulates six strategic thrusts, 22 strategies, 48 national initiatives and 28 sectorial initiatives.



# CYBER SECURITY LEADER

### PROVEN BY ACTION

Cyber security leader in Malaysia by being the:

- 2017 Cyber Security Company of the Year
- Ist Center for Internet Security (CIS) Member Company
- Ist CREST Certified Penetration Testing Company
- Ist Cyber Security Assessor for SWIFT Customer Security Programme (CSP)
- Ist Cyber Security Company Certified in ISO/IEC 27001:2013 by TÜV Nord
- Ist Cyber Security Company Certified in ISO/IEC 9001:2015 by TÜV Nord
- Ist Global Penetration Test Provider appointed by Alibaba Cloud International
- **Ist MILE2 Certified Training & Examination Provider**
- Ist Payment Card Industry (PCI) Approved Scanning Vendor (ASV)
- Ist PCI DSS Service & Attestation Provider on Alibaba Cloud Market Place
- Ist PCI Qualified Security Assessor (QSA) Certified with PCI ASV Status
- Ist PECB Certified Training & Examination Provider
- Ist TÜV TRUST IT Accredited Tester

LGMS named as one of the Internet of Things (IoT) key penetration testing vendors in the 2019 IDC Report



Penetration Testing | Compliance & Advisory | Digital Forensics | Security Training PCI DSS & ISO/IEC 27001:2013 Consultation | Compromise Assessment

# DIGITAL EMPLOYMENT AND SALARY TRENDS

The employment market in Malaysia has shifted dramatically towards digital and digital-related jobs since the start of the Covid-19 pandemic that has left a deep impact and broad repercussions on traditional and conventional socioeconomic activities.

Even as businesses folded or faced cutbacks leading to an unemployment rate of 4.5% in 2020 and 4.8% so far this year, demand for digital professionals have skyrocketed as companies of all sizes migrated onto digital platforms and capitalised on digital tools to carry out their operations.

By some estimations, vacancies for digital jobs increased by three times during much of the pandemic period according to tracking of five recruitment platforms between June 2020 and April 2021 by the Malaysia Digital Economy Corporation (MDEC), while advertisements for digital jobs posted on Jobstreet grew by more than seven times in 2020 and even higher in 2021 compared against previous years.

These job-seeking statistics have clearly been boosted by the rising trend towards eCommerce, the gig economy, remote working and online interactions as businesses turned to anything and everything digital to circumvent pandemic restrictions in order to survive and revive.

As a result of this digital revolution, a tsunami of opportunities is now emerging in areas such as fintech, software development and eCommerce as well as specialised jobs like tech engineers, cyber security specialists, data analysts, digital marketing specialists and digital content producers.

However, the acute demand for digital talents is not matched by parallel increases in salaries for digital professionals, with growth in wages continuing on a downward trend since 2017 and virtually reaching stagnation in 2021.

This stands to reason as financially hard-hit employers sought to control and reduce overheads including wages, meaning that the usual annual increments were no longer on the table during the past two years.

Employers were also able to fill vacancies at par or lower rates from among the ranks of the newly-retrenched, many of whom would be considered desperate for guaranteed employment and regular income.

This section looks at the salary landscape for digital professionals in Malaysia with data derived from job openings advertised in Jobstreet during the period January 2020 to June 2021. The data covers salary trends of various positions and levels across selected industries. It also includes PIKOM estimates and projections for 2021 and 2022. Apart from salary trends, the section also reviews top-paying industries. A separate section on regional benchmarking of salaries against other countries is provided in this report.

### **Tracking Parameters**

As with previous editions, the analysis and projections in this section are based on salary scales from jobs advertised across 22 broad industries in Jobstreet. However, unlike previous years, PIKOM has assigned its own salary brackets for the job nomenclature as opposed to using years of experience to categorise the positions.

The job nomenclature and salary brackets are as follows:

Entry Level	Junior Executive	Senior Executive	Manager	Senior Manager	Overall
RM2,200 - RM3,000	RM3,000 - RM4,500	RM4,500 - RM8,000	RM8,000 - RM15,000	RM15,000 - RM25,000	RM2,200 - RM25,000

The industries tracked are as follows:

1. 2. 3. 4. 5. 6. 7. 8. 9.	Agriculture / Plantation / Aquaculture Automotive / Heavy Industry / Machinery Banking Call Centre / IT-Enabled Services / BPO Computer / Information Technology (Hardware) Computer / Information Technology (Software) Construction / Building / Engineering Consulting (Business / Technical) Education	<ol> <li>Hotel / Restaurant / Food Service / Hospitality</li> <li>Manufacturing / Production</li> <li>Oil / Gas / Petroleum</li> <li>Printing / Publishing</li> <li>Property / Real Estate</li> <li>Science &amp; Technology / Aerospace / Biotechnology</li> <li>Semiconductor / Wafer Fabrication</li> <li>Telecommunication</li> <li>Transport / Storage / Freight / Shipping</li> </ol>
9.	Education	20. Transport / Storage / Freight / Shipping
10	. Electrical & Electronics	21. Utilities
11	. Financial Services / Securities / Insurance	22. Wholesale / Retail / Trading

### **Methodology**

In order to present computations, extrapolations and projections that are as accurate as possible, PIKOM used various procedures and forecast models such as data sanitisation, benchmark scaling, trend estimation smoothening and the Pearson Product Moment Correlation.

Starting off, the Jobstreet records were sanitised to remove unrealistic or extreme figures, of which are likely to be internship salaries or foreign wages. The average salary estimates for the year 2020 and 2021 (half-yearly records) are based on data provided by Jobstreet. The salaries for 2019 and 2021 were then extrapolated with the first based on previous years' data and the second on figures from the first six months of the year. Salaries in 2022 are obviously forecast numbers.

From 2009 to 2018, salaries for Manager and Senior Manager positions were published based on data from an average 12 and seven industries respectively in comparison to 22 industries for entry, junior executives and senior executives levels. Thus, in order to streamline the average salaries for all 22 industries by job category, an attempt was made to provide estimates for missing data using the trend estimation procedure. As a first step, efforts were made to establish the correlation between average salaries in the software industry against other known industries using the Pearson Product Moment Correlation as depicted in the formula below.

By definition:



By computation:

$$rxy = \frac{N\sum XY - \sum X\sum Y}{\sqrt{[N\sum X^{2} - (\sum X)^{2}][N\sum Y^{2} - (\sum Y)^{2}]}}$$

The results after using the Pearson correlation are shown below:

#### Table a: Correlation of Salary Trends in Software Industry against Other Industries

Industry	r
Automotive/Heavy Industry/Machinery	0.98
Banking	0.97
Call Centre/IT-Enabled Services/BPO	0.98
Computer/IT (Hardware)	0.98
Computer/IT (Software)	0.98
Construction/Building/ Engineering	0.99
Consulting (Business/Technical)	0.97
Education	0.99
Electrical & Electronics	0.99
Financial Services/Securities/Insurance	0.97
Hotel/Restaurant/Food Service/ Hospitality	0.99
Manufacturing / Production	0.99
Oil/Gas/Petroleum	0.96

Industry	r
Printing/Publishing	0.99
Property / Real Estate	0.83
Science & Technology/Aerospace/Biotechnology	0.98
Semiconductor/Wafer Fabrication	0.98
Telecommunication	0.99
Transport/Storage/Freight/Shipping	0.97
Utilities	0.98
Wholesale/Retail/Trading	0.95

It can be seen that for all industries except for Property / Real Estate that the correlation is higher than 0.9; even by statistical standards, 0.83 is also considered a high correlation. Upon establishing this high correlation, an attempt was made to gauge the salary estimates of unavailable information at managerial and senior managerial categories.

In the subsequent step, the past ratio of entry level against other job levels for all industries for the years 2009-2018 were estimated. However, the ratios for the years 2016-2018 were used in ensuring only recent trends are considered. Together with these data (both job category and industry level) and the 2020 entry level data from Jobstreet, the estimates of unavailable information in manager and senior manager levels were derived.

Estimates for the year 2022 and 2023 were arrived at via the trend fitting procedure which either used the linear or quadratic trend, whichever indicated high R-square values. Accordingly, the ratio of average salaries of entry level benchmarked against other categories are shown in Table b.



Year	Entry Level	Junior Executive	Senior Executive	Manager	Senior Manager	Overall
2016	1.00	1.43	2.37	3.77	6.30	2.99
2017	1.00	1.44	2.38	3.78	6.37	3.01
2018	1.00	1.45	2.41	3.81	6.46	3.04
2019	1.00	1.44	2.37	3.76	6.23	2.97
2020	1.00	1.44	2.37	3.76	6.26	2.98
2021	1.00	1.44	2.39	3.79	6.38	3.01

### **Snapshot of Digital Jobs and Salaries in Malaysia**



Salaries of digital talents are poised to stagnate in 2021, continuing a slide in growth rates from 2017 which has been compounded by pandemic uncertainty in the employment market over the past two years.

Salaries in the digital economy are only expected to grow by a miniscule 0.1% this year to an average monthly wage of RM9,835 before recovering the following year at an estimated rate of 2.0% to breach the RM10,000 mark (Refer to **Chart 1**). PIKOM expects this recovery to gain momentum in 2023 with a growth rate of 3.5%, but this will hinge on the pace of recovery by businesses and industries widely and severely ravaged by disruptions to demand, supply and operations.

Despite the downtrend in recent years, returns for digital professionals have grown by a reasonably healthy annual average growth rate (AAGR) of 5.8% between 2010 and 2020, mostly on the back of generous increases in the earlier part of the decade.

Deemed an essential sector during the pandemic, Electrical & Electronics maintained its status as the highest-paying industry for digital professionals in 2020 and 2021, followed in different years by Telecommunications and Call Centre / IT-enabled Services / BPO respectively (Refer to **Infographic 1**).

The Science & Technology / Aerospace / Biotechnology industry also offered consistently high salaries for digital professionals over the two years, but the Oil / Gas / Petroleum industry dropped out of the top five in 2021 as a result of the slump in global oil prices precipitated by the pandemic.

Taking its place was Property / Real Estate in 2021 as some construction activities were deemed an essential sector and allowed to operate at various capacities during the strict lockdowns at the start and middle of the year.

	2020			2021	
	Electrical & Electronics	RM12,775		Electrical & Electronics	RM12,532
("Å")	Telecommunication	RM11,005	2	Call Centre / IT-enabled Services / BPO	RM11,666
	Oil / Gas / Petroleum	RM10,977	-	Property / Real Estate	RM11,544
×	Science & Technology / Aerospace / Biotechnology	RM10,943	('Å')	Telecommunication	RM11,485
2	Call Centre / IT-enabled Services / BPO	RM10,904	×K.	Science & Technology / Aerospace / Biotechnology	RM11,242

### Infographic 1: Top Paying Industries for Digital Professionals (Average Monthly Salaries) 2020 / 2021

Source: Jobstreet

### SALARY TRENDS FOR DIGITAL PROFESSIONALS

	RM2200 -RM3000		RM3000-I	RM4500	RM4500-F	RM8000	RM8000-I	RM15000	RM15000	RM25000	RM2200-F	RM25000
	Entry Level	% Change	Junior Executive	% Change	Senior Executive	% Change	Manager	% Change	Senior Manager	% Change	Overall	% Change
2010	2,181		2,936		4,514		7,005		10,795		5,626	
2011	2,238	2.61	3,151	7.32	5,039	11.63	7,837	11.88	12,166	12.70	6,236	10.84
2012	2,324	3.84	3,205	1.71	5,344	6.05	8,434	7.62	13,674	12.40	6,667	6.91
2013	2,438	4.91	3,459	7.93	5,744	7.49	8,986	6.54	14,661	7.22	7,142	7.12
2014	2,581	5.87	3,719	7.52	6,157	7.19	9,591	6.73	16,057	9.52	7,706	7.90
2015	2,718	5.31	3,894	4.71	6,483	5.29	10,195	6.30	17,053	6.20	8,114	5.29
2016	2,817	3.64	4,052	4.06	6,727	3.76	10,646	4.42	18,132	6.33	8,484	4.56
2017	2,958	5.01	4,259	5.11	7,057	4.91	11,168	4.90	19,147	5.60	8,908	5.00
2018	3,080	4.12	4,458	4.67	7,469	5.84	11,888	6.45	20,521	7.18	9,262	3.97
2019*	3,210	4.22	4,663	4.60	7,865	5.30	12,589	5.90	21,916	6.80	9,614	3.80
2020	3,282	2.23	4,716	1.14	7,841	(0.30)	12,994	3.22	22,497	2.65	9,825	2.19
2021*	3,301	0.60	4,702	(0.30)	7,720	(1.55)	13,122	0.98	22,546	0.22	9,835	0.11
2022**	3,431	3.93	4,868	3.54	7,933	2.76	13,505	2.92	22,679	0.59	10,034	2.02
Y-o-Y: 2019-2020	2.23		1.14		(0.30)		3.22		2.65		2.19	
Y-o-Y : 2020-2021	0.60		(0.30)		(1.55)		0.98		0.22		0.11	
AAGR : 2011-2020	4.7		5.0		5.6		6.6		8.5		5.8	

### Table 1: Average Monthly Salaries of Digital Professionals (Overall and By Position Level) (RM) 2010 - 2022

\* Extrapolated \*\* Forecast

Sources: Jobstreet & PIKOM estimates

Average monthly salaries of digital talents in certain job levels dropped below par in the pandemic years of 2020 and 2021, the first instances of negative growth since PIKOM began publishing this annual report (Refer to **Table 1**).

Salaries of senior executives in the RM4,500 – RM8,000 range were the hardest hit by the disruption to economic activities, recording contractions for both years while junior executives (RM3,000 – RM4,500) took home marginally lower pay packets in 2021.

Overall, employers tended to slash the salaries or freeze wage increases for the lower positions while continuing to provide increments, however little, to digital talents in the managerial and senior managerial categories whose value in expertise and experience were prioritised during such difficult times. Nevertheless, growth rates for all job positions more or less plateaued in 2021 with the overall average monthly salary growing by a mere 0.1%. This was a worse performance than 2020 when the corresponding growth rate was 2.2%, largely due to the delayed ramifications of the original total lockdown in mid-March till early May 2020.

In sheer contrast to declining growth in salaries, job openings surged tremendously during these two years as businesses and industries pivoted towards digital platforms and tools for many day-to-day operations.

Whereas Jobstreet only posted about 17,000 advertisements for digital jobs in 2018, this figure ballooned to over 135,000 in 2020 and clocked almost 98,000 in the first six months of 2021 (Refer to **Table 2**).

Year	Entry Level	Junior Executive	Senior Executive	Manager	Senior Manager	Overall
2020	55,320	36,096	34,025	5,714	4,296	135,451
2021*	38,756	25,422	26,329	6,734	668	97,909

### Table 2: Number of Jobstreet Records 2020 / 2021

\*January - June 2021

Source: Jobstreet

### Table 3: Average Monthly Salaries Benchmarked Against Entry Level Salaries (RM) 2010 - 2022

Veer	RM2200 -RM3000	RM3000-RM4500	RM4500-RM8000	RM8000-RM15000	RM15000-RM25000	RM2200-RM25000
rear	Entry Level	Junior Executive	Senior Executive	Manager	Senior Manager	Overall
2010	1.000	1.346	2.070	3.212	4.950	2.580
2011	1.000	1.408	2.252	3.502	5.436	2.786
2012	1.000	1.379	2.299	3.629	5.884	2.869
2013	1.000	1.419	2.356	3.686	6.014	2.929
2014	1.000	1.441	2.386	3.716	6.221	2.986
2015	1.000	1.433	2.385	3.751	6.274	2.985
2016	1.000	1.438	2.388	3.779	6.437	3.012
2017	1.000	1.440	2.386	3.776	6.473	3.011
2018	1.000	1.447	2.425	3.860	6.663	3.007
2019*	1.000	1.453	2.450	3.922	6.827	2.995
2020	1.000	1.437	2.389	3.959	6.855	2.994
2021*	1.000	1.424	2.339	3.975	6.830	2.979
2022**	1.000	1.419	2.312	3.936	6.610	2.925

\* Extrapolated \*\* Forecast

Unlike previous years, vacancies for entry level talents topped the list this time round when it used to be junior executive and senior executive openings that dominated advertisements in Jobstreet. Reasons for this include the demand for digital across most aspects of business operations and a likelihood that employers have reduced budgets to fill lower positions.

In comparing the ratio in salaries between the top tier (senior manager) and lowest rung (entry level) positions, this gap narrowed for the first time in 10 years; from 6.855 in 2020 to a lower 6.830 in 2021 and is projected to dip further to 6.610 in 2022 (Refer to **Table 3**).

What this means is that the nominally substantial annual increments afforded to the higher positions in previous years were much less generous in a pandemic business landscape. **Table 4** presents the salaries of digital talents according to industry. In 2020, salaries in the Call Centre / ITenabled Services / BPO, Property / Real Estate, Financial Services / Securities / Insurance and Telecommunication industries achieved healthy growth rates in 2020. On the opposite side of the coin, salaries contracted in the industries of Automotive / Heavy Industry / Machinery, Utilities and Semiconductor / Water Fabrication.

Sources: Jobstreet & PIKOM estimates

Over the past decade (2011 – 2020), salaries of digital professionals have grown the fastest in Property / Real Estate (AAGR of 12.4%), Science & Technology / Aerospace / Biotechnology (AAGR of 11.7%), Agriculture / Plantation / Aquaculture (AAGR of 11.3%) and Education (AAGR of 10.7%). In other words, job and salary prospects in these industries look promising for the future.

### Table 4: Overall Average Monthly Salaries ofDigital Professionals by Industry (RM) / (%) 2010 - 2022

Industry	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020	2021*	Y-o-Y 2019: 2020	AAGR: 2011: 2020
Agriculture / Plantation / Aquaculture	4,645	5,426	5,788	6,664	7,797	8,231	8,740	9,471	10,269	9,744	9,895	10,036	1.55	11.3
Automotive / Heavy Industry / Machinery	6,184	6,339	6,507	7,009	7,409	7,527	7,781	8,092	8,399	9,352	8,641	7,797	(7.61)	4.0
Banking	5,577	6,175	6,781	6,903	7,453	7,857	8,256	8,696	9,193	10,338	10,610	10,536	2.63	9.0
Call Centre / IT-Enabled Services / BPO	6,379	6,834	7,251	7,573	8,230	8,467	8,817	9,247	9,699	9,871	0,904	11,666	10.47	7.1
Computer / Information Technology (Hardware)	5,798	6,227	6,577	7,135	7,473	7,841	8,392	8,876	9,376	9,492	9,802	9,860	3.27	6.9
Computer / Information Technology (Software)	5,079	5,485	5,721	5,998	6,750	7,126	7,316	7,697	8,121	8,191	8,176	7,923	(0.18)	6.1
Construction / Building / Engineering	4,743	4,969	5,029	6,196	6,528	6,814	7,262	7,759	8,250	9,372	9,295	9,033	(0.82)	9.6
Consulting (Business/ Technical)	5,830	6,092	6,436	6,745	7,430	7,842	8,016	8,392	8,811	9,348	9,413	9,232	0.69	6.1
Education	3,781	4,180	4,578	5,156	5,707	6,172	6,569	7,062	7,614	7,712	7,832	7,749	1.56	10.7
Electrical & Electronics	7,354	7,936	8,275	8,657	9,057	9,194	9,746	10,179	10,623	12,679	12,775	12,532	0.76	7.4
Financial Services/ Securities/Insurance	5,547	5,803	6,744	6,872	7,348	7,826	8,209	8,654	9,172	9,876	10,505	10,890	6.37	8.9
Hotel/Restaurant/Food Service/Hospitality	5,293	5,390	5,967	6,411	6,603	6,770	7,199	7,579	7,949	7,899	8,191	8,347	3.69	5.5
Manufacturing / Production	5,600	6,523	6,691	6,913	7,220	7,546	7,980	8,356	8,759	8,609	8,830	8,837	2.56	5.8
Oil / Gas / Petroleum	6,864	8,208	8,011	8,082	8,512	8,560	9,145	9,527	9,889	10,742	10,977	11,237	2.19	6.0
Printing / Publishing	4,588	4,832	4,768	5,175	5,438	5,366	5,523	5,717	5,877	7,595	8,035	8,399	5.79	7.5
Property / Real Estate	4,829	6,258	6,334	6,527	6,782	6,823	7,490	7,926	8,347	10,180	10,830	11,544	6.38	12.4
Science & Technology / Aerospace / Biotechnology	5,038	5,697	6,932	6,951	7,656	7,911	8,530	9,140	9,803	10,455	10,943	1,242	4.67	11.7
Semiconductor / Wafer Fabrication	6,158	6,542	6,508	6,552	6,938	6,865	7,117	7,315	7,489	8,326	8,169	8,013	(1.89)	3.3
Telecommunication	5,846	6,367	6,564	6,943	7,246	7,412	7,750	8,075	8,405	10,360	1,005	1,485	6.22	8.8
Transport/Storage/ Freight/Shipping	5,786	6,068	6,102	6,911	7,327	7,353	7,689	8,083	8,435	8,606	8,587	8,561	(0.21)	4.8
Utilities	5,090	5,429	5,780	5,814	5,974	6,023	6,310	6,652	6,862	7,539	7,274	6,069	(3.52)	4.3
Wholesale/Retail/Trading	4,555	5,449	5,366	5,381	5,656	5,689	6,056	6,228	6,463	7,478	7,539	7,468	0.82	6.6

\* Extrapolated

Sources: Jobstreet & PIKOM estimates

### **Entry Level**

In line with the declining salary trend for all digital talents, wages for entry level professionals grew at a much lower rate than previous years and dipped as low as 0.6% in 2021. However, this rate is expected to rebound considerably in 2022 at 3.9% on the proviso that the economy's expected recovery continues unencumbered (Refer to **Chart 2**). This job level recorded a respectable AAGR of 4.7% over 11 years from 2010 to 2020.

In 2020, salaries for this position grew the fastest in the industries of Call Centre / IT-enabled Services / BPO, Printing / Publishing and Telecommunication while they took a few steps back in the industries of Automotive / Heavy Industry / Machinery, Computer / Information Technology (Software) and Manufacturing Production (Refer to **Table 5**).



### Chart 2: Average Monthly Salaries of Entry Level Digital Professionals (RM) / Growth Rate (%) 2010 - 2022

Table 5: Average Monthly Salaries of Entry LevelDigital Professionals by Industry (RM) / (%) 2010 - 2022

Industry	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020	2021*	Y-o-Y 2019: 2020	AAGR: 2011: 2020
Agriculture / Plantation / Aquaculture	2,293	2,536	2,735	2,828	2,658	2,876	2,989	3,078	3,184	3,094	3,104	3,081	0.32	3.5
Automotive / Heavy Industry / Machinery	1,731	2,175	2,175	2,763	3,063	3,387	3,615	3,955	4,324	3,812	3,742	3,596	(1.83)	11.6
Banking	2,000	2,225	2,425	2,425	2,875	3,008	3,130	3,335	3,566	3,651	3,756	3,815	2.87	8.8
Call Centre / IT-Enabled Services / BPO	2,125	2,275	2,275	2,375	2,575	2,660	2,714	2,819	2,928	2,839	3,122	3,358	9.97	4.7
Computer / Information Technology (Hardware)	2,155	2,213	2,368	2,385	2,485	2,541	2,607	2,697	2,784	2,823	2,841	2,828	0.64	3.2
Computer / Information Technology (Software)	2,244	2,400	2,450	2,553	2,763	2,861	2,934	3,059	3,189	3,054	3,031	2,970	(0.73)	3.5
Construction / Building / Engineering	1,546	1,800	2,023	2,394	2,494	2,722	2,934	3,200	3,472	3,417	3,492	3,517	2.19	12.6
Consulting (Business/Technical)	2,125	2,275	2,325	2,525	2,625	2,742	2,832	2,965	3,094	3,038	3,072	3,073	1.12	4.5
Education	1,750	1,975	1,983	2,305	2,433	2,602	2,721	2,900	3,081	2,995	3,016	2,998	0.73	7.2
Electrical & Electronics	1,769	2,063	2,343	2,343	2,931	3,110	3,279	3,552	3,870	3,893	4,040	4,136	3.76	12.8
Financial Services/Securities/ Insurance	2,521	2,557	2,584	2,569	2,747	2,806	2,869	2,946	3,026	3,285	3,402	3,494	3.55	3.5
Hotel/Restaurant/Food Service/ Hospitality	2,199	2,225	2,288	2,288	2,340	2,362	2,388	2,425	2,461	2,514	2,529	2,523	0.62	1.5
Manufacturing / Production	2,434	2,508	2,508	2,558	2,655	2,698	2,724	2,776	2,828	2,823	2,811	2,770	(0.44)	1.5
Oil / Gas / Petroleum	2,705	2,764	2,767	2,738	2,558	2,681	2,786	2,803	2,828	3,035	3,092	3,128	1.87	1.4
Printing / Publishing	2,131	2,225	2,300	2,300	2,300	2,310	2,391	2,452	2,497	3,006	3,209	3,401	6.74	5.1
Property / Real Estate	1,961	2,937	2,388	2,339	2,261	2,358	2,539	2,580	2,626	3,188	3,378	3,554	5.96	7.2
Science & Technology / Aerospace / Biotechnology	2,162	2,350	2,500	2,500	2,500	2,521	2,683	2,806	2,899	3,087	3,178	3,243	2.97	4.7
Semiconductor / Wafer Fabrication	2,442	2,783	2,787	2,721	2,616	2,759	2,863	2,908	2,968	3,024	3,033	3,017	0.32	2.4
Telecommunication	2,008	2,120	2,150	2,280	2,375	2,457	2,518	2,613	2,706	3,137	3,332	3,507	6.21	6.6
Transport/Storage/Freight/ Shipping	2,290	2,330	2,302	2,638	2,484	2,617	2,642	2,704	2,762	2,749	2,742	2,708	(0.25)	2.0
Utilities	2,113	2,325	2,396	2,437	2,271	2,428	2,516	2,807	2,858	2,740	2,749	2,361	0.31	3.0
Wholesale/Retail/Trading	1,725	1,800	1,925	2,000	2,075	2,145	2,218	2,315	2,408	2,554	2,597	2,610	1.68	5.1

\* Extrapolated

Sources: Jobstreet & PIKOM estimates



### Chart 3: Average Monthly Salaries of Junior Executive Digital Professionals (RM) / Growth Rate (%) 2010 - 2022

### **Junior Executive**

Salaries for junior executive digital professionals are set to record negative growth for this year after sliding to a comparatively low growth rate of 1.1% in 2020 from 4.6% the year before. Similar to entry level positions, junior executives are expected to see their pay rise by 3.5% in 2022 (Refer to **Chart 3**), provided Malaysia undergoes a smooth pandemic and economic recovery. Salaries for the junior executive position registered an AAGR of 5.0% from 2010 to 2020.

In terms of industries, the highest growth for junior executive salaries in 2020 were from Call Centre / IT-enabled Services / BPO, Printing / Publishing and Property / Real Estate while the worst performing industries were Automotive / Heavy Industry / Machinery, Construction / Building / Engineering and Computer / Information Technology (Software) (Refer to **Table 6**).

### **Senior Executive**

Of all five positions, the dire situation in the past two years had its greatest impact on senior executive salaries of digital talents. Wages in this position suffered contractions for both 2020 (-0.3%) and 2021 (-1.6%).

Additionally, they are poised to recover at a slower rate (2.8%) than the entry level and junior executive positions. (Refer to **Chart 4**). It should be noted that the AAGR for senior executive salaries between 2010 and 2020 was a comparatively higher 5.6% against the above-mentioned positions.

The negative impact on salaries in this position is also reflected by wage contractions for digital professionals in 13 out of the 22 industries. The Call Centre / IT-enabled Services / BPO, Telecommunication and Property / Real Estate industries were the best performers in 2020 while the worst were Automotive / Heavy Industry / Machinery, Utilities and Construction / Building / Engineering (Refer to **Table 7**).

### Manager

Salaries at the managerial level performed the best of all five positions with digital talents able to enjoy wage increments of 3.2% in 2020 and 1.0% in 2021. Salaries are also poised to head upwards with a growth rate of 2.9% this year (Refer to **Chart 5**). Managerial salaries recorded a considerably high AAGR of 6.6% in the period 2010 – 2020.

Table 6: Average Monthly Salaries of Junior Executive Digital Professionals by Industry (RM) / (%) 2010 - 2022

Industry	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020	2021*	Y-o-Y 2019: 2020	AAGR: 2011: 2020
Agriculture / Plantation / Aquaculture	2,968	3,372	3,683	3,900	4,025	4,268	4,485	4,741	5,008	4,693	4,694	4,675	0.02	5.8
Automotive/Heavy Industry/ Machinery	3,075	3,100	3,563	3,663	3,878	3,994	4,063	4,247	4,434	4,587	4,223	3,812	(7.94)	3.7
Banking	3,262	3,400	3,475	3,543	4,160	4,165	4,305	4,537	4,759	5,178	5,170	5,107	(0.14)	5.9
Call Centre/IT-Enabled Services/ BPO	2,925	3,225	3,225	3,400	3,874	3,913	4,027	4,244	4,451	4,268	4,653	4,979	9.03	5.9
Computer/IT (Hardware)	2,963	3,002	3,100	3,213	3,350	3,421	3,529	3,649	3,762	3,852	3,847	3,773	(0.12)	3.0
Computer/IT (Software)	2,750	3,025	3,063	3,275	3,900	3,947	4,074	4,343	4,606	4,303	4,242	4,154	(1.42)	5.4
Construction/Building/ Engineering	2,675	2,900	2,950	3,152	3,352	3,424	3,494	3,644	3,785	4,369	4,186	3,955	(4.20)	5.6
Consulting (Business/Technical)	3,025	3,150	3,283	3,350	4,041	4,067	4,246	4,518	4,786	4,631	4,626	4,619	(0.12)	5.3
Education	2,175	2,523	2,575	2,888	3,150	3,288	3,434	3,664	3,891	3,857	3,819	3,736	(0.99)	7.6
Electrical & Electronics	2,725	3,113	3,228	3,229	3,513	3,582	3,675	3,831	3,989	4,556	4,524	4,394	(0.70)	6.6
Financial Services/Securities/ Insurance	3,262	3,400	3,479	3,543	4,160	4,165	4,306	4,538	4,760	4,983	5,144	5,302	3.23	5.8
Hotel/Restaurant/Food Service/ Hospitality	2,525	2,575	3,045	3,258	3,355	3,594	3,810	4,054	4,310	3,856	4,047	4,164	4.94	6.0
Manufacturing / Production	3,025	3,095	3,157	3,292	3,392	3,464	3,565	3,676	3,778	3,683	3,679	3,615	(0.12)	2.2
Oil/Gas/Petroleum	3,500	3,675	3,725	3,775	3,875	3,979	4,182	4,319	4,449	4,604	4,675	4,746	1.56	3.4
Printing/Publishing	2,699	2,790	2,950	3,215	3,215	3,375	3,521	3,678	3,829	4,389	4,753	5,040	8.30	7.6
Property / Real Estate	2,538	3,905	3,215	3,225	3,425	3,500	3,810	3,975	4,130	4,836	5,108	5,393	5.63	10.1
Science & Technology/ Aerospace/Biotechnology	2,585	2,925	3,069	3,171	3,888	3,907	4,023	4,305	4,588	4,790	4,867	4,924	1.61	8.8
Semiconductor/Wafer Fabrication	3,160	3,700	3,753	3,753	3,963	4,094	4,297	4,481	4,668	4,586	4,586	4,578	0.01	4.5
Telecommunication	3,025	3,250	3,388	3,538	3,913	3,984	4,094	4,300	4,501	5,176	5,447	5,692	5.24	8.0
Transport/Storage/Freight/ Shipping	2,964	3,098	3,100	3,638	3,763	3,884	3,965	4,166	4,344	4,170	4,146	4,110	(0.56)	4.0
Utilities	2,734	3,092	3,226	3,360	3,440	3,603	3,775	4,324	4,495	4,156	4,156	3,584	0.00	5.2
Wholesale/Retail/Trading	2,483	3,300	3,425	3,425	3,513	3,764	4,086	3,949	4,207	4,554	4,602	4,545	1.04	8.5

\* Extrapolated

Sources: Jobstreet & PIKOM estimates



### Chart 4: Average Monthly Salaries of Senior Executive Digital Professionals (RM) / Growth Rate (%) 2010 - 2022

Economic and Digital Job Market Outlook in Malaysia 2021 63

### Table 7: Average Monthly Salaries of Senior ExecutiveDigital Professionals by Industry (RM) / (%) 2010 - 2022

Industry	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020	2021*	Y-o-Y 2019: 2020	AAGR: 2011: 2020
Agriculture / Plantation / Aquaculture	3,967	4,600	5,033	5,943	7,154	7,803	8,173	8,909	9,754	8,531	8,502	8,516	(0.34)	11.4
Automotive / Heavy Industry / Machinery	4,814	4,989	5,050	5,189	5,400	5,550	5,644	5,786	5,933	6,408	5,729	5,027	(10.61)	1.9
Banking	4,749	5,395	5,575	5,825	6,319	6,840	7,009	7,344	7,740	8,299	8,279	8,020	(0.24)	7.4
Call Centre / IT-Enabled Services / BPO	4,428	4,556	4,750	5,054	6,125	6,160	6,423	6,850	7,280	6,790	7,290	7,775	7.36	6.5
Computer / Information Technology (Hardware)	4,577	4,769	4,835	5,110	5,410	6,038	6,056	6,269	6,544	6,575	6,550	6,291	(0.37)	4.3
Computer / Information Technology (Software)	4,505	4,769	5,160	5,400	5,999	6,612	6,672	7,004	7,416	6,989	6,842	6,506	(2.10)	5.2
Construction / Building / Engineering	4,250	4,500	4,575	4,700	5,322	5,364	5,553	5,813	6,071	6,941	6,511	6,102	(6.20)	5.3
Consulting (Business/Technical)	5,150	5,525	5,879	6,000	6,375	6,543	6,751	7,020	7,303	7,407	7,199	6,950	(2.82)	4.0
Education	3,225	4,100	4,100	4,165	4,475	4,913	5,127	5,383	5,696	5,692	5,573	5,328	(2.08)	7.3
Electrical & Electronics	3,915	4,750	5,119	5,233	5,800	6,095	6,490	6,910	7,375	7,804	7,804	7,667	0.01	9.9
Financial Services/Securities/ Insurance	4,749	5,261	5,450	5,825	6,319	6,938	7,046	7,387	7,798	8,044	8,305	8,376	3.24	7.5
Hotel/Restaurant/Food Service/ Hospitality	4,801	4,801	5,475	5,925	6,050	6,399	6,723	7,079	7,454	6,905	7,011	7,031	1.53	4.6
Manufacturing / Production	4,525	5,175	5,298	5,822	6,207	6,446	6,702	7,063	7,432	6,872	6,822	6,722	(0.73)	5.1
Oil / Gas / Petroleum	6,209	7,500	7,500	7,575	8,000	8,291	8,744	9,128	9,532	9,620	9,630	9,710	0.10	5.5
Printing / Publishing	4,000	4,150	4,154	4,550	4,800	4,851	4,896	5,060	5,212	6,348	6,542	6,703	3.06	6.4
Property / Real Estate	4,339	5,300	5,825	6,050	6,250	6,483	7,017	7,452	7,906	8,938	9,317	9,790	4.24	11.5
Science & Technology / Aerospace / Biotechnology	4,515	5,031	6,500	6,500	7,063	7,600	8,110	8,696	9,388	9,266	9,533	9,652	2.88	11.1
Semiconductor / Wafer Fabrication	5,563	5,685	5,810	5,875	6,225	6,303	6,414	6,576	6,738	7,070	6,757	6,495	(4.43)	2.1
Telecommunication	5,225	6,193	6,675	6,675	7,000	7,361	7,794	8,183	8,616	9,604	10,088	10,496	5.04	9.3
Transport/Storage/Freight/ Shipping	5,229	5,400	5,610	6,320	6,730	6,943	7,183	7,559	7,927	7,524	7,352	7,220	(2.29)	4.1
Utilities	4,550	4,710	5,201	5,201	5,350	5,525	5,699	5,888	6,093	6,401	5,991	4,877	(6.41)	3.2
Wholesale/Retail/Trading	4,100	4,800	4,800	4,800	5,025	5,170	5,409	5,605	5,809	6,290	6,199	6,035	(1.45)	5.1

#### \* Extrapolated

Sources: Jobstreet & PIKOM estimates

For this position, salaries that made substantial jumps in 2020 were from the Call Centre / IT-enabled Services / BPO, Property / Real Estate and Telecommunication industries while the only three industries with declining wages were Automotive / Heavy Industry / Machinery, Utilities and Semiconductor / Water Fabrication (Refer to **Table 8**).

#### Senior Manager

While senior manager salaries of digital professionals held out better than some of the other positions, their expected recovery in 2022 will be less pronounced, according to PIKOM estimates. Salaries in this position grew by 2.7% in 2020 and an estimated 0.2% in 2021 and is projected to rise by 0.6% in 2022 (Refer to **Chart 6**). Senior managers have seen their salaries rise by a high AAGR of 8.5% between 2010 and 2020.

For this job position, salaries grew the fastest in the Call Centre / IT-enabled Services / BPO, Financial Services / Securities / Insurance and Property / Real Estate industries in 2020 while the Automotive / Heavy Industry / Machinery, Utilities and Semiconductor / Water Fabrication industries were at the other end of the spectrum (Refer to **Table 9**).



### Chart 5: Average Monthly Salaries of Manager Level Digital Professionals (RM) / Growth Rate (%) 2010 - 2022

\* Extrapolated \*\* Forecast

Sources: Jobstreet & PIKOM estimates

### Table 8: Average Monthly Salaries of Manager LevelDigital Professionals by Industry (RM) / (%) 2010 - 2022

Industry	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020	2021*	Y-o-Y 2019: 2020	AAGR: 2011: 2020
Agriculture / Plantation / Aquaculture	5,851	6,976	7,372	8,440	10,317	10,893	11,523	12,533	13,627	12,714	13,099	13,478	3.03	12.4
Automotive / Heavy Industry / Machinery	8,903	8,995	9,166	9,578	10,133	10,267	10,510	10,832	11,140	12,568	11,696	10,597	(6.93)	3.1
Banking	7,673	7,967	8,468	8,759	9,213	9,450	9,741	10,096	10,465	12,310	12,553	12,405	1.97	6.4
Call Centre / IT-Enabled Services / BPO	7,280	8,394	8,993	9,023	9,744	10,078	10,506	10,988	11,524	11,583	12,997	14,083	12.20	7.9
Computer / Information Technology (Hardware)	6,544	6,621	6,791	8,201	8,556	8,962	9,401	9,954	10,495	10,643	11,074	11,213	4.05	6.9
Computer / Information Technology (Software)	6,644	7,232	7,558	7,669	8,651	9,230	9,407	9,853	10,360	10,412	10,540	10,298	1.23	5.9
Construction / Building / Engineering	6,372	6,565	6,574	8,475	8,807	9,376	9,994	10,696	11,393	12,647	12,819	12,639	1.36	10.1
Consulting (Business/Technical)	7,655	7,995	8,594	8,908	10,064	10,444	10,820	11,398	12,016	12,415	12,695	12,719	2.25	6.6
Education	4,913	5,162	5,999	6,712	7,579	8,335	8,858	9,560	10,366	10,221	10,597	10,655	3.68	11.6
Electrical & Electronics	11,856	12,488	12,933	13,275	13,554	13,790	14,495	14,977	15,455	18,708	19,018	18,720	1.66	6.0
Financial Services/Securities/ Insurance	6,999	7,546	8,248	8,464	8,814	9,272	9,658	10,075	10,540	11,571	12,363	12,857	6.85	7.7
Hotel/Restaurant/Food Service/ Hospitality	7,081	7,281	8,019	8,415	8,725	8,933	9,479	9,959	10,413	10,287	10,801	11,129	5.00	5.3
Manufacturing / Production	7,264	8,286	8,342	8,701	9,009	9,384	9,944	10,380	10,836	10,589	11,001	11,138	3.89	5.1
Oil / Gas / Petroleum	9,157	11,373	10,985	10,758	11,537	11,574	12,328	12,841	13,317	14,337	14,835	15,370	3.47	6.2
Printing / Publishing	5,899	6,293	6,084	6,462	6,922	6,772	6,903	7,118	7,282	9,460	10,078	10,610	6.53	7.1
Property / Real Estate	6,399	8,037	8,532	8,592	9,013	9,050	9,893	10,484	11,045	13,322	14,354	15,495	7.75	12.4
Science & Technology / Aerospace / Biotechnology	6,659	7,629	9,521	9,231	10,185	10,609	11,434	12,233	13,114	13,804	14,686	15,277	6.39	12.1
Semiconductor / Wafer Fabrication	8,204	8,621	8,510	8,344	8,977	8,799	9,042	9,251	9,413	10,540	10,409	10,281	(1.24)	2.7
Telecommunication	7,931	8,507	8,684	9,082	9,410	9,667	10,001	10,344	10,692	13,273	14,238	14,935	7.27	8.0
Transport/Storage/Freight/ Shipping	7,712	8,189	8,217	8,976	9,705	9,692	10,127	10,634	11,074	11,214	11,327	11,429	1.00	4.7
Utilities	6,710	7,143	7,618	7,386	7,715	7,713	8,035	8,283	8,512	9,542	9,228	7,721	(3.29)	3.8
Wholesale/Retail/Trading	6,047	7,279	7,031	6,817	7,246	7,217	7,626	7,885	8,115	9,374	9,549	9,554	1.87	5.8

\* Extrapolated

Sources: Jobstreet & PIKOM estimates



### Chart 6: Average Monthly Salaries of Senior Manager Level Digital Professionals (RM) / Growth Rate (%) 2010 - 2022

\* Extrapolated \*\* Forecast

Sources: Jobstreet & PIKOM estimates

### Table 9: Average Monthly Salaries of Senior Manager LevelDigital Professionals by Industry (RM) / (%) 2010 - 2022

Industry	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020	2021*	Y-o-Y 2019: 2020	AAGR: 2011: 2020
Agriculture / Plantation / Aquaculture	8,145	9,646	10,120	12,209	14,834	15,317	16,528	18,096	19,771	20,716	21,081	21,466	1.76	15.9
Automotive / Heavy Industry / Machinery	12,395	12,438	12,582	13,855	14,570	14,437	15,076	15,640	16,163	20,479	18,811	16,870	(8.15)	5.2
Banking	10,203	11,887	13,961	13,961	14,700	15,820	17,095	18,169	19,436	23,544	24,639	24,679	4.65	14.1
Call Centre / IT-Enabled Services / BPO	15,136	15,722	17,013	18,014	18,832	19,523	20,416	21,335	22,312	25,642	28,417	30,152	10.82	8.8
Computer / Information Technology (Hardware)	12,751	14,528	15,789	16,767	17,566	18,242	20,369	21,813	23,294	25,362	26,604	27,132	4.90	10.9
Computer / Information Technology (Software)	9,250	10,000	10,375	11,094	12,439	12,979	13,493	14,226	15,031	16,962	16,958	16,398	(0.03)	8.3
Construction / Building / Engineering	8,871	9,078	9,024	12,260	12,663	13,184	14,335	15,443	16,530	20,606	20,622	20,124	0.08	13.2
Consulting (Business/Technical)	11,196	11,516	12,098	12,942	14,047	15,415	15,429	16,061	16,855	20,317	20,550	19,824	1.15	8.4
Education	6,840	7,138	8,235	9,709	10,898	11,720	12,706	13,803	15,039	16,652	17,053	16,967	2.41	14.9
Electrical & Electronics	16,506	17,268	17,753	19,203	19,489	19,391	20,792	21,624	22,424	30,483	30,594	29,803	0.36	8.5
Financial Services/Securities/ Insurance	10,203	10,250	13,961	13,961	14,700	15,950	17,167	18,323	19,732	22,771	24,691	25,866	8.43	14.2
Hotel/Restaurant/Food Service/ Hospitality	9,858	10,067	11,008	12,172	12,545	12,561	13,596	14,380	15,108	16,761	17,385	17,722	3.72	7.6
Manufacturing / Production	10,750	13,550	14,150	14,195	14,838	15,737	16,966	17,887	18,919	20,292	21,103	21,206	4.00	9.6
Oil / Gas / Petroleum	12,749	15,727	15,080	15,562	16,588	16,275	17,683	18,541	19,321	23,363	23,876	24,477	2.20	8.7
Printing / Publishing	8,213	8,702	8,352	9,348	9,953	9,522	9,902	10,277	10,565	15,414	16,214	16,896	5.19	9.7
Property / Real Estate	8,909	11,113	11,712	12,429	12,959	12,726	14,190	15,137	16,025	21,707	23,100	24,677	6.42	15.9
Science & Technology / Aerospace / Biotechnology	9,271	10,549	13,069	13,354	14,645	14,918	16,401	17,662	19,028	22,488	23,633	24,329	5.09	15.5
Semiconductor / Wafer Fabrication	11,422	11,921	11,682	12,070	12,908	12,372	12,970	13,357	13,658	17,176	16,747	16,371	(2.49)	4.7
Telecommunication	11,042	11,763	11,921	13,138	13,530	13,593	14,345	14,935	15,512	21,626	22,909	23,781	5.93	10.7
Transport/Storage/Freight/ Shipping	10,737	11,323	11,280	12,984	13,955	13,629	14,527	15,354	16,067	18,275	18,229	18,199	(0.25)	7.0
Utilities	9,342	9,876	10,457	10,685	11,093	10,845	11,525	11,959	12,350	15,550	14,844	12,292	(4.54)	5.9
Wholesale/Retail/Trading	8,418	10,065	9,651	9,861	10,419	10,148	10,939	11,385	11,774	15,275	15,366	15,213	0.59	8.3

\* Extrapolated

Sources: Jobstreet & PIKOM estimates

### **TOP PAYING INDUSTRIES FOR DIGITAL PROFESSIONALS**

#### 2020 2021 **Electrical & Electronics Electrical & Electronics RM4,040 RM4,136** RM3,758 RM3,815 Banking Banking Automotive / Heavy RM3,742 Automotive / Heavy RM3,596 Industry / Machinery Industry / Machinery Construction / Building Property / Real Estate RM3,492 RM3,554 / Engineering Construction / Building Financial Services / RM3,402 RM3,517 / Engineering Securities / Insurance Source: Jobstreet

Infographic 2: Top Paying Industries for Entry Level Digital Professionals 2020 / 2021

Electrical & Electronics, Telecommunication and Call Centre / IT-enabled Services / BPO were consistently the top paying industries across all five digital professional job levels in 2020 and 2021. This portion lists the top five paying industries according to the job position levels.

### **Entry Level**

Across both years, the Electrical & Electronics, Banking and Automotive / Heavy Industry / Machinery industries topped the list as the highest-paying employers of entry level digital professionals. Talents in this position level could command average salaries of RM4,136 in Electrical & Electronics during the current year (Refer to **Infographic 2**). Also making the list were Construction / Building / Engineering in both years, and Financial Services / Securities / Insurance (2020) and Property / Real Estate (2021).

### Junior Executive

In the case of junior executives, Telecommunication was the highest-paying industry for digital talents across both years while Banking, Financial Services / Securities / Insurance and Property / Real Estate interchanged rankings between 2020 and 2021 (Refer to **Infographic 3**). Junior executives could earn an average monthly salary of RM5,692 in the Telecommunication industry in 2021. The Science & Technology / Aerospace / Biotechnology (2020) and Printing / Publishing (2021) industries also made it onto the list.

### **Senior Executive**

As with the junior executive position, senior executive salaries of digital talents were the highest in the Telecommunication industry followed by Oil / Gas / Petroleum in 2020 and 2021. Salaries in

Infographic 3: Top Paying Industries for Junior Executive Digital Professionals 2020 / 2021

	2020			2021	
('Å')	Telecommunication	RM5,447	('Å')	Telecommunication	RM5,692
	Banking	RM5,170	-	Property / Real Estate	RM5,393
0	Financial Services / Securities / Insurance	RM5,144	0	Financial Services / Securities / Insurance	RM5,302
-	Property / Real Estate	RM5,108		Banking	RM5,107
SK.	Science & Technology / Aerospace / Biotechnology	RM4,867	-	Printing / Publishing	RM5,040
					Source: Jobstreet

Infographic 4: Top Paying Industries for Senior Executive Digital Professionals 2020 / 2021

	2020			2021	
('Å')	Telecommunication	RM10,088	('Å')	Telecommunication	RM10,496
	Oil / Gas / Petroleum	RM9,630		Oil / Gas / Petroleum	RM9,710
S R	Science & Technology / Aerospace / Biotechnology	RM9,533	-	Property / Real Estate	RM9,790
-	Property / Real Estate	RM5,108	×	Science & Technology / Aerospace / Biotechnology	RM9,652
5	Agriculture / Plantation / Aquaculture	RM8,502	×	Agriculture / Plantation / Aquaculture	RM8,516

Source: Jobstreet

Telecommunication breached the five-figure mark for both years, reaching a monthly average of RM10,496 in 2021 (Refer to **Infographic 4**). The other three industries featured in both years are Science & Technology / Aerospace / Biotechnology, Property / Real Estate and Agriculture / Plantation / Aquaculture.

### Manager

Absent from the top five list for junior and senior executives, the Electrical & Electronics industry topped the list of managerial level salaries for digital professionals who earned a monthly average of RM18,720 in 2021(Refer to **Infographic 5**). The other four industries making the list for both years Infographic 5: Top Paying Industries for Manager Level Digital Professionals 2020 / 2021

	2020			2021	
Star Star	Electrical & Electronics	RM19,018	2 Here	Electrical & Electronics	RM18,720
ەر <sup>ىي</sup> رە ق.			0°		
<b>H</b>	Oil / Gas / Petroleum	RM14,835	\$n\$	Property / Real Estate	RM15,495
S.	Science & Technology / Aerospace / Biotechnology	RM14,686		Oil / Gas / Petroleum	RM15,370
-	Property / Real Estate	RM14,354	×	Science & Technology / Aerospace / Biotechnology	RM15,277
('Å')	Telecommunication	RM14,238	(" <u>Å</u> ")	Telecommunication	RM14,935
					Source: Jobstreet

Infographic 6: Top Paying Industries for Senior Manager Level Digital Professionals 2020 / 2021

	2020			2021	
	Electrical & Electronics	RM30,594	2	Call Centre / IT-enabled Services / BPO	RM30,152
2	Call Centre / IT-enabled Services / BPO	RM28,417		Electrical & Electronics	RM29,803
	Computer / Information Technology (Hardware)	RM26,604		Computer / Information Technology (Hardware)	RM27,132
0	Financial Services / Securities / Insurance	RM24,691	0	Financial Services / Securities / Insurance	RM25,866
	Banking	RM24,639		Banking	RM24,679

Source: Jobstreet

were Oil / Gas / Petroleum, Science & Technology / Aerospace / Biotechnology, Property / Real Estate and Telecommunication.

### **Senior Manager**

Missing from the top five lists of the other four job levels, Call Centre / IT-enabled Services / BPO moved

from second place in 2020 to top the list of salaries for digital talents this year. A senior manager in this industry could earn an average of RM30,152 in 2021, which was marginally lower than the year before (Refer to **Infographic 6**). The other industries in the list were Electrical & Electronics, Computer / Information Technology (Hardware), Financial Services / Securities / Insurance and Banking.



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### **HIRING TRENDS**

As mentioned earlier, job openings for digital professionals grew at a tremendous rate during the pandemic years as digital became the default mode for most businesses and industries struggling to keep themselves above water.

Indeed, the correlation between rapid digital transition and increasing digital job opportunities was cited by many local and global recruitment companies, employment platforms and digital development agencies.

They include Jobstreet, local employment and recruitment services provider Persolkelly, MDEC, global online employment platform LinkedIn as well as global recruitment agency Hays.

In the years before Covid-19, Jobstreet had repeatedly highlighted the growth of the digital job market in response to an emerging digital economy and rising digital transformation among Malaysia's economic, social and governance realms.

According to Jobstreet, digital jobs were poised to become even more prominent given that Malaysian employees were among the easiest and fastest to embrace digital skills for remote working, online engagement and eCommerce.

In the slipstream of the pandemic, Persolkelly echoed Jobstreet's sentiments by noting that Malaysia had reached its highest-ever ranking of 26 in the Global Talent Competitiveness Index (GTCI) as a result of efforts to drive digital talent development and upskilling of workforce.

Persolkelly, in its 2021 Malaysia Salary Guide, stated that: "With digitalisation now in full throttle, it has become imperative for jobseekers to be highly skilled, adaptive and resilient, with a good command of English. Fulfilling these requirements is a key challenge for Malaysia, which faces the issue of brain drain, and an 11% graduate unemployability rate."

The company also highlighted the emergence of what it terms as 'new collar' job opportunities for prospective employees who have developed the technical know-how and soft skills necessary to work in tech jobs via nontraditional education paths. And according to MDEC, the pandemic-inspired embrace of digitalisation has resulted in widescale hiring of digital talent over the past year. In addition, MDEC noted that the ICT and financial services industries are currently struggling to meet the strong demand for digital talent.

In a survey of five local recruitment platforms, MDEC found that job vacancies had tripled between June 2020 and April 2021 with the most popular jobs in software development, data science, IT services and eCommerce.

The surge in digital job opportunities is also mirrored around the world. LinkedIn's Jobs on The Rise in 2021 report noted that remote job opportunities have increased four times in recent months.

The report stated that: "As the world has gone increasingly digital due to the Covid-19 pandemic, there has been a rise in demand for jobs that require digital and soft skills and hiring patterns have shifted from focusing on credentials towards skill sets."

Among the other findings from LinkedIn are:

- Consumers in Southeast Asia have gone increasingly digital, leading to greater demand for talents with tech skills;
- Brands have found new ways to connect with consumers, resulting in growing demand for digital marketeers; and
- eCommerce boomed in 2020, leading to a rise of various sectors.

Meanwhile, Hays Malaysia highlighted the need for companies to "adapt to a more technologically determined world, influenced by shifts in working from home practices, eCommerce and cloud technologies. To do so they will need to attract candidates with superlative digital skills. We have seen a dramatic landscape shift into digitalisation, and how companies react in the coming year will have a phenomenal impact on how they recover and progress."

Among the top talent trends for 2021 related to digital cited by Hays are:

- Demand for cloud professionals will become rampant as companies become hybrid working models;
- Marketing candidates are expected to have better digital and soft skills; and
- The sales industry is set to expand eCommerce and online sales efforts.

### **CYBERSECURITY JOBS AND SALARIES**

The most lethal threats and risks to a digitalised ecosystem are cybersecurity breaches and hacking. This has been increasingly rampant over the years and while the issue has been in the news, what we read in the media is only the tip of the iceberg.

Denial of service attacks, phishing and malware are just a few of the common ones that are grabbing the limelight. Damages are not only in the millions of dollars, but there is also the impact on reputation, which is not quantifiable.

Malaysia has not been spared from this challenge and recent events have shown that financial services is being targeted. Bank Negara Malaysia (BNM) has made it a mandatory requirement to conduct penetration testing and compromise assessment for all financial institutions.

The pertinent questions are: "Do we have enough of the various types of cybersecurity talents here to help mitigate the risks of these potential attacks?"; and "Are our remuneration and compensation adequate or competitive enough to retain them in the country?"

It is for this reason we have conducted a special desktop analysis of the salary landscape of such professionals and incorporated them into this year's publication. In essence, there are two drivers that make the insights from this study important and timely – rapid evolving threats in form and substance; and the Covid-19 pandemic impacting both the working and home environments.

Our earlier section has confirmed that the IT sector, in particular eCommerce, remained buoyant throughout 2020 and is expected to grow further with emphasis on robotic process automation, business intelligence, data analytics and software development. This would make the demand for cybersecurity talents a top priority in the industry.

### Method

Data on key cybersecurity jobs and salaries were extracted from various sources including Jobstreet, Payscale, Persolkelly and SalaryExpert.

We conducted a check to ensure consistent job descriptions and alignment of raw data to verify these data points are not too divergent between sources. We then selected nine key jobs covering strategic, management, operational, and infrastructure since these areas of focus encompass most, if not all, the scope of cybersecurity functions and requirements.

Two discounting factors of 6% and 10% were also included into the set of numbers to provide a broader range of perspectives in terms of the salaries. Finally, we applied the average formulae to derive the average of each set of salaries and also the overall average for the nine job salaries representing the industry.

#### Coverage

It is important to note that some of these job roles and functions may overlap depending on the environment. For each job category, the study assessed two levels of salaries and derived a median salary from these two numbers. The first level entails at least three years of cybersecurity-related work experience and the second level entails at least 10 years or more. A comparison between the top paying job in cybersecurity and the CIO in the IT or digital industry is also done to give a better perspective of the senior role in the cybersecurity industry.

Job Title	Focus Areas
Cybersecurity Specialist	Operational
Cybersecurity Director	Management / Strategic
Cybersecurity Incident Handler	Operational
Cyber Intelligent Analyst	Operational
Cybersecurity Manager	Management / Operational
Cybersecurity Consultant	Operational
Cybersecurity Analyst	Operational
Cybersecurity Engineer	Infrastructure / Operational
Chief Information Security Officer (CISO)	Management / Strategic

### **Results & Findings**

Based on the nine jobs profiled, the average monthly salaries for cybersecurity jobs ranged from RM10,898 to RM12,109 against industry-wide average salaries of RM9,835 in 2021. In comparison with industry-wide
Job Title	Entry Level 1-3 years*	Ratio	Average	Ratio	Senior >10 years*	Ratio
Cybersecurity Specialist	98,780	1.55	136,539	1.58	174,298	1.59
Cybersecurity Director	129,630	1.18	183,231	1.17	236,831	1.17
Cybersecurity Incident Handler	86,680	1.76	118,787	1.81	150,893	1.84
Cyber Intelligent Analyst	89,346	1.71	123,306	1.74	157,265	1.76
Cybersecurity Manager	97,511	1.57	134,557	1.60	171,603	1.62
Cybersecurity Consultant	77,045	1.98	105,228	2.04	133,411	2.08
Cybersecurity Analyst	96,102	1.59	133,217	1.61	170,331	1.63
Cybersecurity Engineer	115,841	1.32	157,935	1.36	200,028	1.39
CISO	152,640	1.00	215,070	1.00	277,500	1.00
Average per annum	104,842		145,319		185,796	
Average monthly	8,737		12,110		15,483	
CIO	214,700	0.71	313,295	0.69	400,589	0.69

Table 10: Salaries of Cybersecurity Talents (Average, Entry Level, Senior)

\*Relevant experience in cybersecurity

salaries, the average monthly salaries in cybersecurity were higher by between 11.1% to 23% in 2021. This confirms that cybersecurity talents are in demand.

The two top jobs involving strategic and management are the Chief Information Security Officer (CISO) and Cybersecurity Director. Most of the jobs selected in this study have an operational focus, inferring that implementation skills are critical in cybersecurity.

Within the industry, the highest average salary (CISO) cited is about twice the amount in the lowest salary band. The other job salaries have a ratio of 1.17 to 1.81 in comparison with the CISO. The average salary of the CIO is 1.46 times the corresponding figure for the CISO.

From our observation and comparing with industry-wide data, it is fair to conclude that experienced cybersecurity

professionals are at the Senior Executive, Manager or Senior Manager levels of the wider digital industry.

While the current salaries in cybersecurity looks reasonable, we must take note of the constant threat of brain drain to neighbouring economies.

This study merely focuses on the cash component of remuneration and does not take into account other forms of compensation such as bonus, entitlement, EPF contribution, etc. Hence, employers must also be aware that cash is only one component in retaining and attracting talents.

The average salaries depicted here are only a guide and we have endeavoured to be as accurate as possible but the reader cannot rely on them alone without seeking other sources for further confirmation when making decisions.

Job Title	Entry Level 1-3 years*	Ratio	Average	Ratio	Senior >10 years*	Ratio
Cybersecurity Specialist	92,853	1.55	128,347	1.58	163,840	1.59
Cybersecurity Director	121,852	1.18	172,237	1.17	222,621	1.17
Cybersecurity Incident Handler	81,479	1.76	111,659	1.81	141,839	1.84
Cyber Intelligent Analyst	83,985	1.71	115,907	1.74	147,829	1.76
Cybersecurity Manager	91,660	1.57	126,484	1.60	161,307	1.62
Cybersecurity Consultant	72,422	1.98	98,914	2.04	125,406	2.08
Cybersecurity Analyst	90,336	1.59	125,224	1.61	160,111	1.63
Cybersecurity Engineer	108,891	1.32	148,458	1.36	188,026	1.39
CISO	143,482	1.00	202,166	1.00	260,850	1.00
Average per annum	98,551		136,599		174,648	
Average monthly	8,213		11,383		14,554	
CIO	201,818	0.71	294,497	0.69	376,554	0.69

#### Table 11: Salaries of Cybersecurity Talents (6% Discount Factor)

\*Relevant experience in cybersecurity

#### Table 12: Salaries of Cybersecurity Talents (10% Discount Factor)

Job Title	Entry Level 1-3 years*	Ratio	Average	Ratio	Senior >10 years*	Ratio
Cybersecurity Specialist	88,902	1.55	122,885	1.58	156,868	1.59
Cybersecurity Director	116,667	1.18	164,907	1.17	213,148	1.17
Cybersecurity Incident Handler	78,012	1.76	106,908	1.81	135,804	1.84
Cyber Intelligent Analyst	80,411	1.71	110,975	1.74	141,539	1.76
Cybersecurity Manager	87,760	1.57	121,101	1.60	154,443	1.62
Cybersecurity Consultant	69,341	1.98	94,705	2.04	120,070	2.08
Cybersecurity Analyst	86,492	1.59	119,895	1.61	153,298	1.63
Cybersecurity Engineer	104,257	1.32	142,141	1.36	180,025	1.39
CISO	137,376	1.00	193,563	1.00	249,750	1.00
Average per annum	94,358		130,787		167,216	
Average Monthly	7,863		10,899		13,935	
CIO	193,230	0.71	281,966	0.69	360,530	0.69

#### Table 13: Comparison of Average Salaries between Cybersecurity and Digital Industry

	2020	2021	2022	Diff.
Digital: Average monthly salary	9,825	9,835	10,035	
Cybersecurity: Average monthly salary				
Lower range		10,899		11.1%
Upper range		12,110		23.1%

#### TAKEAWAY

The growth of the overall job market salary has certainly trended downwards in the last two years with the impact especially severe from March 2020 onwards when our economy was virtually shut down and people lost businesses and jobs.

Nevertheless, few expected this crisis to persist longer than 12 months and prolong until now during which new Covid-19 cases exceeded 20,000. The better news was the acceleration of the vaccination programme which to date has covered a majority of the population with at least one dose. While new cases are still high, the seriousness of the infection has dropped with 98% of the infected deemed categories 1 and 2 who do not require hospitalisation.

Given the above landscape and from our quantitative and qualitative analysis of the data and data points, PIKOM holds the following views:

- The impact of the pandemic did not directly affect the digital workforce in the early stages of the crisis. This is in line with our perspective that there is a sixmonth lag arising from any event, depending on how devastating it is.
- 2. In hindsight, we know which industries were worst hit - travel, hospitality, tourism, service industries, etc. However, there are specific industries like glove manufacturing which skyrocketed and indirectly boosted the digital industry as usage of technologies are prevalent. Another one is eCommerce which has almost transformed most buying and selling onto online platforms overnight. Lazada and Shopee flourished, giving a blessing in disguise to retailers as they can transact and received their orders online. The logistics industry is another beneficiary to this explosion of eCommerce. Hence, we conclude that the digital industry, while still affected in certain aspects, managed to sustain this downturn better and even benefited from it. Our data further confirms this view since digital positions have increased for 2020 and 2021, albeit without much increase in salaries.
- 3. The data also showed that senior positions have a lower number of jobs advertised and again we think that there are two reasons for this. Senior positions are costlier to replace and under the current circumstances, most business may not hire

or defer the process until the business has improved. Alternatively, they may engage more junior persons or even contract it out. The second reason is that most of the senior people may also stay put in the current employment market for greater security in the face of continuing uncertainty.

- 4. In the current scenario where the global and local economies are still volatile, we do not see too much of a cross-border brain drain. However, this may lead to an increase in the supply of digital talents, which coupled with a slow pace of recovery, could impact demand. It is therefore fair to state that in the coming year, the overall digital salaries in the market may not enjoy a hefty jump as in previous years. The AAGR of 6.0% from the last 10 years may not be achievable, but having said that, there will be certain jobs and specialisations that will continue to be in demand such as data scientist, cybersecurity consultant, Al and RPA solution consultant and cloud specialist to name a few.
- 5. The consistent top paying industries comprise the following :
  - Electrical & Electronics;
  - Computer / Information Technology (Hardware);
  - Financial Services / Securities / Insurance;
  - Telecommunications;
  - Science & Technology / Aerospace / Biotechnology.
- 6. The overall average gap in 2021 between the entry level position with the other positions is 3.01; and gaps of 6.38 and 3.79 compared against senior manager and manager levels respectively.
- Cybersecurity jobs are in greater demand than others in the industry, with comparable talents earning 11.1% to 23.1% higher than digital industry-wide average salaries.
- 8. We has always expressed concerns that the gap between the entry level and senior management positions have been widening over the years. Although this gap has narrowed these past two years, it remains a concern for the long run. Such a condition may give rise to a lack of interest among future generations to pursue studies in computer science or other IT-related courses. Our education curriculum needs to be reassessed to ensure graduates entering the market have the necessary basic traits to join the workforce productively.



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#### MDEC Rolls Out RM100 Million MyDigitalWorkForce Work In Tech (MYWiT) Initiative





The Malaysia Digital Economy Corporation (MDEC) recently launched the MyDigitalWorkForce Work In Tech (MYWiT) initiative, a training and hiring incentive programme under its #SayaDigital movement aimed at boosting the digital business services sector as well as developing quality tech talents in Malaysia. This initiative is an extension of the #MyDigitalWorkforce Movement that MDEC launched last year to help re-skill and up-skill Malaysians for digital economy jobs.

The objective of the initiative is to upskill and subsidise talents and businesses with RM100 million in training and salary incentives. More than 300 companies within these sectors are expected to gain from this programme while an estimated 6,000 job opportunities will be created. This is in line with the government's Malaysia Digital Economy Blueprint (MyDIGITAL) which targets to create 500,000 jobs for Malaysians by 2025.

The Government is cognisant of the challenges brought about by the pandemic and the MYWiT programme under the #SayaDigital movement is testament to MDEC's continued effort to enable the digital business industry to survive and thrive. MDEC will continue to drive the digital economy forward and accelerate the efforts to achieve the goals in MyDIGITAL and ensure shared prosperity for Keluarga Malaysia.

Our recent analysis among various job search sites, namely LinkedIn, Jobstreet, Monster, Indeed and Jobstore shows an increasing demand for digital jobs. A total of 72,000 tech-related jobs were advertised in all five portals up to June 2021. MDEC aims to incentivise tech companies who are prepared to hire, upskill and adequately compensate the Malaysian workforce, mitigating the impact of COVID-19 on employment.

MYWiT is aimed at incentivising companies who are hiring fresh graduates or unemployed Malaysians for digital business services and digital tech roles within their



organisation. The initiative offers a minimum incentive between RM9,800 and RM23,600 per employee. For each employee this incentive will be divided into two parts - the salary incentive, which will cover 40 percent of the employee's monthly wage for six months (minimum salary of RM2,000) and RM5,000 training incentive for internal training or up to RM8,000 for external training. The training courses eligible for this include in-house training with a minimum of 40 hoursor any courses listed on MDEC's Digital Skills Training Directory. There are more than 250 courses listed to date on the website.

To qualify for the initiative, the company must be incorporated in Malaysia and is committed to offering employment for a minimum of 12 months. The initiative is open to fresh graduates, unemployed and retrenched individuals.

MDEC's initiatives to drive digital jobs and skills have impacted more than two million Malaysians from 2016 to Q3 2020 through programmes and initiatives which include the Digital Skills Training Directory, Global Online Workforce (GLOW) as well as Go-eCommerce.

Find out more about MYWiT and the skills programmes are here: https://mdec.my/mywit. To find out more about MDEC's Digital Economy initiatives, please visit us at www.mdec.my or follow us on:

Facebook: https://www.facebook.com/MyMDEC/ Twitter: @mymdec



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## REGIONAL BENCHMARKING FOR DIGITAL JOBS AND SALARIES

Malaysia is suffering from a brain drain of talents attracted by opportunities and higher remuneration packages offered by other economies, a long-standing issue that has been repeatedly cited by industry bodies and employment agencies.

This steady hemorrhage of skilled and knowledgeable Malaysians has extended to digital talents who are critical to the growth and development of the nation's emerging digital economy. Finding ways and means to stench the outflow and keep human capital within our borders is a pressing imperative.

It is undeniable that the higher salaries offered by fullydeveloped economies such as Singapore and fastgrowing ones like Thailand are the main pull factors responsible for this brain drain. For this reason, this publication provides regional benchmarking to digital job salaries in order to track the latest developments across the region.

#### Intent

The objective of this study is to ascertain where Malaysia's digital salary outlook stands as compared with other economies especially Asian countries in the light of the current pandemic situation.

#### **Data Criteria and Methods**

The main challenge of this study was the selection of data sources since there are many across the region. The selection criteria included consistent nomenclature, similar job descriptions and easily-verifiable accuracy of the data.

The second stage of the exercise involved converting the respective country's currency into USD equivalent at an appropriate date since currency rates are time-sensitive values. Finally, we applied the Purchasing Power Parity (PPP) ratio, which was sourced from the World Bank, after which we reconverted the final numbers to comparable values.

Effectively, the PPP is a metric used to compare different countries through a basket of goods which allows comparison of economic productivity and standards of living between countries. Hence, the respective countries' salaries are converted using this ratio, providing a fair comparison of other economies with Malaysia.

**Infographic 1** and **Infographic 2** show the PPP-adjusted gross domestic product (GDP) and gross national income (GNI) respectively of the 11 selected economies for this benchmarking exercise.

It should be noted that GDP and GNI may vary considerably as they measure different metrics. GDP looks at the production level of an economy or the total annual value of what is produced in the nation to measure its size and growth rate while on the other hand, GNI calculates an economy's total income regardless of whether the income is earned by nationals within the country's borders or derived from investments in foreign business.

#### **Data Source**

The bulk of the data has been sourced from Payscale as their nomenclature is consistent throughout the region, is complete and also verifiable. We also relied on other data sources such as Glassdoor and Persolkelly to reconfirm that the values are within acceptable ranges since anomalies can occur among data points.

#### Coverage

The 11 countries selected for this study are Malaysia, Australia, Hong Kong, India, Indonesia, Philippines, Singapore, Thailand, UAE, USA and Vietnam. The eight IT or digital job designations picked are IT Consultant, System Administrator, Network Engineer, Hardware Engineer, Software Engineer, Project Manager, and System Engineer. These are all traditional IT jobs supporting the digital industry and their data points may span more than 10 years as compared with the newer jobs such as data scientist.

#### **Findings**

Malaysia ranked 7<sup>th</sup> out of 11 selected economies in terms of average salary for eight digital jobs, coming in after five other advanced nations including Singapore and more worryingly behind northern neighbour Thailand (Refer to **Table 1**).



Infographic 1a: GDP Per Capita (PPP) 2020 of 11 Selected Economies (US\$)





Source: World Bank

Thailand's apparent leap above Malaysia is a concerning development as similar benchmarking exercises in previous years had indicated we were solidly entrenched in second place behind only Singapore in Southeast Asia.

Our ranking remained in the same spot even after PPP adjustment, although the difference in average salary between Thailand and Malaysia dropped to 17% as opposed to 31% without any PPP consideration (Refer to **Table 2**). As mentioned earlier, PPP adjustment offers a more accurate picture of the difference in salaries and other parameters.

As expected, the US topped the list from both tabulations with an average PPP-adjusted salary of slightly more than double what is earned by digital professionals in Malaysia.

Australia and Singapore exchanged 2<sup>nd</sup> and 3<sup>rd</sup> rankings between the non-PPP and PPP-adjusted tables with Hong Kong and the UAE similarly switching 4<sup>th</sup> and 5<sup>th</sup> places. The average PPP-adjusted salary of digital talents in Singapore is almost double the rate in Malaysia while the corresponding ratio in Australia and the UAE are about 1.5 times and Hong Kong 20% more than us.

Economies	Exchange Rate (US\$)	Ratio	Ranking	
USA	1.00	5.63	1	
Australia	1.34	3.97	2	<b>*</b>
Singapore	1.34	3.22	3	0
Hong Kong	7.77	2.53	4	\$
UAE	3.67	2.42	5	
Thailand	32.41	1.31	6	
Malaysia	4.14	1.00	7	0
Indonesia	14,263.00	0.69	8	
Philippines	49.89	0.67	9	
Vietnam	22,805.00	0.65	10	*
India	73.00	0.51	11	8

#### Table 1: Comparison (non-PPP) of Digital Job Salaries in Selected Economies

Source: Payscale

#### Table 2: Comparison of Digital Job Salaries in Selected Economies - PPP Adjusted

Economies	Non-PPP Ranking	Non-PPP Ratio	GDP Ratio	PPP Ratio	PPP Ranking	
USA	1	5.63	1.00	2.10	1	888 
Singapore	3	5.30	1.65	1.98	2	(C)
Australia	2	4.02	1.01	1.50	3	*
UAE	5	3.93	1.62	1.47	4	
Hong Kong	4	3.24	1.28	1.21	5	- 27
Thailand	6	3.14	2.39	1.17	6	
Malaysia	7	2.68	2.68	1.00	7	(•
Indonesia	8	2.14	3.12	0.80	8	
Vietnam	10	2.03	3.11	0.76	9	*
India	11	1.74	3.40	0.65	10	۲
Philippines	9	1.69	2.54	0.63	11	

Sources: Payscale & PIKOM adjustment

Economies	Forex	IT Consultant	Ratio	System Administrator	Ratio	Network Engineer	Ratio	Hardware Engineer	Ratio
Singapore	1.34	51,199	2.08	42,164	3.50	36,226	2.78	64,478	5.57
Malaysia	4.14	24,637	1.00	12,053	1.00	13,020	1.00	11,573	1.00
USA	1.00	79,670	3.23	63,241	5.25	69,473	5.34	89,500	7.73
Australia	1.34	67,058	2.72	48,897	4.06	52,101	4.00	43,284	3.74
India	73.00	12,977	0.53	5,760	0.48	5,448	0.42	4,038	0.35
Hong Kong	7.77	49,537	2.01	38,031	3.16	34,043	2.61	38,610	1.00
Philippines	49.89	11,396	0.46	12,750	1.06	11,587	0.89	6,160	0.53
Thailand	32.41	21,476	0.87	18,315	1.52	18,514	1.42	15,915	1.38
Vietnam	22,805.00	9,779	0.40	7,981	0.66	7,630	0.59	7,894	0.68
Indonesia	14,263.00	10,242	0.42	14,022	1.16	6,848	0.53	7,712	0.67
UAE	3.67	53,302	2.16	16,065	1.33	17,302	1.33	47,411	4.10

#### Table 3a: Salary Comparison of 8 Digital Jobs in Selected Economies

Source: Payscale

#### Table 3b: Salary Comparison of 8 Digital Jobs in Selected Economies

Economies	Forex	Software Engineer	Ratio	Project Manager	Ratio	System Engineer	Ratio	Software Developer	Ratio
Singapore	1.34	38,951	3.45	60,408	2.22	36,694	3.34	33,819	2.82
Malaysia	4.14	11,283	1.00	27,197	1.00	10,994	1.00	12,013	1.00
USA	1.00	90,667	8.04	82,273	3.03	68,788	6.26	74,566	6.21
Australia	1.34	61,113	5.42	74,075	2.72	51,710	4.70	52,462	4.37
India	73.00	6,722	0.60	19,377	0.71	5,125	0.47	6,613	0.55
Hong Kong	7.77	39,308	3.48	62,086	2.28	31,660	2.88	34,106	2.84
Philippines	49.89	8,165	0.72	12,607	0.46	7,114	0.65	6,623	0.55
Thailand	32.41	18,276	1.62	19,593	0.72	18,204	1.66	15,585	1.30
Vietnam	22,805.00	9,156	0.81	17,540	0.64	7,577	0.69	9,156	0.76
Indonesia	14,263.00	9,382	0.83	13,672	0.50	10,096	0.92	5,657	0.47
UAE	3.67	32,339	2.87	68,509	2.52	27,248	2.48	31,063	2.59

Source: Payscale

Below Malaysia in the PPP-adjusted rankings are Indonesia (ratio: 0.80), Vietnam (0.76), India (0.65) and the Philippines where digital professionals earn only 63% of the average remuneration given to their Malaysian counterparts.

The comparison of the eight digital jobs, as shown in **Table 3a** and **Table 3b**, are not adjusted according to PPP.

The most pronounced differences in ratio are the average salaries of software engineers (8.04) hardware

engineers (7.73) and software developers (6.21) in the US compared against Malaysia.

Comparing with our southern neighbour, the largest gaps in average salaries are for hardware engineers (5.57), system administrators (3.50) and software engineers (3.45). In the case of digital professionals in Thailand, the biggest divides can be found among system engineers (1.66), software engineers (1.62) and system administrators (1.52).

Disclaimers. This section is meant to show the trends and overarching rankings of the countries using the data available. You should not use these numbers solely in your decision making and we advise that you must at all times reconfirm your figures and numbers.

Economic and Digital Job Market Outlook in Malaysia 2021 83

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