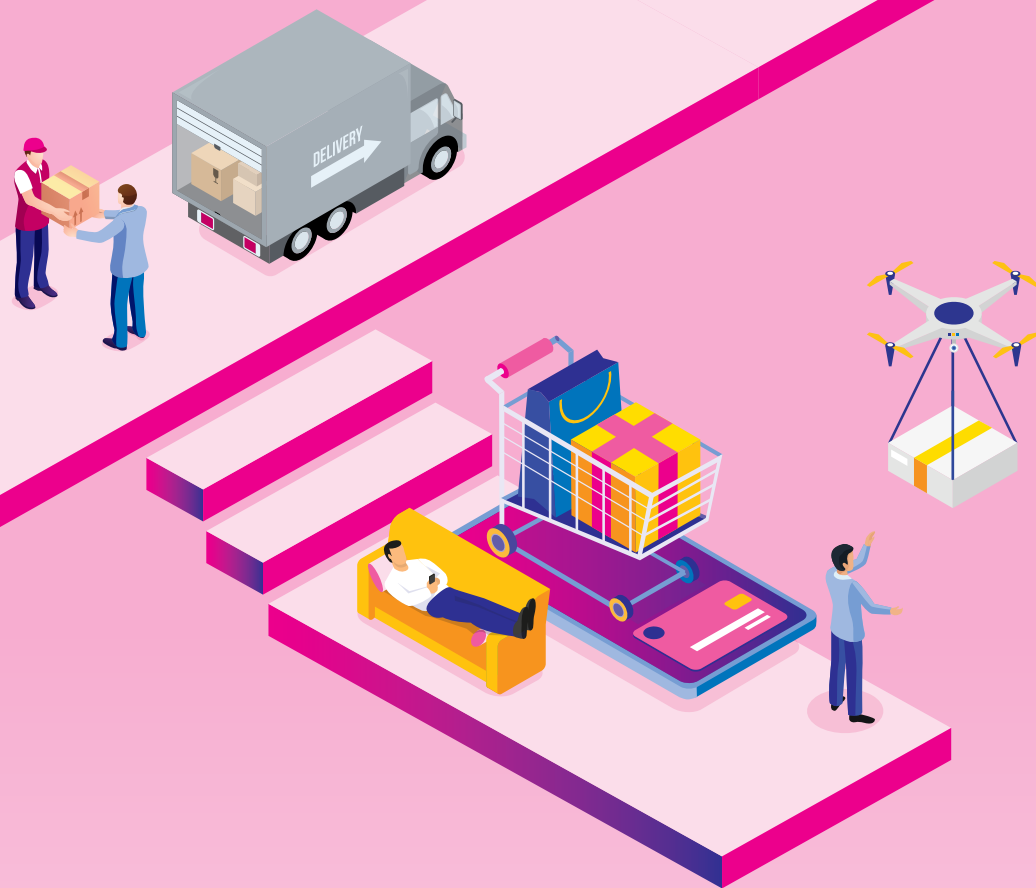




# CHAPTER 5: DIGITAL SERVICES



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This chapter examines the growth of e-commerce and its contribution to the Malaysian economy. It shows the top e-commerce players and top categories of products in the e-commerce market. It also analyses the spillover effects of e-commerce in many industries, impact on courier industry and the rise of mega distribution centres. This chapter also presents the development of digital payments in Malaysia, RFID for toll and network security initiatives.

## KEY HIGHLIGHTS 2019



Malaysian e-commerce market for 2019 generated a revenue of **USD3.68 billion** (RM15.2 billion)



**Shopee and Lazada** dominate the overall e-commerce landscape in Malaysia

### Top e-commerce products



Electronics and Media

2019: **RM3.56 billion** ↑ **32%**  
(2018: RM2.70 billion)



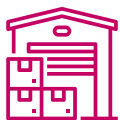
Fashion and Beauty

2019: **RM4.04 billion** ↑ **39%**  
(2018: RM2.91 billion)



Food and Personal Care

2019: **RM1.33 billion** ↑ **26%**  
(2018: RM1.06 billion)



**Mega distribution centers** to cater e-commerce growth are boosting the property industry



E-money transactions amounted to **2,094 million in volume** and **RM18.2 billion in value**



**90%** of Malaysians expect their purchase to be delivered within a week, while **46%** within three days

## OVERVIEW

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MALAYSIA IS AN ATTRACTIVE MARKET FOR DIGITAL SERVICES DUE TO ITS DYNAMIC ECONOMY AND DEVELOPED INFRASTRUCTURE FOR DIGITAL TECHNOLOGIES

In 2019, the Internet penetration rate was 28.7 million Internet users or 87% from overall population. Such high internet penetration boosted the digital economy in Malaysia, fueling growth in e-commerce and digital payments.

## HOW E-COMMERCE SHAPES THE MALAYSIAN ECONOMY

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E-commerce has allowed consumers to go on shopping sprees from the comfort of their homes or in-between working hours, typically at a fraction of the cost and with a wider array of choices. The e-commerce market has been positioned as an integral part of the Malaysian and global economies. A number of segments have benefitted from the expanding e-commerce market which will continue to create more opportunities.

Data from German online statistics portal Statista shows the Malaysian e-commerce market for 2019 generated a revenue of USD3.68 billion (RM15.2 billion), with a prediction for annual market growth to reach 11.8% by 2023.



Malaysian e-commerce market for 2019 generated a revenue of **USD3.68 billion (RM15.2 billion)**

## TOP E-COMMERCE PLAYERS IN MALAYSIA

The e-commerce market in Malaysia is mostly dominated by regional companies' e-commerce websites. Consistent with a trend in various other countries across Southeast Asia, Shopee and Lazada dominated the overall ecommerce landscape in Malaysia.

Based on Report on South East Asia's Map of E-Commerce 2019<sup>27</sup>, Shopee is the most visited platform. According to Shopee, it successfully doubled the number of application downloads within a year through various marketing initiatives such as creative branding, brand tie-ups and the word-of-mouth by Malaysians.

### MALAYSIA: TOP 10 MOST VISITED WEBSITES IN 2019

	Merchant	Monthly Traffic
1	Shopee	24,747,577
2	Lazada	18,559,213
3	Lelong	2,597,204
4	Zalora	1,512,136
5	GoShop	784,253
6	eBay	676,447
7	PG Mall	548,504
8	Hermo	540,808
9	ezbuy	504,534
10	fashionvalet	441,173

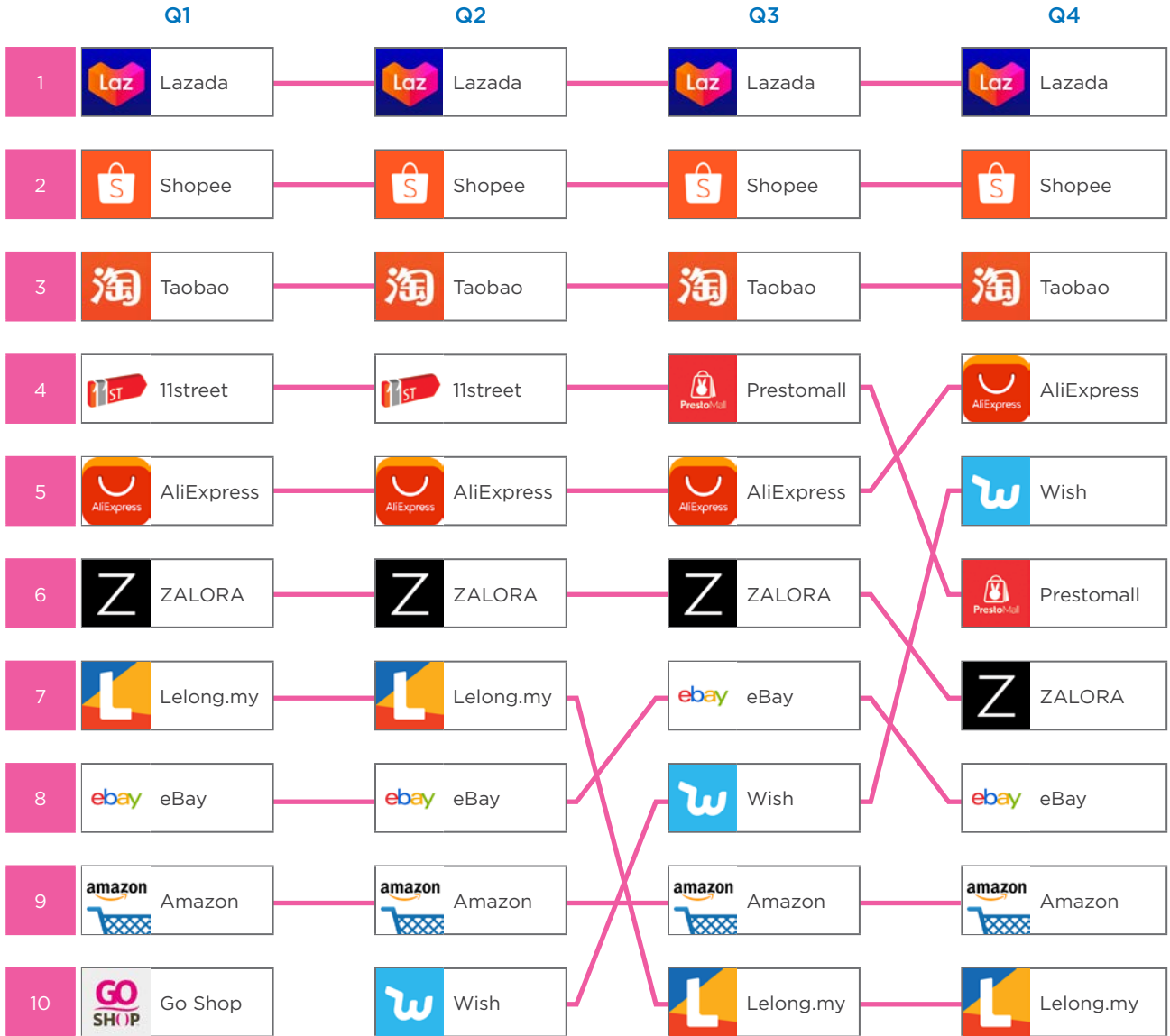
Source: iPrice

Figure 5.1 Malaysia: Top 10 Most Visited Websites in 2019

<sup>27</sup> This report is the result of a partnership between IPrice Group (Market Insights and Analysis), App Annie (Ranking of E-commerce and Mobile Apps) and Similar Web (Traffic Data on E-Commerce Websites).

For top 10 most used mobile apps for e-commerce in Malaysia for 2019, Lazada led with the highest monthly active users, signifying a high emphasis on their mobile app, while Shopee ranked 2nd place. China-based platforms continue to play a significant role as Taobao and AliExpress are the 3rd and 4th most used shopping apps in Malaysia.

**MALAYSIA: TOP 10 MOST USED MOBILE APPS IN 2019**



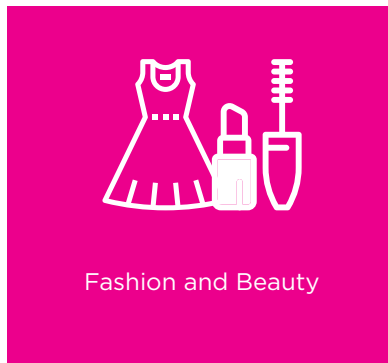
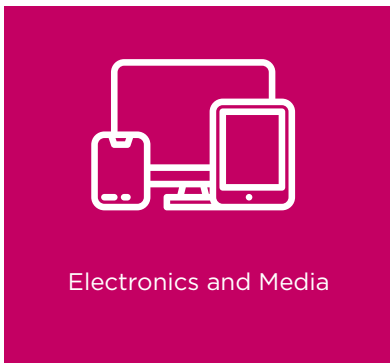
Note: Based on Monthly Active Users

Source: iPrice

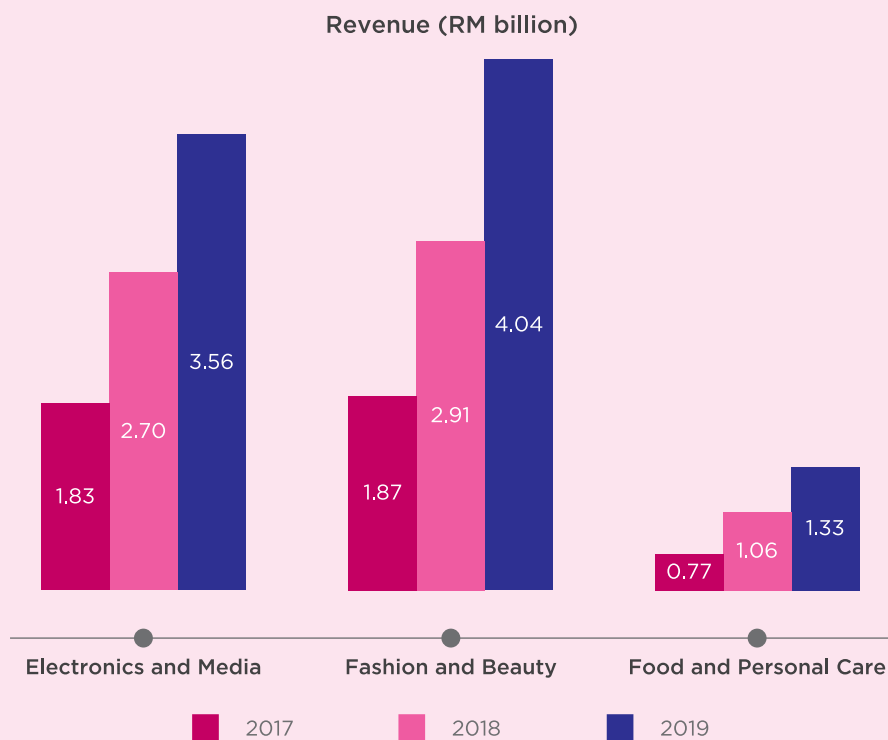
Figure 5.2 Malaysia: Top 10 Most Used Mobile Apps in 2019

## TOP E-COMMERCE PRODUCT CATEGORIES

Top three most popular categories in the Malaysian e-commerce marketplace are;



### TOP E-COMMERCE PRODUCT REVENUE



Source: Statista

Figure 5.3 Top E-commerce Product Revenue

According to iPrice<sup>28</sup>, the most popular consumer electronics items for Malaysian e-commerce consumers range from USB drives, power banks to home appliances like food blenders.

Statista estimates that consumer electronics will hold the lion's share of Malaysian electronics and media e-commerce revenue in 2020. The market was growing rapidly, from USD558.1 million in revenue in 2017, to USD860.1 million in 2019, and is predicted to reach USD1.1 billion by 2024. In 2020, market revenue is expected to hit USD923.6 million, with average revenue per user at USD96.39.

<sup>28</sup> iPrice Group Sdn Bhd is a privately owned online shopping aggregator based in Kuala Lumpur, Malaysia. The company is an online aggregator that simplifies a consumers shopping experience by allowing them to browse for products and compare prices from various online stores.



## CHANGING LANDSCAPE FOR TRADITIONAL RETAILERS

Traditional players are increasingly jumping on the e-commerce bandwagon in an effort to mitigate the declines in brick-and-mortar revenue.

The traditional brick and mortar retailers have been severely affected by the growing influence of on-line shopping. This has also effected the physical mall with oversupply of retail space and stagnating to declining occupancy rates.

Some retailers have embraced these changes by moving to digital platform and reaping more benefits from e-commerce as opposed to traditional retail. For example, Amazon.com Inc have fewer bookshops but growing number of regional warehouses to meet the demand of e-commerce purchase and speed of delivering. Similarly, in Malaysia, famous bookstores, namely Times and MPH have been closing down their branches in shopping malls and moving to digital space.

F&B is another sector that is growing rapidly in e-commerce space. The influx of e-hailing platforms for food delivery such as Foodpanda and GrabFood provide opportunities for small players and newcomers as investing in a physical location, the amount associated with its construction, and subsequent maintenance is a costly affair. They can open one or two shops, or even operate from home kitchen and rely on third-party delivery services to reach a secondary (if not primary) market. However, physical restaurants are least affected by e-commerce as the concept of going out to enjoy meals and drinks with family and friends or business meetings still prevails.

The spillover effects of e-commerce has flourished the packaging industry as the transfer of goods purchased online would mean that the products need to be packaged before being delivered to the customers' doorsteps. Shares in plastic packaging manufacturers, Scientex Bhd and Thong Guan Industries Bhd, and paper packager Master-Pack Group Bhd have spurred, supported by strong corporate earnings and lower raw material costs.



## E-COMMERCE – A GAME CHANGER FOR COURIER INDUSTRY

The continued rapid growth in e-commerce markets will demand an equally rapid and innovative response from transport and logistics businesses.

Consumers expect to receive products ordered online at the soonest possible that online sellers are offering fast delivery with warranties or providing option for premium delivery services that consumers are willing to pay.

To keep up with increasing demand from e-commerce channels and meet the expectations of consumers, courier companies need to invest in their warehouses and distribution centers and increase the development and implementation of advanced supply chain and logistics processes.

Meanwhile, Malaysia's National Transport Policy 2019 to 2030 has also highlighted the need for the transport sector to accommodate the growing e-commerce market. This is in view of the anticipated rise in commercial traffic fulfilling e-commerce orders and providing last-mile deliveries, as well as the higher demand for infrastructure to facilitate the movement of goods from production centres to consumers.

Infrastructure will also be needed to accommodate for last-mile deliveries from distribution centres to consumers, the long-term national blueprint highlighted.

The Pos Malaysia Digital Transformation Plan is a case in point. Pos Malaysia will integrate digital technology into some areas of its services to serve the growing e-commerce market. In April 2019, Pos Malaysia launched the second Integrated Parcel Centre (IPC) in KLIA, increasing 78% of its capacity to 530,000 per day from 300,000, and a RM100 million spend on its core system to enhance the overall Customer Experience digital platforms. The 9/9 online sale in 2019 was the testament of the Digital Transformation Plan which saw Pos Malaysia hitting 800,000 parcels, a new record for the service provider.

## FAST GROWING E-COMMERCE DRIVING DEMAND FOR INDUSTRIAL PROPERTIES

Fueled by rapid expansion of e-commerce in Malaysia in recent years, demand for industrial properties, in particular mega distribution, inner-city distribution and purpose-built centres, is holding strong despite a dim outlook for Malaysia's economy.

Such centers are necessary to cater to customer's delivery expectation. According to a market analysis "Insights and trends of e-commerce in Malaysia", 90% of Malaysians expect their purchase to be delivered within a week, while 46% within three days<sup>29</sup>. Next-day deliveries are now commonly available. Both globally and locally, this is increasing the demand for last-mile distribution centres located centrally in the city and suburbs, which were not the typical locations within industrial zones and air or sea ports.

The biggest distribution center is the Mapletree Logistics Hub in Shah Alam, 2.29 million square feet. Global brands including IKEA, Nestlé, Tesco, Zalora and Lazada have all recently invested in Malaysian distribution hubs in an effort to expand their e-commerce footprint in the country.

The Area Logistics @ Ampang project is Malaysia's first three-level inner-city logistics (1.5 million square feet) and last-mile delivery platform that caters for the needs of businesses to fulfil same-day or next-day deliveries for their customers in Kuala Lumpur and the north of KL area.



**90% of Malaysians expect their purchase to be delivered within a week, while 46% within three days**

<sup>29</sup> ASEAN UP, Insights and trends of e-commerce in Malaysia, 6 November 2019. (<https://aseanup.com/insights-trends-e-commerce-malaysia/>)

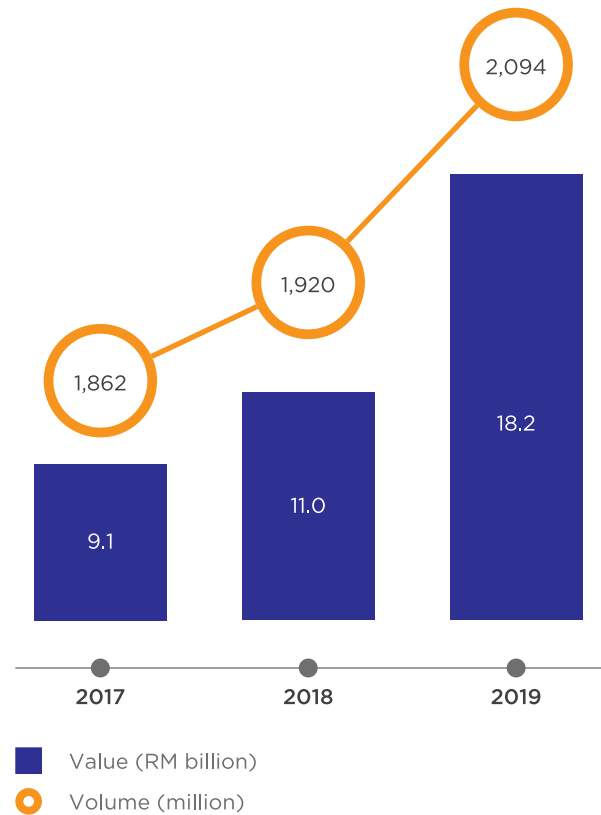
## THE DEVELOPMENTS OF E-WALLET

An e-wallet can be defined as an electronic or online device that allows transactions to be made via a computer or smartphone. Most e-wallets, like credit or debit cards, are linked to the individual's bank account in order to make payments. They're also usually protected with passwords or identification. These days, one can pay for just about anything with e-wallets, including groceries, clothes, flight tickets, gadgets and others.

In Malaysia, e-wallets are a growing trend. Despite cyber-security concerns, more and more people are starting to use digital wallets to pay for bills, food, tolls, petrol, groceries and retail expenses. According to Bank Negara Malaysia, e-money transactions amounted to 2,094 million in volume and RM18.2 billion in 2019 (2018: RM11 billion).

Many industry experts regard Malaysia as a prime market for the growth of e-wallets, due to its high potential and favourable demographics to boost e-wallet adoption in the country. PricewaterhouseCoopers Malaysia projected e-wallet market to grow to USD20 billion (RM83.8 billion) by 2024.

### E-MONEY TRANSACTIONS IN MALAYSIA



Source: Bank Negara Malaysia, Statista  
Figure 5.4 E-money Transactions in Malaysia





E-money transactions amounted to **2,094 million in volume and RM18.2 billion in value**

According to a recent research conducted by App Annie Intelligence, a trusted mobile data and analytics platform, together with iPrice Group, Grab, Touch n' Go eWallet, and Boost are Malaysia's most actively used mobile e-wallets in the past 2 years. By merchant base, Boost has the highest number at 125,000, followed by Touch n' Go and Grab at 110,000 and 40,000 respectively.

In support of the country's vision to be a cashless nation, during the tabling of Budget 2020, the government announced a RM30 incentive "e-Tunai Rakyat" for e-wallet users to boost adoption rates. A budget of RM450 million has been allocated by the finance ministry to be given to 15 million eligible Malaysians<sup>30</sup>. GrabPay, Touch 'n Go e-wallet and Boost are the three participating e-wallet platforms for the e-Tunai Rakyat incentives which will run for two months from 15 Jan 2020 to 14 March 2020.

RFID is an electronic payment system that uses a sticker to pass through toll. The RFID sticker, also called as RFID tag, is unique to each vehicle as it is embedded with a radio frequency chip and is affixed to either the windscreen or the headlamp of the vehicle. The RFID tag is linked to the Touch 'n Go eWallet from which the fare will be deducted<sup>31</sup>.

RFID payment option promises a seamless experience with more options for toll payment, anchored on the concept of open payments, and will give highway customers the choice to link their TNG RFID tags to any of their bank accounts, credit or debit cards, or the TNG e-wallet.

#### RFID FOR TOLL PAYMENT



Source: Touch 'n Go  
Figure 5.5 RFID for Toll Payment

30 Malaysians 18 years of age and above and who earn less than RM100,000 annually.

31 Source: <https://rfid.touchngo.com.my/>

## NETWORK SECURITY IN MALAYSIA

Online transactions for e-commerce and e-wallets are more popular and secure than ever before, thanks to the advancements in digital payments technology, demographic shifts, and the evolving cyber-security landscape. However, constant preventive measures must be up-to-date to ensure the network and systems remain safe from any intrusions.

In 2019, the Government, industry and stakeholders implemented various initiatives to improve the level of network security in Malaysia. For example, The National Cyber Security Agency (NACSA) is developing a Cybersecurity Awareness Master Plan which outlines the role and responsibilities of various stakeholders in the implementation of cybersecurity awareness programmes in the country. The objective of the plan is to promote cyber-awareness and security, nurturing and raising awareness of Internet and social media users, especially amongst children, teenagers and parents. The Master Plan is expected to be released in October 2020.

Another agency, CyberSecurity Malaysia announced the development of Coordinated Malware Eradication and Remediation Platform (CMERP)<sup>32</sup>, malware detection and alert system that was developed through a public-private collaboration which automatically detects and warn of cyber threats as well as to mitigate them.

Kaspersky, a multinational cybersecurity and anti-virus provider, detected 11.5 million threats on their clients' computers in Malaysia in 4Q 2019 (between October and December 2019). Overall, 31.9% of the clients were almost infected by local threats.

However, local threats for the period recorded a drop in number of cases from 16.94 million in 4Q 2018 to 11.54 million in 4Q 2019. Local threats include malware spread via removable USB drives, CDs and DVDs, as well as other offline methods. Malaysians were also affected by web threat with a total of 5.66 million from 9.84 million cases in the corresponding period a year ago.

To prevent similar incidents from recurring, some precautions should be taken immediately. Among the measures that can be taken are as follows:

Regular update of computer security system	Thorough check of website link before visiting a web site such as misspelling or other irregularities, even if it is a familiar site	Be cautious of URLs that begin with the 'https' as they may not be always secured
Be cautious of emails from unknown senders until the authenticity of their origins can be verified	Do not open emails, attachments or links from unrecognised sources	Practice the usage of unique password, change the password regularly and keeping them safe from anyone's access

<sup>32</sup> Free Malaysia Today, National cyber-security agency unrolls new malware detection system, 23 September 2019. (<https://www.freemalaysiatoday.com/category/nation/2019/09/23/national-cyber-security-agency-unrolls-new-malware-detection-system/>)

## MCMC'S ROLE IN NETWORK SECURITY

MCMC is also responsible in ensuring information security and network reliability and integrity in Malaysia, as stipulated in Section 3(2)(j) of the Communications and Multimedia Act 1998 (CMA).

In 2019, MCMC has taken some proactive steps including series of data security assessments on major licensees to ensure their readiness and resiliency in the fast-evolving network security landscape with the following objectives:

- Identify and assess the current implementation of customer data security within the identified licensee; and
- Identify gaps for improvements, especially in the areas of customer data security.

This assessment involved seven major service providers including communication service providers Celcom, Digi, Maxis and U Mobile. This assessment also included TM, TIME and Pay TV service provider ASTRO, involving 10 categories of control as shown in graph below:

### CATEGORIES OF ASSESSMENT CONTROL



Source: MCMC

Figure 5.6 Categories of Assessment Control

From the assessment, all service providers have established the guidelines and fully disseminated and implemented those rules and controls company-wide, with their status monitored and reviewed on a timely basis. The licensees also defined the list of mitigation actions and clear assignment of roles to ensure effective and orderly response to incidents, including those pertaining to customer data.

In addition, MCMC also conducted assessment on small and medium-sized licensees to gauge the level of information and network security implementations. This assessment focuses on four key areas of controls namely; Organisation, Infrastructure, People and Environment. The assessment indicates that more than 80% of the assessed licensees have implemented the necessary controls in the four key areas. Licensees that have yet to implement necessary control in those four areas

are due to the absence or lack of internal capacity and expertise. In addition, towards enhancing knowledge and disseminate of information, MCMC also organises training and networking sessions on network security involving security professionals and stakeholders within the Communications and Multimedia (C&M) industry.

Moving forward, in view of the identified gaps and the changing network security landscape, MCMC in collaboration with other government agencies and the C&M industry will embark on initiatives to further strengthen the C&M industry readiness, resiliency, capacity and expertise. The collaboration will also look into the enhancements of regulatory tools, standards, guidelines and codes as part of fulfilling the objectives outlined in the National Policy Objectives of the CMA.

## DIGITAL CERTIFICATES DEVELOPMENT

The Public Key Infrastructure (PKI) is used to digitally sign documents transactions to prove the source or identity of sender as well as the integrity of those materials. PKI not only involves the development of infrastructure for distributing and managing public key and digital certificates, but also provides a framework for ensuring safe Internet communications which involve software, regulations, policies and standards.

The Digital Signature Act 1997 (DSA 1997) which came into force on 1 October 1998, with the purpose of regulating the use of digital signature in Malaysia using the PKI, ensures the security of legal issues

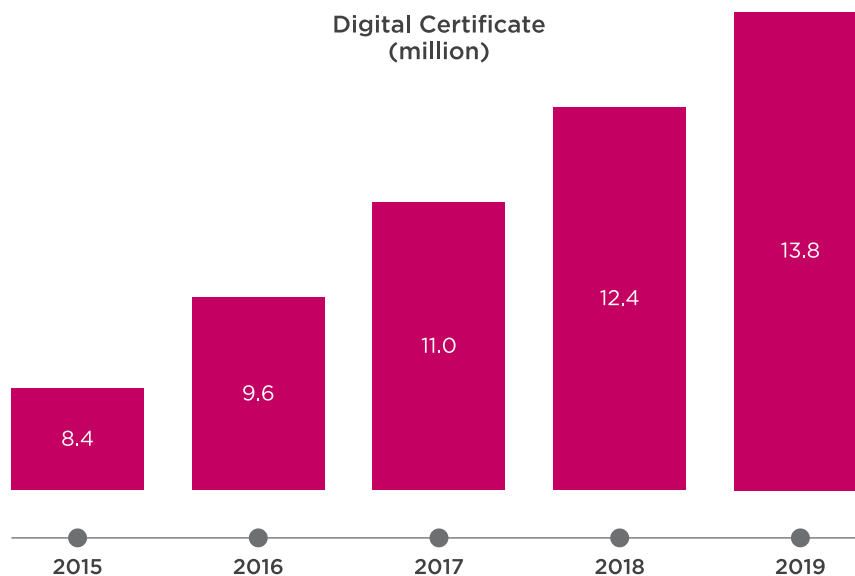
related to electronic transactions and verifies the use of digital signatures through certificates issued by licensed Certification Authority (CA). MCMC is responsible to administer, enforce, carry out and give effect to the provisions under DSA 1997 for the purpose of monitoring and overseeing the activities of Certification Authorities.

Currently, there are four licensed Certification Authorities, namely; Pos Digicert Sdn Bhd (Pos Digicert), MSC Trustgate Sdn Bhd (MSC Trustgate), Telekom Applied Business Sdn Bhd (TAB) and Raffcomm Technologies Sdn Bhd.

## GROWTH OF CERTIFICATION AUTHORITIES AND DIGITAL CERTIFICATES

In the context of DSA 1997, a digital certificate is a computer-based record which identifies the certification authority issuing it and names or identifies its subscriber. It contains the subscriber's public key and is digitally signed by the certification authority issuing it. The demand for digital certificates is expected to increase in tandem with digital transformation and growth of digital economy.

**DIGITAL CERTIFICATE ISSUANCE 2015 - 2019**



Source: MCMC

Figure 5.7 Digital Certificate Issuance 2015 - 2019

As at end 2019, the number of digital certificates issued in Malaysia was 13.8 million, in which, 97% of the certificates were issued by Pos Digicert, while the remainder by MSC Trustgate and TAB. To date, around four million people have utilised the Pos Digicert service via Inland Revenue Board e-filing services.

The major contributor to the usage of digital certificates in Malaysia is the public sector which took up 96.4% of total certificates issued. Most of the Government online application services are supported by digital certificates to secure online transmission of data via Internet. The remaining 3.3% is issued to corporate sectors such as banking, healthcare and other industries, whilst 0.3% to individuals.