

## **MALAYSIAN 10 YEARS TECHNOLOGY EXPENDITURE**

**Noreen Balqis binti Muhammad<sup>1</sup>, Irdhina Sofina Binti Shahrin<sup>2</sup>, Nur Fara Syhadha Binti Anuar<sup>3</sup>, Asmaa' Aqilah Binti Mohd Rosli<sup>4</sup>, Nurhanis Nabiha Binti Md Osman<sup>5</sup>, Fuadah Johari<sup>6,7</sup>.**

Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia (USIM)<sup>1,2,3,4,5,6</sup>  
Islamic Finance and Wealth Management Institute (IFWMI)<sup>7</sup>

E-mail: [Nrnbalqis03@raudah.usim.edu.my](mailto:Nrnbalqis03@raudah.usim.edu.my)<sup>1</sup>, [irdhina@raudah.usim.edu.my](mailto:irdhina@raudah.usim.edu.my)<sup>2</sup>,  
[faraadhah@raudah.usim.edu.my](mailto:faraadhah@raudah.usim.edu.my)<sup>3</sup>, [asmaa\\_aqilah@raudah.usim.edu.my](mailto:asmaa_aqilah@raudah.usim.edu.my)<sup>4</sup>,  
[hanisnabiha@raudah.usim.edu.my](mailto:hanisnabiha@raudah.usim.edu.my)<sup>5</sup>, [fuadah@usim.edu.my](mailto:fuadah@usim.edu.my)<sup>6</sup>

### ***Abstract***

This paper studies and observes Malaysian ten years of technology expenditure. The analysis of Malaysia's technological growth over ten years is one of the topics covered in this discussion. In addition, factors that contribute to the state of technology are now an important problem in this working paper and discussed how to solve problems arising from Islamic perspectives. This is because, as knowledgeable Muslims, we need to be sensitive and efficient in developing the economy. Not only that, but we are also responsible for declaring that not from a technological point of view alone needs to be taken heavily on the contrary from other aspects, such as commerce that gets a boost in Islam needs to be emphasised. This is to form a community or a developed country along with the development of the world today.

**Keywords:** technology expenditure, data, technology sector

## **1. INTRODUCTION**

The technology sector is rumoured to increase by eight percent to ten percent in a year. This means we will increase by more than 20 percents by the end of ten years. Technology specifically means applying scientific knowledge for practical purposes, especially in industry. Technological progress allows for the more efficient production of more and better goods and services, which is what prosperity depends on. However, the mechanisms through which technology is developed, adopted and used in production are complex. Technology encompasses a huge body of knowledge and tools that ease the use of economic resources to produce goods and services efficiently and innovatively. Therefore, technological progress is essential to economic growth and development, and the more advanced the technology

## Malaysian 10 Years Technology Expenditure

available, the more quickly the local and global economy can improve. Technology's role in economic development is further broken down below.

Technology has been used in Malaysia for ages. Malaysia has evolved into a contemporary nation that keeps up with the times. The nation's development and the globalisation of its economy depend much on this science and technology. Malaysia has benefited greatly from the technological advancements and scientific and technological ideas of other nations,

As a result, Islamic law considers the use of technology to be permissible (*mubah*). This is true based on the *fiqh* maxims, which state that "The originality of things is permissibility" (*Al-'aslu fi al-ashyaa' al-ibahah*). If the procedure does not conflict with Shariah law, it is acceptable. Following the Quran and the Sunnah, Maqasid Shariah strikes a balance in the use of technology to ensure that it is always applied for good (*maslahah*) and does not cause harm (*mafsadah*) to either individuals or communities

There are so many advantages that we will get from technology. For example, ease of access to information. The world Wide Web, abbreviated as *www*, has made the world a social village. This is because the information from all around the globe is widely available on the Internet. Furthermore, it can save time. It will not even let you miss a single turn; nowadays, it even shows you the traffic situation on the route. Finally, technological developments are also helping to improve the work environments and lifestyle of people in the workplace.

## 2. METHODOLOGY

### 2.1 DATA COLLECTION

As part of the data gathering process, data are gathered and searched from a range of reliable sources; this type of data is referred to as secondary data because it was obtained from reliable, already-existing information sources. Additionally, this study contains information from analysed and researched journal papers and some data from the official government website.

The majority of this information on Malaysian technology is taken from official websites. This information is gathered to understand how technology will change over the next ten years. For example, the 10-year malaysia technology expenditure website shows the government spending on technology to develop and bring the country in line with modern countries with other technologies.

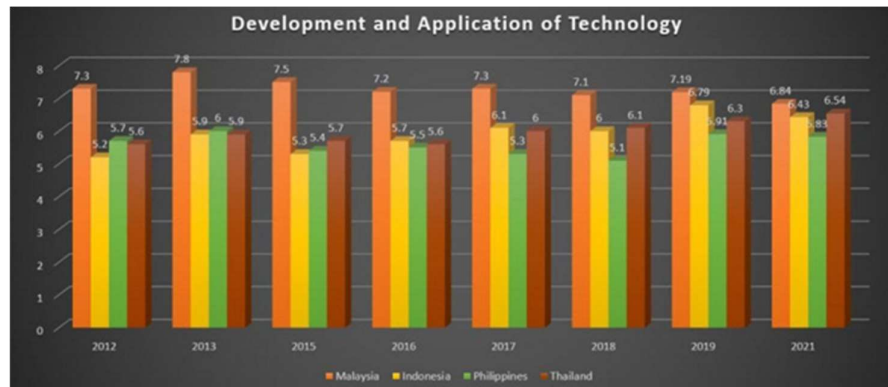
Additionally, we make use of data that was found by searching and reading academic papers. We learn what technology is, how it's employed, and what it is about the technology that's discussed in the journal.

## 2.2 DATA ANALYSIS

### Data development and application of technology

| COUNTRY     | 2012 | 2013 | 2015 | 2016 | 2017 | 2018 | 2019 | 2021 |
|-------------|------|------|------|------|------|------|------|------|
| Malaysia    | 7.3  | 7.8  | 7.5  | 7.2  | 7.3  | 7.1  | 7.19 | 6.84 |
| Indonesia   | 5.2  | 5.9  | 5.3  | 5.7  | 6.1  | 6    | 6.79 | 6.43 |
| Philippines | 5.7  | 6    | 5.4  | 5.5  | 5.3  | 5.1  | 5.91 | 5.83 |
| Thailand    | 5.6  | 5.9  | 5.7  | 5.6  | 6    | 6.1  | 6.3  | 6.54 |

Data development and application of technology (1.1)



Sources: [Official Portal of Economic Planning Unit, Prime Minister's Department](#) of Malaysia

Nowadays, technology has continued to evolve our world since the 20<sup>th</sup> century. We are living in a world driven by technology. Technology also plays a key role in making much development, especially in our economy. Advancement makes our life more efficient because there is a lot of improvement in the health, social and cultural fields. Technology also has reduced effort and time while increasing efficiency in production in every field. Innovation helps in the development of technology.

In our observation of the data technology development between four Asian countries, Malaysia, Indonesia, Philippines, and Thailand, we found that Malaysia has the highest level of technological change, which makes Malaysia an advanced country in Asia. On the other hand, Thailand's second highest level of technological change is followed by Indonesia and the Philippines. The data is based on a period of 10-years period starting in 2012 to 2022. In 2012 Malaysia was the highest score in the development and application of technology which is scored 7.3. This year, Malaysia started to improve their technology. Malaysia has invested large-

## Malaysian 10 Years Technology Expenditure

scale investments in infrastructure, health, and education in technology. The Philippines is 5.7 compared to Thailand and Indonesia, which is 5.6 and 5.2.

In 2013, Malaysia experienced an increase in technology compared to the previous year due to a score increase of 5. This is because Malaysia started with gadgets that help many people with advanced software. On the other hand, the Philippines is still in the second level, scoring six, while Thailand and Indonesia are in the same level, 5.9. While in 2014, we did not find any information about the development and application of technology because it was not stated on any official website or webpage.

In 2015, Malaysia scored 7.5 for the development and application of technology. Thailand is in the second level that, which scored 5.7 compared to the Philippines and Indonesia, which are 5.4 and 5.3. The next year, 2016 Malaysia had decreased by 6 scores compared to 2013 because of the global economy. Indonesia is ahead of Thailand and Philippines with scores 5.7, while Thailand is 5.6 Philippines is 5.5

In 2017, Malaysia increased are score compared to the previous year, which was 7.3. However, Indonesia is still in the second level with a score of 6.1, followed by Thailand and Philippines with a score of 6 and 5.3. In 2018 Malaysia is still at the highest level in development technology with a score of 7.1. Thailand is in the second level with a score of 6.1 followed by Indonesia with a score of 6 and the Philippines with 5.1 In 2019 all over the world must deal with the corona virus, which caused the economy and technological development to slow down. Malaysia scored 7.19 in the development of technology, followed by Indonesia, with a score of 6.79. Thailand in the third level with score of 6.3 and Philippines with a score of 5.91. In 2020, the same thing as in 2014 also happened. Then no information can be issued because no valid reference source can be used as a guide to disambiguation. In 2021, the world was starting to recover from the corona virus. In the development and application of technology, Malaysia scored 6.84, followed by Thailand with a score of 6.54. Indonesia in the third level with a score of 6.43 and Philippine with a score of 5.83. Finally, this year, which is 2022, there is no information related to technological developments in Malaysia that have been issued, considering that this year is not over yet

## 3. RESULT AND DISCUSSION

### 3.1 RESULT

Today's technology is at an all-time peak. Our global future is developing through communication, cooperation, and innovation, which are reliant on technology. The Internet today offers a wide range of chances to learn about the world and interact with it. It serves as a

global marketplace, a global workplace, and a global gathering place. From a scientific and technological standpoint, this technology is crucial for the nation's advancement and economic growth. There are three solutions to increase Malaysia's usage of technology.

The first step in advancing the nation's technology is to create an environment that will foster the development of the digital economy, including mentality, policy, legal shifts, technological advancements, and improved infrastructure. The sharing economy will be expanded, e-commerce will be accelerated, cyber security will be bolstered, and efforts will be taken to harmonise digital governance to ensure that everyone has equitable access to possibilities in the digital economy. The development and use of digital technology by people, corporations, and governments constitute the digital economy. This will alter how consumers and businesses traditionally approach acquiring information, services, and things.

Examining how technology is evolving in other nations is the second stage in increasing technology usage in Malaysia. Japan, for instance, is renowned for using innovative technology. Therefore, to advance technology in Malaysia, we must make that nation our role model. In addition, Malaysia needs to build a strong partnership with a developed nation like Japan. It is claimed that this is true since it can help the nation cooperate with that nation to understand how they use technology. As an illustration, technology in Japan relates to business, education, and other areas, such as agriculture. Therefore, Malaysia must forge strong ties with Japan to solve the issue of utilising this technology.

The third strategy entails increasing the availability of digital infrastructure and services, ensuring equitable access to fixed and wireless broadband infrastructure, and expanding 5G coverage. This will facilitate the adoption of emerging and alternative technologies and create an environment conducive to developing digital infrastructure. Pay-per-use telecommunication services will be investigated for increased public access and affordability, while telecommunication services will be declared a public utility, like water and electricity, through uniform construction by-laws and other pertinent laws. Laws that are "digital by default" will be implemented to support the delivery of digital services, safeguard consumers, and foster innovation and competition. The Universal Service Provision program will be reorganised to foster greater openness, adaptability, and engagement from a larger range of businesses in network development. Malaysia needs to adopt technology more quickly as a result.

### **3.2 ISLAM PERSPECTIVES**

The guidebook is the Qur'an. In Surah Al-Baqarah verses 1-2, Allah (swt) declares: "Alif Lam Mim. This is the Book, which is unquestionably for the guidance of people who fear Allah

[1]. The "Qur'an," the holy scripture of Allah, is now accessible online in various formats. Notably, more people are using the Internet worldwide. More than two billion individuals used the Internet up until March 2011 [2]. Asian nations with 60% of their populations being Muslims accounted for about 44% of all Internet users worldwide. For example, there are 140 million Internet users from India and Indonesia, with 204 million and 177 million Muslims, respectively. In addition, China, and Malaysia, two of the top 10 Internet users in Asia, have sizable Muslim populations.

Though the benefits have been higher, science and technology have also caused harm to humans. Just consider all the individuals who perished from starvation because we have advanced farming techniques and equipment today or consider the role computers and the internet play in global education and communication. Islam has pushed its adherents to pursue knowledge ever since it was founded. It is amazing how much value the Quran places on education and learning. It encourages us to think about God's creations.

Computers are the focal point for information and communication technology and the main player in today's globally interconnected human society. The Concept of Computers in the Qur'an. As Allah (swt) says in the Qur'an: *"Proclaim (or read) in the name of thy lord and cherisher, who created, formed man out of just clot of congealed blood," it is thought of as a tool for writing, preserving, spreading, and exchanging knowledge. Proclaim! Your lord, who taught you how to use a pen, is also exceedingly abundant. Revealed to man what he did not know.* [QUR'AN 96:1-5] Our loving Prophet (saw) is commanded to read in the first verse that was given to him. In Islam, reading and learning are stressed as being important.

The value of knowledge should also be mentioned as a significant factor (an important aspect in the journey of human beings). *"Allah is aware of what you do, and He will exalt those of you who believe and those who are given wisdom to great heights."* [QUR'AN 58:11] Allah (swt) introduces the concept of "information" to man in the Qur'an. The All-Powerful claims that He taught Adam all the names of things and then presented them to the angels with the request, *"Tell me the nature of these if you are right."* [QUR'AN 2:31] The Qur'anic passage above demonstrates that the idea of an information system has existed since the birth of humankind.

It is, therefore, understandable why today's users have grown to rely heavily on computers and related technology to exchange knowledge, especially in a setting where users have access to databases that span thousands of gigabytes.

### 3.3 Other relevant topics, including from *Aqli and Naqil* perspectives.

In our observation, we found that business is also a topic that moves along with technological developments. This is because both things follow the current circulation of increasingly rapid times. Economic insistence causes humans to choose to involve themselves in this area. If you look at it, technology is now more sophisticated. This is true because man chooses to get satisfactory results by increasing the quality of something while saving time. So resulted in an increase in the economy through technology.

When viewed from a business angle, the same is true. So, what is the reason for the occurrence of diversity in the development of commerce? Among the reasons for the increase is the increasing insistence on the cost of living. Thus, several factors need to be looked at to formulate an increase in the cost of living.

Related factors are an increase in the price of goods and services and income. This factor clearly shows how this situation may apply. Suppose someone uses absolutely the same goods and services. If the increase in the price of goods and services is higher than the increase in their income, then the individual is involved in the face of an increase in the cost of living. In addition, people also tend to follow their will if they have other options after experiencing an increase in income. If an individual's income increases, they may use different goods and services, or at least they will exchange for similar, more quality goods. This situation is a substitute effect caused by changes in the standard of living of individuals. This makes their living costs increase.

The second factor influencing the change in the taste of individuals is the country's economic development stage. The taste of the people in a developed country is different from the taste of the people in a country not building or being building. For example, imported goods in the Malaysian market in the 1970s were not as many as they are now in terms of quantity and choice. In those days food restaurants soon francais from outside the country were considered a luxury visited by high-income people, now it is something commonly visited by all groups.

Another factor influencing the increase in living costs is that the openness of the country's market also gives an impression on the price of goods. The movement of goods crosses borders without restrictions to equalise the price of goods worldwide due to the validity of arbitrary proceedings. Therefore, the cost of the transaction only causes the price difference.

As things get more complicated, people begin to find solutions to problems. Among the best solutions to deal with this problem is to realise business. Why is commerce said to be able to solve this problem? This is because, with the existence of commerce, there will be a form of currency flow inside or outside the country.

## Malaysian 10 Years Technology Expenditure

With the diversity of ideas and innovations, many products will be produced while being able to develop many industries that produce several types of goods and services. Building various industries within Malaysia can reduce dependence on imported goods. People in Malaysia can also enjoy the diversity of local products and start supporting Malaysian products. Cash flow within the country has also become positive. Otherwise, businesses penetrating the outside market are extremely helpful in generating foreign exchange income for the country. This is extremely helpful in increasing the purchasing power of users as well as helping the country's economy.

In addition, the existence of commerce also contributes to the corporate social responsibility of entrepreneurs to the community. Entrepreneurs between individuals involved in meeting the basic needs of society who simultaneously contribute to improving the level of virtue. Entrepreneurs always do not forget to make personal donations through charity, zakat, and others. The donations given are also able to provide opportunities and goodness for many people in need out there. In fact, the company can also obtain benefits in addition to the good things done.

As we can see, this age urges us to get ahead with technology and commerce to help the country's economy. Long-term economic development, higher productivity and living standards are spurred by advances in science and technology. At the same time, the emergence and dissemination of innovative ideas, goods and manufacturing processes signalled an increase in certain economic activities and other activities. This situation results in the need for new job opportunities. This applies when new industries replace old ones, and people adjust their abilities to changing and evolving demands. The same is true of commerce.

This fact can be supported through the Al-Qur'an technology for our predecessors (the messengers of God). This God describes us as material for learning and motivation in mastering various branches of knowledge. The Word of God relating to technology among others in sura al-Anbiya 80-81:

وَعَلَّمْنَاهُ صَنْعَةَ لَبُوسٍ لَّكُمْ لِيُحْصِنَكُمْ مِنْ بَأْسِكُمْ ۖ فَهَلْ أَنْتُمْ شَاكِرُونَ -80

وَلِسُلَيْمَانَ الرِّيحَ عَاصِفَةً تَجْرِي بِأَمْرِ إِلَى الْأَرْضِ الَّتِي بَارَكْنَا فِيهَا ۖ وَكُنَّا بِكُلِّ شَيْءٍ عَالِمِينَ -81

Meaning, "And We taught him the fashioning of coats of armor to protect you from your [enemy in] battle. So, will you then be grateful? And (We made subservient) to Sulaiman the wind blowing violent, pursuing its course by his command to the land which We had blessed, and We are knower of all things."

In the verse, it is stated that the Prophet Daud was told by Allah Almighty about the manufacture of protective suits that could be used in battle. From this lesson that God told the Prophet Daud we can see the development of making armor specifically designed for soldiers in the wars they faced be it iron hats, bulletproof vests and so on, this is a development of the technology that God has taught His prophet for centuries. So, this means that the Islamic religion also encourages its adherents to involve themselves in technology for the brilliance of self, religion, nation and state.

#### **4. CONCLUSION**

In our observation, "Malaysia 10 years of Technology Expenditure" is elevated compared to other ASEAN (Association of Southeast Asian Nations) countries such as Indonesia, Philippines, and Thailand. This shows that Malaysia is showing a positive impact in terms of the country's development towards achieving developed countries. This applies to meeting today's demands that require efficient management in various aspects. For example, existing technologies need to be developed to produce the best products more efficiently.

There are basically numerous benefits and benefits to the economy and society if our country chooses to focus on technological developments. Our country can also move along with other developed countries in forming a stable economy. Therefore, this effort is particularly good to continue to spread benefits to all. In addition, various innovations can also be created with the help of appropriate tools. Indeed, technological developments are considered to measure the progress of a country. So, the effort to move the country forward this way is very much in the process of being continued.

However, it cannot be hypothesised that behind the sophistication of technology pursued; there is still a bad side to technology development if it is misused. Among them are individuals who lose their jobs when their duties are replaced with machines. In addition, the problem of breaking the mandate and so on can also apply if the technology is used for its benefit. However, technology is not the main cause of this problem if it is well-controlled and available sources are used optimally.

Digitisation can function as a constructive and business power generator because digital technologies such as data analytics (BDA), artificial intelligence (AI), internet of things (IoT) and cloud computing help businesses and individuals improve their capabilities. Constructive technology is also doubling down on growth in the digital economy and optimising digital investment, where it has seen many firms benefit from digital advancements in augmenting both operations and business models.

Modern technologies need to be shaped based on solid design and problem-solving capabilities. The reserve for change needs to emphasise its creation and system of improvement to improve the present population's standard of living and provide a sufficient source of expenditure to elevate the quality of life in the long term.

To get satisfactory results from something, the transfer of technology needs to be the collection of technical information and the ability to choose the appropriate technology needs to be taken approximately. In addition, graduation needs to be given to technology with certain criteria, for example, that contributes to the export and use of internal sources so that existing sources are used properly to prevent the propagation of sources.

In conclusion, technology brings major changes to the economic landscape and safety, but advances in digital technology are expected to be more destructive in the future. Building countries must be able to create their technology without expecting too much to transfer technology from developed countries to building countries as a shortcut to compete in the international market. Building countries do not seek to match developed countries that have always offered their technology as part of long-term loan-based assistance programs. The creators of capital-intensive technologies that are drastic without being infiltrated by demographic changes and improved levels of education will only lead to problems of unemployment and high social problems in the developing country.

## 5. REFERENCES

- Afroz, R., Muhibbullah, M., & Morshed, M. N. (2020). Impact of information and communication technology on economic growth and population health in Malaysia. *The Journal of Asian Finance, Economics and Business*, 7(4), 155-162.
- Agbehadji, I. E., Awuzie, B. O., & Ngowi, A. B. (2021). COVID-19 pandemic waves: 4IR technology utilisation in multi-sector economy. *Sustainability*, 13(18), 10168.
- Alam, G. M., & Asimiran, S. (2021). Online technology: Sustainable higher education or diploma disease for emerging society during emergency—comparison between pre and during COVID-19. *Technological Forecasting and Social Change*, 172, 121034.
- Chandran, V. G. R., & Rasiah, R. (2013). Firm size, technological capability, exports and economic performance: the case of electronics industry in Malaysia. *Journal of Business Economics and Management*, 14(4), 741-757.
- Cui, D., Li, H., He, J., Wang, Q., Lu, C., Hu, H., ... & Wang, C. (2022). Applications of Water Jet Cutting Technology in Agricultural Engineering: A Review. *Applied Sciences*, 12(18), 8988

- Demestichas, K., & Daskalakis, E. (2020). Information and communication technology solutions for the circular economy. *Sustainability*, 12(18), 7272.
- Hamid, H., Khurshid, Z., Adanir, N., Zafar, M. S., & Zohaib, S. (2020). COVID-19 pandemic and role of human saliva as a testing biofluid in point-of-care technology. *European journal of dentistry*, 14(S 01), S123-S129.
- Gan, K., & Saleh, Z. (2008). Intellectual capital and corporate performance of technology-intensive companies: Malaysia evidence. *Asian journal of business and Accounting*, 1(1), 113-130.
- Ghazy, S., Tang, Y. H., Mugumya, K. L., Wong, J. Y., & Chan, A. (2022). Future-proofing Klang Valley's veins with REBET: A framework for directing transportation technologies towards infrastructure resilience. *Technological Forecasting and Social Change*, 180, 121666
- Hu, D., Zhong, C., Ge, H., Zou, Y., & Li, C. (2022). How Regional High-Quality Co-Ordinated Development Influences Green Technology Choices: Evidence from 284 Cities in China. *Land*, 11(7), 1111.
- Jaaffar, A. H., Majid, N. A., Alrazi, B., Ramachandaramurty, V. K., & Dahlan, N. Y. (2022). Determinants of Residential Consumers' Acceptance of a Utility-Scale Battery Energy Storage System in Malaysia: Technology Acceptance Model Theory from a Different Perspective. *Energies*, 15(16), 5997.
- Sivakumar, D., Jusman, M. F. B., & Mastan, A. N. B. M. (2017, November). A case study review: Future of Internet of Things (IoT) in Malaysia. In *ASCENT International Conference Proceedings—Information Systems and Engineering* (pp. 23-24).