



UNIVERSITI
TEKNOLOGI
MARA



INDUSTRIAL TRAINING REPORT

KS HEALTHCARE (M) SDN BHD

(1 MARCH - 15 AUGUST 2023)



PREPARED BY:

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EXECUTIVE SUMMARY

KS Healthcare (M) Sdn. Bhd. is a young and vibrant company. It has been established in 2020. Their aim is to create an easy platform for people from all walks of life to enjoy quality medical attention. Their motto, "Mind That Cures, Heart That Cares". They provide a wide range of services, including simple house calls, routine home visits, in-depth workplace health and safety advice, and scheduled physiotherapy sessions. As of 2022, they are successfully managing five increasingly popular brands in Perak, Kuala Lumpur and Melaka. They think that data and technology will be the main forces in business in the future.

Malaysia offers both public and private healthcare systems. To improve their service offers to medical travelers, private healthcare providers are encouraging the adoption of health technology and developing partnerships with foreign healthcare providers. Malaysia's healthcare expenditures are expected to double to \$2.8 billion by 2028.

The general objective in this research is to determine the healthcare expenditures in Malaysia. The purpose of this study is to examine the income level, technology process and inflation on Malaysia healthcare expenditure. The data for this analysis was obtained from World Bank (WB) and OECD Statistics in the form of time series data spanning 30 years, from 1990 to 2020. In a nutshell, this study achieved the objective of finding out the relationship between independent variables and healthcare expenditure. The determinant of the independent variables, which include income level, inflation and technology process has been identified. Each variable has a significant impact on Malaysia healthcare expenditure, where income level is positively significant while the rest of the variables; inflation and technology process are negatively significant.

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3.0 COMPANY'S PROFILE

3.1 Background Company, Name and Location

3.1.1 Background Company

KS Healthcare (M) Sdn. Bhd. is a young and vibrant company. It has been established in 2020. Their aim is to create an easy platform for people from all walks of life to enjoy quality medical attention. Their motto, "Mind That Cures, Heart That Cares", is enlightened into all their staff and associates so that their services are catered exclusively for their client's needs. They provide innovative solutions to solve clinical challenges in today's world with house calls, medical standby for all type of corporate, public or sports events, Occupational Health services team that can inspect corporate infrastructures, provide necessary upgrading recommendations and give safety and health talks to a large group of people. They understand both the specific clinical demands and broader healthcare challenges that their clients face in acquiring professional and quality healthcare.

They tailor their services to each client's individual demands and prioritise their comfort above everything else. They seek to enhance their clients' quality of life with their exclusive healthcare services. Because they offer individualised healthcare services, their clients may relax and know that their medical and health problems are being handled in a qualified manner. At KS Healthcare, they customise their services to match the unique needs of each client. They can help us whatever much or little is required. They provide a wide range of services, including simple house calls, routine home visits, in-depth workplace health and safety advice, and scheduled physiotherapy sessions. They provide straightforward, easy-to-understand guidance, and their clients are consistently reassured by their no-nonsense commitment to providing the greatest healthcare services.

In addition, they always seek new management and investment options for businesses. As of 2022, they are successfully managing five increasingly popular brands in Perak, Kuala Lumpur and Melaka. They think that data and technology will be the main forces in business in the future. They therefore seek to streamline corporate processes by utilising technological advancements in controlling, monitoring, and enhancing day-to-day operations. They consider the future trend in business to be the combination of cutting-edge technology and skilled labour.

3.1.2 Name and Location



NAME	: KS Healthcare (M) Sdn Bhd
ADDRESS	: 5A, Jalan Satu, Taman Chong Kwee, 31250 Tanjung Rambutan, Perak.
NUMBER	: 011-11409428
EMAIL	: kshealthcaresdnbhd@gmail.com
OFFICE HOUR	: 8.00 a.m - 5.00 p.m (Monday - Friday)

3.2 Vision, Mission , Objective and Goal

3.2.1 Vision

To offer a full range of medical services at the highest quality level in order to ensure lifelong medical health and an everlasting beautiful life. Our strength lies in the fact that we share knowledge, skills, and resources in a safe, enjoyable, and inspiring work environment. We implement best practice guidelines, invest in education, and foster innovation.

3.2.2 Mission

Committed to providing comprehensive medical services, all-in-one professional management and provide a healthcare platform with the highest quality.

3.2.3 Objective

There are several objective from this company:

- Maintain an effective and efficient patient care delivery system.
- Provide safe, high-quality, and patient-centered healthcare while maintaining an effective and efficient system for delivering patient care.
- Respect each employee's uniqueness and ideals, and foster a work climate where employees feel confident showcasing their skills.
- Foster top-notch healthcare workers who are humane and can work in a variety of settings. Strive to provide world-class, cutting-edge healthcare. Assist in the creation of sustainable community healthcare.

3.2.4 Goal

There are several goal from this company:

- Maintain a system for delivering patient care that is effective and efficient.
- Keep a functioning structure in place that can adapt to changes in the educational programmes.
- Maintain a records management system that enables patient care professionals to easily access patient records.
- Run a programme to increase the quality of our patient care.
- Keep the environment of cooperation and teamwork among classmates, employees, administrators, and professors friendly, polite, and ethical.

3.3 Organizational Structure

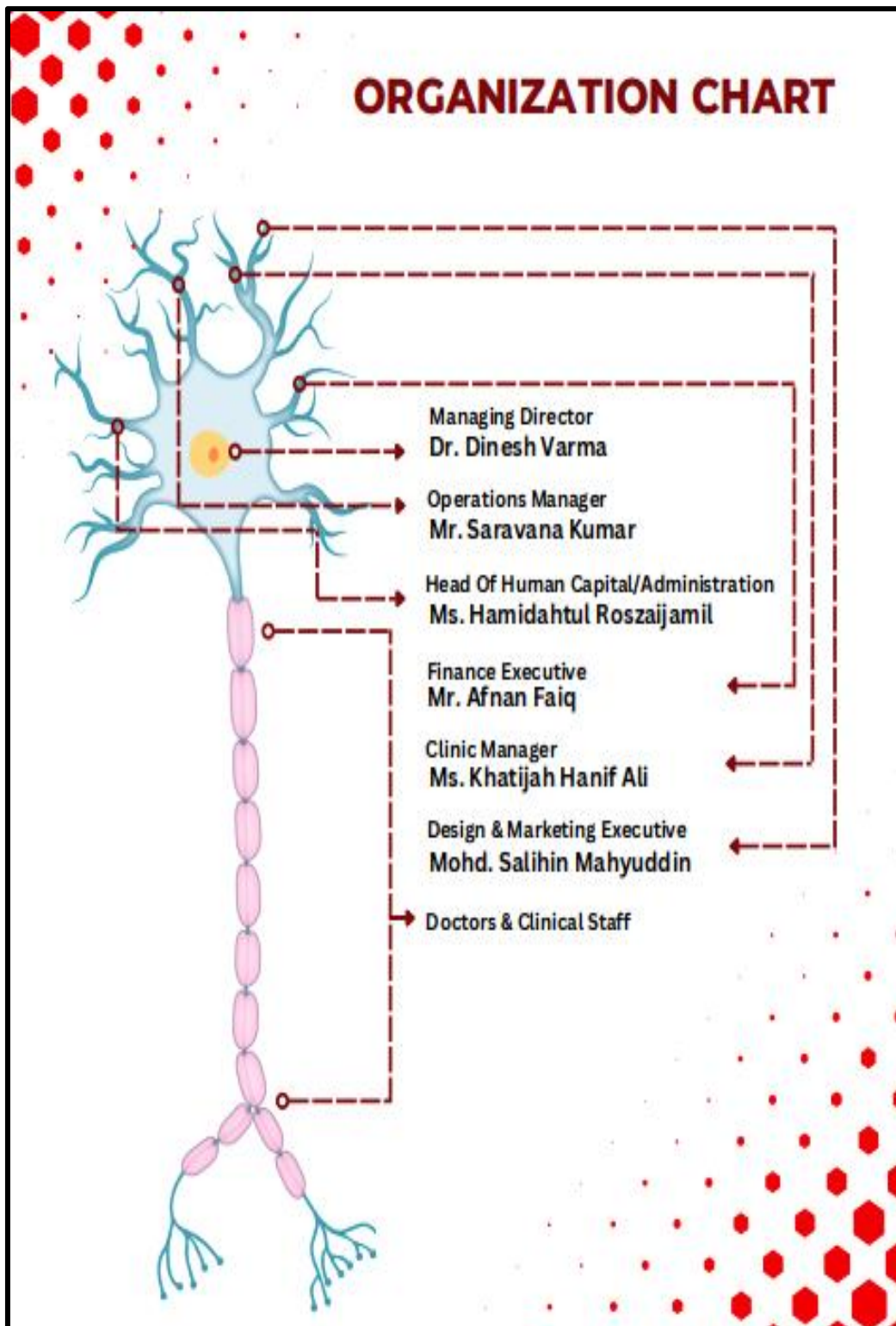


Figure 3.3: KS Healthcare (M) Sdn Bhd Organization Chart

4.0 TRAINING'S REFLECTION

4.1 Duration

Timeline	27 February 2023 - 15 August 2023
Working Day	Monday to Friday
Working Hours	8 a.m to 5 p.m

4.2 Department, Roles, Responsibilities, Assignment & Tasks

- i. **Daily Cash Collection** - Almost every Monday and Friday, I need to collect the daily cash collection from two clinic which is Medical Clinic and Dental Clinic. I must record the amount of collection by shift in Google Drive by clinic. Then, I total all the amount for all the money to bank in into the bank. Sometimes, I need to change the petty cash money for clinic use.
- ii. **Record Invoices** - Every month the company will get new invoice from the drug seller or some clinic expense. So, I need to key in the invoice properly and make payment for the invoice that have been paid.
- iii. **Monthly Reconciliation** - Before making the monthly reconciliation, I need to key in all the bank statement transactions by month. Then, I can make the bank reconciliation by month. If the ending balance is not same as in the bank statement, I need to check one by one of the bank statement transaction until got the same amount.
- iv. **Filing Document** - The organization's filing system is important. All of the company's important records and information should be safely stored in order to make it easier for searching and maybe avoid the loss of these items. It is used as evidence of transactions that have been made
- v. **Making Payment** - Sometimes, I need to make some payment to the seller if my supervisor is not around. I just need to key in the payment transaction the system and my supervisor need to approved the payment that I have made.

4.3 Gains

4.3.1 Extrinsic Benefits

1. Allowance - RM 450 Per Month
2. Medical Visit - No charges will be apply for medical visit. The company will bear the charges for medical visit. The company also have discount price for physiology and dental services for their staff.
3. Workin Condition - The company provide comfortable working place for their staff. They provide air-conditioning, pantry, cctv for security and many else.

4.3.2 Instrinsic Benefits

1. Improved mental health and well-being. All the staff in the company enjoy doing their works and have relax working environment in the office. They also have friendly nature.
2. Enhance interpersonal competencies: I was able to obtain an immense amount of experience by taking part in finance meetings where I was updating monthly reports. Along with communication skills, teamwork, and time management, especially timeliness, are all being enhanced. These abilities are crucial for career success and are highly valued by employers.
3. Polish skills - Gain the opportunity to learn more about business software, such as the Quickbooks system, by handling bank statements, panel payments, invoices, and other financial data.

5.0 DETERMINANT OF HEALTHCARE EXPENDITURE IN MALAYSIA

5.1 Introduction

Health is a necessity for life, and the phrase "health is the best wealth" highlights how important it is. As a result, the healthcare sector is essential, vibrant, and full of opportunities, with the worldwide medical trend indicating a generally consistent growth in demand. Health expenditure is one of the key determinants of health status and economic development of a nation. It also includes all expenditures for the provision of health services, family planning activities, nutrition activities and emergency aid designated for health, but it excludes the provision of drinking water and sanitation.

5.2 Background of Study

5.2.1 Healthcare expenditure in Malaysia

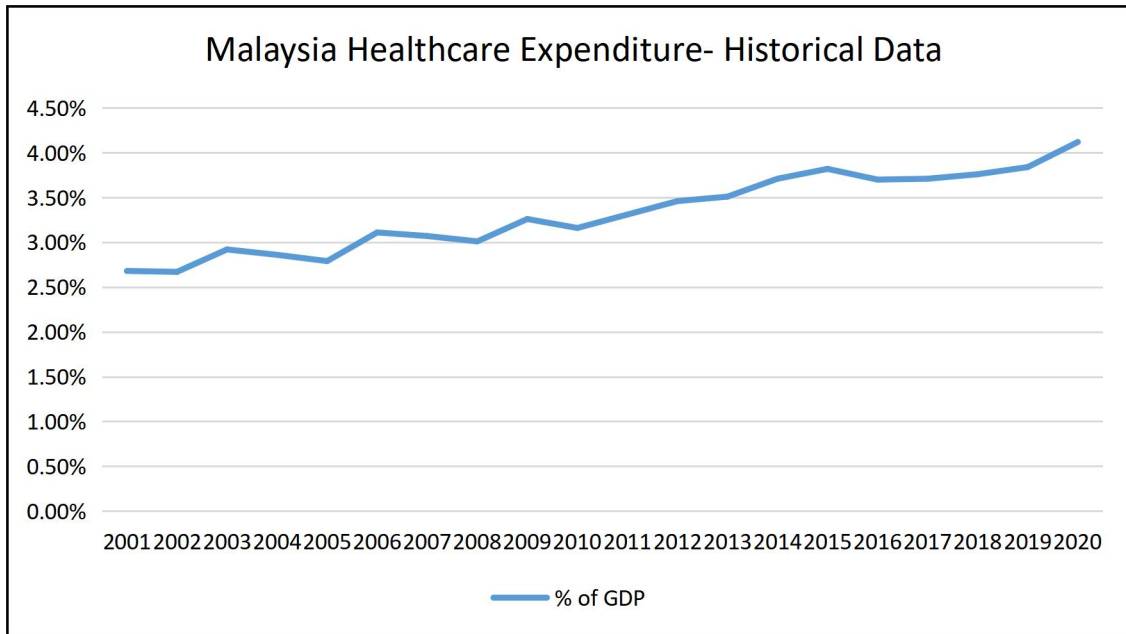
Malaysia offers both public and private healthcare systems. To improve their service offers to medical travellers, private healthcare providers are encouraging the adoption of health technology and developing partnerships with foreign healthcare providers. Public health care providers are increasing their capacity to manage screening and prevention while providing access to healthcare in rural areas of the nation. Technology and products are needed for the public healthcare systems to provide a wider range of services. To secure the delivery of top-notch, high-quality healthcare services over the next 10 years, both the public and commercial healthcare sectors are concentrating on increasing investment in healthcare technology, medical devices, and digital health.

Malaysia's healthcare expenditures are expected to double to \$2.8 billion by 2028. In prioritizing public healthcare to build national resilience in preparation for the endemic phase of COVID-19, the government has allocated \$7.7 billion to the Ministry of Health (MOH) for operating and development expenditures. The allocation for MOH is the second largest in the National Budget 2022.

The data that stated on the Table 5.2.1 and Graph 5.2.1 are from Data World Bank. From the table and the graph, we can see that the increase in percentage of GDP from year to year. Its mean that government had to spend more money to health sector from year to year. Shows that the increasing of people who had disease in Malaysia.

Table 5.2.1: Malaysia Healthcare Spending

Malaysia Healthcare Expenditure- Historical Data	
Year	% of GDP
2000	2.51%
2001	2.68%
2002	2.67%
2003	2.92%
2004	2.86%
2005	2.79%
2006	3.11%
2007	3.07%
2008	3.01%
2009	3.26%
2010	3.16%
2011	3.31%
2012	3.46%
2013	3.51%
2014	3.71%
2015	3.82%
2016	3.70%
2017	3.71%
2018	3.76%
2019	3.84%
2020	4.12%



Graph 5.2.1 : Graph of Malaysia Healthcare Expenditure- Historical Data % of GDP

5.2.2 Opportunity of Healthcare Expenditure

Medical devices

Even though Malaysia is a leading exporter of medical devices and products, Malaysia imports around 88 percent of medical devices from foreign countries, mainly focusing on high-tech medical devices. The medical device prospects in Malaysia are auxiliary equipment, diagnostic imaging products, surgical dental instrumentals, medical instruments and appliances, orthopedic and prosthetic implants, and consumer medical devices for monitoring health conditions.

Health technology

The COVID-19 pandemic has expedited the adoption of plans by the Government of Malaysia to implement healthcare digitalization. Harnessing technology for storing, sharing, and analyzing healthcare information will be increasingly important. Market opportunities for U.S. companies exist in supporting virtual consultations with health professionals, the tracking of electronic medical record systems (EMR), and health information exchange (HIE) for sharing needed health

records and results. The increase in digitization is also generating demand for technology to protect the privacy and security of that medical information.

Medical travel

Malaysia aims to enhance the current healthcare travel ecosystem and strengthen the Malaysia healthcare brand, to develop its capabilities and reputation as the Fertility Hub of Asia, Cardiology Hub of Asia, and Cancer Care Centre of Excellence. Private healthcare providers are driving health technology adoption and pursuing partnerships with international healthcare providers to strengthen their service offerings to medical travelers.

5.3 Problem Statement

By 2028, it will be expected that Malaysia's healthcare spending would have doubled to \$2.8 billion. In order to strengthen national resilience prior to the start of COVID-19's endemic phase, the government has given priority to public healthcare and allocated \$7.7 billion to the Ministry of Health (MOH) for operating and development costs. The National Budget for 2022's second greatest allocation goes to MOH. The government has increased its spending on medical equipment and health technology. in order for Malaysia to have enough medical technology.

Besides that, the lack of awareness about medical technology can contribute to higher healthcare costs. Outdated or less efficient technologies may require more frequent interventions, longer hospital stays, or additional healthcare services, leading to increased expenditures. Moreover, the absence of awareness may prevent the government from negotiating cost-effective procurement contracts for medical technologies.

Therefore, this study is conducted to find out the determinant of healthcare expenditure in Malaysia using income level, inflation and technology process as independent variable and healthcare expenditure as dependent variable. The period of study used is 31 years annually from 1990 to 2020.

5.4 Research Objective

5.4.1 General Objectives

The general objective in this research is to determine the healthcare expenditures in Malaysia

5.4.2 Specific Objectives

- a) To examine the relationship between independent variables; income level, inflation, technology process and dependent variable; healthcare expenditure
- b) To assess the most significant variables determining health expenditure in Malaysia.

5.5 Significant of Study

The researcher

The researcher can get vital information from this study regarding the factors affecting healthcare expenditure. Additionally, the researcher is capable of adapting to the process for preparing a research paper in order to provide an outstanding research paper in the future.

The Ministry of Health

As the main purpose of study, the Ministry of Health can refer this research paper as it gives information about the factors that affecting healthcare expenditure. The Ministry of Health can also beware and have a plan or strategy to invest or expense in the right path in health industry.

The publics

The public can gain from this research as it provides an overview of healthcare expenditure in Malaysia, which will help them better understand healthcare expenditure in Malaysia and the factors that affect it. The general public can be informed about their healthcare situation to prevent diseases.

5.6 Scope of Study

This study investigates the determinants of healthcare expenditure in Malaysia. The period of the study takes 31 years from 1990 until 2020 based on annually. Time-series data also used to complete the findings. The data has been taken from the World Bank and OECD Statistics. The variable that been used in this study which is independent variables; income level, inflation, technology process and dependent variable; healthcare expenditure. This study also use SPSS to run all the data to test the relationship between variable.

5.7 Limitation of Study

This study suffers from several limitations. First, data limitation since not to much recent articles to take as references for this study. I also take time to find the data for every variables because of the data needed is at least 30 years. Besides that, I need to change my independent variables because of high correlation between independent variable. I also cannot find a lot of past researcher result for an independent variable.

6.0 LITERATURE REVIEW

6.1 Introduction

The dependent and independent variables will be described in this chapter's literature review. Understanding each variable in this research issue in terms of words, definitions, characteristics, and relationships is the goal of the literature review. Based on the relevant theoretical models related to the research topic, a conceptual framework will be suggested.

6.2 Healthcare Expenditure (HCE)

Healthcare financing, whether through private or public means, remains fundamental for the improvement of individuals' health status the world over (Nketiah-Amponsah, 2019). In a more recent study that is related, Bilgel and Tran (2013) looked into the factors that affected Canadian provincial health expenditure during a 28-year period. Other research (Dreger & Reimers, 2005; Gbesemete & Gerdtham, 1999; Hellinger & Encinosa, 2006; Liang & Mirelman, 2014; Murthy, 2004; Okunade, 2008; Piabuo & Tieguhong, 2017) investigated the key factors of health expenditures in both developed and developing nations. Numerous studies have been conducted on the empirical relationship between health expenditure and health outcomes, especially for industrialised nations (Baltagi & Moscone, 2010, Erdil & Yetkiner 2009, and Nixon & Ulmann, 2006). Therefore, even if it hasn't been for all places and all times, the field has gotten a lot of scholarly interest.

6.3 Income Level (GDP)

Income level or GDP per capita is claimed as the vital determinant that influences healthcare expenditure as investigated by numerous studies. Some researcher said that income as a potential factor responsible for explaining variations in level and growth of HCE across countries and health expenditure a luxury good with an income elasticity above one, (Newhouse, 1977) ; (Kleiman E, 1974); (Parkin, McGuire, and Yule, 1987); (Gerdtham et al., 1998); (Gerdtham, Sogaard, Jönsson, et al., 1992); (U. G. Gerdtham, Sogaard, Andersson, et al.,1992b); (Gbesemete and Gerdtham,1992). According to Khan et al. (2016); Kraipornsak (2017); and Zhou et al. (2020); income is one of the

significant determinants that has positive relationships in explaining healthcare expenditure (HCE) in Malaysia.

According to Furuoka et al. (2018) in their research on twelve Asian countries (i.e. Cambodia, China, Indonesia, Japan, Laos, Malaysia, Mongolia, the Philippines, South Korea, Singapore, Thailand and Vietnam) for the period of 1995-2008., the results indicated that income level have significant relationship with health care expenditure in these countries. This variable is positive relationship with the amount of health care expenditure. In other words, when the countries' income is larger, the amount of health care expenditure is larger. This is supported by Siami-Namini (2018) where he investigate the relationship between the healthcare expenditure on G7 countries for the period of 1995 to 2013. The result indicated that income or GDP is the most significant and positive relationship variables to healthcare expenditure. The results implied that there is strong positive bidirectional Granger causality between healthcare expenditure and GDP in the long-run. Past researcher found that GDP is positively and significantly influencing the healthcare expenditure in Malaysia over the period of 1997 until 2017 (Mohd Nasir et al.,2021)

6.4 Inflation (INF)

Inflation rate is another determinant that could influence healthcare spending, yet only a few studies used this variable in their research. A study by Turgut et al. (2017) analysed the relationships between healthcare expenditure and inflation in Turkey using Pearson Correlation analysis and regression analysis from year 2003 until 2016, and they found a significant and positive relationship between inflation and healthcare spending. Besides, Wahab et al. (2019) also claimed about the dynamic drivers of healthcare expenditure in Organization of Islamic Cooperation (OIC) countries from 1990 to 2015 using Generalized Method of Moments (GMM) technique, where a significant and negative relationship between the consumer price index (inflation) and healthcare expenditure was found.

According to Siami-Namini (2018) where he investigate the relationship between the healthcare expenditure on G7 countries for the period of 1995 to 2013, the result indicated that CPI inflation also has a negative effect and

significant determinant on healthcare expenditure in the G7 countries. The results implied that there is strong negative bidirectional Granger causality between healthcare expenditure and the CPI inflation. Past researcher found that CPI shows a positive relationship and it significantly influences healthcare expenditure in Malaysia over the period of 1997 until 2017 (Mohd Nasir et al.,2021).

6.5 Technology Process (PAT)

The results of this study suggest that advances in technology have a significant role in health care expenditure within emerging nations. This means that although with an advance in technology, some diagnostic tests and drugs have become much cheaper, its effects on healthcare expenditure within the emerging nations have not been fully realized.

According to Nghiem and Connelly (2017) where they examines the trend and determinants of health expenditures in OECD countries over the 1975-2004 period. The result show that the most significant and positive relationship for technological progress and healthcare expenditure. This is supported by Marino.A and Lorenzoni. L (2019) where they investigate the relationship of healthcare expenditure across OECD countries from 1995-2015, the impact of technology process on health expenditure have significantly and positive relationship.

7.0 RESEARCH DESIGN AND METHODOLOGY

7.1 Introduction

This chapter highlights the research design and methodology of this study. This main purpose of study is to determine the factors affecting the healthcare expenditure in Malaysia. In this study, time-series data from secondary data will be use to run this study. The data was collected from World Bank and OECD Statistics. Data obtained was from year 1990 until 2020.

7.2 Data Collection

7.2.1 Data Collection Process

Measures for the dependent variables and the factors influencing healthcare expenditure inflows in Malaysia will be taken by analyzing and acting upon the recommendations provided by earlier studies in order to maintain consistency with those findings. The outcome of the variable selection process will serve as the basis for the final list of variables to be included in the study. I use SPSS 26 to run the data for this research paper.

7.2.1.1 Source of Data

This study uses annual time series data from 1990 to 2020 and the list of all affected issues was obtained from the World Bank (WB) and OECD Statistics (OECD) website. This study's main objective was to look at the variables influencing the inflow of healthcare expenditure in Malaysia namely income level or GDP, inflation and technology process.

7.2.1.2 Research Variables

This study explore the relationship for all the respective using the framework. Figure 6.2.1.2 illustrates the relationship of independent variables and dependent variables in the theoretical framework figure.

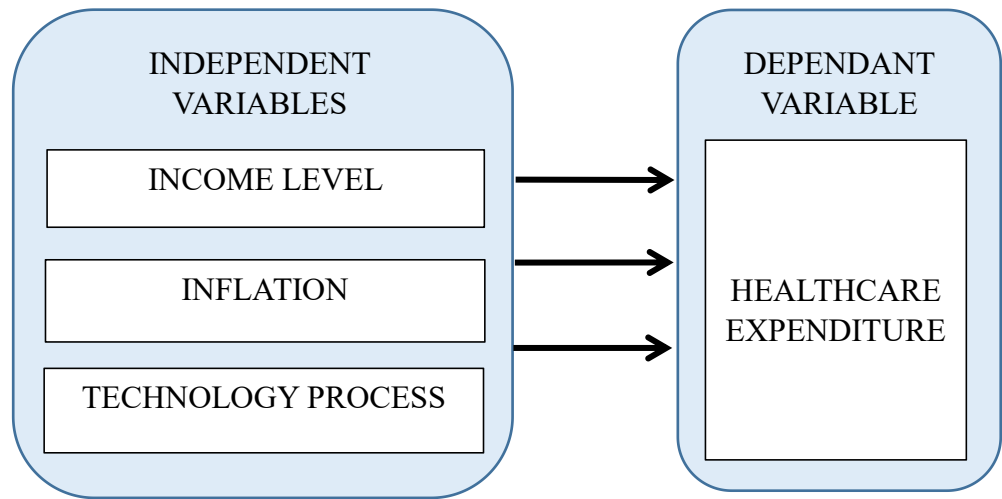


Figure 7.2.1.2 : Theoretical Framework for Dependent Variable and Independent Variable

Table 7.2.1.2: Table of Proxy Used

Variable (symbol)	Proxy	Unit	Source
Healthcare Expenditure(HCE)	Current Healthcare Expenditure (% of GDP)	%	WB
Income Level (GDP)	GDP per capita (logged)	RM	WB
Inflation (INF)	Consumer Price Index (CPI)	%	WB
Technology Process (PAT)	Patent by technology (logged)	Number of patent	OECD

Healthcare Expenditure is the dependent variable; income level, inflation and technology process are the independent variables. The gross domestic product per capita (GDP) (Ringgit Malaysia, constant price) will be used as a proxy for income level and patent by technology (PAT) (number of patent) for technology process. Meanwhile, current healthcare expenditure for healthcare expenditure, consumer price index (CPI) for inflation all in percentage.

7.3 Hypothesis

Hypothesis 1:

H₀ : There is no significant relationship between Income Level (GDP) and Healthcare Expenditure (HCE).

H₁ : There is significant relationship between Income Level (GDP) and Healthcare Expenditure (HCE)

Hypothesis 2:

H₀ : There is no significant relationship between Inflation (INF) and Healthcare Expenditure (HCE)

H₁ : There is significant relationship between Inflation (INF) and Healthcare Expenditure (HCE)

Hypothesis 3:

H₀ : There is no significant relationship between Technology Process (PAT) and Healthcare Expenditure (HCE)

H₁: There is significant relationship between Technology Process (PAT) and Healthcare Expenditure (HCE)

7.4 Methodology

7.4.1 General Model

This study will use a multiple linear regression model to evaluate the hypothesis. The form of this model is as follows:

$$Y = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \dots + \beta_n X_{nt} + \epsilon_t$$

7.4.2 Model of the Study

Following the above explanation, HCE can be modeled in the form of equation as below:

$$\mathbf{HCE}_t = \beta_0 + \beta_1 \ln \mathbf{GDP}_t + \beta_2 \mathbf{INF}_t + \beta_3 \ln \mathbf{PAT}_t + \varepsilon_t$$

HCE = Healthcare Expenditure

GDP = income level

INF = inflation

PAT = technology process

β = coefficient

ε = error,

t = time

ln = natural logarithm.

8.0 DATA ANALYSIS AND FINDINGS

8.1 Introduction

This part will show the empirical findings on the relationship between healthcare expenditure and independent variables in Malaysia from 1990 to 2020. This section presented the estimated results for correlation test, and multiple linear regression.

8.2 Correlation Test

Table 8.2 : Correlation Test Summary

Correlations					
		HCE	INF	PAT	GDP
HCE	Pearson Correlation	1	-.496**	.496**	.914**
	Sig. (2-tailed)		.005	.005	.000
	N	31	31	31	31
GDP	Pearson Correlation	.914**	-.384*	.675**	1
	Sig. (2-tailed)	.000	.033	.000	
	N	31	31	31	31
INF	Pearson Correlation	-.496**	1	-.185	-.384*
	Sig. (2-tailed)	.005		.318	.033
	N	31	31	31	31
PAT	Pearson Correlation	.496**	-.185	1	.675**
	Sig. (2-tailed)	.005	.318		.000
	N	31	31	31	31

Based on the correlation table 8.2, there are no strong correlation is detected among all independent variables where all values are recorded below than 0.8. The correlation between inflation and technology process is -0.185, inflation and income

level is -03.84, technology process and income level is 0.675, The negative sign indicates that they are negatively correlated while the positive sign means otherwise. Therefore, no multicollinearity problem is detected.

8.3 Coefficient of Determinant: R²

Table 8.3: Coefficient of Determinant Summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.939 ^a	.881	.868	.19068	.933

Based on the table 8.3, the R value shows the number 0.939, which is between the interval $> 0.75 - 0.99$. This means that the level of correlation and the strength of the relationship between the variables income level, inflation and technology process to healthcare expenditure is categorized as very strong. The coefficient of determination is 0.881, which means that variable contribution of income level, inflation and technology process to healthcare expenditure is 88.1 percent, while the other 11.9 percent is explained by other unknown factors.

8.4 ANOVA (F-Test)

Table 8.4: Anova (F-Test) Summary

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.264	3	2.421	66.599	.000 ^b
	Residual	.982	27	.036		
	Total	8.246	30			

Table 8.4 above illustrates that the calculated F value in multiple regression testing shows a value of 66.599 .The level of significance is 0.000 which is less than 0.05. This means that the variables of income level, inflation and technology process have a significant effect simultaneously on healthcare expenditure.

8.5 T- Test

Table 8.5: Coefficient Summary

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	GDP	1.070	.104	.991	10.283	.000
	INF	-.055	.026	-.152	-2.107	.045
	PAT	-.086	.039	-.201	-2.223	.035

Income level

Based on the table 8.5, income level have positive relationship on healthcare expenditure. Income level is significant effect on healthcare expenditure when the significant value is 0.000. Thus, the null hypothesis is rejected, showing that the income level has a significant impact on healthcare expenditure. 1 percent increase in income level increase healthcare expenditure by 1.070 percent and vice versa.

Inflation

Based on the table 8.5, inflation have negative relationship on healthcare expenditure. Inflation is significant effect on healthcare expenditure when the significant value is 0.045. Thus, the null hypothesis is rejected, showing that the inflation has a significant impact on healthcare expenditure. 1 percent increase in inflation decrease healthcare expenditure by 0.055 percent and vice versa.

Technology Process

Based on the table 8.5, technology process have negative relationship on healthcare expenditure. Technology process is significant effect on healthcare expenditure when the significant value is 0.035. Thus, the null hypothesis is rejected, showing that the technology process has a significant impact on healthcare expenditure. 1 percent increase in technology process decrease healthcare expenditure by 0.086 percent and vice versa.

The regression model that this study applied is:

$$\mathbf{HCE_t = -7.379 + 1.070lnGDP_t - 0.055INF_t - 0.086lnPAT_t + \varepsilon_t}$$

(10.283) (2.107) (2.223)

9.0 CONCLUSION AND RECOMMENDATION

9.1 Introduction

In this chapter, the article will first briefly and simply explain the table-formatted summary of the findings from the chapter before it. Furthermore, the research aims and hypotheses will be validated based on the key findings. Finally, recommendations for drawing a conclusion and future study will be covered.

9.2 Discussion

Based on the estimated result, income level on healthcare expenditure is found to be significant, indicating that income level increase healthcare expenditure in Malaysia. This result supported by Furuoka et al. (2018), Siami-Namini (2018), and (Mohd Nasir et al.,2021). This is because when the countries' income is larger, the amount of health care expenditure is larger. The highest t-ratio of income level showed that it was a major contributing factor responsible for explaining variations in health care expenditure. Therefore, as the income level of the general public increases, people spend more on their health in order to keep themselves healthier, active, and live longer lives(H. N. Khan, 2015).

Next, inflation has been found to have significant impact on healthcare expenditure in Malaysia. This outcome is consistent with the findings by past researchers Turgut et al. (2017) and Siami-Namini (2018).The findings revealed the rise of consumer demands for healthcare services due to the reduction of inflation rate in the OIC region.

Lastly, technology process also has a negative significant impact on Malaysia healthcare expenditure. Technology process has different findings than previous studies. The results, however, fail to match up with previous studies. Therefore, it is considered that one of the factors causing the difference in findings is the variation in the range of time series used in the research. The analysis for the prior research only went up to 2015 as the most recent year. As a result, this study's findings could be different from those of previous research.

9.3 Conclusion

The purpose of this study is to examine the income level, technology process and inflation on Malaysia healthcare expenditure. The data for this analysis was obtained from World Bank (WB) and OECD Statistics in the form of time series data spanning 30 years, from 1990 to 2020. In a nutshell, this study achieved the objective of finding out the relationship between independent variables and healthcare expenditure. The determinant of the independent variables, which include income level, inflation and technology process has been identified. Each variable has a significant impact on Malaysia healthcare expenditure, where income level is positively significant while the rest of the variables; inflation and technology process are negatively significant.

9.4 Recommendation

There are several recommendations for both the government and upcoming researchers. By funding preventive care, the government can make the healthcare system better. Allocating resources to preventative care initiatives can have a big influence on long-term healthcare expense reduction. The burden of treating chronic diseases and expensive medical procedures can be lessened by encouraging healthy lifestyles and disease prevention.

Besides that, government need to provide health education and awareness. Encourage the use of health education and awareness campaigns to advance healthy habits, early disease detection, and proper use of healthcare resources. Patients who are more knowledgeable about their health issues are more likely to make wiser decisions, which improves outcomes and lowers healthcare costs.

Lastly, invest in healthcare innovation and technology to increase the effectiveness and efficiency of healthcare delivery. For example, medicine, electronic health records, data analytic, and other tools that can speed up procedures and enhance patient outcomes may be considered.

For the future researcher, they may change their independent variables to reduce the t-test value to less than 0.01 which is more significant to the dependent variable on the data used in order to increase the significance of the data utilized. To get more reliable results, the future study can choose the independent

variables with a lot of past researcher result. Future research may lengthen the study time in order to obtain more trustworthy results. As a result, the results will be more accurate.

10.0 REFERENCES

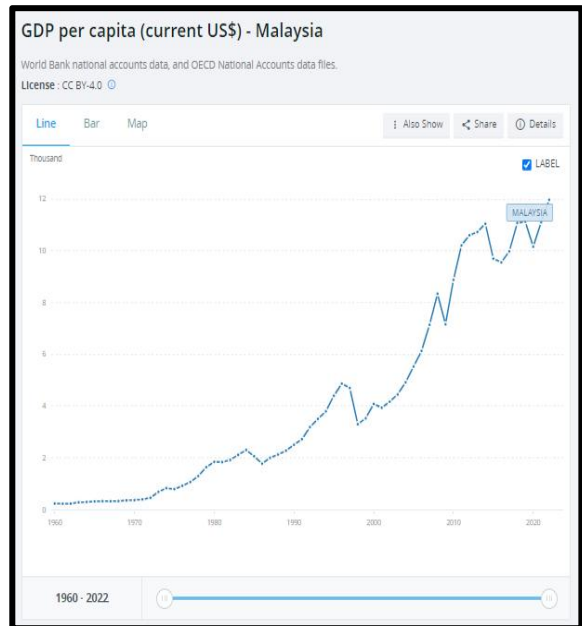
- Abbas, F., Hiemenz, U., Abbas, F., & Hiemenz, U. (2011). *Determinants of public health expenditures in Pakistan*. Unknown. <https://doi.org/10.22004/AG.ECON.118422>
- Ain, N. '., Yunus, M., Hazilah, N., Manaf, A., Omar, A., Juhdi, N., Azahadi Omar, M., & Salleh, M. (n.d.). *Determinants of healthcare utilisation among the elderly in Malaysia*. Edu.My. Retrieved July 27, 2023, from <https://ijie.um.edu.my/article/download/4891/2749/>
- Albouy, V., Davezies, L., & Debrand, T. (2010). Health expenditure models: A comparison using panel data. *Economic Modelling*, 27(4), 791–803. <https://doi.org/10.1016/j.econmod.2010.02.006>
- Baltagi, B. H., & Moscone, F. (2010). Health care expenditure and income in the OECD reconsidered: Evidence from panel data. *Economic Modelling*, 27(4), 804–811. <https://doi.org/10.1016/j.econmod.2009.12.001>
- Barkat, K., Sbia, R., & Maouchi, Y. (2019). Empirical evidence on the long and short run determinants of health expenditure in the Arab world. *The Quarterly Review of Economics and Finance: Journal of the Midwest Economics Association*, 73, 78–87. <https://doi.org/10.1016/j.qref.2018.11.009>
- Bhowmik, D. (n.d.). *Ijrtb determinants of India's health expenditure: An econometric analysis*. Lucp.net. Retrieved July 27, 2023, from <https://ejournal.lucp.net/index.php/ijrtbt/article/download/924/858>
- Cheah, Y. K., Goh, K.-L., & Abdul Adzis, A. (2021). Sociodemographic determinants of health care expenditure: micro level evidence of a fast-growing developing country. *International Journal of Social Economics*, 48(4), 640–656. <https://doi.org/10.1108/ijse-06-2020-0393>

- EXPENDITURES in THE WORLD: A PANEL DATA ANALYSIS. *International Journal of Business Economics and Management Perspectives*, 2(2), 772–784. <https://doi.org/10.29228/ijbemp.52908>
- Esen, E., & Çelik Keçili, M. (2022). Economic growth and health expenditure analysis for turkey: Evidence from time series. *Journal of the Knowledge Economy*, 13(3), 1786–1800. <https://doi.org/10.1007/s13132-021-00789-8>
- Expenditure, H. (n.d.). *Economic Growth, and Inflation in the G7 Countries: A Panel Cointegration Approach*.
- Furuoka, F. *, Lim, B. F. Y., Kok, E., Hoque, M. Z., & Munir, Q. (2011). *What are the determinants of health care expenditure? Empirical results from Asian countries*. <https://core.ac.uk/outputs/148366622>
- Gerdtham, U. G., Jönsson, B., MacFarlan, M., & Oxley, H. (1998). The determinants of health expenditure in the OECD countries: a pooled data analysis. *Developments in Health Economics and Public Policy*, 6, 113–134.
- Hajibabaei, H., Sadeghi Soghdel, H., Faraji Dizaji, S., & Ahmadi, A. (2020). Health expenditures in developing countries: Determinants and guidelines. *Journal of Research and Health*, 10(4), 257–266. <https://doi.org/10.32598/jrh.10.4.1411.1>
- Ke, X., Saksena, P., & Holly, A. (2011). *The determinants of health expenditure: A country-level panel data analysis*. R4d.org. https://www.r4d.org/wp-content/uploads/TransitionsInHealthFinancing_DeterminantsofExpenditures.pdf
- Khan, H. N., Razali, R. B., & Shafie, A. B. (2016). Modeling determinants of health expenditures in Malaysia: Evidence from time series analysis. *Frontiers in Pharmacology*, 7, 69. <https://doi.org/10.3389/fphar.2016.00069>
- Marino, A., & Lorenzoni, L. (2019). *The impact of technological advancements on health spending: A literature review*. Organisation for Economic Co-Operation and Development (OECD).

- Matteo, D. (2005). *The macro determinants of health expenditure in the United States and Canada: Assessing the impact of income, age distribution and time.*
- Mohd Nasir, N. B., Nasir, Z. A., Abdullah Fahami, N., Ahmad Kusairee, M. A. Z., & Ramli, K. (2021). Malaysia's Healthcare Expenditure: ARDL Bound Test. *ADVANCES IN BUSINESS RESEARCH INTERNATIONAL JOURNAL*, 7(2), 267. <https://doi.org/10.24191/abrij.v7i2.13340>
- Nghiem, S. H., & Connelly, L. B. (2017). Convergence and determinants of health expenditures in OECD countries. *Health Economics Review*, 7(1), 29. <https://doi.org/10.1186/s13561-017-0164-4>
- Nixon, J., & Ulmann, P. (2006). *The relationship between health care expenditure and health outcomes: Evidence and caveats for a causal link.*
- Nketiah-Amponsah, E. (2019). The impact of health expenditures on health outcomes in sub-Saharan Africa. *Journal of Developing Societies*, 35(1), 134–152. <https://doi.org/10.1177/0169796x19826759>
- Opeloyeru, O. S., & Lawanson, A. O. (2023). Determinants of catastrophic household health expenditure in Nigeria. *International Journal of Social Economics*. <https://doi.org/10.1108/ijse-02-2022-0132>
- Ouyang, X., Sun, Z., & Xu, X. (2022). Patent system in the digital era - Opportunities and new challenges. *Journal of Digital Economy*, 1(3), 166–179. <https://doi.org/10.1016/j.jdec.2022.12.003>
- Rahman, M. M. (2011). Causal relationship among education expenditure, health expenditure and GDP: A case study for Bangladesh. *International Journal of Economics and Finance*, 3(3). <https://doi.org/10.5539/ijef.v3n3p149>
- Ram, M., & Department of Economics, Banaras Hindu University, Varanasi, Uttar Pradesh, India. (2021). Determinants of healthcare expenditure in Eastern Uttar Pradesh, India: Through the lens of NSSO data. *The Journal of Communicable Diseases*, 53(03), 118–126. <https://doi.org/10.24321/0019.5138.202147>

- Rezaei, S., Hajizadeh, M., Ahmadi, S., Sedghi, S., Piroozi, B., Mohamadi-Bolbanabad, A., & Homaie Rad, E. (2019). Socioeconomic inequality in catastrophic healthcare expenditures in Western Iran: A decomposition analysis. *International Journal of Social Economics*, 46(9), 1049–1060. <https://doi.org/10.1108/ijse-01-2019-0034>
- Sorenson, C., Drummond, M., & Bhuiyan Khan, B. (2013). Medical technology as a key driver of rising health expenditure: disentangling the relationship. *ClinicoEconomics and Outcomes Research: CEOR*, 5, 223–234. <https://doi.org/10.2147/CEOR.S39634>
- Turgut, M., & Agirbas, I. (2017). Relationship Between Health Expenditure and Inflation in Turkey. *The Journal of Academic Social Science*, 5(50), 34–42.
- Wahab, A. A. O. A., Hashim, N., Kefeli, Z., & Faculty of Business and Management, Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia. (2019). Diagnosing the dynamic drivers of healthcare expenditure in organisation of Islamic cooperation (OIC) countries. *Journal of Reviews on Global Economics*, 8, 873–885. <https://doi.org/10.6000/1929-7092.2019.08.75>
- Yunus, N. M., Manaf, N. H. A., Omar, A., Omar, M. A., & Salleh, M. (2017). Determinants of healthcare utilisation among the elderly in Malaysia. *Institutions and Economies*, 115–140. <http://jumec.um.edu.my/index.php/ijie/article/view/4891>
- Zeng, J. (2014). Semi-parametric identification of determinants of health expenditures – evidence from inpatients in China. *Management Decision*, 52(7), 1302–1318. <https://doi.org/10.1108/md-11-2012-0796>
- Zhou, L., Ampon-Wireko, S., Asante Antwi, H., Xu, X., Salman, M., Antwi, M. O., & Afua, T. M. N. (2020). An empirical study on the determinants of health care expenses in emerging economies. *BMC Health Services Research*, 20(1), 774. <https://doi.org/10.1186/s12913-020-05414-z>

11.0 APPENDICES



Patents by technology

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Kuwait	4.3	2.0	2.0	1.2	1.5	2.0	3.0	7.7	5.3	3.0	6.0	2.7	2.0	7.3	5.1
Lebanon	3.7	0.2	10.0	2.7	6.9	9.0	4.2	6.5	5.6	0.3	0.0	9.0	12.4	12.0	4.0
Liechtenstein	21.3	26.2	26.5	34.7	27.5	33.2	26.4	26.0	49.4	27.9	31.1	25.0	32.5	31.7	8.1
Malaysia	106.2	157.2	151.9	181.7	195.2	169.0	193.3	188.5	192.1	202.5	200.0	166.6	164.5	165.7	121.7
Malta	7.0	7.5	11.4	16.1	12.0	4.5	7.7	6.3	9.5	13.4	15.2	9.7	17.7	12.6	14.8
Moldova	5.0	0.0	3.1	3.5	0.0	0.0	2.5	2.7	0.0	0.1	2.3	3.0	3.3	1.2	0.0
Monaco	9.0	16.5	19.3	20.3	16.6	16.6	17.8	15.9	13.3	10.3	13.0	14.5	17.0	13.3	12.0
Mongolia	0.0	0.3	0.9	2.7	0.0	0.0	1.0	0.0	1.6	1.4	3.6	0.6	1.2	0.6	0.0
Morocco	6.0	3.0	0.0	4.2	4.9	2.0	3.7	6.0	4.0	1.7	6.0	11.0	7.7	10.4	5.2
North Macedonia	0.3	1.5	1.0	0.0	0.9	0.0	2.0	0.5	2.3	0.0	0.0	1.3	1.0	4.3	0.7

Raw Data for Running in SPSS



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