



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

**SCHOOL OF COMPUTING**  
Faculty of Engineering

Project Proposal Form MCSD 6215  
Sem:..... Session:.....

## SECTION A: Project Information.

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Program Name: **Masters in Data Science**

Subject Name: **Project 1 (MCSD 6215)**

Student Name: WAN NUR SYAZANA BINTI WAN RUSLAN

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Project Title: Malaysia Towards Ageing Nation: Forecasting Future Fertility Trends through Regression Model.

Supervisor 1: \_\_\_\_\_

Supervisor 2 / Industry  
Advisor(if any): \_\_\_\_\_

## SECTION B: Project Proposal

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### Introduction:

Ageing population is not something strange to any country in the world. It is part of a process in which every country will experience it. However, in Malaysia recently, this issue has been highlighted and becoming a concern among citizens as well as the government's representatives. As Rafizi Ramli, the Minister of Economics of Malaysia said where Malaysia is expected to reach the status of an old country in 2044. More worryingly, other countries that go through this process is in a stronger economic and household financial position than Malaysia. Apart from that, Japan now recorded the second highest proportion of people aged 65 and over in the world. This issue needs to be emphasized and the study needs to be done to address the fertility rate drops problem that happens day by day to easier the government to take various measures and actions in order to sustain economic growth.

### Problem Background:

In recent development of advanced digital era, young generation especially Gen Z seems faced difficulties in developing their social skills in the real world as they have spent most of their time scrolling social media, playing online games and staying indoors resulting they have less exposed in real world problems making them socially incompetent. They unable to hold long, deep and meaningful and eye-to-eye conversations anymore. This situation affects their relationship with other people and they will miss many opportunities in their life if they maintained that kind of attitude and habits. Or even worse, they will face an obstacle in finding their life partner due to lack of communication skills or not exposing themselves in positive community or gatherings. This is a serious problem when the young adult does not even get married even after they have graduated from college or university due to middle life crisis. If this situation continues

to happen in the long run, our world will experience a serious ageing population and unable to sustain the economic growth. As in Japan country was listed as second highest proportion of people aged 65 and over in the world and Malaysia was predicted to have serious ageing population in 2040.

**Problem Statement:**

According to UNDP Malaysia Accelerator Lab authored by Rachel Yue, Malaysia is reaching a turning point in its demographic transition towards an increasingly ageing population. This is supported by the Department of Statistics Malaysia (DOSM), the proportion of the population 65 and older is expected to increase significantly, from 8.1% in 2024 to 14.5% by 2040. This proves that Malaysia will experience ageing nation with low productivity in workforce and low supply of talents thus resulting to slow economic growth and decreasing the import and export activities in our country. Special measures and intervention from the governments need to be taken as soon as possible to combat this issue for long term benefit of the future.

**Aim of the Project:**

The aim of this research is to identify the factors that contribute to the decline of fertility rates in Malaysia and how it influences the economy of a country.

**Objectives of the Project:**

1. To review the underlying factors of declining birth rates among Malaysian.
2. To perform casual inferences analysis on impact of a declining fertility rate to economic performance of a country.
3. To forecast future fertility trends in Malaysia through regression model approach.

**Scopes of the Project:**

Due to time constraints, the researcher aimed to perform several capable methods within a certain period of time such as systematic literature review to achieve the first objective of this research.

The dataset obtained from the website of Malaysia's Open Data Portal (data.gov.my) with collaboration of Department of Statistics Malaysia is enough to represent the current demographic of Malaysia. The website provides discoverable Information and the relatable dataset categories can be attained such as demographic, annual live births, household Income, labour rate market, national gross domestic product, education and health.

**Expected Contribution of the Project:**

Hoping that this study will be an eye opening to young adults in the significance of having lineage and family where it does affect the growth of the economy of a country. Moreover, this study will benefit the government on solving this ageing society issue in the future.

**Project Requirements:**

Software: Phyton

Hardware: \_\_\_\_\_

Technology/Technique/  
Methodology/Algorithm: Exploratory Data Analysis (EDA) , Causal Inferences , Regression Models

**Type of Project (Focusing on Data Science):**

☐ ☐ Data Preparation and Modeling

☐ ☐ Data Analysis and Visualization

☐ ☐ Business Intelligence and Analytics

☐ ☐ Machine Learning and Prediction

☐ ☐ Data Science Application in Business Domain

**Status of Project:**

☐ ☐ New

☐ ☐ Continued

If continued, what is  
the previous title? \_\_\_\_\_

**SECTION C: Declaration**

**I declare that this project is proposed by:**

☐ ☐ Myself

Student Name: .....

Date \_\_\_\_\_

The Supervisor(s) shall complete this section.

Name of Supervisor 1: .....

.....  
Date

Name of Supervisor 2 (if any): .....

.....  
Date

The Evaluator(s) shall complete this section.

<input type="checkbox"/> FULL APPROVAL	<input type="checkbox"/> CONDITIONAL APPROVAL (Major)*
<input type="checkbox"/> CONDITIONAL APPROVAL (Minor)	<input type="checkbox"/> FAIL*

**Comments:**

Name of Evaluator 1:

Signature

\*\*\*\*\*  
Date

Name of Evaluator 2:

Signature

.....  
Date