

UNIVERSITI TEKNOLOGI MARA

**TESTING OF MUNICIPAL SOLID WASTE RECYCLING
PROGRAM USING INTERNET APPLICATION IN HULU
SELANGOR DISTRICT**

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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

Recycling in Malaysia is not a new concept as they began since 1990s; however, we are still not reaching the set target for recycling rate, even there are so many initiatives and programs introduced by the government. Solid waste generation has increased, and environmental impacts related to improper management of waste has yet to cease. Due to advancement of technology, internet application is currently being integrated into the recycling program to increase participation of public. The objective of this study is to investigation on testing of municipal waste recycling program using internet application in five (5) residential areas in Hulu Selangor. It is found that there are eighteen (18) recyclables generated, and the top recyclables are (31.2%) extras, (14%) clothes, (10.5%) cardboards, and (9.6%) plastic bottles. Most neighbourhoods gather plastic products and paper products more than metal products and electrical and electronics. In comparison, Adenium Residence has the highest tonnage/cap/month with 3.22kg with total tonnage of 2,166.03kg/year, followed by 2.11kg by Seri Bakawali Apartment with total tonnage of 1,420.0kg/year, 1.8kg by Kuala Kubu Bharu with total tonnage of 1,434.9kg/year, 0.58kg by Desa Melor Residence with total tonnage of 469.5kg/year and 0.45kg by Rajawali Residence with total tonnage of 141.9kg/year. As recommendation, the local authority should further expand the program to other residential areas, adopt Act 672 or make their own policy regarding waste segregation, implement circular economy and practice waste prevention and waste minimization.

Keyword: recycle, apps, participation

CHAPTER 1

INTRODUCTION

1.1 Study Background

We have been hearing about recycling for the most of our lives, and knew about 3R campaigns since our childhood, the most used terms are REDUCE, REUSE and RECYCLE. However, as years goes by, recycling programs have been repeated, with higher frequency, but somehow there are still some people who does not recycle at all whether in their homes, or at the office. Municipal Solid Waste (MSW) Management has been a big challenge for most cities especially for developing countries, which include multiple processes such as waste collection, transportation, waste separation, and recycling. Waste separation at homes, offices, restaurants, is a key to divert waste from landfills and to maximize the recovery of recyclables. Mismanaged solid waste from the residential, commercial, and industrial areas can be a huge cause of environmental pollution globally, and due to exponential urbanization growth, this demands a more efficient and smarter ways of managing MSW (Shaukat, Ullah, Khan, Ali, & Waseem, 2019).

It is estimated that by 2050, earth population of about 70% will be in urban areas, creating vast cities, and this requires smart sustainable infrastructure, to satisfy and manage the needs of the people in terms of facilities, health, and cleanliness. A smart city is supposed to be a well performing urbanized population, that follows the fundamental upgrade in assisting the people, which are independent and fully aware community (Srikantha, Moinuddin, K.S., & Narayana, 2017). In this new millennia, devices like mobile phones are now smart phones fully equipped with internet, and new technologies has risen, namely the Internet of Things (IoT).