

**THE IMPLEMENTATION OF THE MCMC OFFICIAL POOL
VEHICLE BOOKING SYSTEM (KERETA2U)**

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requirements for the award of the degree of
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DEDICATION

To my dearest family members who endlessly sacrifices for my success and showers
me with moral supports;
To my wife specifically for continuous encouragement;
To my supervisor who always provide guidance through this journey; to
stakeholders that contributed in this effort;

This research is dedicated to you.

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ABSTRACT

The current process of the MCMC Pool Vehicle Booking is still manual i.e. submission of application via hardcopy form, which led to time-consuming. Further, there is no notification system to the end-user on the status of pool vehicle application where typically the user has to follow up via phone call/WhatsApp to the administrator. From the administrator perspective, they have difficulty in terms of reporting and perform analysis to obtain valuable insights due to the manual process. The objectives of this research (for Action Research 1) is to understand the effectiveness of the current process of the Official MCMC Pool Vehicle Booking and to understand how the implementation of Kereta2U system can improve the current process as well as to identify Kereta2U's user requirements. A mixed-method approach was used in this research, which included observation, interview and survey with a total of 36 respondents. Based on the data analysis and research findings, it was identified that the current process of MCMC official vehicle booking is not effective and improvement to the existing process has been introduced. The high level technical requirements have been presented based on the requirement from both user and process owner. Aside from that, the prototype of the Kereta2U system has been developed and impact assessment has been analysed in Action Research 2 (Cycle 2). Overall, the findings show that the implementation of Kereta2U will provide significant benefits to the end user, driver and administrator.

Keywords: online vehicle reservations, e-vehicle booking, car pooling

ABSTRAK

Proses semasa bagi sistem tempahan untuk kenderaan rasmi MCMC adalah masih manual iaitu permohonan dilakukan melalui penyerahan borang yang menyebabkan pengalaman pengguna yang tidak lancar dan mengambil masa yang lama untuk diproses. Tambahan pula, proses semasa tersebut tidak mempunyai sistem pemberitahuan kepada pengguna akhir mengenai status permohonan mereka di mana lazimnya pengguna perlu membuat susulan melalui panggilan telefon/WhatsApp kepada pihak pentadbir sistem. Dari perspektif pentadbir, mereka menghadapi kesukaran dari segi untuk menyediakan laporan dan melakukan data analisis disebabkan proses semasa adalah manual. Objektif penyelidikan ini (untuk penyelidikan Tindakan Kitaran 1) adalah untuk memahami keberkesanan proses semasa bagi sistem tempahan untuk kenderaan rasmi MCMC dan memahami bagaimana pelaksanaan sistem Kereta2U dapat menambah baik proses semasa serta mengenal pasti keperluan pengguna sistem Kereta2U. Pendekatan kaedah hibrid telah digunakan dalam penyelidikan ini, yang merangkumi pemerhatian, temu bual dan tinjauan dengan 36 orang responden. Berdasarkan analisis data dan dapatan kajian, didapati proses semasa bagi sistem tempahan kenderaan rasmi MCMC adalah kurang efektif dan penambahbaikan kepada proses semasa telah diperkenalkan. Keperluan teknikal bagi sistem Kereta2U telah dibentangkan berdasarkan keperluan daripada pengguna dan pihak pentadbir sistem. Selain itu, prototaip sistem Kereta2U telah dibangunkan dan penilaian impak telah dianalisis dalam penyelidikan Tindakan Kitaran 2. Secara keseluruhan, dapatan kajian menunjukkan bahawa pelaksanaan sistem Kereta2U akan memberi manfaat yang besar kepada pengguna akhir, pemandu dan pihak pentadbir sistem.

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LIST OF ABBREVIATIONS

AR	Action Research
RO	Research objective
AMD	Asset Management Department
SITD	Strategic Information and Technology Department
EISD	Enterprise Information System Department
MCMC	Malaysian Communications and Multimedia Commission

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CHAPTER 1

INTRODUCTION

1.1 Information about the case company

Malaysian Communications and Multimedia Commission (MCMC) is a regulatory body that regulates communications and multimedia industry in Malaysia. Besides, it also regulates the postal and courier industry as well as certification authority (CA) industry. MCMC was established in November 1998 under the Malaysian Communications and Multimedia Commission Act (MCMCA) 1998. Pursuant to this act, MCMC has to implement and promote it's 10 National Policy Objectives for the communications and multimedia industry. Currently, there are four acts under the purview of MCMC, which are:

- i. Communications and Multimedia Act 1998 (CMA1998)
- ii. Postal Services Act 2012 (PSA 2012)
- iii. Digital Signature Act 1997 (DSA 1997)
- iv. Strategic Trade Act 2010 (STA 2010)

As of December 2020, MCMC has around 821 staff with 23 divisions and 67 departments. The headquarter (HQ) office is located at Cyberjaya, Selangor. MCMC also has 12 state offices in each state within Malaysia.

Asset Management Department (AMD)

The Asset Management Department (AMD) is responsible for managing all related assets owned by MCMC. One of AMD's functions is to provide vehicle-booking service for MCMC HQ staff for travel and meetings within Malaysia. Before pandemic Covid-19 and Movement Control Order (MCO) hit Malaysia, almost every day, AMD received a high number of applications on the vehicle booking from MCMC staff, which in average up to 70 to 100 applications per month.

Presently, AMD own 17 vehicles with different types, brand and model as well as 4 drivers for the purpose to provide the MCMC pool vehicle service for MCMC staff as per Table 1 and 2 below:

No.	Plate No.	Vehicle's Brand and Model
1	BPG 6893	Nissan X-Trail 2.5
2	KDB 9986	Perodua MyVi 1.3
3	VAN 9746	Nissan X-Trail 2.5
4	VAN 9754	Nissan X-Trail 2.5
5	VAW 3885	Proton Preve 1.6
6	VAX 7176	Toyota Hilux D/Cab 2.4
7	VCH 2912	Proton Preve 1.6
8	WKC 1818	Land Rover Def. D/Cab
9	WVE 334	Toyota Fortuner 2.7

10	WVF 1321	Toyota Hiace 2.7
11	WVH 4771	Toyota Hilux D/Cab 2.5
12	WVJ 7667	Toyota Fortuner 2.7
13	WVK 9453	Mit. Pajero Sport 2.5
14	WVM 3075	Toyota Hilux D/Cab 2.5
15	WXA 3186	Hyundai Starex 2.5
16	WXD 946	Hyundai Starex 2.5
17	VAY 1056	Hyundai Starex 2.5

Table 1.1 : List of MCMC pool vehicle

No.	Driver's Name
1	Kamal Bahari
2	Mohamad Hanif Aizeq Mohd Zaki
3	Mohd Zazallee Md Zin
4	Siva Rajan Munyandi

Table 1.2 : List of MCMC Drivers

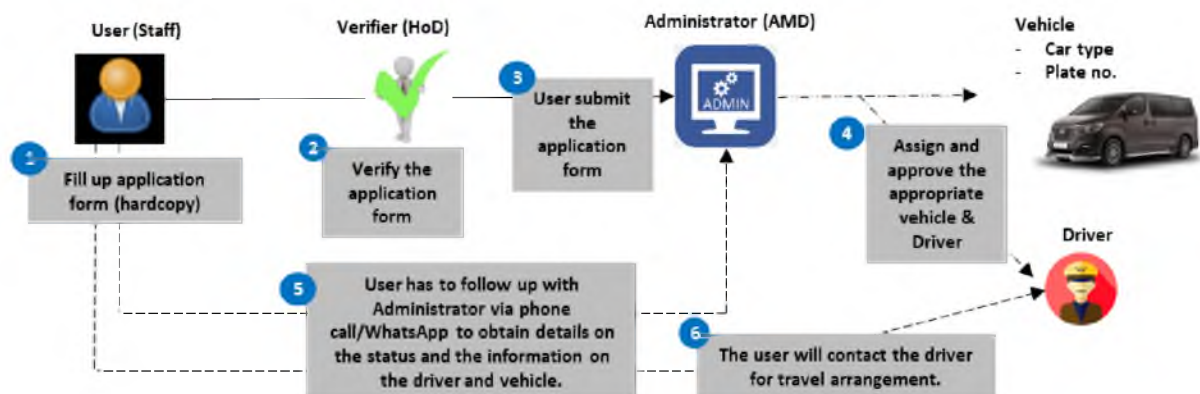


Figure 1.1: The Current Process of MCMC Pool Vehicle Booking

Although the demand for the MCMC pool vehicle is considered high, the current process of MCMC Pool Vehicle Booking is done in very traditional ways which involves hardcopy application form and manual process. The detail process is shown as in Figure 1 and explained as follow:

1. To acquire the MCMC pool vehicle service, the first step is the MCMC staff or in this context the user has to fill up the application form. The information required includes basic information of the applicants, travel information such as destination, date and time as well as list of passengers. The application form is available in MCMC intranet as per Appendix A.
2. Once the user has completed the said form, then the user will submit the completed form to their respective head of department (HoD) for verification where the HoD will provide his/her signature in this form.
3. The user needs to submit the application form to the administrator (AMD) for their further review and approval based on the conformity, availability and suitability.
4. Once approved, the administrator will assign the appropriate vehicle and driver.
5. The user then has to follow up with the administrator via phone call or WhatsApp to obtain details on the status of the application and the information on the driver and vehicle.

6. The user will contact the assigned driver for travel arrangements.

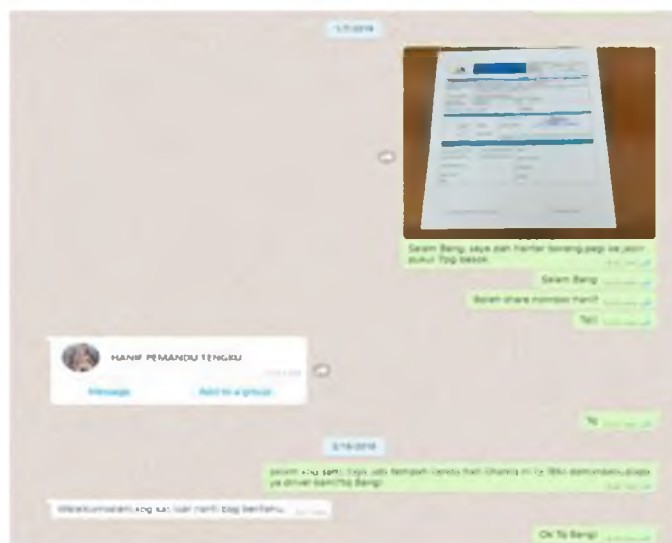
1.2 Problem Statement

From the observation from the current process as discussed above, it will cause several issues to both the users and administrators due to these traditional methods and manual processes. Among the issues are as follows:

1) Time consuming due to manual paper-based.

The current process is still manual where the user needs to submit the application using hardcopy application form, which leads to time consuming. The issues will become more critical particularly when the user department has to attend an adhoc meeting or unplanned meetings at the very last minute and the pool vehicle booking will be done at the last minute (Najihah, 2011).

2) Lack of communications between administrator and user.



The current process shows that there is no notification mechanism to the end user on the status of the application where typically the user itself has to follow up via phone call or through Whatsapp. The user is always wondering if their application is approved or not so that they can find other options if their application is being rejected. This potentially causes the user not very satisfied with the booking process and painful user journey.

3) Difficulty for AMD to produce a report to the top management.

Currently, there is no database system to manage the MCMC pool vehicle booking. Hence, AMD will take a long processing time to produce reports and perform analysis due to manual paper-based processes.

4) Double bookings for vehicle and driver

With the current process in-place, there are possibilities that the administrator will assign the same vehicle or driver for different applicants at the same time.

1.3 Research Questions

In order to address the problem statements or issues as discussed in previous section, this research will attempt to answer the following questions:

- RQ1: How effective is the current process of the Official MCMC Pool Vehicle Booking?
- RQ2: How automation and digitalization via implementation of Kereta2U system can improve the current process?

- RQ3: What are the user requirements for the Kereta2U system?
- RQ4: How effective is the proposed Kereta 2U system?

1.4 Research Objectives

Therefore, come the research objectives as follows:

- RO1: To understand the effectiveness of the current process of the Official MCMC Pool Vehicle Booking.
- RO2: To understand how the implementation of Kereta2U system can improve the current process.
- RO3: To identify the user requirements of Kereta2U system
- RO4: To develop and identify the impact on the implementation of the proposed Kereta2U system

1.5 Importance of the proposed research

The findings of this research will be able for MCMC to validate the problem statements as mentioned above. Further, this research also will determine the appropriate interventions required to enhance the effectiveness of the existing process MCMC Pool Vehicle Booking. It is expected that the implementation of Kereta2U system will offer many benefits to all the stakeholders that involve in the process such as the user, the administrator and the drivers.

The expected benefits are as follows:

- i. Provide seamless user experience and user friendly due to automation and improvement of communication between user and administrator via notification system.
- ii. Facilitate the booking process simpler and faster due to reduction of time consumed for booking applications particularly for the last minute booking.
- iii. From the administrator (process owner) perspective, it will enhance the effectiveness of their service delivery and provide intangible cost savings in the long- run for MCMC due to paperless and reduction of activities involved.
- iv. The administrator will be able to manage records properly by keeping data securely and efficiently using the Kereta2U system. Besides, they will be able to generate reports, perform analysis based on the data available in the system to gain valuable insights and improve their decision-making.

1.6 Limitation and Scope of the Research

Due to time and budget constraints, this research focused on improving the MCMC pool vehicle booking service at MCMC HQ Office only where any other pool vehicle booking service in state and branch offices were not included. Therefore, the targeted interviewees of this research comprise the user (MCMC staff in HQ), the administrator and drivers. If the time permitted and budget is available, MCMC can always plan to expand the system to be used in other state or branch offices in the future.

Further, this research only focused on developing a web-based prototype of

Kereta2U system to highlight the benefit of the implementation of a vehicle management system. Once the budget is allocated, the features of the prototype can be further enhanced and a mobile application (mobile app) may be developed in the future.

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