

APLIKASI WEB UNTUK PENGURUSAN TABUNG KHAIRAT KEMATIAN (TKK)**WEB-BASED APPLICATION FOR MANAGING TABUNG KHAIRAT KEMATIAN (TKK)**

Zubaidah Bohari¹, Lenny Yusrina Bujang Khedif², Abdul Hadi Abdul Talip³, Sulastris Putit⁴, Ketty Chachil⁵, Siti Maliza Salleh⁶

¹ Pensyarah Kanan, Universiti Teknologi MARA, zubaidah@uitm.edu.my.

² Pensyarah Kanan, Universiti Teknologi MARA, lennykhedif@uitm.edu.my.

³ Pensyarah, Universiti Teknologi MARA, adie0951@uitm.edu.my.

⁴ Pensyarah, Universiti Teknologi MARA, sulastris@uitm.edu.my.

⁵ Pensyarah, Universiti Teknologi MARA, ketty@uitm.edu.my.

⁶ Pensyarah Kanan, Universiti Teknologi MARA, sitimaliza@uitm.edu.my.

* Penulis Penghubung

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Abstrak

Khairat Kematian ditubuhkan untuk masyarakat Melayu Islam di Malaysia bagi meringankan beban waris si mati dengan memberi bantuan pengurusan jenazah sekiranya berlaku kematian ahli atau tanggungan ahli. Walau bagaimanapun, kebanyakan tugas pengurusan dijalankan oleh qariah masjid menggunakan pendekatan konvensional di mana data direkodkan secara manual dan tiada kaedah pelaporan yang sesuai untuk membentangkan status terkini khairat kematian. Oleh itu, aplikasi Pengurusan Tabung Khairat Kematian (TKK) berasaskan web ini dibangunkan untuk mengatasi masalah ini. Selain itu, aplikasi berasaskan web ini melaksanakan pendaftaran menggunakan *Google Form* yang merangkumi maklumat peribadi, yuran TTK, jumlah derma (jika ada) dan lain-lain informasi yang sedia ada dan disimpan dalam storan awan melalui *Google Sheet*. Selain itu, *Google Data Studio* akan digunakan dalam aplikasi berasaskan web untuk melakukan analisis data mudah dan menyampaikan maklumat yang dikehendaki secara visual dan interaktif menggunakan carta, graf, peta, dan lain-lain. E-resit juga akan dikeluarkan secara automatik untuk setiap pembayaran pendaftaran TTK, setelah proses pengesahan dilakukan oleh pentadbir sistem. Oleh itu, aplikasi berasaskan web ini berfungsi sebagai penyelesaian kepada pengurusan data berkost rendah dan boleh digunakan dengan mudah oleh pengguna yang berbeza-beza. Ia membantu qariah masjid dalam menguruskan TTK secara sistematik, dan juga membantu komuniti tempatan di sekitar mereka untuk mendaftar TTK dengan cekap.

Kata kunci

Aplikasi berasaskan web, pengurusan Tabung Khairat Kematian (TKK), pendaftaran TKK, pelaporan TKK, pemantauan TKK

Abstract

Khairat Kematian was established for the Malay Muslims community in Malaysia to alleviate the burden of the deceased's heirs by providing funeral management assistance in the event of the death of a member or dependents of the member. However, most of the managerial tasks are conducted by *qariah masjid* using a conventional approach whereby all data are recorded manually and there is no proper reporting tool to present the current status of the *khairat kematian*. Our proposed Web-Based *Tabung Khairat Kematian* (TKK) Management Application is developed for these tasks. On top of that, this web-based application implements registration using Google Form which includes personal information, TKK fees, donation amount (if any) and others that will be captured and stored in cloud storage via Google Sheet. Moreover, Google Data Studio will be utilized in the web-based application to perform simple data analysis and present desired information visually and interactively using charts, graphs, maps, etc. Furthermore, e-receipt will be automatically issued for each payment of TKK registration, once the verification process done by the system admin. Hence, this web-based application serves as a low-cost data management solution and can easily be used by varied users. It helps the *qariah masjid* in managing TKK systematically, and also helps local communities in their vicinity to register TKK efficiently.

Keywords

Web-based application, Tabung Khairat Kematian (TKK) management, TKK registration, TKK reporting, TKK monitoring

1. Introduction

Masjid or mosque is an institution close to the Muslims as the center of activity and administration life. The word *masjid* or mosque has evolved from the word *sajada* (*sujud*) which refers to devoted, loyal, and with bowed heads with full respect and reverence. Moreover, the unity of the Muslims began with the institution of the mosque. Mosques are places where religious studies take place, and where the younger generation of Muslim children would go for their religious training (Ismail, 2003). Besides, the mosque functions as a one-stop center for Muslims to do activities such as center for Islamic knowledge, a meeting place for discussing Islamic issues, and running Islamic activities. Among other functions conferred by the State Islamic Religious Council to the mosques is to maintain charitable funds such as collections (*sadaqah*), endowments (*waqaf*), cemeteries, and specific properties with the permission of the Council. This legislation is clearly stated in the Administration of Muslim Law Act enacted by each state in Malaysia (Siren & Md Yusoff, 2011).

Khairat kematian or mutual benevolence is another charitable fund commonly set up by mosque committees in Malaysia. *Khairat kematian* for Muslims is a form of financial

assistance to be given to the family of the deceased Muslim. It refers to a certain amount of fees collected for the benefits of the registered members who have passed away (Rofaizal, Yosef Niteh, Ahmad, Farid, & Sharil, 2017). In Islam, when a Muslim died, the other Muslims are collectively obliged to properly manage his or her funeral. The funeral process is managed by mosque committees and funded by mutual benevolence.

2. Problem Statement

In 2021, Jabatan Kemajuan Islam Malaysia (JAKIM) reported that there are approximately 6,517 mosques and 17,572 prayer places in various parts of Malaysia (JAKIM, 2021). Based on the report, it is therefore estimated about 6,517 mutual benevolence or commonly known in Malaysia as *khairat kematian* managed by these mosques. The terms, policies, operations, and management of mutual benevolence might be practically informal and varies from one mosque to another. Some mosques manage manually the mutual benevolence in terms of registration, payment, and providing information to the served community. The data of registered members for *khairat kematian* and the amount of fees collected might be kept in a conventional file management. However, as the data grows, conventional or manual filing can become a very cumbersome practice and it has several drawbacks such as time-consuming, documents prone to damage or being misplaced, lack of security, and higher cost.

Therefore, this study proposed the Web-Based *Tabung Khairat Kematian* (TKK) Management Application with the aim to improve the manual membership registration process through online registration. The proposed web-based application facilitates the mosque committee with the ability to collect data such as year of membership, member's full name, identification number, telephone number, email address, home address, the status of residency, zone, dependents, *khairat* fee, donation, and method of payments, with ease. Apart from that, this web-based application is also able to issue e-receipt as proof of *khairat kematian* registration and payment. To ensure the system runs smoothly, the web-based application will be monitored and maintained by the system administrator elected among the mosque committees who are given hands-on technical training on system operation. The system administrator has access to verify the membership, generate reports on membership information, and accumulated funds based on year and zone. Moreover, this application is developed using Google Drive as the main software which is free and easy to operate by novice users.

3. Methodology

This project was developed on Windows-operated hardware. Google Drive is used as the main software to develop this web-based application. It is a free cloud-based storage service that enables users to store and access files online. There are four (4) main Google services used as software requirements to develop this web-based application which are Google Form, Google Sheet, Google Studio, and Google Site. **Figure 1** shows the overview of the web-based application development which involve entities such as administrator, users, and Google Drive services.

Google Form is used to collect data from the communities for TTK registration purposes. It is a survey administration software that allows users to create and edit surveys online. It is an application in the form of a template or worksheet or questionnaire that can be used independently or together for the purpose of getting user information very efficiently. Google Sheet is used to store and manage collected registration data in cloud storage. It is a free, web-based spreadsheet application. Google Studio is used to create a dashboard that can display TTK data interactively and intuitively. It is an online tool for converting data into customizable informative reports and dashboards. Google Site is used to create the TTK web application that contains the registration form, TTK MNK information, and the dashboard. It is a free website publishing tool that allows users to create a gorgeous and engaging website.

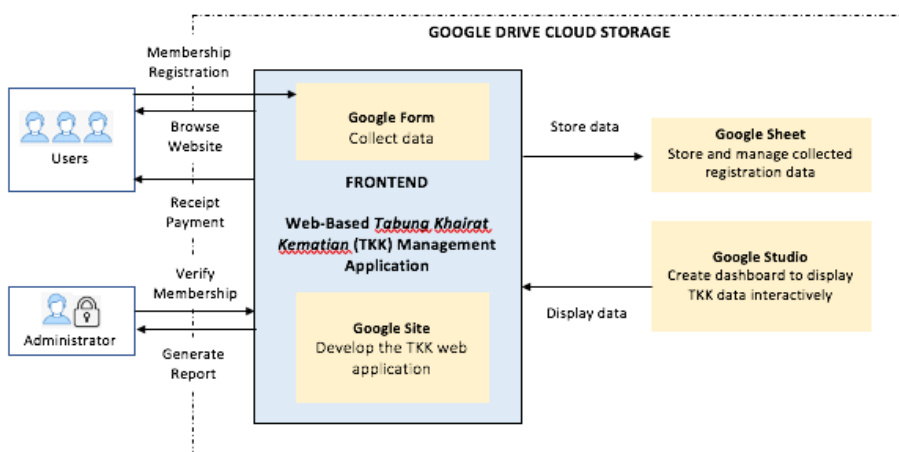


Figure 1: The overview of the Web-Based *Tabung Khairat Kematian* (TKK) Management Application development

The Web-Based *Tabung Khairat Kematian* (TKK) Management Application is proposed to be utilized by Masjid Nurul Khair, Kampung Semariang Batu chosen as the first mosque which located in Kuching, Sarawak.

4. Results

The web-based application is implemented into a real prototype and integrated with Google Drive services for the end-user. The system testing is executed to test the whole

system for the functionality and reliability of the system being developed. This section discusses the deployment, implementation, user interface, and testing results of the entire web-based application.

In the deployment stage, the hardware and software requirements are set up and tested to ensure it is compatible with the project requirements. Hardware and software requirements are part of significant elements in web-based application development. This is to ensure that the system development process works smoothly without any interruptions and problems. The minimum hardware requirements used in developing the Tabung Khairat Kematian (TKK) web-based application include Processor: Intel(R) Core (TM) i3-10100 CPU @ 3.60GHz, Memory: 237GB HDD, Capacity: 8GB RAM, Operating System: Windows 10 Home Single Language

The user interface is the central part of the web-based application which permits the client to associate with content or programming running on a remote server through a web program. A user interface refers to a system and a user interacting with each other through commands or techniques to operate the system, input data, and use the contents. User interfaces range from systems such as computers, mobile devices, games, etc. to application programs and content usage (Joo, 2015).

Figure 2 shows the homepage of the TKK web-based application. Here, the users will be provided with some significant information about *Tabung Khairat Kematian* Masjid Nurul Khair (TKK MNK), Kampung Semariang Batu including a short introduction to TKK, registration rules, guidelines, fees, benefits, and claims. Should there have any inquiries, the user may contact the admin through the hotline number or email address displayed on the website. To start registering as a member for TKK MNK, the user may click one of the registration buttons available on the homepage.



Figure 2: Homepage of TKK web-based application.

To proceed with the registration, the user will be required to fill in a Google Form by clicking the “Fill out form” button shown in **Figure 3**. Some of the details required will

include the year of membership, member's full name, identification number, telephone number, email address, home address, the status of residency, zone, dependents, *khairat* fee, donation, and method of payments. After that, proof of payment needs to be uploaded to complete the registration based on the payment method as depicted in Figure 4.

TKK MNK

LAHAN UTAMA | DAFTAR AHLI | GALERI | SEMAK KEAHLIAN | JUMLAH AHLI TERKINI | ADMIN

DAFTAR KEAHLIAN

BORANG TTK

Sila isi semua maklumat dengan jilid dan lengkap. Sila rujuk Syarat Penyertaan terlebih dahulu.

Bagi transaksi secara atas talian (Online), maklumat adalah seperti berikut:

Bank: Bank Rakyat
 Nama: Masjid Nurul Khair Tabung Khairat
 No. Acc: 11554 302 528
 Rujukan: TTK_NamaAhl

* Required

Fill out form

Google Forms: This form was created outside of your domain.

TABUNG KHAIRAT KEMATIAN
 مسجد نور الخير
 MASJID NURUL KHAIR
 Lot 74 Lorong 2/A, Kampong Semeriang Batu, 93050 Kuching
 Email: mnk.khaifat@ulm.edu.my

BORANG TTK

Sila isi semua maklumat dengan jilid dan lengkap. Sila rujuk Syarat Penyertaan terlebih dahulu.

Bagi transaksi secara atas talian (Online), maklumat adalah seperti berikut:

Bank: Bank Rakyat
 Nama: Masjid Nurul Khair Tabung Khairat
 No. Acc: 11554 302 528
 Rujukan: TTK_NamaAhl

adie0951@ulm.edu.my [Switch account](#)

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.

Any files that are uploaded will be shared outside of the organization they belong to.

* Required

Figure 3: TTK Registration Form Page

TABUNG KHAIRAT KEMATIAN
 مسجد نور الخير
 MASJID NURUL KHAIR
 Lot 74 Lorong 2/A, Kampong Semeriang Batu, 93050 Kuching
 Email: mnk.khaifat@ulm.edu.my

BORANG TTK

adie0951@ulm.edu.my [Switch account](#)

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.

Any files that are uploaded will be shared outside of the organization they belong to.

* Required

MAKLUMAT RESIT TUNAI:

NO. SIRI RESIT TUNAI: *
 Masukkan No. Siri Resit Tunai

Your answer

Back Submit Clear form

TABUNG KHAIRAT KEMATIAN
 مسجد نور الخير
 MASJID NURUL KHAIR
 Lot 74 Lorong 2/A, Kampong Semeriang Batu, 93050 Kuching
 Email: mnk.khaifat@ulm.edu.my

BORANG TTK

adie0951@ulm.edu.my [Switch account](#)

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.

Any files that are uploaded will be shared outside of the organization they belong to.

* Required

LAMPIRAN RESIT PEMBAYARAN

RESIT PEMBAYARAN *
 Serikan gambar resit pembayaran sebagai bukti.

Add file

Back Submit Clear form

Figure 4: Proof of Payment

Once the user has successfully registered as a member for TKK MNK, they can check their membership status by clicking on the “SEMAK KEAHLIAN” button on the menu bars at the homepage shown in Figure 5. Here, the user will only need to key in their identification number using the format given and then simply press enter. A link to download an e-receipt of membership will only be available if the identification number entered belongs to a valid member.



Figure 5: Membership Checking

In addition, from the menu bars, the user may also check the total of members registered for TKK MNK by clicking the “JUMLAH AHLI TERKINI” button. Subsequently, Figure 6 shows an interactive dashboard that contains a list of the total membership, displayed in tabular format for the current year or the next coming few years. The data can be filtered based on the desired year(s) through the filtering button prepared in the dashboard. Besides, the user may enlarge the dashboard and view the data through Google Data Studio.

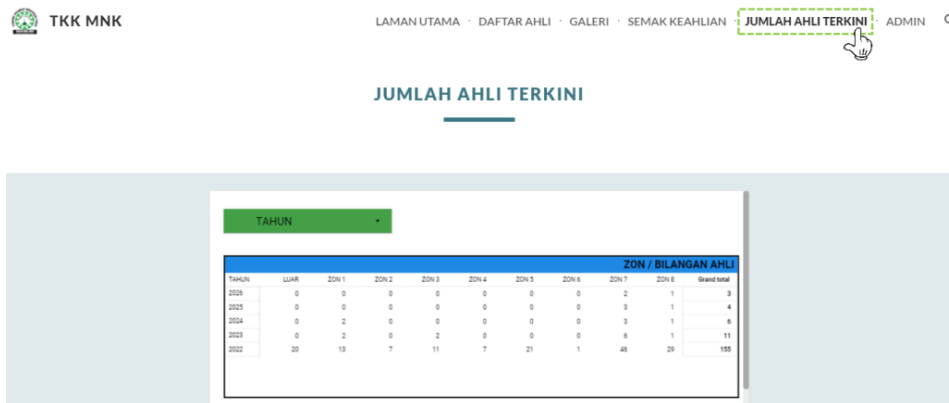


Figure 6: Current Total of TTK MNK Membership

The TTK web application also prepared special access for the administrators to manage the data. Prior to the access, as shown in **Figure 7**, the admin needs to log in using their personal login details for verification.

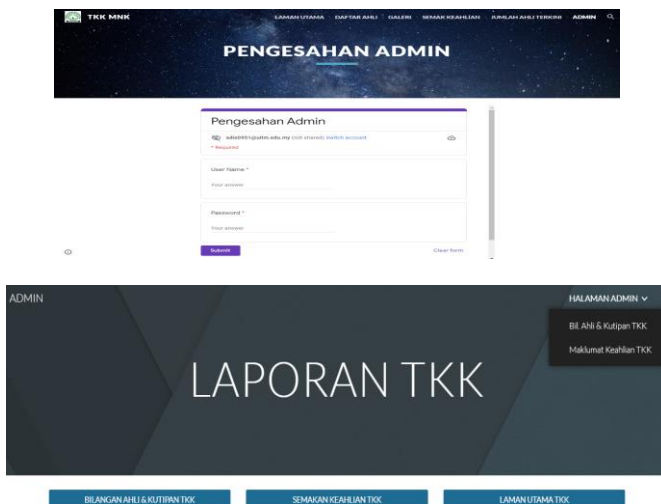


Figure 7: Admin Login Page and Homepage

Once logged in, the admin may view the total number of members registered with the total amount of money collected for TTK MNK for all zones in Kampung Semariang Batu based on the selected year. Moreover, the admin is given special access to view and check the membership details for all registered members under TTK MNK including the full name, zone, address, dependents, and telephone number as shown in **Figure 8**.

BILANGAN AHLI & JUMLAH KUTIPAN TKK

BILANGAN AHLI DAN KUTIPAN TKK BERDASARKAN TAHUN CARIAN

TAHUN: 2022 (1) ▾

ZON / BILANGAN AHLI										
TAHUN	LUAR	ZON 1	ZON 2	ZON 3	ZON 4	ZON 5	ZON 6	ZON 7	ZON 8	Grand total
2022	20	13	7	9	5	21	1	46	29	151

ZON / JUMLAH KUTIPAN KESELURUHAN TERMASUK SUMBANGAN (RM)										
TAHUN	LUAR	ZON 1	ZON 2	ZON 3	ZON 4	ZON 5	ZON 6	ZON 7	ZON 8	Grand total
2022	1,460.00	410.00	310.00	281.00	180.00	650.00	30.00	1,410.00	955.00	5,686.00

ZON	TABUNG KHAIRAT (RM)	SUMBANGAN (RM)	JUMLAH (RM)	
LUAR		1,200.00	260.00	1,460.00
ZON 1		390.00	20.00	410.00
ZON 2		210.00	100.00	310.00
ZON 3		270.00	11.00	281.00
ZON 4		150.00	30.00	180.00
ZON 5		630.00	20.00	650.00
ZON 6		30.00	0.00	30.00
ZON 7		1,380.00	30.00	1,410.00
ZON 8		870.00	85.00	955.00
Grand total		5,130.00	556.00	5,686.00

MAKLUMAT KEAHLIAN

SEMAKAN KEAHLIAN BERDASARKAN CARIAN

TAHUN: 2022 (1) ▾

ZON ▾

NAMA AHLI: NAJWAN BIN ... (1) ▾

NO. KAD PENGENALAN ▾

TANGGUNGAN ▾

TAHUN...	NAMA AHLI	ZON	ALAMAT	TANGGUNGAN	NO. TELEFON
2022	NAJWAN BIN ABDUL	ZON 1	No 76, Lorong 71, Semariang Batu	HANI ISABELLA	0191410311

Figure 8: Total TKK Members and Money Collected / TKK MNK Members' Information

All the data collected from the members of TKK MNK are managed using cloud-based storage. The main platforms used are Google Drive and Google Sheet. The admin can edit, update, and delete any membership details via Google Sheet, meanwhile, e-

receipts generated for every member are stored in Google Drive. Samples of both platforms are shown in **Figure 9**.

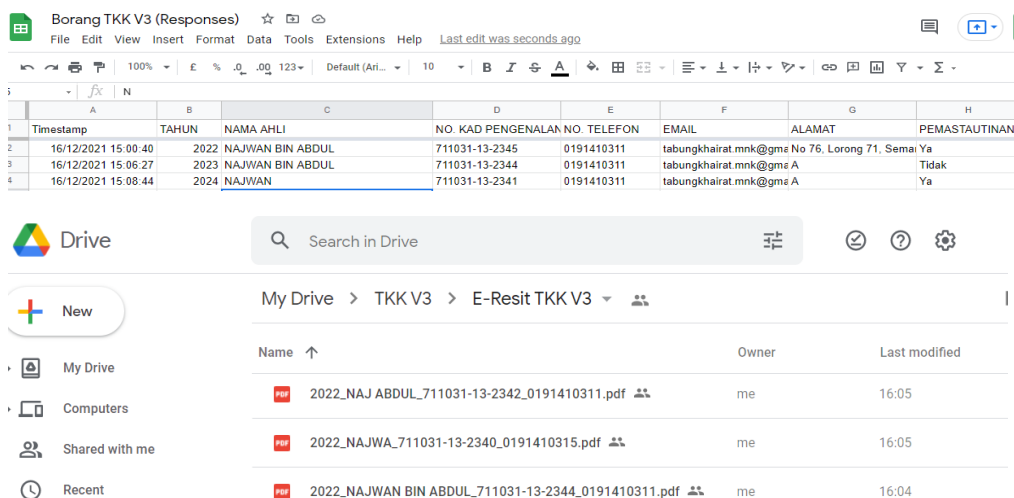


Figure 9: TKK MNK Membership Database and TKK MNK E-Receipt Database

5. Discussions

Before the web-based application is fully utilized by users, it needs to be tested. Testing is the process to uncover requirements, design, and coding errors in the program. It is used to identify the correctness, completeness, security, and quality of software products against a specification. This web-based application has been tested using black box testing that focuses on the design, interfaces, basic functionality, and security. Black box testing treats the software as a “Black Box” – without any knowledge of internal working and it only examines the fundamental aspects of the system. While performing a black box test, a tester must know the system architecture and will not have access to the source code (Khan, 2011). For this purpose, the following test cases were designed and carried out.

Table 1: Test Case for Login, Verify, Report, and Logout

Test Case 1			
Test Case Name: Login, Verify, Report, Logout			
Application: Web-based TKK MNK Management Application			
Step	Procedures	Expected Result	Result

1	Insert admin, username, and password	Save the insert data into the database	Success
2	Insert username and password	Verify the admin	Success
3	Click on <i>Bilangan Ahli & Kutipan TKK</i>	Application redirect admin to view report on <i>Bilangan Ahli & Kutipan TKK</i>	Success
4	Repeat step 2 for <i>Maklumat Keahlian TKK</i>	Application redirect admin to view a report on <i>Maklumat Keahlian TKK</i>	Success
5	Repeat step 1 for login using a false username and password	Application display error message	Success
6	Logout account	Logout redirect to page <i>Pengesahan Admin</i>	Success
Precondition		No credentials are currently login	
Post-condition		New and updated admin name, username, and password saved in the database	

Based on **Table 1**, the administrator page in the web-based application can only be accessed by an authenticated user. The system administrator is selected among the mosque committee.

Table 2: Test Case for Registration, Payment, and Membership Checking

Test Case 2			
Test Case Name: Registration, Payment and Membership Checking			
Application: Web-based TKK MNK Management Application			
Step	Procedures	Expected Result	Result

1	Click on <i>Daftar Keahlian TKK MNK</i>	Application redirect user to <i>Borang TKK</i> (Google Form)	Success
2	Insert year of membership, member's full name, identification number, telephone number, email address, home address, the status of residency, zone, dependents, <i>khairat</i> fee, donation, and method of payments.	Save the insert data into the database	Success
3	Upload proof of payment	Application redirects the user to upload proof of payment to be verified by the admin	Success
4	Click on <i>Semak Keahlian</i>	Application redirect admin to view the report on <i>Semakan Keahlian</i> based on the identification number	Success
5	Click on <i>Jumlah Ahli Terkini</i>	Application redirects the user to view the current number of memberships in an interactive dashboard	Success
6	Check notification of payment verification in the email account	Admins verify proof of payment and send an email with e-receipt notification to member	Success
Precondition		No credentials are currently registered as a member	
Post-condition		Membership details saved in the database	

Table 2 shows the TKK MNK membership registration process. The membership will only be verified the by system administrator once the payment has been made and notification will be sent via email.

Table 3: Test Case for Edit, Update and Delete Membership

Test Case 3			
Test Case Name: Edit, Update and Delete Membership			
Application: Web-based TKK MNK Management Application			
Step	Procedures	Expected Result	Result
1	Click on Google Drive for <i>TKK MNK</i>	Application redirects user to Google Drive for TKK MNK	Success
2	Click on Google Sheet containing information on membership	Application redirects user to Google Sheet for TKK MNK	Success
2	Update the existing membership information	List view all newly updated data	Success
3	Delete membership data	Removed from the list view	Success
4	View Success insert, update and delete data	Lists view all data	Success
Precondition		Admin is currently login	
Post-condition		Membership details are saved in a database, and deleted details removed from the database	

Based on Table 3, only the system administrator is allowed to edit, update, and delete membership information from Google Sheet.

6. Conclusion

A web-based application is proposed to facilitate the mosque committees on ways to improve mutual benevolence management which includes membership registration, membership verification, payment process, and reporting. This web-based application is expected to serve as a platform for the mosque committee (*qariah masjid*) in managing TKK systematically, and also helps local communities in their vicinity to

register TKK efficiently. This solution was easily used by varied users and can be adapted by any mosque. Furthermore, this can be a low-cost data management solution, particularly for community and mosque committees. For future works, this project can be implemented by other mosques that have constraints in managing the *khairat kematian* with limited funds.

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