

## Potential Strategies for Revitalizing UKM Mosque in Enhancing Community Engagement (Potensi Strategi Penggiatan Semula Masjid UKM dalam Meningkatkan Penglibatan Masyarakat)

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### ABSTRACT

*UKM (Universiti Kebangsaan Malaysia) Mosque has existed in Bandar Baru Bangi for over 40 years, however, the locals' involvement in its daily activities is still lack and has yet optimum. Thus, there is a need to revitalise UKM Mosque to be more relevant to local communities. At the same time, the mosque also requires a lot of maintenance and this incurs costs to UKM. With the recent budget cuts to universities by the Ministry of Higher Education (MoHE), as well as the Covid19 pandemic impact, the UKM Islamic Centre (UIC) has been encouraged to focus also on the income generation activities. The objective of this study is to investigate the potential of revitalizing the UKM Mosque by proposing new facilities, renovation or any appropriate improvement that could lead to a greater impact on the local communities, as well as increase the income of the mosque to be financially sustainable. The method adopted in this study is the combination of literature review, case studies, series of discussions with related parties and a questionnaires survey. The outcome of the study is a list of proposed improvements with priority given to the facilities that meet the end users' needs, such as cafe and elevators. The list could be a useful guideline for UIC to refer to before making any decisions on future development of UKM Mosque. This study is hoped to assist UIC to generate greater income and, at the same time provide more significant and meaningful impact on the local communities.*

*Keywords: Universiti Kebangsaan Malaysia; mosque; communities; income generation*

### ABSTRAK

*Masjid UKM (Universiti Kebangsaan Malaysia) telah wujud lebih 40 tahun di Bandar Baru Bangi, namun, penglibatan komuniti setempat dalam aktiviti harian masih lagi kurang dan belum optimum. Oleh itu, terdapat keperluan untuk memperkasakan Masjid UKM supaya lebih relevan untuk masyarakat setempat. Dalam masa yang sama, masjid juga memerlukan banyak penyelenggaraan dan ini menyebabkan pertambahan kos kepada UKM. Dengan pemotongan bajet universiti oleh Kementerian Pengajian Tinggi (KPT) serta kesan daripadapandemik Covid19, Pusat Islam UKM (PIU) telah digalakkan untuk turut memberi tumpuan utama kepada aktiviti penjanaan pendapatan. Objektif kajian ini adalah untuk mengkaji potensi Masjid UKM dan mencadangkan kemudahan baru, pengubahsuaian atau sebarang penambahbaikan yang bersesuaian pada Masjid UKM yang boleh membawa kepada impak yang lebih besar kepada masyarakat setempat, serta meningkatkan pendapatan masjid agar mencapai kewangan lestari. Kaedah yang digunakan dalam kajian ini ialah gabungan kajian literatur, kajian kes, siri perbincangan dengan pihak berkaitan dan tinjauan soal selidik. Hasil kajian adalah senarai cadangan penambahbaikan dengan keutamaan diberikan kepada kemudahan yang memenuhi keperluan pengguna akhir seperti kafe dan lif. Senarai tersebut boleh menjadi garis panduan yang berguna untuk rujukan PIU sebelum membuat sebarang keputusan mengenai pembangunan Masjid UKM pada masa hadapan. Kajian ini diharap dapat membantu PIU menjana pendapatan yang lebih besar dan pada masa yang sama memberi impak ketara dan bermakna kepada masyarakat setempat.*

*Kata kunci: Universiti Kebangsaan Malaysia; masjid; komuniti; penjanaan pendapatan*

## INTRODUCTION

Universiti Kebangsaan Malaysia was established on 18 May 1970 (Portal Universiti Kebangsaan Malaysia, 2022). Though the establishment of the university was in 1970, UKM had only moved to its current location which is Bangi in October 1977. It is now over 50 years old and has

achieved various successes, including in education and research. Around two years later, which was on 16 March 1979, the construction of the UKM Mosque began at Bangi. On Wednesday, 14 April 1982, the mosque was completed and officially handed over to UKM. The mosque is managed by the Islamic Centre of the university, which has been established since 1979 (Pusat Islam UKM 2023).



FIGURE 1. The location of UKM Mosque which is adjacent to the university's main entrance  
*Source: Google Map (2023)*



FIGURE 2. The front façade of the mosque with a large staircase and 6.6 meter high minaret.

UKM Mosque was built on a two-hectare site near the UKM's entrance (Figure 1). It is located to the right of the university's main entrance; and on its left is the Chancellor Tun Abdul Razak Hall (DECTAR), which is the UKM's main hall that holds the annual convocation. The arrangement of UKM Mosque on the right, and DECTAR on the left, is a symbolic of the combination of faith and

knowledge, as clearly stated in the philosophy of UKM. This is also in line with the vision and mission of UKM, which place faith, knowledge and moral as its core. The followings are UKM's motto, philosophy, vision, and mission (Portal Universiti Kebangsaan Malaysia, 2022).

## THE ARCHITECTURE OF THE MOSQUE

Encik Abdullah Bakri, the former Director of the Development Unit in UKM, is the individual who has inspired the design of UKM Mosque. Meanwhile Tun Syed Nasir, the former Pro-Chancellor of UKM, has inspired the mosque's six towers that are around the parameters of the building, as well as the tall minaret tower with a height of 6.6 meters. Altogether, the mosque is three stories high with an area of 25, 713.41 square meters and able to accommodate a praying congregation of 5000 people at a time (Figure 2).

The main prayer hall is located on the first floor, which can be accessed through the six towers that serve as stairs, as well as a very wide main entrance staircase. This main staircase is the unique feature of UKM Mosque, which welcomes visitors to enter the prayer hall as well as facilitates the large outflow of people after Friday prayers. In addition to the large prayer hall, UKM Mosque is equipped with various facilities such as an administrative office, guest room, seminar room, mortuary, library, and other important spaces (Figure 3 and 4).

Currently, the parking capacity of the mosque is around 300 parking spaces which are located at the front

and left sides of the mosque. However, there are also many other parking spaces can be found at nearby buildings, including DECTAR and the Faculty of Islamic Studies (Pusat Islam UKM 2022).

In Malaysia, there are various styles of mosque architecture due to many influences (Asif et al. 2019), however, the traditional mosques are commonly having square or rectangular plan (Ahmad et al. 2013). For the architecture of UKM Mosque, it can be related to modern Brutalist, with a dome as a typical representation of Islamic architecture in Malaysia. Its approach towards Brutalism architecture may be due to the influence during the 70s architectural approach in Malaysia. Its architecture also demonstrates design continuity with the earlier completed building complexes nearby such as the chancellery, library, and several faculty blocks. Though it adopts modern architecture and does not have a distinct resemblance to the traditional or vernacular mosque in Malaysia, the architecture of the mosque responds well to the local tropical climate. It optimizes natural ventilation and daylighting, and does not use an air-conditioning system for the prayer hall. Nevertheless, it still maintains an acceptable thermal comfort with the help of mechanical ventilation, including high volume, low speed (HVLS) fans.

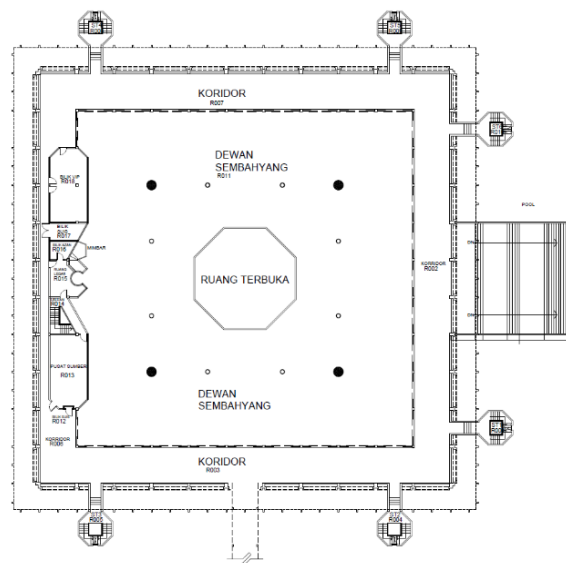


FIGURE 3. The plan of main prayer hall on the first floor with floor opening at the middle

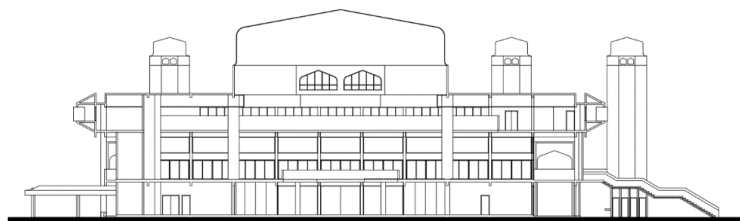


FIGURE 4. The elevation of the UKM Mosque

The thermal comfort investigation conducted at the prayer hall indicated that the indoor operative temperature of the hall was within the predicted thermal comfort range for the hot and humid climate. A questionnaire survey of the users of the mosque yielded results indicating a neutral thermal sensation during the morning hours. In addition, most of the respondents were neutral or satisfied with the indoor thermal environment during the afternoon and late afternoon hours (Mohammad Yusoff, 2021).

## ISSUES AND RESEARCH OBJECTIVE

The mosque is now over 40 years old, and the condition of the mosque is deteriorating, compared to its original condition. Thus, the mosque requires a lot of maintenance and this incurs additional costs to the university. Even though UKM Mosque has existed in Bangi for over 40 years, its significant impact on the local communities is still uncertain based on their involvement during daily activities.

Other than small internal and external renovations and extensions, the UKM Mosque has yet to undergo major redevelopment to optimise its potential. Thus, there is a need to revitalise UKM Mosque to ensure it becomes more relevant to the local communities (including UKM's students and staffs) and able to be financially sustainable through diversified income portfolios. With the recent budget cut to universities by the Ministry of Higher Education (MoHE) and the impact of Covid19 pandemic, the UKM Islamic Centre (UIC) has been encouraged to urgently focus on the income generation activities other than current core religious-related activities.

Therefore, the objective of this study is to investigate the potential of revitalizing the UKM Mosque by proposing new facilities, renovation or any appropriate improvement that could lead to a greater impact on the local communities (including UKM's students and staffs) as well as increase the income of the mosque to be financially sustainable.

## METHODOLOGY

### THE RESEARCH APPROACH

The research approach of this study is the combination of qualitative and quantitative approaches. The methods adopted in this study are the combination of literature review, observation (case studies), site investigation, a series of discussions with the management of UIC and questionnaires survey. Initially, a literature study was completed on the mosque design and the topic of sustainability. The history and the design approach of UKM Mosque was included in the literature study.

Subsequently, an observation approach was executed on a selected case study. The selected mosque is Masjid Al-Hasanah which is located around 5 kilometers from the UKM Mosque. It is one of the biggest mosques in Bandar Baru Bangi, which is around the same size as UKM Mosque. The mosque was selected as case study due to its active usage by the local communities in Bandar Baru Bangi.

The main focus of the case study is to observe and learn from the mosque on the activities and development within and surrounding it. Once the observation of the existing mosques was completed and the related data was derived, a site analysis of UKM Mosque was then executed. Concurrently, a set of discussions was also conducted with the management of the mosque. Site analysis is considered the most important process in which a series of site visits were completed to understand the various economic, social and environmental aspects of the mosque. One of the purposes of the site analysis is to investigate the potential of the mosque. Whereas, the objective of discussions with the management is to obtain their future expectations for the mosque. A series of discussions with the top management of UIC, involving the director and the deputy director, was also conducted. The discussions included the client brief, expectations, and other related issues.

After the list of potentials of the mosque was outlined and the expectations from the management were clarified, an overall proposal for revitalizing the mosque was proposed. The proposal involves a list of suggestions for the development of the indoor and outdoor of the mosque. The proposal concerns on the potential of income generation, the increased number of visitors, the aesthetic value of the mosque complex, and many others.

Finally, once all these are completed, questionnaire survey was conducted at the mosque. The selected respondents are those who are familiar with the UKM Mosque. The survey was executed to understand the needs of end users as well as to obtain their opinion regarding the redevelopment proposal. 60 respondents consisted of 30 UKM's staffs and 30 students were selected. This is to ensure that the preferences difference between staffs and students can be analyzed.

## CASE STUDIES

### MASJID AL HASANAH, BANDAR BARU BANGI

Masjid Al Hasanah, Bandar Baru Bangi was selected for the case study (Figure 5). The construction of Masjid Al-Hasanah, Bandar Baru Bangi started on 1<sup>st</sup> January 1997 and was officiated in Mac 2000 (Masjid Al-Hasanah Bandar Baru Bangi 2023). The mosque is one of the biggest



mosques in Bandar Baru Bangi, and surrounded by commercial, institutional and residential buildings. Its location which is very strategic has made the mosque is

occupied with many activities, which has also attracted many visitors throughout the day, whether during weekdays or weekends.



FIGURE 5. Al-Hasanah Mosque at Bandar Baru Bangi



FIGURE 6. Commercial kiosks along the corridor



FIGURE 7. Playground at the internal courtyard garden



FIGURE 8. Community Farm (Urban Kit Project under Ministry of Science, Technology and Innovation)

The mosque also has its own website which encompasses comprehensive information, including the missions and visions, history, activities, donations and many more. Recently, the mosque was renovated at the estimated cost of approximately four million. (Masjid Al-Hasanah Bandar Baru Bangi 2023).

There are many activities within the mosque boundary. Among the facilities provided are car wash, restaurant, shops, sales kiosks, Al-Quran and religious book collection for disposal, center for recycling (oil, paper, etc), futsal court, community farm/landscape (fruit, vegetables, herbs and fishes), palygound, donation box (in the form of money and others), wakaf for resting, and many more (Figures 6 to 8). The mosque also provides an office for the Mosque Cooperative. Besides that, the mosque also focuses on education activities such as KAFA Integrasi Al Hasanah, seminars, daily lectures or talks, school programs, and many more. Other than that, the mosque also focuses on the green aspects to educate visitors and to make the mosque greener. Green activities include energy and water savings, utilization of green products, recycling programme and green landscape with various types of plants including herbs.

Based on the site observation at the mosque, it is found that there are many commercial activities that could generate income to the mosque and at the same time provide business opportunities for the local community. The mosque's strong financial condition has allowed the provision of many daily, monthly and annual activities. The mosque is also well maintained, with the latest renovation works that involved the roof and the domes. Other than the income from commercial activities, the mosque also receives donations from thousands of users,

especially during Friday prayers (Masjid Al-Hasanah Bandar Baru Bangi, 2023).

The lesson learnt from Al-Hasanah Mosque indicates that strong financial is very important for the sustainability of the mosque to support various community activities and the maintenance of the mosque. Without strong financial condition, the roof and dome renovations that cost millions Malaysian Ringgit would not have been possible. While donation is one of the sources of income, the mosque also has other income through the commercial facilities such as restaurants, shops and kiosks.

## UKM MOSQUE

### SITE ANALYSIS

After the completion of observation on the case studies based on the four core factors, the findings were used to guide the site analysis process on the UKM Mosque. The site analysis was conducted in two aspects, which are the micro and macro studies. In addition, the data was also collected via series of discussions with the management of UIC. The discussions with the management of UIC have outlined four core factors that need to be considered for the revitalization of UKM Mosque. They are:

1. To improve the current facilities at UKM Mosque to be of the international standard, particularly on the technological and quality aspects.
2. To optimize the use of the facilities and spaces in UKM Mosque for various social and economic activities.

3. To ensure the mosque becomes one of the central activities for various purposes for UKM as well as for Bandar Baru Bangi and its surroundings, thus it will have a positive impact on all communities.

4. To improve the financial sustainability of UIC, to be more sustainable and independent, thus reduce dependency on financial support by UKM.



FIGURE 9. The interesting design of the mosque which optimizes natural ventilation and daylighting.

Before proceeding to the discussions on the current issues related to the mosque, it is important to note that UKM Mosque was designed with the climate in mind. Thus, it responds well to local climatic conditions, which are hot and humid climates. Its green design strategies for thermal comfort have similarities to the traditional mosque and Malay houses as discussed by Husen & Mohamed (2021), and Mohammad Yusoff & Mohamed (2017).

The presence of high floor-to-ceiling height, central void that connects the ground and first floor, and large opening at all floors (Figure 9) have resulted in free airflows within the indoor spaces. They also allow the indoor spaces to be lit by the sunlight and consequently reduce the dependent on artificial lighting. Open corridors, metal grills and glass sliding doors along the parameters of the praying hall (Figure 10) allow daylighting and natural ventilation

for indoor environmental comfort. Appropriate mosque design is important for sustainability and could influence energy consumption and thermal comfort. These include envelop design which is very important for the indoor thermal comfort of a building, including mosque (Azmi & Kandar 2019, Azim & Ibrahim 2020, Mohd Nawayai et al. 2020)

Therefore, acceptable thermal comfort is possible with the help of ceiling fans (including high volume, low speed (HVLS) fans). The interior spaces (praying areas) are protected from direct sunlight by the wide corridors on each floor. On the second floor, the protruding elements with horizontal and vertical protrusions are provided to protect the floor below and the interior spaces from direct sunlight (see Figure 11).



FIGURE 10. Open corridors, metal grills and glass sliding doors along the parameters of the prayer hall.





FIGURE 11. Corridors and horizontal and vertical protrusions as a shading device.



FIGURE 12. Green landscape surrounding the mosque.



FIGURE 13. Landscape which are less interesting and less appropriate for various students' activities.



FIGURE 14. Seating area without roof cover.





FIGURE 15. Small vegetable garden which and be turned into community farm



FIGURE 16. The second floor of the mosque which is not optimized due to accessibility issue.



FIGURE 17. Existing ancillary buildings which are not optimized and with poor outdoor appearance.

UKM Mosque is also surrounded by lush landscape and matured trees (Figure 12) that protect the building from direct sunlight, thus keeping the mosque cool. However, more trees shall be planted on the south (at the parking

area). The various passive design strategies protect the prayer halls from the daytime sun heat, thus leaving the spaces cool without depending on the air-conditioning system.

TABLE 1. The identified issues and potential solutions

No	Items	Issues	Potential Solutions
1	Social	The number of visitors to the mosque is low compared to the other mosques of similar sizes such as Masjid Al Hasanah. The visitors are mostly the students and staffs. However, during Friday Prayer the number increases (except during semester break).	UKM Mosque shall offer more facilities and activities to attract visitors, such as educational activities/programs, café, playground, exercising area and restaurant.
2	Environment	The mosque is surrounded by green landscape, but unattractive (Figures 13 and 14).	It is suggested that the landscape design is improved to accommodate various activities such as community farm (Figure 15). The design should also user-friendly, especially for the children. Appropriate and comfortable resting areas ( <i>wakaf</i> ) are also important. In addition, consistent maintenance of the landscape is also essential.
3	Economy	At the moment, there is also dearth of economic activities at the mosque. The existing kiosk is closed and unutilised.	It is suggested to have more economic activities such as café, restaurant and sale kiosks. Market study shall be completed and some activities can be held at a certain time only, such as the end or early of a month.
4	Users	The location of the mosque which is within the boundary of the university and surrounded by fencing, leads to the less welcoming condition to outsiders, such as the residents of Bandar Baru Bangi. In addition, it is also located away from the main residential areas of Bandar Baru Bangi which has caused fewer visitors among the local communities (except students and staffs)	To improve the accessibility to the mosque in ensuring a more welcoming feeling for the outsiders to attend activities within the mosque. More activities and facilities should be provided to attract more visitors.
5	Accessibility	Poor accessibility for people with disabilities (PWD), especially to the first and second floors (Figure 16). The mosque has good vehicular access. However, due to being surrounded by a fence, it is less welcoming for the outsiders.	Elevator is compulsory to be provided at the mosque to allow access to the upper floors for the PWD. More activities, such as seminars and training, can be held on the top floor if elevators are provided, Fencing is also important for security purpose, though it creates the unwelcoming feeling to the outsiders. Hence, to attract outsiders, activities offered by the mosque are important.
6	Space utilization	There are many spaces within and outside the mosque which are not optimally used, such as the third floor and the existing kiosk. There are also many spaces and areas that have potential to be developed (Figure 17).	It is important to optimise the space utilization with new activities that can attract more visitors, such as the provision of seminar rooms, café and library.
7	Universal Design	The 3-storey mosque does not provide proper access for people with disabilities (PWD), though there are initiatives to provide a ramp on the ground floor.	To provide elevators and appropriate ramps for accessibility to all spaces.
8	Building Design	The mosque is strategically located at the entrance of the university and the design is grand and huge. However, it is less welcoming, especially during the night time.	There is a need to improve the surroundings of the mosque so that it is livelier and more vibrant with activities. An interesting and more welcoming landscape and lighting at night time with appropriate activities is important to attract visitors to the mosque.

Earlier, the discussion was completed on the positive aspects of UKM Mosque, which relate to its architectural design and green design strategies that lead to low energy consumption and acceptable indoor thermal comfort. Therefore, it is important to maintain the current low energy approach of achieving indoor environmental comfort by optimizing the natural ventilation and daylighting, as well as other approaches. However, apart from the positive aspects, there are also issues found in the current approach and strategies implemented at the UKM Mosque. TABLE 1 shows the identified issues at UKM Mosque, as well as the potential solutions to the listed issues. These are the results derived from the observation and discussion with UIC.

### THE POTENTIAL DEVELOPMENT OF UKM MOSQUE

Recently, there have been various challenges faced by the UIC. One of the challenges is the economic factor whereby UKM Mosque has to start generating its own income and be independent of UKM financial support. Additionally, as the mosque is 40 years old, it has aged and required a lot of maintenance due to roof leakage and deteriorating finishes. Correspondingly, the Covid-19 pandemic has also affected the mosque financially for various reasons.

At the same time, UKM Mosque has to leap forward, not just in the financial aspect but also in the environmental and social factors. UKM Mosque has to align and lead towards the mainstream, such as on the aspect of sustainability, i.e., the Sustainable Development Goals (SDG), and to ensure its positive and dominant impact on local communities. The facilities at the mosques also have to be on par with the world standards, especially in the

education sector, to support UKM as a world-class university. Besides that, a mosque is a communal building and it is an important institution for community sustainability (Baharudin and Ismail, 2014). A mosque shall have three public space qualities as suggested by Jaffar et al (2020) to attract the community which are convenient access, comfortable and clean, and social aspects.

Accessibility to all spaces within the mosque shall be made easy for people with disabilities (PWD). The universal design shall be applied to the building so that it becomes more accessible for all. Therefore, a ramp shall be included in the required spaces, and elevators (at least two numbers) shall also be provided for accessibility to all floors. While these facilities provision benefit PWD, they also encourage greater use of second-floor spaces, which currently are inadequately optimized.

UKM Mosque has to strategize to be closer to the public or local community, as it belongs not only to the registered students and the UKM's employees, but also to the community. In addition, it has to play a bigger role in the local community, as well as having more positive impact, including solving the community problems. In helping to improve the local community, UKM Mosque shall get benefit from the visitors. This includes financial benefits which can be from the visitors' donation, income from paid programs such as courses and seminars, as well as businesses such as food and beverages.

It is possible to achieve a higher number of visitors as UKM Mosque has great potential. One of the strategies is to have more high-impact and reputable programs, such as seminars, classes as well as courses. It is important for the community to acknowledge UKM Mosque as a center for knowledge dissemination, which is not merely for adults but also for people of all ages. UKM Mosque has to be of world-class quality.



FIGURE 18. Indoor and outdoor 3D perspectives for all 12 improvement proposals to revitalize UKM Mosque.



## RESULTS AND DISCUSSION

### DEVELOPMENT PROPOSALS

Various potential strategies can be adopted to improve the mosque and enhance the local community engagement (Figure 18). UKM Mosque has to invest in its facilities to be more attractive for the visitors. These include the investment in a landscape that appropriate for all ages, the facilities that fulfil all users' necessity including PWD, the improvement of monsoon drain as recreation areas, the provision of a playground for kids and exercise equipment for adults, as well as business facilities such as stalls and kiosks.

Based on the completed site analysis and series of discussion with the management of UIC, the selected and proposed revitalization development (and its main purposes) for the UIC and UKM Mosque are listed below:

1. New elevators
2. Indoor café
3. Restaurant (outdoor)
4. Library and discussion areas
5. Sales kiosks
6. Landscape improvement
7. Children playground
8. Interior improvement of the mosque
9. Seminar rooms
10. Adult exercising area
11. Resting area (wakaf)
12. Community farm

The list is arranged based on the priority of importance according to the authors' opinion and synthesis based on the site analysis and meeting with the management of UIC. The top of the list is the proposed new elevators, but maybe hindered by the high construction cost. The elevator is important for PWD access to the upper floor as well as to optimize the spaces on the second floor. The bottom of the list is the community farm as it is assumed to have less impact on attracting visitors to the mosque, as well as less contribution to income generation. However, the community farm can be initiated earlier as the incurred cost is not significant.

### PROPOSAL ACCEPTANCE SURVEY

To verify the list developed based on the observation and discussion, a questionnaire survey was conducted. The purpose of the survey is to rank the importance of the items listed in the list based on the users' needs as well as to obtain their opinion regarding the redevelopment proposal. For the questionnaire survey, the number of respondents was only sixty. Thirty respondents are UKM's students (18 postgraduates and 12 undergraduates), while the other 30 respondents are staff (eight academic staff and 22 non-academic staff). The equal number was selected to ensure an appropriate comparison can be made between the two categories of respondents. The survey was completed at UKM Mosque to ensure that each respondent is familiar with the mosque. 66.7% of the respondents are male and 33.3% are female. Meanwhile, 51.67% (31) respondents are married and the others (29) are unmarried.

TABLE 2. The ranking outcomes of the survey (1 represents the highest rank while 12 denotes the lowest rank)

	Item	Overall	Staffs	Students
1	New elevators	2	1	4
2	Indoor café	3	3	1
3	Restaurant (outdoor)	1	2	2
4	Library and discussion areas	4	9	3
5	Sales kiosks	5	4	5
6	Landscape improvement	7	5	8
7	Children playground	10	10	9
8	Interior improvement of the mosque	12	12	12

*continue ...*

... cont.

9	Seminar rooms	6	6	6
10	Adult exercising area	9	11	7
11	Resting area ( <i>wakaf</i> )	8	8	10
12	Community farm	11	7	11

Table 2 shows the ranking of the proposed revitalizing projects for the mosque. There are three columns in Table 2 that indicate the ranks of each item, which are based on the overall selection (average of students and staffs ranking) as well as specifically by staffs and students. Based on Table 2, the highest rank is the outdoor restaurant, which could lead to additional facilities for the visitors and income generation for the university. This is followed by the new elevators option to benefit people with disabilities and could provide easier access to the upper floors. Subsequently, the rank is followed by an indoor café, library and discussion areas, sales kiosks and seminar rooms. Based on the survey, four proposals which are listed at the bottom of the rank are the interior improvement of the mosque, the community farm, the children playground and the adult exercising area.

The table also shows that the staffs and students have different priorities due to their different needs. For example, the staffs selected elevators as the first in the rank, while students opted it at the fourth rank. Another example is the library and discussion areas, which students feel they need them, but not by the staff.

## CONCLUSION

This study shows that UKM Mosque, which adopted modern Brutalist architecture style, was constructed with a tropical climate in mind. Thus, its design adopts various strategies that optimize daylighting and natural ventilation. UKM Mosque is a proof that the modern mosque design can also respond well to the local climate, therefore resulting in good thermal comfort and low energy consumption for the main prayer halls, especially if compared with those air-conditioned mosques. Thus, daylighting and natural ventilation strategies for the mosque shall be maintained and air-conditioning systems shall be avoided for the main prayer hall.

The main findings of this study show that UKM Mosque has a great potential to be more sustainable and induce more local community engagement if appropriate strategies are adopted. There are various strategies that can be used to revitalize the mosque, and not limited to the 12 proposed strategies only. Based on the completed study,

the top six strategies are the outdoor restaurant, new elevators, indoor café, library and discussion areas, sales kiosks and seminar rooms. An interesting finding in this study is that staff and students do not favor renovation or improvement of the interior of the mosque. The respondents may feel that this will waste money and the current interior of the mosque is acceptable. In general, the findings show that the respondents insist on more facilities being provided at the mosque.

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